

BEFORE THE LAND USE COMMISSION  
OF THE STATE OF HAWAII

In the Matter of the Petition of )  
HOUSING FINANCE AND DEVELOPMENT )  
CORPORATION )  
To Amend the Agricultural Land )  
Use District Boundary into the )  
Urban Land Use District for )  
approximately 58.001 acres at )  
Honouliuli, Ewa, Oahu, Hawaii, )  
Tax Map Key No. 9-1-16: portion )  
of 25 )  
\_\_\_\_\_ )

DOCKET NO. A90-653  
HOUSING FINANCE AND  
DEVELOPMENT CORPORATION

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LAND USE COMMISSION  
STATE OF HAWAII

FINDINGS OF FACT,  
CONCLUSIONS OF LAW, AND DECISION AND ORDER

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FINDINGS OF FACT,  
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Housing Finance and Development Corporation (hereinafter referred to as "Petitioner"), a public body and body corporate and politic of the State of Hawaii, filed this Petition on May 8, 1990, pursuant to Chapter 205, Hawaii Revised Statutes ("HRS"), Act 15, Session Laws Hawaii, 1988 ("Act 15"), Section 201E-210, HRS and §§ 15-15-46, and 15-15-97 Hawaii Land Use Commission Rules (hereinafter "Commission Rules"), to amend the Land Use District Boundary for approximately 58.001 acres of land, Oahu Tax Map Key No. 9-1-16: portion of 25 ("Property"), from the Agricultural District to the Urban District for portion of a golf course and related uses.

The Land Use Commission of the State of Hawaii (hereinafter the "Commission"), having heard and examined the

testimony, evidence and argument of counsel presented during the hearings, and the stipulation for proposed findings of fact, conclusions of law and decision and order filed by Petitioner and the Office of State Planning, hereby makes the following findings of fact, conclusions of law and decision and order:

FINDINGS OF FACT

PROCEDURAL MATTERS

1. On March 8, 1990, Petitioner filed a "Notice of Intent To File A Land Use District Boundary Amendment Petition" pursuant to Section 15-15-97 of the Commission Rules.

Petitioner also caused such notice to be published in the March 9, 1990 issue of the Honolulu Star Bulletin.

2. Petitioner also filed on March 8, 1990, an affidavit of mailing, an affidavit of publication, and a certificate of service with the Commission pursuant to Section 15-15-97 of the Commission Rules.

3. On May 8, 1990, Petitioner filed its Petition for Land Use District Boundary Amendment, affidavit of community meetings, and certificate of service pursuant to Section 15-15-97 of the Commission Rules.

4. On May 17, 1990, a prehearing conference was conducted at the Commission's office.

5. The Commission conducted a hearing on the Petition on June 8, 1990, pursuant to notice published on May 8, 1990, in the Honolulu Star Bulletin.

6. No person appeared to testify as a public witness.

7. No person applied to intervene as a party.

8. The project is an expansion of the Kapolei Golf Course which is an integral part of the Villages of Kapolei which Land Use District Boundary Amendment Petition was filed and approved under Act 15 and Section 201E-210, HRS. The additional acreage is vital to the Villages of Kapolei because it will serve as a major drainage retention basin to accommodate 300 acre-feet of stormwater runoff. It will also allow the Kapolei Golf Course to serve as a recreational amenity to the Villages of Kapolei.

DESCRIPTION OF PROPERTY

9. The Property consists of approximately 58.001 acres of land located near the center of the Ewa Plain, north of the Naval Air Station Barbers Point ("NASBP"), and east of the proposed Kapolei Town Center. The Property is adjacent to and northeast of the lands for the Villages of Kapolei.

10. The climate in the area of the Property is generally dry with northeast tradewinds blowing approximately 85 percent of the time. Approximately 20 inches of rainfall occurs in the Ewa Plain annually. Temperatures in the area range from 69 to 91 degrees fahrenheit.

11. Elevations in the area of the Property range from 90 feet above mean sea level in the northern section to about 50 feet in the southern section.

12. The Property lies south of the Waianae Range, the older of the two volcanoes which make up the island of Oahu. The Waianae Range has experienced much soil erosion; thus, the soils in the lowland areas developed in alluvium, derived from basic igneous material, transported by the two major intermittent streams which are Makakilo Gulch and Makalapa Gulch.

13. The Property is rated as "Prime" by the State Department of Agriculture's Agricultural Lands of Importance to the State of Hawaii classification system.

14. The Property is rated as "B" by the Land Study Bureau's Detailed Land Classification - Island of Oahu classification system. The rating scale ranges from "A" to "E" with "E" being the lowest grade of land for agricultural productivity.

15. The Property is fairly level with a slight slope in the mauka to makai direction.

16. The U.S. Department of Agriculture Soil Conservation Service rates the Property within the "I" capability classification which indicates the least amount of limitations as to its use.

17. The Honouliuli Soil Series is the predominant soil type in the area of the Property. The soil type at the Property is Honouliuli Clay (HxA). This series consists of well drained soils on the coastal plains in the Ewa Area. These soils are level to gently sloping and found at elevations

ranging from 15 to 125 feet. The soil reaches depths of a maximum of 68 feet. Permeability and runoff is slow and the erosion hazard is slight. Workability is somewhat difficult because of the very sticky and plastic clay. The shrink swell potential is high.

18. The Property is currently under sugarcane cultivation by Oahu Sugar Company, Ltd. (hereinafter OSCo).

19. The Property was acquired by the State of Hawaii from the Estate of James Campbell by condemnation under final Order of Condemnation in Civil No. 89-0919-03 in the Circuit Court of the First Circuit of the State of Hawaii.

20. Petitioner represents that OSCo, which had leased the Property from the Estate of James Campbell for sugar cultivation, no longer has any property interest in the Property.

21. The State Department of Land and Natural Resources has authorized Petitioner to file this Petition by letter dated May 4, 1990.

22. Petitioner represents that the Property will be transferred by the Board of Land and Natural Resources of the State of Hawaii to the Petitioner for development as a part of the Villages of Kapolei project.

#### PROPOSAL FOR DEVELOPMENT

23. The Property is intended as a 58.001-acre expansion to the 127-acre, 18-hole golf course currently proposed as a part of the development of the Villages of

Kapolei, a master planned community now under construction. The Property is proposed to contain a portion of the access road, portion of the clubhouse, several golf holes and fairways, a driving range, and a lake.

24. The 58.001-acre expansion to the golf course proposed for the Village of Kapolei will be designed and constructed to provide additional drainage retention area for the Property and the neighboring area, enhance the golf course as a recreational and an open space resource, and provide additional buffer for the Villages of Kapolei from the cane cultivation activities in the area.

25. The estimated projected development cost of the proposed golf course including the Property will be \$30,000,000.

26. Petitioner estimates that construction on the golf course would start around November 1990 and will be completed approximately 18 months after commencement of construction.

27. Pursuant to Petitioner's Request For Proposal for the development, operation and management of the golf course, a developer has been selected, but the development agreement has not yet been negotiated to conclusion.

28. The Request For Proposal requires that the developer shall set aside a minimum of 150 starting times per day for Hawaii residents. Green fees established for Hawaii residents must be comparable to fees charged at other golf courses on Oahu such as Mililani and Pearl Country Club. Any

fees or increases in fees affecting Hawaii residents will be subject to approval by Petitioner.

PETITIONER'S FINANCIAL CAPABILITY TO UNDERTAKE  
THE PROPOSED PROJECT

29. As the housing finance and development agency for the State of Hawaii, Petitioner's activities are generally funded through general fund appropriations from the Hawaii State Legislature. The interim construction financing for the development of master planned communities throughout the State is made available to the Petitioner from the Homes Revolving Fund which the Hawaii State Legislature established and has provided funds for such purpose.

30. The financing and development of the Property is an integral part of the financing and development of the Villages of Kapolei project, a master planned community primarily for affordable housing.

STATE AND COUNTY PLANS AND PROGRAMS

31. The Property is located within the State Land Use Agricultural District as reflected on the Commission's Official Map O-6, Ewa, Hawaii.

32. The Property is in the West Beach-Makakilo area which the General Plan of the City and County of Honolulu has designated for a "secondary urban center" to relieve developmental pressures in the urban-fringe areas. The proposed golf course of which the Property will be a part will complement and support the Villages of Kapolei master planned



community which is a part of that secondary urban center envisioned by the General Plan.

33. The Ewa Development Plan of the City and County of Honolulu encourages gradual development in the secondary urban center to relieve pressures in the primary urban center.

34. The City and County of Honolulu zoning for the Property is for agricultural use, AG-1 Restricted.

35. The Property is not located within the Special Management Area delineated on the maps established by the City and County of Honolulu pursuant to Chapter 205A-23, HRS.

NEED FOR THE PROPOSED DEVELOPMENT

36. The 127-acre 18-hole golf course, proposed as a part of the Villages of Kapolei, is being designed, in part, to serve as a major drainage retention basin for the storm water runoff affecting the Villages of Kapolei and the surrounding areas.

37. Sugarcane is presently cultivated between the NASBP and the H-1 Freeway, including the Property. There is no defined drainageway for storm runoff which flows uncontrolled over sugarcane furrows and open roadways. Disposal of storm runoff is by infiltration in the lowland areas.

38. The 58.001-acre Property is needed as an expansion for the golf course to provide additional drainage retention area for the golf course to accommodate a basin size to retain 300 acre-feet of storm water which is the basin size

recommended by Petitioner's drainage consultant for safe flood retention.

39. According to Petitioner's consultant R.M. Towill Corporation, topographic conditions, design considerations, maintenance costs, safety measures, all play major roles in the amount of land that can actually be used as a drainage retention basin. Without the Property as an expansion for the golf course, the retention basin will need to be much deeper to hold the 300 acre-feet needed to provide sufficient flood routing.

40. Petitioner's consultant indicates that a deep basin will have certain adverse effects on the golf course as a recreational use and in its operation. Visually, a deep basin will have the appearance of a large impoundment. Additional maintenance costs would likely be incurred in restoring the ground to playing conditions if the golf course is submerged because of a deep basin. Also, lost revenues might result because the golf course would be closed for a longer period after a storm because of a deep retention basin.

41. Petitioner's consultant states that in order to provide the needed retention basin area and to provide a well designed golf course for golf course use and as a visual amenity, the Property is needed as an expansion to the golf course.

## IMPACT UPON RESOURCES OF THE AREA

### Agricultural Resources

42. The withdrawal of the Property from sugarcane cultivation will reduce OSCo production by less than one percent which translates as a total dollar loss of \$176,540 per year based on 1990 prices. Petitioner's economic and financial consultant, Decision Analysts Hawaii, Inc., believes that the impact of such withdrawal is neither significant nor essential to the survival of OSCo.

43. According to Petitioner's economic and financial consultant, OSCo plans to reduce (i) its present production of about 95,000 tons per year to 63,000 tons per year and (ii) its present acreage of about 12,000 acres to 10,000 acres by 1994.

44. In the longer term, OSCo plans to reduce the plantation to an 8,000-acre plantation and to maintain efficient operation at 8,000 acres as the "core" of the plantation. Petitioner's economic and financial consultant represents that the core consists of the best agricultural lands with the least pressure for urbanization.

45. The Property is located outside the core of the plantation.

46. Petitioner's economic and financial consultant concludes that the withdrawal of the 58.001-acre Property from sugarcane cultivation would not adversely affect the growth of diversified agriculture in Hawaii based on the following reasons:

- a. No diversified agricultural activity currently exists on the Property.
- b. Vast amounts of agricultural land and water have been freed from sugar and pineapple production due to past plantation closings and reductions in operations - over 100,000 acres since 1968, including announced reduction plans.
- c. It is very probable that additional sugar acreage and water will be freed, given the existence of unprofitable sugar operations.
- d. Sugar companies are making their lands available for profitable replacement crops to the extent that such crops exist.
- e. Land requirements to accommodate the growth of diversified agriculture are surprisingly modest.

Water Resources

47. The proposed golf course at the Villages of Kapolei of which the Property is to be a part will be irrigated by brackish water. The Petitioner will be responsible for developing two water wells to be constructed within the Villages of Kapolei to provide irrigation water for the golf course and the infrastructure to bring the irrigation water to the golf course. The wells are proposed to draw water from the Ewa limestone aquifer, which is located above the caprock in the Ewa area.

Petitioner's consultant, R.M. Towill Corporation, represents that there are engineering and water resource

studies that indicate there would be sufficient and suitable water sources within the Villages of Kapolei for irrigation purposes.

48. Potable water demand of about 15,000 gallons per day would be generated from the operation of the clubhouse to be located on the Property. However, the clubhouse on the Property is a relocation of the clubhouse originally intended for the golf course in the Villages of Kapolei. As such, the potable water needs of the golf course of which the Property is to be a part has already been considered in the original Villages of Kapolei development (Commission Docket No. A88-622/Housing Finance and Development Corporation). The Property, as an extension of the golf course, is not expected to generate additional potable water needs.

#### Historical/Archaeological Resources

49. An archaeological survey of the Property was prepared by Petitioner's consultant, Paul H. Rosendahl, Ph.D., Inc. The survey found that the Property has been extensively modified in recent times primarily by sugarcane cultivation.

50. According to the archaeological survey, no potentially significant archaeological sites or features of any kind were encountered during the survey of the Property.

51. Petitioner's archaeological consultant concludes that based on its survey no further archaeological work of any kind is necessary.

52. Petitioner states that in the event archaeological remains are uncovered during the course of constructing the proposed development on the Property, work will immediately cease and the appropriate governmental agencies will be notified.

#### Flora and Fauna

53. A botanical assessment of the Property was conducted by Petitioner's botanical consultant, Char & Associates. Vegetation on the Property consists of actively cultivated sugarcane fields and weedy species commonly associated with agricultural lands.

54. The botanical assessment states that given the Property's current usage of sugarcane cultivation, no threatened and endangered species occur on the Property. Also, no sensitive remnant native plant communities were observed on the Property.

55. According to the botanical assessment, there are no botanical reasons to impose any restrictions, impediments or constraints to the development proposed for the Property.

56. Given the Property's current usage of sugarcane cultivation and related activities, no threatened or endangered fauna occurs on the Property.

#### ENVIRONMENTAL QUALITY

##### Water Quality

57. Surface and subsurface water quality impacts may be generated from (i) application of fertilizers and

pesticides, and (ii) potential movement of these chemicals as a component of surface water runoff, and or infiltration into the ground.

58. Petitioner's Consultant, R.M. Towill Corporation believes that infiltration of the storm water into the subsurface will not adversely impact the basal aquifer because the aquifer is located below the impervious caprock layer. Due to the lower levels of phosphorus and nitrogen expected in the surface runoff coupled with the filtering action when the surface runoff percolates into the ground, contamination of the aquifer is not likely.

59. The primary constituents of surface runoff are nitrogen and phosphorous. According to studies in urban areas of Oahu and in large golf course and resort complexes on the island of Hawaii, the amount of pesticides, herbicides and nutrients in surface runoff from golf courses is minimal to non-existent.

#### Drainage

60. A maximum total of 1,370 acre-feet of runoff is presently generated by the undeveloped Villages of Kapolei during a 100-year, 24-hour storm. This runoff is expected to increase by 70 acre-feet to 1,440 acre-feet after the Villages of Kapolei are developed.

61. The 70 acre-feet increase represents the minimum onsite disposal required. The minimum size for sufficient flood retention was computed at 250 acre-feet. As a safety

factor, a basin size of 300 acre-feet was recommended by Petitioner's consultant, R.M. Towill Corporation.

62. The 300 acre-feet of storm water is proposed to be retained in the 18-hole golf course.

63. Petitioner's consultant states that the 58.001-acre Property is needed to expand the golf course to accommodate a retention basin size of 300 acre-feet and to provide for a golf course that will be more practical in the operation and maintenance as well as enhanced as a visual amenity.

64. Petitioner's consultant states that the drainage plan designed for the Villages of Kapolei is such that the rate of flow would not be greater than the existing flow rates under the existing drainage patterns. The flow volume which normally flows under existing drainage patterns into the coral pit located at Barber's Point Naval Air will not be increased under the Petitioner's drainage plan.

65. Petitioner has been coordinating with the U.S. Navy and the City and County of Honolulu in the design of the drainage plan.

#### Air Quality

66. According to Petitioner's air quality consultant, J.W. Morrow, the Kapolei Golf Course air quality was addressed in its 1987 report and the Final EIS of 1988. The consultant's current report supplements those reports by including new information.



67. General sources of air pollutants will be from nearby vehicular activity and pesticides spraying from maintenance of the golf course.

68. According to the Petitioner's air quality consultant, the increase in traffic as a result of the addition of the Property as a part of the golf course and the new access point indicated an increase of less than one percent at the two major intersections with Farrington Highway and less than five percent at the golf course access road. The air quality impacts as a result of increased traffic would thus represent no significant change.

69. The use of pesticides and herbicides chemicals are routinely required at golf courses in order to maintain fairways and greens. According to the air quality consultant, if properly used in accordance with label instructions, the chemicals which are commonly used should present no hazard to the Property or owners of properties adjoining the Property.

70. The user of the pesticides and herbicides faces the greatest risk because the user may come in contact with the chemicals while nearby properties and people may only be exposed to the greatly diluted and dispersed application solution.

#### Noise

71. According to the noise impact assessment prepared by Darby & Associates, noise impacts on the proposed golf course extension would be caused by aircraft operations

associated with the Honolulu International Airport (HIA) and NASBP, sugarcane operations and traffic movements.

72. The latest Air Installation Compatible Use Zone (AICUZ) for NASBP was used to estimate noise levels generated by aircraft operations associated with HIA and NASBP.

73. The Property will be exposed to a combined day-night average sound level (Ldn) (due to both HIA and NASBP) of about 55 to 60 decibels (dB).

74. Future noise levels are expected to be less than the existing levels due to the planned move of the TACAMO mission from NASBP and due to quieter aircraft associated with the operations at HIA.

75. Both the existing and future Ldn levels at the Property are about 55 to 60 dB and comply with local and federal land-use compatibility guidelines and criteria, which normally allow golf course use in zones with Ldn's less than 65 to 80 dB.

76. Noise generated by sugarcane activities will come from the equipment used during cane harvesting and land preparation. The equipment involved operate 24 hours per day and include bulldozers (push rakes) and clam-shell cranes loading trucks. Land preparation for planting occurs typically every six years and involves a sequence of operations such as harrowing, plowing, leveling, and stone removal.

77. According to the noise regulations of the State Department of Health, sugarcane operations are allowed to

generate 70 dBA for 10% of the time in any 20-minute period at the property line. The regulations also allow conditional permits for agricultural field preparation and harvesting provided that 95 dBA is not exceeded at the property line.

78. While possible, it would be a rare occurrence that a noise level of up to 95 dBA may occur. A significant noise impact is not expected.

79. Construction activity on the Property may generate significant temporary amounts of noise depending upon the methods employed during each stage of construction. All construction activities will comply with noise regulations contained in Chapter 43, Administrative rules for the State Department of Health.

#### Visual Impacts

80. The Property is an expansion of the proposed 18-hole golf course of the Villages of Kapolei project and will add to the open space character of the proposed golf course.

81. The Property will also serve as additional open space buffer between the residential areas and adjacent sugarcane fields. Sugarcane related uses on the Property will be replaced by the visual amenity of the open space character of golf course use and related accessory uses.

#### ADEQUACY OF PUBLIC SERVICES AND FACILITIES

##### Traffic Circulation

82. The major public roadway adjacent to and north of the Property is the two-lane Farrington Highway. Further north

of the Property is the H-1 Freeway allowing access to the site via the Makakilo Interchange. The freeway in the vicinity of the Property is presently being upgraded from four lanes to six lanes.

83. Other roadways located in the vicinity of the Property include Fort Barrette Road (also known as the "Barbers Point Access Road"), Waimanalo Road (a private agricultural road used by OSCo), the State-owned OR&L Right of Way and Hanson Road.

84. Signalization is proposed at the intersection of Farrington Highway and the Kapolei Villages Access Road and at the intersection of Farrington Highway and the first Village 3 access point at the west end of Village 3. These intersections are located west of the access road for the golf course.

85. Farrington Highway is proposed to be widened to four lanes from the western intersection of Village 3 with Farrington Highway to the intersection with Fort Barrette Road. The Farrington Highway approach to the Village 3 access road will include a deceleration lane for right turns into the village and a left turn lane for approach from the east.

86. A traffic impact assessment was prepared by Petitioner's consultant Parsons Brickerhoff Quade & Douglas, Inc. to evaluate the expected traffic impacts for the proposed expansion of the golf course by the addition of the Property and for the relocation of the access road to Farrington Highway.

87. The traffic assessment shows an increase in the total number of vehicles entering and exiting the golf course by an additional 10 vehicles for the a.m. peak hour and an additional 13 vehicles for the p.m. peak hour.

88. With the proposed improvements described in the previous traffic study in 1987 (Commission Docket No. A88-622/Housing Finance and Development Corporation), the intersections of Barbers Point Access Road/Farrington Highway and Farrington Highway/Village Parkway would have adequate capacity to accommodate the expansion of the golf course by the addition of the 58.001-acre Property.

89. Petitioner's traffic engineering consultant concludes that there is little or no impact on traffic from the 58.001-acre expansion of the golf course.

#### Water Service

90. The Property is located within the Board of Water Supply's (BWS) Ewa-Waianae District.

91. The existing BWS system consists of a 30-inch water transmission line along the north side of Farrington Highway and the Makakilo No. 1 booster pump station.

92. The source wells for the water are owned by BWS.

93. A new 30-inch potable water main along Farrington Highway will be installed with additional storage reservoirs located north of the H-1 freeway when the existing water demand is exceeded.

## Electrical and Telephone

94. Electric power service to the Property will be provided by Hawaiian Electric Company (HECO). Overhead lines (46 KV) lie within 100-foot right of way south of the Property paralleling the NASBP boundary.

95. A proposed 138 KV overhead line extending from the Waiiau Power Plant is under consideration. HECO has proposed a 46 KV overhead line and substation (Awanoi Substation) to be sited next to the proposed Makakilo Shopping Center, adjacent to the northwestern corner of the Villages of Kapolei site. A new electrical substation is planned when existing power capacities at the Villages of Kapolei are exceeded.

96. Telecommunications facilities are available from Hawaiian Telephone Company which maintains telecommunications facilities in the vicinity of the Property at Makakilo, NASBP and the Honokai Hale Subdivision. A new switching facility is planned for the development of the Villages of Kapolei.

97. Police service to the Ewa area, including the Property, is provided from the Pearl City Station, which is staffed by 161 officers. The Pearl City Station patrols three districts: Waianae Coast, Waipahu/Ewa Beach and Aiea/Pearl City.

98. Fire service to the Property will be provided from the Makakilo Station which houses an engine company and

five firefighters. Additional City Fire Department units are available from the Waipahu and Nanakuli units.

#### Medical Facilities

99. Health care facilities for the area in which the Property is located are provided by the Waipahu Clinic with a staff of 70 doctors, nurses and aides. The service area for the clinic extends from Waipahu to Waianae.

100. The nearest hospital emergency services are provided at the Moanalua Kaiser Medical Center. The St. Francis Hospital in Ewa will be open for operation in the near future.

101. The development of the Property as an extension to the golf course is not expected to significantly impact the medical facilities servicing the area in which the Property is located.

#### Recreational Facilities

102. Existing recreational facilities in the vicinity of the Property include neighborhood parks located in Ewa Beach and Makakilo, beach parks located in Ewa Beach and NASBP, and a golf course located on the eastern border of NASBP.

103. The proposed golf course of which the Property will be a part will increase the outdoor recreational facilities in the Ewa area.

104. Future recreational facilities in the area include a regional park in the adjacent Kapolei Town Center project, and two parks and recreational centers within the

Villages of Kapolei project. Small neighborhood parks are planned within the residential developments for the Villages of Kapolei.

Solid Waste and Sewage Treatment and Disposal

105. Solid waste is currently disposed of at the Palailai Landfill and the Waipahu Incinerator. The Palailai Landfill is scheduled to be closed within the next few years and is not expected to provide a refuse disposal site for the Property.

106. A new landfill site at Waimanalo Gulch is currently being implemented, and a Garbage-to-Energy H-POWER facility, located at the James Campbell Industrial Park, is scheduled to become operational in late 1990. These facilities are expected to accommodate the solid waste generated at the Property.

107. Solid waste disposal service will be provided by a private refuse collection company.

108. Wastewater generated at the Property will be conveyed via the West Beach Interceptor sewer to the Honouliuli Wastewater Treatment Plant (HWWTP) for treatment and disposal. The West Beach Interceptor is proposed to be upgraded. Expansion of the HWWTP is scheduled for completion in 1993. In the meantime, temporary acceptable wastewater treatment facilities may be used.

109. The wastewater projected to be generated at the golf course, of which the Property shall be a part, as well as



the impacts related thereto, have already been considered and assessed as part of the Villages of Kapolei development (Commission Docket No. A88-622/Housing Finance and Development Corporation).

110. The Property, as an extension of the golf course, is not expected to generate additional wastewater of any significant amount.

#### SOCIO-ECONOMIC IMPACTS

111. The golf course expansion by the 58-acre Property is not expected to significantly impact the population or economic characteristics of the Ewa area. A positive impact is the creation of additional jobs related to golf course maintenance.

#### CONFORMANCE WITH THE HAWAII STATE PLAN

112. The reclassification of the Property to allow the proposed expansion of the Kapolei Golf Course which is an integral and vital part of the Villages at Kapolei, conforms to the Hawaii State Plan, Chapter 226, HRS, as amended, including the following objectives and policies:

§ 226-5(b)(3) "Promote increased opportunities for Hawaii's people to pursue their socio-economic aspirations throughout the islands."

§ 226-6(a)(1) "Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and

improved living standards for Hawaii's people."

§ 226-13(b) (5) "Reduce the threat to life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man induced hazards and disasters."

§ 226-23(b) (2) "Provide a wide range of activities and facilities to fulfill the cultural, artistic, and recreational needs of all diverse and special group effectively and efficiently."

§ 226-104(b) (12) "Utilize Hawaii's limited land resources wisely, providing adequate land to accommodate projected population and economic growth needs while ensuring the protection of the environment and the availability of the shoreline, conservation lands, and other limited resources for future generations."

113. The golf course, of which the Property is to be a part, will not only provide an outdoor recreational amenity but also offer economic opportunities in terms of short term construction jobs to build the golf course and permanent jobs relating to the operation of the golf course.

114. As additional acreage of approximately 58.001 acres to the currently proposed 127-acre 18-hole golf course for the Villages of Kapolei planned community project, the Property serves to improve upon the design, aesthetics and utility of the golf course as an open space recreational amenity and a surface water retention basin.

115. The Property will provide the additional area to the golf course to accommodate the retention basin of the size and design needed for the area to protect the Villages of Kapolei project and surrounding areas from the adverse impacts of storm water runoff.

116. Use of the Property as a retention basin for storm water runoff is not expected to impact the groundwater because the groundwater and the Property are separated by an impervious caprock which acts as a shield.

117. The golf course, of which the Property is to be a part, is an integral part of the planned community project of the Villages of Kapolei in Ewa. Future population growth is expected in the Ewa area which is designated as the secondary urban center. The golf course will help to fulfill the recreational needs of those in the developing secondary urban center.

#### CONFORMANCE TO STATE LAND USE DISTRICT STANDARDS

118. The Property is contiguous to the land proposed for the 18-hole golf course at the Villages of Kapolei project which is the State Urban District.

119. The Property is intended as an extension to the golf course which is an integral part of the Villages of Kapolei, a planned community project, the proposed uses for which also includes residential areas, commercial areas, parks, recreational centers, churches and schools.

120. The elevations in the Property range from 90 feet above mean sea level in the northern section to about 50 feet in the southern section. The Property is intended to be designed to serve as a part of a golf course, as a retention basin for storm runoff and as a buffer strip from cane cultivation operations.

121. The Property is proximate to basic services as sewer, water, public highway, access, police and fire protection, power and other public facilities. As an integral part of the Villages of Kapolei, the Property will be proximate to the facilities and amenities to be provided in the development of the Villages of Kapolei project.

122. The Property is located in the Ewa area designated as the secondary urban center in the Ewa Development Plan of the City and County of Honolulu.

CONFORMANCE TO COASTAL ZONE POLICIES AND OBJECTIVES

123. The proposed reclassification of the Property for the development of the project conforms to the policies and objectives of the Coastal Zone Management Program Chapter 205A, HRS, as amended.

### RULING ON PROPOSED FINDINGS OF FACT

Any of the proposed findings of fact submitted by the Petitioner or the other parties not already ruled upon by the Commission by adoption herein, or rejected by clearly contrary findings of fact herein, are hereby denied and rejected.

Any conclusion of law herein improperly designated as a finding of fact should be deemed or construed as a conclusion of law; any finding of fact herein improperly designated as a conclusion of law should be deemed or construed as a finding of fact.

### CONCLUSION OF LAW

Pursuant to Chapter 205 of the Hawaii Revised Statutes and Chapter 15-15 of the Hawaii Land Use Commission rules, the Commission finds upon a preponderance of the evidence that the reclassification of the Property, as approximately shown on Exhibit "A" attached hereto and incorporated by reference herein, consisting of approximately 58.001 acres of land situate at Honouliuli, Ewa, Island of Oahu, State of Hawaii, Tax Map Key No. 9-1-16: portion of 25, from the Agricultural District to the Urban District for golf course expansion, clubhouse and other related uses subject to the conditions stated in the Order, conforms to the standards established in the Hawaii Land Use Commission Rules, Chapter 15-15, Hawaii Administrative Rules, is reasonable, nonviolative of Section 205-2, Hawaii Revised Statutes, as amended, and the Hawaii

State Plan as set forth in Chapter 226, Hawaii Revised Statutes, as amended.

ORDER

IT IS HEREBY ORDERED that the Property, consisting of approximately 58.001 acres of land, situate at Honouliuli, Ewa, Island of Oahu, State of Hawaii, Tax Map Key No. 9-1-16: portion of 25, and approximately identified on Exhibit "A" attached hereto and incorporated herein by reference herein, for reclassification from the Agricultural District to the Urban District, shall be and hereby is approved, and the State Land Use District Boundaries are amended accordingly, subject to the following conditions:

1. Petitioner shall ensure adequate tee times and affordable golf rates for residents of the State of Hawaii.

2. Petitioner shall provide drainage improvements for the subject project and shall coordinate off-site improvements with the Barbers Point Naval Air Station, adjoining land owners and developers, and/or other Federal, State, or County agencies.

3. Petitioner shall develop the necessary water source, storage, and transmission facilities to provide an adequate supply of potable and non-potable water to the Property in conjunction with the development of the Villages of Kapolei golf course.

4. Petitioner shall participate in the funding and construction of transportation improvements as identified by the State Department of Transportation.

5. Petitioner shall connect the wastewater system for the proposed project to the Honouliuli Wastewater Treatment Plant (WWTP) but may connect the wastewater system to other wastewater treatment facilities as temporary measures which are acceptable to the State Department of Health.

6. Petitioner shall immediately stop work on the impacted area and contact the State Historic Preservation Program should any archaeological resources such as artifacts, shell, bone, or charcoal deposits, human burial, rock or coral alignments, paving or walls be encountered during the project's development.

7. Petitioner shall comply with the "Eight (8) Conditions Applicable To This New Golf Course Development", prepared by the State Department of Health dated April 1990 and other requirements of the State Department of Health as set forth in Exhibit "I" attached hereto and incorporated herein by reference.

8. Petitioner shall engage the services of a qualified golf course manager to oversee the irrigation of the golf course and application of fertilizers and pesticides to the golf course within the project and who shall be qualified in the application of fertilizers and pesticides on those areas.

9. Petitioner shall develop the Property in substantial compliance with the representations made to the Land Use Commission in obtaining reclassification of the Property.

10. Petitioner shall file annual reports to the Commission, the Office of State Planning and the City and County of Honolulu Department of General Planning in connection with the status of the project and Petitioner's progress in complying with the conditions imposed.

11. The Commission may fully or partially release these conditions as to all or any portion of the Property upon timely motion, and upon the provision of adequate assurance of satisfaction of these conditions by the Petitioner.



DOCKET NO. A90-653 - HOUSING FINANCE AND DEVELOPMENT CORPORATION,  
STATE OF HAWAII

Done at Honolulu, Hawaii, this 25th day of June 1990,  
per motion on June 19, 1990.

LAND USE COMMISSION  
STATE OF HAWAII

By (absent)  
RENTON L. K. NIP  
Chairman and Commissioner

By *Frederick P. Whittemore*  
FREDERICK P. WHITTEMORE  
Vice Chairman and Commissioner

By *Lawrence F. Chun*  
LAWRENCE F. CHUN  
Commissioner

By *Sharon R. Himeno*  
SHARON R. HIMENO  
Commissioner

By *Allen K. Hoe*  
ALLEN K. HOE  
Commissioner

By *Allen Y. Kajioaka*  
ALLEN Y. KAJIOKA  
Commissioner

By *Eusebio Lapenia, Jr.*  
EUSEBIO LAPENIA, JR.  
Commissioner

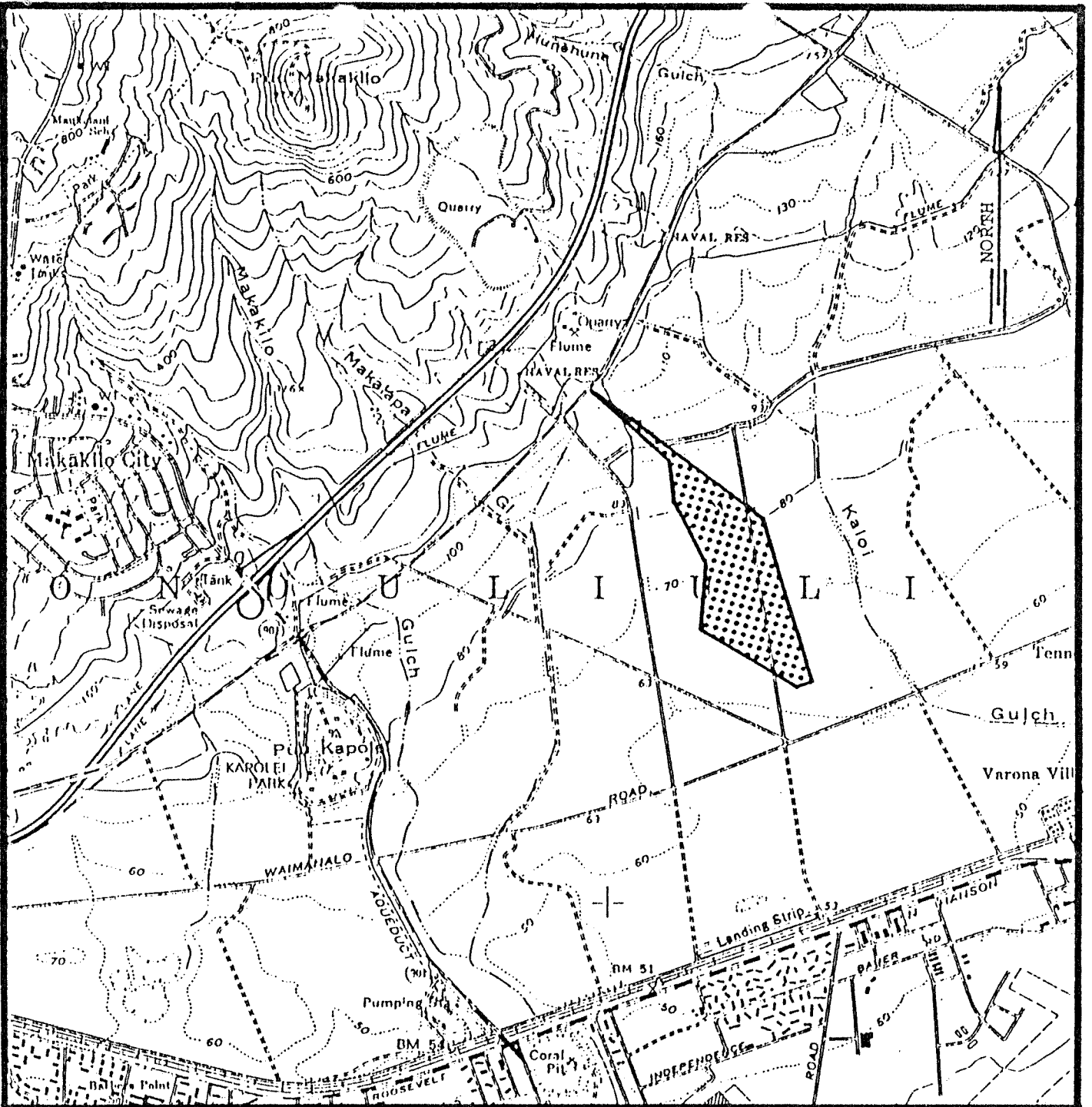
Filed and effective on  
June 25, 1990

Certified by:

*Executive Officer*  
Executive Officer

By (absent)  
JAMES M. SHINNO  
Commissioner

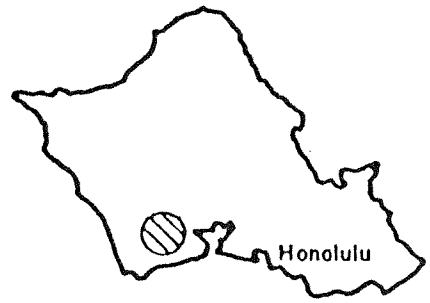
By *Elton Wada*  
ELTON WADA  
Commissioner



LOCATION MAP  
 A90-653/H.F.D.C.  
 T.M.K.: 9-1-16: por. 25  
 HONOULIULI, EWA, OAHU, HAWAII  
 SCALE: 1" = 2,000' ±



APPROVED AREA



OAHU



# STATE OF HAWAII DEPARTMENT OF HEALTH

April, 1990 (Version 3)

## EIGHT (8) CONDITIONS APPLICABLE TO THIS NEW GOLF COURSE DEVELOPMENT

1. The owner/developer and all subsequent owners shall establish a groundwater monitoring plan and system which shall be presented to the State Department of Health for its approval. The groundwater monitoring plan and system shall minimally describe the following components:
  - a. A monitoring system tailored to fit site conditions and circumstances. The system shall include, and not be limited to, the use of monitoring wells, lysimeters and vadose zone monitoring technologies. If monitoring wells are used, the monitoring wells shall generally extend 10 to 15 feet below the water table.
  - b. A routine groundwater monitoring schedule of at least once every six (6) months and more frequently, as required by the State Department of Health, in the event that the monitoring data indicates a need for more frequent monitoring.
  - c. A list of compounds which shall be tested for as agreed to by the State Department of Health. This list may include, but not be limited to the following: total dissolved solids; chlorides; PH; nitrogen; phosphorus; or any other compounds associated with fertilizers, biocides or effluent irrigation.
2. Baseline groundwater/vadose zone water data shall be established as described in this paragraph. Once the monitoring system and list of compounds to be monitored for have been determined and approved by the State Department of Health, the owner/developer shall contract with an independent third-party professional (approved by the State Department of Health) to establish the baseline groundwater/vadose zone water quality and report the findings to the State Department of Health. Testing of the analyses of the groundwater shall be done by a certified laboratory.
3. If the data from the monitoring system indicate the presence of the measured compound and/or the increased level of such compound, the State Department of Health can require the owner/developer or subsequent owner to take immediate mitigating action to stop the cause of the contamination. Subsequently, the developer/owner or subsequent owner shall mitigate any adverse effects caused by the contamination.

4. Owner/developer shall provide sewage disposal by means of connection to the public sewer system; or by means of a wastewater treatment works providing treatment to a secondary level with chlorination. Effluent from this wastewater treatment works may be used for golf course irrigation, subject to Condition #3. The entire system shall be approved by the State Department of Health in conformance with Administrative Rules Title 11, Chapter 62, Wastewater Treatment Systems, effective December 10, 1988.
  
5. If a wastewater treatment works with effluent reuse becomes the choice of wastewater disposal, then the owner/developer and all subsequent owners shall develop and adhere to a Wastewater Reuse Plan which shall address as a minimum, the following items:
  - a. Management Responsibility. The managers of the irrigation system using reclaiming wastewater shall be aware of the possible hazards and shall evaluate their system for public health, safety, and efficiency. They must recognize that contact with the reclaimed wastewater from treated domestic sewage poses potential exposure to pathogenic organisms which commonly cause infectious diseases (bacteria, viruses, protozoa, and helminths or worms).
  
  - b. General Recommendations
    - 1) Irrigated areas should be no closer than 500 feet from potable water wells and reservoirs.
    - 2) Irrigated areas should be no closer than 200 feet from any private residence.
    - 3) Application rates should be controlled to minimize ponding. Excess irrigation tailwater in the reclaimed wastewater irrigation area shall be contained and properly disposed. An assessment should be made of the acceptable time and rate of application based on factors such as type of vegetation, soil, topography, climate and seasonal variations.
    - 4) Effluent holding/mixing ponds shall be designed to prevent the infiltration of the wastewater into the subsurface. The holding/mixing ponds shall be made impervious.
    - 5) Irrigation shall be scheduled such that the public is not in the vicinity and the soil is sufficiently dry to accept the irrigation water.
    - 6) Permanent fencing or barriers shall be erected around polishing or holding ponds to prevent public entry or stray feral and tame animals from gaining access to the ponds.

- 7) Adequate irrigation records shall be maintained. Records should include dates when the fields are irrigated, rate of application, total application and climatic conditions. Records should also include any operational problems, diversions to emergency storage or safe disposal and corrective or preventive action taken.
  - 8) The holding/mixing ponds shall be periodically monitored for the purpose of detecting leakage into the subsurface. If leakage is detected, corrective action shall be immediately taken.
- c. Adequate Notice. Appropriate means of notification shall be provided to inform the employees and public that reclaimed wastewater is being used for irrigation on the site.
- 1) Posting of conspicuous signs with sufficient letter size for clear visibility with proper wording should be distributed around the use areas.
  - 2) Signs shall be securely fastened. Periodic surveillance shall be conducted to assure permanent posting at all times. Immediate replacements shall be made when necessitated by deterioration, vandalism or misuse.
- d. Adequate Employee Education. Employees or users should be cautioned and warned of the potential health hazards associated with the ingestion of reclaimed wastewater being used at the site.
- 1) Employees should be warned that the ingestion of reclaimed wastewater is unsafe.
  - 2) Employees should be protected from direct contact of the reclaimed wastewater. If necessary, protective clothing should be provided.
  - 3) Employees should be informed of the following:
    - The irrigation water is unsafe for drinking or washing.
    - Avoid contact of the water or soil with any open cuts or wounds.
    - Avoid touching the mouth, nose, ear or eyes with soiled hands, clothes or any other contaminated objects.
    - Be aware that inanimate objects such as clothes or tools can transport pathogenic organisms.
    - Always wear shoes or boots to protect feet from the pathogenic organisms in the soil or irrigation water.

6. Releases from underground storage tanks (USTs) used to store petroleum products for fueling golf carts, maintenance vehicles, and emergency power generators pose potential risks to groundwater.

Should the owner/developer/operator plan to install USTs that contain petroleum or other regulated substances, the owner/developer/operator must comply with the federal UST technical and financial responsibility requirements set forth in Title 40 of the Code of Federal Regulations Part 280. These federal rules require, among other things, owners and operators of USTs to meet specific requirements in the detection, release response and corrective action. Also, the owner/developer/operator must comply with all State UST rules and regulations pursuant to Chapter 342-L 'Underground Storage Tanks' of the Hawaii Revised Statutes.

In consideration of the above-mentioned remarks, the Department of Health recommends that the owner/developer/operator implement facility plan alternatives that exclude the installation and operation of UST systems (e.g., the preferential use of electric golf carts, use of above-ground storage of fuel oil for emergency power generators, etc.), or, if USTs are utilized, that secondary containment be considered.

7. Buildings designated to house the fertilizer and biocides shall be bermed to a height sufficient to contain a catastrophic leak of all fluid containers. It is also recommended that the floor of this room be made waterproof so that all leaks can be contained within the structure for cleanup.
8. A golf course maintenance plan and program will be established based on "Best Management Practices (BMP)" in regards to utilization of fertilizers and biocides as well as the irrigation schedule. BMP's will be revised as an ongoing measure. The golf course maintenance plan will be reviewed by the State Department of Health prior to implementation.

If there are any questions regarding the eight (8) conditions mentioned here, please contact Mr. James K. Ikeda at 543-8304. We ask you cooperation in the protection of Hawaii's valuable groundwater resource.

BEFORE THE LAND USE COMMISSION  
OF THE STATE OF HAWAII

In the Matter of the Petition of ) DOCKET NO. A90-653  
)  
HOUSING FINANCE AND DEVELOPMENT ) HOUSING FINANCE AND  
CORPORATION ) DEVELOPMENT CORPORATION  
)  
To Amend the Agricultural Land )  
Use District Boundary into the )  
Urban Land Use District for )  
approximately 58.001 acres at )  
Honouliuli, Ewa, Oahu, Hawaii, )  
Tax Map Key No. 9-1-16: portion )  
of 25 )  
\_\_\_\_\_ )

CERTIFICATE OF SERVICE

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

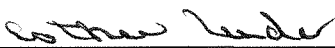
HAROLD S. MASUMOTO, Director  
Office of State Planning  
State Capitol, Room 410  
Honolulu, Hawaii 96813

CERT. BENJAMIN B. LEE, Chief Planning Officer  
Department of General Planning  
City and County of Honolulu  
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Okumura, Takushi, Funaki & Wee  
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733 Bishop Street  
Honolulu, Hawaii 96813

CERT. LLOYD HARAGUCHI, Project Coordinator  
Housing Finance and Development Corporation  
Seven Waterfront Plaza, Suite 300  
500 Ala Moana Boulevard  
Honolulu, Hawaii 96813

DATED: Honolulu, Hawaii, this 25th day of June 1990.

  
\_\_\_\_\_  
ESTHER UEDA  
Executive Officer