COUNTY OF HAWAII PLANNING DEPARTMENT
BACKGROUND REPORT

OCEANSIDE 1250
CHANGE OF ZONE APPLICATION (REZ 95-12)
SPECIAL MANAGEMENT AREA USE PERMIT APPLICATION (SMA 95-3)

OCEANSIDE 1250 is requesting the following:

(a) **Change of Zone** for approximately 756 acres of land from Unplanned (U) to Agricultural-1 acre (A-1a) zoned district; and

(b) **Special Management Area (SMA) Use Permit** to allow the development of portions of the proposed 400-lot agricultural subdivision and related infrastructure improvements and facilities on approximately 110 acres of land.

The applications represent a portion (Phase II) of the approximately 1,540 acres master planned community known as the Villages of Hokukano. The property is located makai of Mamalahoa Highway and Kealakekua Village, Haleki'i, Keekee, North and South Kona, Hawaii, TMK: 7-9-12: 4,11 & Portion of 3; and 8-1-04: Portion of 3.

GENERAL INFORMATION

Chronology

1. **April 1975 through May 1993** - Five separate consolidation and re-subdivision actions occurred on the affected properties which resulted in various reconfigurations of the parcels (Subdivision Nos. 3569, 3734, 4849, 6068 & 6275).

2. **October 24, 1984** - The Planning Commission approved a request by Red Hill Joint Venture for an SMA Use Permit (SMA No. 214) to allow the development of a portion of a 98-lot subdivision, consisting of lots ranging from 5 to 10 acres in size, within a portion of the project site identified by TMK: 7-9-12: 3. Within the 98-lot subdivision,

only 29 lots were located within the SMA. Of the 29 lots located within the SMA, two lots were to be maintained in their natural state. Approval of SMA Use Permit No. 214 was subject, in part, to conditions of approval that required: a) provision of a water source to support the proposed development; b) approval of an intensive archaeological survey of the SMA and implementation of its recommended mitigative measures; and c) approval of a public access plan and the securing of relevant approvals to implement its recommendations.

3. **November 17, 1986** - Time extension request previously submitted on October 18, 1985 was withdrawn by Mr. Lyle Anderson and, at his request, SMA Use Permit No. 214 was nullified.

4. **October 27, 1993** - The Planning Commission approved a request by Oceanside 1250 for a Use Permit (UP No. 115) and an SMA Use Permit (SMA No. 345) to allow development of a 27-hole golf course, golf clubhouse and related facilities, driving range, and related improvements. The SMA Use Permit also allowed for certain public shoreline access related improvements.

5. **June 28, 1994** - Effective date of Ordinance No. 94-73 changing the zoning district classification for the mauka area (Phase I) of the property, approximately 684 acres, from Unplanned (U) and Agricultural (A-5a) to Agricultural (A-1a).

6. **July 1, 1994** - A lawsuit was filed against the County of Hawaii (Civil No. 94-169K) seeking to invalidate Ordinance No. 94-73. Oceanside and the State of Hawaii were added as party defendants on November 16, 1994. The lawsuit is currently pending in the Third Circuit Court (Kona).

7. **June 7, 1995** - An additional consolidation and resubdivision action which resulted in a reconfiguration of the certain parcels on subject and adjacent properties (Subdivision No. 94-133).

Landownership

8. **Landownership:** The Applicant owns TMK: 7-9-12: 3 and 8-1-04: 3 in fee. The remaining parcels are owned by Ackerman Ranch, Inc., and leased to Lyle Anderson, now assigned to 1250 Oceanside Partners (dba Oceanside 1250).

9. The State of Hawaii has indicated it has probable cause for claiming ownership of a public road right-of-way that traverses over and across Grant No. 1651 and is encumbered as a road easement. This road easement is identified as the "Old Government Road" and referred to within the subject applications as the "Ala Loa" or "King's Trail". By letter dated June 5, 1995 **(See Exhibit A)**, the State Department of Land and Natural Resources (DLNR) has consented to the processing of these applications.

Master Planned Development

10. **Development Theme:** The proposed overall Villages at Hokukano development consists of approximately 1,540 acres and is envisioned by the Applicant as a "master planned low density community focused, in part, on a 27-hole Jack Nicklaus designed golf course." The development plan initially consisted of the following components:

    a. a maximum of approximately 1,440 predominantly single family residential units ranging in density from 5 units per acre to 1 unit per 3 acres;

b. a 27-hole golf course, golf clubhouse driving range and 100-unit members lodge; and

c. a historic park area located within the State Land Use Conservation District. Public shoreline access, parking and hiking trails would be integrated with a program for historical interpretation of the many archaeological features within the Conservation District area and the project site.

The Villages at Hokukano was proposed to be developed in two phases. Phase I included the development of approximately 367 single family residential/agricultural lots ranging in size from 1 to 3 acres within the mauka portion of the entire project site and a 27-hole golf course, golf clubhouse, driving range and related facilities within the makai portion. Phase II consisted of approximately 1,073 predominantly single family residential units and a 100-unit golf members' lodge, as market forces dictate.

11. **Revised Development:** The Applicant has since downsized the entire project to approximately 810 units. According to the current development plan, the Villages at Hokukano would consist of the following components:

a. Approximately 730 lots ranging in size from 1 acre to approximately 3 acres;

b. A 27-hole golf course, golf clubhouse, driving range and 80-unit members' lodge; and

c. A historic park area located within the State Land Use Conservation District. Public shoreline access, parking and hiking trails will be integrated with a program for historical interpretation of the many archaeological features within the Conservation District area and the master planned site.

SMA Use Permit No. 345 and Use Permit No. 115 were approved by the Planning Commission for the construction of the 27-hole golf course, golf clubhouse, driving range, public shoreline access and related improvements. Subsequently, Ordinance No. 94-73 was approved by the County Council for 684 acres of land for the proposed agricultural/residential subdivision on the mauka portion of the project site.

APPLICANT'S REQUEST

Change of Zone Application

12. **Request:** The Applicant is requesting a change of zone for approximately 756 acres of land from an Unplanned (U) to Agricultural-1 acre (A-1a) zoned district. The proposed change of zone would affect the makai portion of the 1,540-acre project site. **(See Exhibit B)**

13. **Proposed Development/Schedule:** The change of zone, should it be approved, would allow the second phase of residential/agricultural development for an approximately 400-lot agricultural subdivision consisting of lots ranging in size from 1 to 3 acres. Development of the agricultural subdivision is anticipated to begin in 1996 or 1997 and completed within 20 years when buildout of the proposed subdivision is anticipated.

Special Management Area Use Permit

14. **Affected Area:** The SMA encumbers approximately 415 acres along the coastal portion of the project site, exclusive of lands located within the State Land Use Conservation District.

15. **Request:** The Applicant is requesting an SMA Use Permit to allow the construction of portions of the proposed subdivision and related infrastructure and facilities within the

SMA. Approximately 110 acres of the total 450 acres within the SMA would be impacted by the proposed subdivision. **(See Exhibit C)**

16. **Specific Improvements within SMA:**

a) Subdivision of the petition area into large lot parcels and subsequent subdivisions into lots of one acre or larger.

b) Construction of approximately 100 agricultural lots and related dwelling units, consisting of that portion of the project situated within the County SMA.

c) Construction of related infrastructure improvements (roadways, water, sewer, drainage, and electrical). Specific location and details regarding infrastructure improvements will be identified in the proposed subdivision related infrastructure plans to be submitted at a later date.

d) Provisions of landscape improvements associated with onsite infrastructure.

e) Construction of trails, signs, and landscape improvements associated with implementation of an archaeological preservation program within the petition area.

f) Preparation and operation of portions of the area for agricultural use.

APPLICANT'S STATEMENT

17. In support of the request, the Applicant submitted, in part, the following:

"This Change of Zone application covers the second increment of residential/agricultural development for the low density, master planned community. The requested change of zone is to allow for approximately 400 one to three-acre residential/agricultural lots with associated dwellings and agricultural uses, which

would be developed on approximately 756 acres in the lower portion of the subject property. An SMA Use Permit application to allow for portions of the proposed development that occur within the County designated SMA zone is being submitted to the County concurrently with this application. In the future, additional applications will be submitted to the County to allow for subsequent phases of development, including the members' lodge, shoreline park improvements, and other project related facilities."

18. In further support of the request, the applicant submitted a Change of Zone Application and a SMA Use Permit Application.

COUNTY AND STATE PLANS

19. **General Plan Land Use Pattern Allocation Guide (LUPAG) Map:** Extensive Agricultural and Orchard with a portion along the coastal area designated as Open. Orchard-designated lands are located within the northern and southern portions of the project site and Extensive Agricultural-designated lands run mauka-makai through the middle of the property.

20. **State Land Use Classification:** The project site is located within the Agricultural District, with the exception of approximately 140 acres of land along the coastal portion of the project site, which is located within the Conservation District.

21. **County Zoning:** The upper portion of the project site, consisting of approximately 684 acres, is zoned Agricultural-1 acre (A-1a) and the remainder is zoned Unplanned (U).

22. **SMA:** A portion of the project site is located within the County's SMA. The mauka boundary of the SMA is delineated by the general alignment of the Old Government Road which traverses the entire project site in a generally north-south alignment.

23. **Chapter 343, Hawaii Revised Statutes (HRS):** The proposed development of the Villages at Hokukano is not subject to the requirements of Chapter 343, HRS. However, a Draft Environmental Impact Statement was published in the June 23 and July 8 & 23, 1993, OEQC Bulletin. Subsequently, a Final Environmental Impact Statement was published in the October 8, 1993, OEQC Bulletin.

DESCRIPTION OF THE PROJECT SITE AND SURROUNDING AREA

24. **Topography:** The project site lies at an elevation of between 20 to 1,250 feet above mean sea level. Generally, the average slope of the property is 10 percent, with steeper slopes exceeding 15 percent associated with gullies and rock outcroppings.

25. **Temperature:** The mean annual temperature for the subject area is 74 degrees Fahrenheit.

26. **Wind:** Wind velocities range from 7 to 8 miles per hour, with diurnal wind patterns prevailing onshore in the morning and early afternoon, and offshore in the late afternoon and evening.

27. **Rainfall:** The affected region has a mean annual rainfall of about 50 inches.

28. **Soil Conservation Service Soil Survey Report:** The Soil Survey Report classifies soils within the project site as:

    a) **Kainaliu very stony silty clay loam (KDD)**, 12 to 20 percent slopes. Within the project site, this soil is located immediately mauka of Red Hill, as well as

along the project site's southern boundary. This soil consist of well-drained, silty clay loams that formed in volcanic ash. Permeability is rapid, runoff is slow and the erosion hazard is slight. This soil generally follows the long narrow patterns of lava flows, but can be isolated and surrounded by more recent flows. This soil type is generally used for coffee, macadamia nuts and pasture.

b) **Waiaha extremely stony silt loam (WHC)**, 6 to 12 percent slopes. This soil is used for pasture and is the predominant soil within the project site. This soil consists of well-drained silt loams that formed in volcanic ash. Permeability is moderately rapid, runoff is slow and the erosion hazard is slight.

c) **Kaimu extremely stony peat (rKED)**, 6 to 20 percent slopes. This soil, which is confined to the northeastern corner of the project site, consists of well-drained, thin organic soil over A'a Lava. Permeability is rapid, runoff is slow, and the erosion hazard slight. This soil is not suitable for cultivation, however, some small areas can be used for pasture, macadamia nuts, papaya, and citrus fruits.

d) **Pahoehoe lava (rLW), a "miscellaneous land type".** This soil occupies the middle of the project site in a mauka-makai direction from sea level to about the 800-foot elevation. Although this lava often has a billowy, glassy surface, it can also be rough and broken. There is no soil covering and is typically bare of vegetation except for mosses and lichens.

29. **Flood Insurance Rate Map (FIRM):** The majority of the project site is located within an area located outside of the 500-year flood plain (Zone X). However, some areas that are subject to the 100-year frequency flood (Zones A and AE) are located within the project site. An area defined as Zone A (base flood elevation not determined) runs along the northern boundary of the project site. Another area designated Zone A traverses the project site near the southern project site boundary. Areas designated as Flood Zone AE (base flood elevations determined) traverses midway into the southern half of the project site with another area running along the southern property line. All of these flood areas run through the project site in a mauka-makai direction.

30. **Surrounding Land Uses:** To the north and south of the project site are vacant lands and agricultural uses on lands zoned Agricultural - 5 acres (A-5a) and Unplanned (U). To the east (mauka) are Kona Scenic Subdivision and Keekee Estates, both of which are single family residential subdivisions on lands zoned Single Family Residential (RS-10, RS-15) by the County. The town of Kealakekua is also located mauka of the project site along the Mamalahoa Highway with Napo'opo'o Road, leading to Kealakekua Bay, located approximately two miles to the south. In the Kealakekua Village area, there are a variety of urban uses, such as restaurants, retail stores, banks, services, offices, schools, etc.

IMPACTS TO RESOURCES AND PROPOSED MITIGATION

Agricultural Resources

31. **Land Study Bureau's Detailed Land Classification System:** Lands within the northern and southern portions of the project site are predominantly classified as "D"

or "Poor". Soils within the middle portion of the project site comprising predominantly of lava flows are classified as "E" or "Very Poor".

32. **Agricultural Lands of Importance to the State of Hawaii (ALISH) System:** The majority of the project site is unclassified by the ALISH system. There are isolated pockets of lands designated as "Other Important Agricultural Lands" within the northwest corner of the project site, within an area immediately mauka of Red Hill, and along the southern boundary. "Other Important Agricultural Lands" are lands other than "Prime" or "Unique" agricultural lands which are of statewide or local importance for agricultural uses.

33. **Mitigation Measures:** To provide for and support agricultural activities on agriculturally zoned land, the developer plans to implement a program for integrating appropriate agricultural activities on portions of the one to three acre agricultural zoned lots in a manner that would allow for an efficient management operation for select crops and/or orchard uses through proper planning and by providing the necessary capital, infrastructure and site preparation needed to support agricultural activity in this area. In total, the developer plans to add approximately 145 acres of land that is not in agriculture crops at this time, to productive agricultural use. With the extension of the proposed A-1a zoning to the makai portion of the property, the agricultural program proposed as part of the mauka subdivision would be extended to the makai area. The agricultural zones would be configured to allow for ease of access and provide for the practical and efficient agricultural use of the land for floraculture, orchards, or other agricultural uses.

Natural Hazards

34. **Lava Flow Hazard:** The project site is located within Lava Flow Hazard Zone 3 on a scale of 1 (most hazardous) to 9 (least hazardous). Zone 3 defines areas of which less than 5 percent have been covered by lava since 1800 but more than 75 percent in the last 750 years.

35. **Seismic Hazard:** The entire island of Hawaii is within earthquake Zone 3, which is the zone of highest seismic occurrence and danger.

36. **Tsunami Hazard:** While coastal areas are subject to potential tsunami inundation (Zones AE and VE), the project site should not be impacted due to its location roughly 300 feet from the shoreline and at an elevation of more than 20 feet above mean sea level.

Floral and Faunal Resources

37. **Botanical:** A "Botanical Survey Report of the Hokukano Lands" was performed by Evangeline J. Funk, Ph.D. in November, 1991. No proposed or listed candidate of rare, threatened or endangered plant species were found within the project site. The survey found five vegetation types: (A) Prosopis/Mixed Grass Understory, (B) Koa Haole/Prosopis Scrub, (C) Kukui Scrub, (D) Lantana/Schinus Scrub, and (D) Planted Monkeypods. The Prosopis/Mixed Grass Understory, the most common vegetation type within the project site, consist primarily of the Prosopis tree, African grass, buffelgrass, sandbur grass and other grass species which occur from coastal areas to an elevation of about 700 feet. The Koa Haole/Prosopis Scrub is the second most common vegetation type occurring in the central part of the project site. Within this

area were found three wili wili trees and the only native plant species, a colony of the native Euphorb and 'Akoko (Chameaesyce celastroides) within an area mauka of Pu'u Ohau at the 470 foot elevation. Within this colony was found a single individual of Maiapilo or Hawaiian Caper (Capparis sandwichiana DC).

38. **Mitigative Measures:** The Applicant has noted that the existing flora will be impacted by site preparation activities associated with the proposed development and its associated infrastructure. As mitigative measures, the Applicant will consider, whenever practicable, the use of native plant material for landscaping in and around the golf course. The native species, such as the Euphorbs, Wiliwili trees, and the single Capparis, would be preserved or propagated and used in the landscaping plan to the furthest extent practical. Many of the Prosopis trees could also be saved and moved to places where they will provide quick shade.

39. **Faunal:** A "Survey of the Avifaunal and Feral Mammals at Hokukano" was prepared by Phillip L. Bruner in October, 1991. According to the survey, existing fauna typically consists of introduced species that are transient in nature. In addition, no unique wildlife habitat was discovered within the project site. While no endemic species of fauna was found, introduced species consisted of mongoose, cardinal, barred dove, spotted dove, mynah bird, golden plover, house sparrows; feral dogs, cats and pigs; and rodents. Endemic birds, such as the short-eared owl or Pueo and the Hawaiian Hawk or I'o may forage within this region.

40. **Mitigative Measures:** The Applicant acknowledges that development of the project site will disrupt wildlife use of the site. However, the Applicant anticipates that

completion of the proposed development will "contribute to increased habitat diversity necessary for the fauna which are present or frequent the area" due to the availability of formal open landscaping and water features associated with the golf course.

Nearshore Marine Environment

41. **A Quantitative Assessment of the Marine Communities and Water Quality** was completed in April 1992 by Richard Brock, Ph. D. The Study concluded that "In general the marine communities resident to the waters fronting the Hokukano project site are diverse and the fish communities do not show the declines in abundance that have been encountered in many other Hawaiian coastal settings in recent years. No unusual marine species or communities were noted in the study area. No threatened or endangered species were encountered within the study area, however, several humpback whales were noted well offshore of the site during the March 1992 field effort. Despite not seeing green turtles (a threatened species), it is expected that turtles must, at a minimum, pass through the waters fronting the property.

42. **Coastal water quality characteristics** were examined at 24 sites, one of which was a brackish water pool; the remaining stations sampled were within the marine waters. Based on this analysis, the waters fronting the project site are typical of well-flushed, undeveloped West Hawaii coastal settings.

43. **Mitigative Measures:** The Study concluded that impact to the marine communities is greatest during the construction phase of the proposed development. Operation of the development could later change the groundwater chemistry which may impact the marine biota. However, based on long term water quality studies conducted along the

coast at Waikoloa, groundwater chemistry changes for such developed areas involve increases in the concentration of inorganic nutrients, which fall within the ranges found in other non-developed areas of West Hawaii. No pesticides and herbicides were detected in water, sediment or in organisms. These long term studies have also been unable to detect any quantifiable change in the aquatic biota resident to the Waikoloa area. The Study recommends that if prudent construction techniques are used (i.e., removing vegetation only as immediately needed, use of temporary settlement basins, etc.), the opportunity for negative impact due to sedimentation would be low.

In accordance with SMA Use Permit No. 345, the Applicant is required to implement a marine quality monitoring plan prior to construction. The program will monitor any significant changes to the marine environment and, if any are detected, implement appropriate mitigation measures for arresting and reversing the conditions. Ongoing monitoring will ensure the effectiveness of these measures. The Applicant also notes that a storm water permit application meeting National Pollutant Discharge Elimination System (NPDES) requirements will be submitted to the State Department of Health (DOH) for approval prior to any construction activities. Additionally, per County requirements, erosion and sedimentation control plans will be submitted with all grading plans.

Air Quality

44. **An Air Quality Study** dated December 1992 by B. D. Neal & Associates concluded that proper implementation of the project will not cause the exceedance of state or federal air quality standards, although there are certain minor impacts that may be

realized. Short term impacts from fugitive dust during project construction phases will likely occur. Uncontrolled fugitive dust emissions are estimated to amount to 1.2 tons per acre per month. To a lesser extent, emissions from engine exhausts will also occur during project construction phases from both stationary and mobile construction equipment, vehicles used by construction workers, and from the disruption of traffic.

45. **Mitigation Measures:** The Study recommended that an effective dust control program be established during construction phases, which could include watering of active work sites and unpaved roads, the use of wind screens, covering of open bodied trucks, limiting area to be disturbed at any given time and/or mulching or chemically stabilizing inactive areas, among other control measures. Potential long term air pollution impacts could potentially occur indirectly from increased motor vehicle traffic associated with the project. An air quality modeling study was conducted to estimate current maximum ambient concentrations of carbon monoxide along roadways leading to and from the project site as well as predicting future levels (years 2005 and 2010) of carbon monoxide emissions with or without the project. The modeling found that emissions would remain within national ambient air quality standards with or without the proposed development. However, there is the potential that State standards for carbon monoxide, which are much stricter than Federal standards, may be exceeded at some point in the future near the proposed intersections with Mamalahoa Highway Bypass Road. However, the Study noted that because State standards are set so low they may be currently exceeded at many intersections throughout the State, even for those intersections with moderate traffic volumes. Emissions from the electrical power

and solid waste requirements of the proposed development are anticipated to be small. Energy conservation and recycling measures within the project may reduce any impacts. The use of pesticides on golf courses would comply with safety guidelines for the spraying of chemicals. The Applicant intends to utilize shrouded spray equipment fitted with computerized flow controllers, establish a 100-foot buffer between target spray areas and populated locations, and the planting of vegetation screens along golf course perimeter. This should mitigate potential air quality impacts from this activity.

Cultural/Historical Resources

46. **An Archaeological Inventory Survey and Limited Subsurface Testing** of the entire property was conducted by Cultural Surveys Hawaii from August 20, 1991 to January 17, 1992, with a survey report completed in July 1992. Additional revisions and clarifications as requested by the Department of Land and Natural Resources - State Historic Preservation Division are being incorporated by Cultural Surveys Hawaii within a Final Survey Report, which is expected to be submitted in September 1995. Within the full property, 807 structural and non-structural features were identified and subsequently organized into 408 sites and site complexes. Of this total, 161 sites are recommended for preservation, 17 sites are recommended for selective preservation, 228 sites are recommended to be available for data recovery, and 2 recommended for no further study. Their findings were supported by limited subsurface testing conducted at nine probable and possible burial sites, at one agricultural mound complex, and within two extensive lava tube systems.

47. **Specific Archaeological Features:** The Survey located evidence of features associated with the Kona Field System, primarily the rectangular walled fields formed by kua'iwi walls. Other features associated with the walled fields consist of intermittent mound concentrations, terraces and modified outcrops. The Survey noted that historic and modern land modifications, such as chain-dragging, bulldozing and other activities associated with cattle ranching, sugar cane and urban activities have apparently destroyed much of the field system within the area. Fourteen sites within the property were interpreted to be possible heiau or shrine structures, with one major structure, which has been referred to as "Ukanipo".

48. **Mitigation Measures:** The Applicant will implement one of three forms of mitigation: a) preservation, b) data recovery, or c) do nothing. Those sites which are recommended for selective preservation include portions of the Great Wall of Kuakini, distinguishable portions of the King's Trail/Ala Loa, the railroad bed and the ahupua'a boundary walls. Preservation is recommended for all confirmed burial sites, all confirmed and probable heiaus, and all major lava tubes. The Applicant intends to preserve the King's Trail/Ala Loa in its present location, with slight modifications, if necessary. Subject to DLNR approval, in areas where there is no evidence of the trail, it will be re-established in the general area where it was believed to be located based on existing map information, historical references and compatibility with the proposed development. Where the trail intersects with project roadways, appropriate signage and alternative road pavement treatment could be used. Possible burials, if not preserved "as is", will be treated in a manner as prescribed by the State DLNR -

Historic Preservation Division. Mitigative measures, as recommended by the consulting archaeologist, will be subject to the approval of the DLNR and will be adhered to by the Applicant.

Water Resources

49. **An Evaluation of Water Resources for Hokukano Project** was conducted by Waimea Water Services, Inc. in December 1992. Hydrological studies based on an exploratory well constructed onsite near the 800-foot elevation indicates that groundwater flow through the subject properties to the sea is estimated to be in the range of 4 to 6 million gallons per day (mgd) with total chloride levels of about 340 milligrams per liter (mg/l). The Study concludes that the "estimated groundwater flow and quality appears more than adequate to support the irrigation water needs of the [entire Villages at Hokukano] project."

50. **Potable water** from an onsite well is most probable near the 1,200-foot elevation or approximately 1.75 miles from the shoreline. At this elevation, the basal water level should stand at an elevation in excess of 4 feet above sea level. The Study also cites a possibility that high level groundwater, which is present at wells located mauka of the Mamalahoa Highway, also extends makai of the highway at the upper elevations within the project site.

Drainage Systems

51. **A Preliminary Engineering Study for Sewage and Drainage Infrastructure System** was performed by R. M. Towill Corporation in January 1992. According to the Study, onsite drainage systems will consist primarily of drywells to dispose of runoff

generated from roads and golf course retention/infiltration basins. Siltation basins will be constructed as required to control runoff water quality. Runoff generated from rainfall on the golf course will be retained by bowl-shaped fairways and tile drainage system to direct water into irrigation holding ponds for reuse as irrigation.

PUBLIC FACILITIES AND SERVICES

Access

52. Access to the project site from the Mamalahoa Highway is currently provided off of Haleki'i Street, which has a pavement width of approximately 34 feet with gutters and sidewalks within an 80-foot wide right-of-way. At its intersection with the Mamalahoa Highway, Haleki'i Street is channelized as a "T" intersection with separate left and right turn lanes.

53. **A Traffic Impact Study** was prepared by Parsons Brinkerhoff Quade & Douglas, Inc. in January 1993. According to the Study, current Level Of Service (LOS) for left turns onto the Mamalahoa Highway from Haleki'i Street is LOS E during the A.M. and P.M. peak traffic hours. Right turns are at LOS A during the A.M. and LOS B during the P.M. hours. Traffic along portions of the Mamalahoa Highway north and south of Haleki'i Street operate at LOS E during both the A.M. and P.M. hours. The Study concludes that the traffic signal warrant for this intersection has been marginally met based on existing traffic volumes. According to the Study, development of 400 homes within the proposed agricultural lot subdivision will generate approximately 71 "in-trips" and 80 "out-trips during the A.M. hours and 107 "in-trips" and 120 "out-trips" during the P.M. hours.

54. **Mamalahoa Highway Bypass:** At the time of the previous applications to the Planning Commission for Phase I of development (project golf course and agricultural lot subdivision of the mauka portion approximately 684 acres), the Applicant had proposed an alignment for the bypass road, which would begin north of Honalo (near Higashihara Park) at Kuakini Highway and terminate at the Napo'opo'o Road intersection by tying back to the existing Mamalahoa Highway. This alignment was opposed by certain members of the community because of the potential impact to certain farm lands near the proposed intersection with Kuakini Highway. Based on input from meetings with community members and the County's Departments of Planning and Public Works, an alternate alignment is being proposed **(See Exhibit D-DPW January 4, 1994 Letter)**. This alignment would extend Ali'i Highway from its current terminus at Keauhou, to Mamalahoa Highway at the junction with Napo'opo'o Road **(See Exhibit E)**.

Condition L of Ordinance No. 94-73, which changed the zoning for the mauka portion, approximately 684 acres of the property, requires that the Applicant complete construction of the first phase of the Mamalahoa Bypass from its northern terminus to the project site prior to Final Subdivision Approval for any portion of the mauka area. Ordinance No. 94-73 further requires that the Applicant complete the remainder of the Mamalahoa Highway Bypass, from the project site to its southern terminus at Mamalahoa Highway, prior to Final Subdivision Approval for any portion within the area covered in this Change of Zone Application. That is, before the first subdivision within the makai portion, except for the golf course, golf clubhouse, lodge, and related

facilities. Ordinance No. 94-73 also requires the Applicant to construct the channelization and signalization of the Mamalahoa Highway/Haleki'i Street intersection prior to issuance of Final Subdivision approval for any portion of the subject property. The proposed Bypass Highway, to be initially a two-lane roadway with sufficient right-of-way to accommodate four lanes, is intended to divert through traffic from Mamalahoa Highway and relieve the current congestion at peak traffic hours within Kealakekua. The Study anticipates that the proposed development will generate 297 additional trips during the A.M. peak hour and 412 additional trips during the P.M. peak hour. The Study concludes that the Bypass Highway will reduce traffic volumes along the Mamalahoa Highway, thereby improving operating conditions at the existing Haleki'i Street-Mamalahoa Highway intersection. The Study further concludes that if forecasted conditions are realized, improving the Bypass Highway to a four-lane road is recommended by the year 2005, and signalization of the Haleki'i Street-Bypass Highway intersection may be warranted to facilitate left-turn movements. All approaches to the Haleki'i Street-Bypass Highway intersection are recommended to have separate through and turn lanes.

55. **The Hawaii County General Plan Facilities Map** reflects a road that would traverse the project site in a mauka-makai direction from Haleki'i Street, then turn north as a "mid-level" road that proceeds beyond the project site's northern boundaries to eventually tie-in with the proposed Ali'i Highway alignment **(See Exhibit F)**. This Ali'i Highway-Haleki'i Street alignment is emulated by the Applicant's main project access road.

Water

56. **Potable water** to support the initial phases of development will be provided by the existing County of Hawaii North Kona Water System through the issuance of 499 water commitments under the Kealakekua Water Source Agreement. An 8-inch transmission line is located along Haleki'i Street and the Mamalahoa Highway and is fed by a 0.25 million gallon reservoir above Kealakekua. To support the proposed Phase II development, the Applicant has secured options for two potential well sites located at the 1,200-foot elevation on adjacent properties. The Applicant indicates that additional well sources, should these be needed, would likely be turned over to the County to be operated as part of the North and South Kona system.

57. **Non-Potable Water:** The Applicant is exploring several water source development alternatives for non-potable/irrigation water. A test well has been drilled at the 800-foot elevation within the project site and is intended to serve as a brackish irrigation source. Chloride levels were found to be about 340 mg/l, exceeding the desirable 250 mg/l maximum chloride level for potable water. With the provision of onsite retention basins and storage reservoirs within the golf course, the Applicant is exploring the potential to mix brackish water with surface runoff, treated sewage effluent, and any excess surface water collected within the golf course fairways and roughs for use as irrigation water. Additional irrigation well development is also being pursued. According to the Applicant, the proposed golf course is anticipated to require approximately 900,000 gallons of irrigation water per day.

Wastewater Treatment and Disposal

58. **Wastewater** generated by the proposed development will be accommodated within a wastewater collection, treatment and disposal system meeting with the approval of the State DOH. Alternatives being considered by the Applicant include an onsite central sewage collection/treatment system, which could be built in increments.

Solid Waste

59. **Solid waste** generated by the project will be disposed of at the new County Puuanahulu landfill. Transfer stations are located at Keauhou and Napo'opo'o.

Other Public Utilities and Services

60. **Electrical power** will be supplied by HELCO via a 69 KV overhead transmission line located along the Mamalahoa Highway. A substation may be required. The projected electrical demand for the proposed development will require approximately 5.8 megawatts at build-out.

61. **Police and Fire Services** are located in Captain Cook located less than 3 miles south of the project site. A 24-hour emergency ambulance service is provided in conjunction with the Fire Station.

62. **Konawaena Elementary School and High School** are both located in Kealakekua. A new elementary school is also being planned for the general area, although specific details about its development are uncertain at this time.

63. **Medical services** are provided at Kona Hospital, located less than one-half mile mauka of the project site in Kealakekua. Acute and emergency care are provided at the facility.

64. **Recreational facilities** are provided at Kealakekua Bay Historic Park, which is located approximately seven miles to the south of the project site. Swimming, snorkeling, hiking activities and picnic facilities are available at the park. Additional park facilities in the area include the five-acre Kona Scenic Park which is located along the mauka boundary of the project site, and Higashihara Park, located approximately 2.5 miles north of the project site. The Applicant is also required, per the conditions of Ordinance No. 94-73, to provide two acres toward the expansion of Kona Scenic Park and establishing approximately 140 acres within the State Conservation District as a public shoreline park.

65. **All other essential utilities and services** are or will be made available to the project site.

AGENCY COMMENTS

66. **State Department of Health:**

(SEE Exhibit G - Letter Dated JULY 26, 1995)

67. **State Department of Education:**

(SEE Exhibit H - Letter Dated JULY 3, 1995)

(SEE Exhibit I - Applicant's Response Letter Dated AUGUST 4, 1995)

68. **Office of State Planning:**

(SEE Exhibit J - Letter Dated JULY 20, 1995)

69. **State Department of Transportation (August 1, 1995 Letter):**

"The proposed development will have an adverse impact on our State transportation facilities. Further development should not proceed until a new two-lane bypass

highway is built between Napo'opo'o Road and Kuakini Highway. County of Hawaii Ordinance 94-73 required the developer for the Villages at Hokukano to provide or finance the right-of-way and incremental construction of the new two-lane bypass as a condition for subdivision approval. To date, the developer has not proposed a highway bypass alignment acceptable to the State Highways Division."

70. **Department of Water Supply (July 27, 1995 Memorandum):**

"We have reviewed the subject applications for the proposed Phase 2 810-unit development.

"Please be informed that through the Kealakekua Source Agreement, the applicant has obtained the rights to a water commitment for 499 units of water at a maximum allotment of 600 gallons per day per unit for a total maximum allotment of 299,400 gallons per day for Phase I. However, as of this date, the applicant has not remitted the required prevailing facilities charge of $1,347,200.00 at $2,700.00 a unit to effectuate this commitment.

"In order to effectuate the water commitment for the proposed development, the following is required:

1. Remit the prevailing facilities charge, which is subject to change, of $1,347,300.00 for the 499 units of water for Phase I.
2. Pursue the development of an adequate water source for the remaining 810 units in the Phase 2 portion of the development.

"Upon compliance with the above, we will submit our comments and requirements for obtaining approval for the subject application."

71. **Fire Department:**

(SEE Exhibit K - Letter Dated JUNE 26, 1995)

(SEE Exhibit L - Applicant's Response Letter Dated JULY 31, 1995)

72. **Department of Finance, Real Property Tax:**

"The above referenced parcels are subject to a deferred tax in the event of a subdivision into parcel sizes of five acres or less. The amount of the rollback or deferred tax is based on the difference between the preferential agricultural use assessment and how the land would have been assessed with no agricultural use assessment. In addition to the tax there is a ten percent penalty. The maximum term of the rollback is ten years."

73. **Police Department (June 22, 1995 Memorandum):**

"The above Change of Zone and Special Management Area Use Permit applications have been reviewed by Captain John Vares, Commander of our Kona Patrol District, and he agrees that Mamalahoa Highway and Haleki'i Street will need to be widened and rechannelized to handle traffic. He will provide additional comments when the draft traffic diagrams are submitted for approval.

"Captain Vares also expressed his concern that the proposed Haleki'i Street extension into the Hokukano Subdivision will be inadequate should there be an emergency, either natural or otherwise. There will be a grid lock of residents trying to leave the subdivision. He recommends an additional main connector road joining the proposed Mamalahoa Highway alternative bypass from within the Hokukano Subdivision."

Applicant's Response (July 27, 1995 Letter):

"This is in response to your memorandum to Virginia Goldstein dated June 22, 1995,

regarding the subject applications. You mentioned that the proposed Haleki'i Street extension into Villages at Hokukano may be inadequate should there be an emergency, either natural or otherwise. The proposed extension to Haleki'i Street is intended to serve as a collector road within the property, connecting with the proposed Mamalahoa Highway Bypass Road, which would serve as the main access to the property. The extension of Haleki'i Street, in conformance with the County General Plan, would extend to the northern property boundary, allowing for a continuation of this road towards Keauhou and possible future connections to the Bypass Road within other properties.

"Regarding the provisions for an alternative or emergency access to the Bypass Road, Oceanside 1250 has explored several options for integrating alternative or emergency access as part of the intersection design such that, should an accident occur at this intersection, an alternate emergency routing of the traffic can be provided. The final configuration of the project roadways and their connection to the Bypass Road, however, would be developed at a later date, as part of the site design process. The project roadways, including the connections with the Bypass Road, will be planned in consultation with, and with the approval of the County Department of Public Works."

74. All other cooperating agencies had no comments or objections to the subject applications.