

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Petition of)
LANAI RESORT PARTNERS)
To Amend the Rural Land Use)
District Boundary into the)
Agricultural Land Use District)
for Approximately 38.7 Acres and)
to Amend the Conservation Land)
Use District Boundary into the)
Agricultural Land Use District)
for Approximately 2.2 Acres, at)
Koele, Lanai, Hawaii, Tax Map)
Key No. 4-9-2; portion of 1)

DOCKET NO. A89-647

LANAI RESORT PARTNERS

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

APR 26 1990

Date

by

Edward Lind
Executive Officer

ORDER ADOPTING THE HEARING OFFICER'S
PROPOSED FINDINGS OF FACT, CONCLUSIONS OF LAW,
AND DECISION AND ORDER

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This matter came on for consideration on April 10, 1990, at the meeting of the Land Use Commission of the State of Hawaii held in Kaanapali, Hawaii. Appearing for the Petitioner was James Funaki, Esq., for the Department of Planning, County of Maui was Ralph Masuda, and for the Office of State Planning were Ann Ogata-Deal and Karen Yamamoto. Hearing Officer Allen K. Hoe was present. No exceptions to the hearing officer's report, as amended, were filed.

Following closing arguments by the parties, the Land Use Commission, after careful review of the hearing officer's amended report and recommendations, the arguments of the parties, the records and files herein, and upon motion duly passed and good cause appearing therefrom,

HEREBY accepts the recommendations of the hearing officer. Accordingly, the Land Use Commission (hereinafter the "Commission") hereby adopts the findings of fact, conclusions of law and order as follows:

THE PETITION

Lanai Resort Partners, a California general partnership registered to do business in the State of Hawaii, whose partners are M K Development, Inc., a Hawaii corporation and Lanai Company, Inc., a Hawaii corporation, (hereinafter referred to as the "Petitioner") filed this Petition on August 17, 1989, and First and Second Amendments to Petition on September 6, 1989 and November 20, 1989, respectively, pursuant to Chapter 205, Hawaii Revised Statutes, and the Hawaii Land Use Commission Rules, Chapter 15-15, Hawaii Administrative Rules, to amend the land use district boundary for approximately 38.7 acres of land in the Rural District and approximately 2.2 acres of land in the Conservation District, Tax Map Key No. 4-9-2: portion of 1, situate at Koele, Island of Lanai, State of Hawaii, (hereinafter collectively called the "Property") to the Agricultural District for golf course and accessory uses.

POSITION OF THE PARTIES TO THE PROCEEDING

The Office of State Planning and the County of Maui Planning Department together with Petitioner, recommend approval to reclassify approximately 38.7 acres from the Rural District into the Agricultural District and approximately 2.2

acres from the Conservation District into the Agricultural District, subject to the following conditions:

1. The Petitioner shall comply with the environmental health concerns addressed in Exhibit A attached hereto and incorporated herein by reference, entitled "Eight (8) Conditions Applicable to this New Golf Course Development," dated April 7, 1989, issued by the State Department of Health, including its mandatory groundwater monitoring and enforcement program, and the use of sewage effluent for supplemental irrigation purposes.

2. The Petitioner shall implement the recommendations contained in Exhibit B attached hereto and incorporated herein by reference relating to groundwater contamination mitigation measures such as irrigation management, judicious use of fertilizers and pesticides, chemical monitoring, grading practices, provision of buffer space, and golf course management.

3. The Petitioner shall data recover 5 historic sites and conduct archaeological monitoring of the entire project area during initial grubbing. The data recovery plan for the reservoirs shall be implemented in accordance with the Historic Preservation Program. An archaeological data recovery plan for the historic debris and artifact scatter shall be submitted to and approved by the State's Historic Preservation Program. The scope of work for the monitoring shall be included as part of the archaeological data recovery plan. The

data recovery plan shall be executed prior to construction work and the State's Historic Preservation Program shall verify that the plan has been adequately executed. The monitoring shall occur during initial grubbing.

In addition, the Petitioner shall immediately stop work and contact the Historic Preservation Office should any previously unidentified archaeological resources such as artifacts, shell, bone, or charcoal deposits, human burial, rock or coral alignments, pavings or walls be encountered during the project's development.

4. The Petitioner shall have the project-generated wastewater collected and transported to the Lanai City Wastewater Treatment Facility, and shall also participate in the funding of any expansion or improvements to this treatment facility, to the satisfaction of the County of Maui, Department of Public Works, and the State Department of Health.

5. The Petitioner shall dispose of any industrial wastes (e.g., used oil and solvent waste, battery electrolyte) or hazardous wastes as specified by the State Department of Health and the County of Maui.

6. The Petitioner shall fund the design and construction of all necessary water facility improvements, including source development, to provide adequate quantities of potable and non-potable water to service the subject project.

7. The Petitioner shall submit a detailed drainage and erosion control plan including, but not limited to,

hydrologic and hydraulic calculations, scheme for controlling erosion and disposal of runoff water, and an analysis of the soil loss using the HESL erosion formula, to the County of Maui, Department of Public Works, for review and approval. This plan shall provide verification that the grading and all runoff water generated by the project will not have an adverse effect on the adjacent and downstream properties. The drainage systems shall be designed to address possible chemical reaction due to use of fertilizers and biocides.

8. The Petitioner shall provide to the County of Maui, Department of Public Works and the State Department of Transportation information on proposed roadway improvements, including but not limited to, road rights-of-way, pavement structure and width and construction of curbs, gutters, and sidewalks. In addition, Petitioner shall participate in the funding and construction of any transportation improvements necessitated by the proposed project, identified by and to the satisfaction of the County of Maui, Department of Public Works and State Department of Transportation.

9. The Petitioner shall partially realign and upgrade the existing 9-hole Cavendish golf course situated within the Koele Project District, and shall continue the traditional "free-play" for Lanai residents of this golf course.

10. The Petitioner shall develop the petition area in substantial compliance with representations made to the Land

Use Commission in obtaining the reclassification of the petition area.

11. The Petitioner shall give notice to the Land Use Commission of any intent to sell, lease, assign, place in trust, or otherwise voluntarily alter the ownership interest in the subject property covered by the approved petition, prior to development of the petition area.

FINDINGS OF FACT

PROCEDURAL MATTERS

1. On August 17, 1989, Petitioner filed the Petition, together with an environmental assessment made a part thereof, for reclassification of approximately 33 acres of land in the Rural District and approximately 3.5 acres of land in the Conservation District to the Agricultural District.

2. On September 6, 1989, Petitioner filed First Amendment To Petition For Land Use District Boundary Amendment.

3. On September 7, 1989, the Commission conducted a meeting on the environmental assessment pursuant to an agenda filed at the Lieutenant Governor's Office on August 29, 1989, to determine whether an environmental impact statement shall be required for the action proposed by the Petition. On said date, the Commission admitted the written statements of Sally Raisbeck, Ron McOmber and John D. Gray into evidence.

4. By Findings of Fact, Conclusions of Law and Decision and Order of a Negative Declaration for a State Land Use District Boundary Amendment dated October 23, 1989, the

Commission determined that an environmental impact statement was not required and accepted the Petition for filing as of September 7, 1989.

5. On November 20, 1989, Petitioner filed Second Amendment To Petition For Land Use District Boundary Amendment to amend the acreage of the Property to approximately 38.7 acres of land from the Rural to the Agricultural District and approximately 2.2 acres of land from the Conservation to the Agricultural District.

6. On January 4, 1990, a prehearing conference was held at the Commission Office with all parties in attendance.

7. The Commission, by its hearing officer, Allen K. Hoe, duly appointed and designated, conducted hearings on the Petition on January 18 and 19, 1990, pursuant to notices published on December 6, 1989, in the Honolulu Advertiser and the Maui News.

8. The Commission did not receive any request for intervention in the Petition.

9. Adolph H. Desha and Ron McOmber appeared and testified as public witnesses. Written comments and communications were received by the Commission from Martha Evans, Lynn H. Kahooalahala, John D. Gray, Ron McOmber and Goro Hokama.

DESCRIPTION OF PROPERTY

10. The Property is comprised of two separate non-contiguous parcels of land. The larger parcel contains

approximately 38.7 acres and is currently in the Rural Land Use District; the smaller parcel contains approximately 2.2 acres and is currently in the Conservation Land Use District. Both parcels are contiguous to the Urban Land Use District on their southern boundaries, and separated by the Agricultural Land Use District by approximately 1/4 mile.

11. The two parcels of the Property are located about one mile northeast of Lanai City, abutting the northern boundary of the Koele Project District within the Urban District. The Koele Project District is a planned resort-residential development area, which is located immediately north of Lanai City. Much of the area to the north of the Koele Project District may be characterized as pastoral and woodland.

12. The 38.7-acre parcel is an abandoned pineapple field currently covered with grass, weeds, and shrub brush. The 2.2-acre parcel is covered with open pine forest. It is a relatively level tableland with steep slopes dropping to gulches at the north and south boundaries.

13. The proposed golf course, of which the Property is a part, is in the high elevation, mountainous region and will overlook the Koele Lodge and Lanai City. Elevations within the Property range from approximately 1,500 feet above mean sea level to approximately 1,700 feet above mean sea level. Slopes vary from 2 percent to 30 percent with less than

10 percent of the petition area within the 30 percent slope range.

14. Climate in the area of the Property is cool, and the annual rainfall is about 37 inches. About 60 percent of the total annual rainfall occurs during the months of November to March with sparse rainfall during the summer months of May to August.

15. The detailed Land Classification of the Land Study Bureau rates the Property "D" and "E" as to the overall productivity potential.

16. The general soil map for Lanai (Soil Survey Interpretations, Lanai, United States Department of Agriculture Report 44) classifies the soil in the area of the Property into the Kahanui-Kalae-Kanepua association. This association consists of well drained, moderately permeable, fine-textured and moderately fine-textured soils. These soils are developed in volcanic ash and material weathered from igneous rock. Kahanui soils make up approximately 6 percent; Kalae, 24 percent; and Kanepua, 47 percent. The remaining soils of this association consist of Naiwa and rough, broken land.

17. Castle & Cooke, Inc. is the fee simple owner of the Property. Petitioner is the owner of a right to purchase the Property under an agreement with Castle & Cooke, Inc. who has authorized the Petitioner to file the Petition.

18. The general partners of Petitioner are M K Development, Inc. and Lanai Company, Inc. M K Development,

Inc. is a wholly-owned subsidiary of Castle & Cooke, Inc., and Lanai Company, Inc. is a wholly-owned subsidiary of Oceanic Properties Inc., which is a wholly-owned subsidiary of Castle & Cooke, Inc.

PROPOSAL FOR DEVELOPMENT

19. Petitioner proposes to expand the existing Koele Project District in order to accommodate development of an 18-hole golf course and related facilities. The 38.7-acre parcel of the Property proposed for reclassification from the Rural to Agricultural Land Use District would contain the proposed driving range, golf clubhouse and parking lot, portions of the first, second, third, fourth and seventh holes, and the access road. The 2.2-acre parcel of the Property proposed for reclassification from the Conservation to Agricultural Land Use District would contain portions of the sixth and seventh golf holes. The fourth and fifth holes, and portions of the first, second, third, sixth and seventh holes being proposed also lie outside of the existing Koele Project District, on lands currently designated Agricultural and containing approximately 62 acres. The remaining 11 holes of the 18-hole golf course will be within the existing Koele Project District.

20. Petitioner proposes to develop a clubhouse with a usable area of around 3,000 square feet.

21. No part of the Property is proposed for residential use.

22. The Property is a part of the lands comprising the proposed 18-hole Koele golf course. Total projected cost of the golf course is \$22.5 million (in 1989 dollars) for cost items as follows:

	<u>Cost (\$ million)</u>
Golf course construction	\$12.9
Clubhouse	2.5
Equipment	2.1
Site work	1.5
Other	<u>3.5</u>
	<u>\$22.5</u>

23. Petitioner anticipates that the proposed 18-hole golf course will open for operation in the fall or winter of 1990 assuming orderly processing of the necessary land use approvals and avoidance of undue delay.

PETITIONER'S FINANCIAL CAPABILITY
TO UNDERTAKE THE PROPOSED DEVELOPMENT

24.(a.) Petitioner's Unaudited Statements of Income and Partners' Capital for the six months ending June 30, 1989, and the two months ending June 30, 1988 reflect total revenues at \$1,894,000 and \$50,000, respectively. Total costs and expenses for these periods were \$1,861,000 and -0-, respectively, leaving partnership earnings for the period at \$33,000 and \$50,000, respectively. Partners' capital at the beginning of the period was \$66,181,000 and -0-, respectively, and capital contribution during the period was \$38,050,000 and \$33,524,000, respectively, leaving partners' capital at the end of the period at \$104,264,000 and \$33,574,000, respectively.

(b.) Petitioner's Unaudited Statements of Cash Flow for the six months ending June 30, 1989 and the two months ending June 30, 1988 show cash at beginning of period at \$2,670,000 and -0-, respectively; net cash flow from operating activities at (\$13,235,000) and (\$5,233,000), respectively; cash flows from investing activities at (\$28,401,000) and (\$26,211,000), respectively; and cash flows from financing activities at \$38,050,000 and \$33,524,000, respectively. Cash at the end of the period is listed at (\$916,000) and \$2,080,000, respectively.

(c.) Petitioner's Unaudited Balance Sheets as of June 30, 1988 and 1989 reflect total assets at \$112,290,000 and \$35,390,000, respectively. Total liabilities and partners' equity are listed as \$120,271,000 and \$37,206,000, respectively.

NEED FOR PROPOSED DEVELOPMENT

25. At the present time, there is no 18-hole golf course on the island of Lanai. There is one existing 9-hole Cavendish golf course which has been provided by Castle & Cooke, Inc. for the Lanai residents at no cost to the community for many years.

26. Petitioner stated that the success of the Koele Lodge is dependent on having an 18-hole golf course as an amenity as indicated by the cancellation of a group of visitors tentatively booked for 20 to 30 rooms after the group learned that there was no playable golf course.

27. A market assessment of the proposed golf course developments on Lanai--one 18-hole golf course at Koele and one 18-hole golf course at Manele--was prepared by Petitioner's consultant Peat Marwick Main & Company.

28. The market assessment indicates that the demand for golf at the two Lanai courses is based upon the projected daily overnight resort population. The total on-resort population (including hotel guests, and visitors and residents of the condominium units and single-family residences planned at the two resorts) is estimated at 340 in 1991 (when the proposed Koele golf course is scheduled to open) to 1,438 in the year 2000.

29. The average daily demand for golf at the two golf courses proposed (at both Koele and Manele), based upon rounds of golf played per 100 population at comparable resorts, is estimated at 60 to 70 rounds per day in 1991, increasing to 260 rounds per day in the year 2000.

30. The market assessment indicates that average daily rounds on representative courses range from 85 to 225 with an average of 147 rounds per day. Luxury resort hotel guests play an average of 15 rounds per day per 100 guests. Total golf rounds per year would increase from 21,900 rounds in 1991 to 94,900 in the year 2000.

31. It is the opinion of Petitioner's marketing consultant that an 18-hole golf course at Koele can be supported.

32. According to Petitioner, the proposed extension of the proposed 18-hole golf course onto the Property was also necessitated in order to retain the existing 9-hole Cavendish golf course as a no cost "free-play" service to Lanai residents.

33. The uses designated under the Lanai Community Plan of the County of Maui for the Koele Project District provided for one 18-hole golf course which meant the removal of the 9-hole Cavendish course. Upon reassessing the impact on the Lanai community of the removal of the 9-hole Cavendish course, the Petitioner states that it desires to continue the long standing amenity on a no cost "free-play" basis for the Lanai residents and develop a separate 18-hole golf course primarily for the Koele hotel visitors and tourists.

34. The commitment to retain and continue the Cavendish golf course requires extending the proposed 18-hole golf course onto lands, including the Property, adjoining the Koele Project District.

IMPACT UPON RESOURCES OF THE AREA

Agricultural Resources

35. The Land Study Bureau, Detailed Land Classification overall productivity ratings of the Property are class "D" and class "E" indicating lower and lowest agricultural productivity potential.

36. Under the State Department of Agriculture's classification of Agriculture Lands of Importance to the State of Hawaii, the Property is unclassified.

Historical/Archaeological Resources

37. An archaeological reconnaissance survey of the Property was conducted as part of an archaeological reconnaissance survey of the 18-hole golf course by Petitioner's archaeological consultant Hallett Hammat of Cultural Surveys Hawaii.

38. No archaeological sites were found on the Property.

39. The archaeological survey indicates that six features were observed within the proposed Koele Golf Course but not on the Property. Four of these features date to Lanai's ranching era (ca. 1880-1950). These four features include two reservoirs and one dam/diversion feature, which were part of the Koele ranching center's water system, located within Kaiholena Gulch, and one other reservoir located within the Koele Lodge Project area. The reservoirs are in fair to poor condition. The other two features are a small, poor quality volcanic glass source and a concentrated basalt flake and volcanic glass surface scatter.

40. The archaeological survey also identifies two cemeteries: Lanai Cemetery, located just outside the northwestern end of the proposed golf course, and the smaller "Hawaiian Cemetery", situated on a break in slope just mauka of the present day Richardson's residences.

41. The general recommendations for the golf course area made in the archaeological survey consist of preservation and incorporation of the reservoirs and ditch system into the golf course design where possible, and on-site archaeological monitoring after first grubbing has taken place.

42. The Department of Land and Natural Resources, Historic Sites Section comments that all the sites identified in the archaeological survey appear to be significant solely for their information content.

Flora and Fauna

43. A biological survey of the Property was conducted by Kenneth M. Nagata, biological consultant.

44. The survey reported that natural vegetation of the pastoral and woodland area of the Property consists in part of mollassesgrass, perennial foxtail, partridge pea, and Christmas berry. Swamp mahogany, red ironbark, ironwood and Cook pine, Jamaica vervian, and pukiaawe grow in the higher elevations. No native plant communities were found. The few remaining native species are common to all the main islands of Hawaii and represent an insignificant portion of the vegetation in the area of the Property.

45. The survey also reported that Axis deer and birds of introduced species are common on the woodland general areas, such as the Kentucky cardinal, rice birds, doves, sparrows and mynahs. Turkeys, francolins and barn owls are also probable residents.

46. The biological consultant stated that there are no rare or endangered plant or animal species on the Property and opined that the proposed development of a golf course on the Property would in no way interfere with any native plant communities or any rare or endangered plant or animal.

Groundwater Resources

47. Lanai is divided into three groundwater zones. Basal groundwater, occurring as a thin lens of brackish water floating on salt water, underlies most of the island. The dike-impounded, high-level water zone covers an area of approximately 24 square miles in east central Lanai. This zone is Lanai's major supply of potable water, and all of the island's existing water sources (five wells, two shafts, and two tunnels) have been developed in this zone. Within this area is the principal recharge zone, covering an area of approximately 5 square miles.

48. A study entitled "Water Resources Development Plan For the Island of Lanai" ("Water Plan") was prepared by Petitioner's consultant, M & E Pacific, Inc. The Water Plan cites the recent works of John Mink (1983) and Keith Anderson (1989) who, according to the consultant, are the principal hydrologists in contemporary studies and evaluation of the water resources on Lanai.

49. Based on the Mink and Anderson studies, M & E Pacific, Inc. adopted for its planning purposes the following average daily values in million gallons per day (mgd):

Amount of recharge to
the high level aquifer 9.0 mgd

Sustainable yield from
the high level aquifer 6.0 mgd

50. The State Department of Land and Natural Resources believes that the estimate of 6.0 mgd of Lanai's sustainable groundwater yield is a conservative one.

51. The Water Plan indicates that by year-end 1991, the estimated water demand for the island would be 5.84 mgd, to be allocated as follows:

Domestic	1.36 mgd
Plantation	2.40 mgd
Landscape irrigation	<u>2.08</u>
	<u>5.84 mgd</u>

52. Domestic uses include existing Lanai City usage as well as projected future development on the island. Plantation water usage refers to pineapple irrigation requirements. Landscape irrigation uses include the two golf courses proposed at Koele and Manele. Both domestic and plantation use require the highest quality water in any allocation scheme, and thus would depend upon high-level groundwater sources. Landscape irrigation, particularly for golf course use, may utilize water from alternate sources, such as brackish waters and reclaimed sewage effluent.

53. Under the Water Plan the total projected installed capacity of the high-level water source would be 5.0 mgd. The projected usage of this high-level water source

capacity, however, is estimated at 4.44 mgd which is 74 percent of the sustainable yield of 6.0 mgd and 50 percent of the recharge rate of 9.0 mgd. The alternate source of the remaining 1.4 mgd of water usage estimated would be brackish water and/or reclaimed sewage effluent.

54. More recent information from Dole Plantation indicates that the estimate for water demand by the Plantation for water irrigation is 1.8 mgd instead of the 2.4 mgd estimate in the Water Plan because of reduction in the acreage for cultivation since the 2.4 mgd estimate was determined in 1988. This difference in plantation irrigation means that the total projected usage of the high-level water would be decreased to 3.766 mgd.

ENVIRONMENTAL QUALITY

Visual Impact

55. Petitioner was also prompted to realign the proposed golf course and extend it onto the Property in order to allow a good portion of the heavily wooded area within the Koele Project District to be maintained in its natural state and avoid the alteration thereof by the development of a golf course.

56. No residential development is proposed on the Property. Except for the proposed clubhouse and related improvements, the Property will have an open space character of a golf course and driving range.

Air Quality

57. Fertilizer and pesticide use in the care and maintenance of the golf course could potentially impact on air quality from the toxicity of the herbicides and pesticides used and the manner of application.

58. An assessment of fertilizer and pesticide use on the proposed golf course was prepared by Petitioner's consultant Charles L. Murdoch, Ph.D. and Richard E. Green, Ph.D.

59. The assessment indicates that:

a. Herbicides and pesticides used on golf courses are relatively low mammalian toxicity and little likelihood of volatility after application.

b. If properly applied, there is little potential for drift of spray particles from golf course spray equipment.

c. Flat-fan nozzle equipment used for golf course coupled with the low concentrations used in pesticide application would not result in significant quantities of pesticides being carried downwind.

d. The Environmental Protection Agency and the Occupational Safety and Health Administration have strict standards which specify that spray operators wear appropriate protective clothing and breathing apparatuses.

Water Quality

60. The State Department of Health and Department of Agriculture, and the Maui County Department of Public Works

have all expressed concerns regarding the potential for groundwater contamination from the general use of fertilizers, pesticides and herbicides on the golf course.

61. Petitioner's consultants, Charles Murdoch, Ph.D. and Richard Green, Ph.D., conducted a study on the water quality impacts of fertilizer and pesticide uses on the golf course. The study included the findings and conclusions, as follows:

a. The movement of pesticide, which could affect surface and subsurface water, is not a problem because the soil organic carbon contents are especially high in the Kalae soil in the area of the Property. The higher than normal organic carbon matter in the Kalae soil retards penetration of pesticides below the upper two feet of soil.

b. Contamination of surface waters because of chemical movement in runoff or eroded soil will not occur at the Property. The topography is relatively level, erosion hazard is slight, and the soils contain abundant organic matter to sorb pesticides, reducing both leaching and runoff-transport of pesticides. In the event of runoff during intense storms, streams in this area of Lanai appear to terminate in natural basins, precluding transport of sediment and other contaminants to shoreline waters.

c. Chemical applications associated with past pineapple culture on the largest part of the golf course have not resulted in groundwater contamination, even though much

larger amounts of more mobile pesticides have been applied in pineapple culture than those used on golf courses. It is therefore unlikely that a golf course in this area, with its reduced use of fertilizer and pesticides, would contaminate the existing nearby wells.

62. Of the existing seven wells, wells 2, 3, 4 and 5 are far removed and mauka and well 6 is close to the boundary and mauka of the Property. Groundwater movement from the Property in the direction toward the mauka wells is not indicated.

63. Wells 1 and 7 are downgradient of the Property and groundwater movement from the Property could occur in the direction of such wells. However, the waters from wells 1 and 7 are intended for irrigation and not for potable use.

64. Petitioner has represented that it shall comply with the eight conditions recommended by the Department of Health attached hereto as Exhibit A.

65. Petitioner has represented that it shall comply with the recommendation relating to groundwater contamination mitigation measures attached hereto as Exhibit B.

ADEQUACY OF PUBLIC SERVICES AND FACILITIES

Transportation Facilities

66. A traffic impact study for the Lanai City area including the Property based on the proposed developments on Lanai was conducted by Petitioner's consultant Pacific Planning

and Engineering, Inc. The study included findings and conclusions as follows:

a. Current roadway network in Lanai City is adequate to handle existing low volumes of traffic. Motorists currently experience very little or no delays at intersections. Future traffic volumes will not be significantly large. Road impacts will be slight although residents will notice greater vehicle volumes.

b. No improvements are needed to handle future traffic growth, such as increased laneage. Existing roads in Lanai City will be able to accommodate all of the forecasted traffic from the proposed developments contemplated for the year 1995 and beyond.

c. Even with proposed developments, the four major intersections will operate with average delays (level of service c) or better for all turning movements at the unsignalized intersections. No major traffic delays or congestion are anticipated along the existing roads in Lanai City.

d. The proposed developments on Lanai are not expected to have a significant impact on Lanai City roadway network when projects are completed by 1995.

Water Service

67. The water consumption of the proposed golf course for irrigation purposes is estimated to range up to 0.4 mgd. By year-end 1991, the estimated water demand for the island

would be 5.84 mgd or lower by 0.6 mgd because of Dole Plantation's projected reduction in the acreage for cultivation.

68. The current sustainable yield from existing sources is 3.0 mgd. The existing water sources include the Maunalaia Shaft and tunnels, Wells 1-5, and Shaft 3, all situated within the high-level groundwater zone. Newly drilled wells 6 and 7, projected wells 8 and 9, and another well, if needed, will bring the total projected installed capacity of the high-level water source up to 5.0 mgd for domestic and plantation purposes.

69. Although the total installed capacity of the high-level water source is projected at 5.0 mgd, the projected usage of this high-level water source capacity is estimated at 4.44 mgd. The source for the remaining 1.4 mgd of water usage estimated would be alternate sources, such as drilling for brackish water and/or reclaimed sewage effluent from Lanai City's oxidation ponds and the Manele treatment plant.

70. The total capacity of planned sources (both high-level water and alternate sources) is projected at 6.5 mgd.

Wastewater Treatment and Disposal

71. Petitioner indicates that there are two alternative methods for sewage disposal: 1) hook-up to Lanai City's existing sewer network for treatment and disposal at the oxidation ponds, and 2) reclamation of sewage effluent for supplemental golf course irrigation which would require construction of a separate system to treat the sewage and

reclaim the effluent for irrigation. A combination of these methods may also be utilized.

72. A fee may be imposed by the County of Maui to cover costs to expand or improve the Lanai wastewater treatment plant to accommodate additional sewage from Petitioner's developments beyond plant capacity.

73. The Department of Health (DOH) strongly recommends that the wastewater generated from the proposed project be collected and transported to the Lanai City Wastewater Treatment Facility. The DOH states that it has no objection to the Petitioner's wish to reuse sewage effluent for golf course irrigation purposes, provided that the method of irrigation and practices used conform to DOH rules.

Drainage

74. Under existing conditions, drainage occurs as sheet flows through the two major gulches--Kapano and Kaiholena--in the area of the Property. The major portion of the storm flows are diverted from Lanai City by depressions in the land and by ditches mauka of the City.

75. The proposed golf course is being designed by Petitioner for storm water retention and rain catchment for supplemental irrigation water. A natural depression in the area has provided flood storage over the past decade.

76. The drainage infrastructure for the residential lots in the Koele Project District will discharge to the golf course storm water retention ponds. Excess storm water will be

discharged either to the Kapano Gulch or to Kaiholena Gulch, on either end of the Project District away from Lanai City proper.

77. Rain catchment for the Koele area is a viable alternative, as annual rainfall is 37 inches. With evapotranspiration occurring at 27 inches per year, the potential net gain that can be utilized for supplemental irrigation is 10 inches per year.

78. Sediment runoff to offsite areas will be minimal. Sedimentation traps are an inherent part of the flood storage basins and rain catchment ponds. Otherwise sedimentation will occur in the downstream reaches of Kaiholena Gulch below the Koele Lodge.

Solid Waste Disposal

79. Refuse generated by the golf clubhouse and activities on the Property will be collected by Lanai Company or Dole Plantation in the same manner as the Koele Lodge is being serviced.

Schools

80. The Department of Education has indicated that the proposed uses on the Property will have negligible effect on Lanai High and Elementary School.

Other Public Services

81. Other public services such as fire and police protection, medical services, electrical and telephone services, parks and recreation are not expected to be significantly affected. The Property constitutes only about 40

acres as an extension and part of a golf course use allowed under the Koele Project District, the approval process for which had already considered impacts concerning such public services.

STATE AND COUNTY PLANS AND PROGRAMS

82. The Property consists of two separate non-contiguous parcels of land. The 38.7-acre parcel is currently in the State Land Use Rural District, and the 2.2-acre parcel is currently within the State Land Use Conservation District.

83. The Department of Land and Natural Resources designates the Conservation parcel within the Resource Subzone.

84. By Decision and Order dated January 30, 1990, the Commission approved a special permit issued pursuant to §205-6, Hawaii Revised Statutes, by the Maui County Planning Commission for use of the 38.7-acre parcel of the Property for golf course, driving range, clubhouse and related activities.

85. The County of Maui Lanai Community Plan, and county zoning designate the 38.7-acre parcel and the 2.2-acre parcel as Rural and Conservation, respectively.

86. The Property is not located within the County Special Management Area.

CONFORMANCE WITH THE HAWAII STATE PLAN

87. The reclassification of the Property to allow the proposed development conforms to the Hawaii State Plan, Chapter

226, HRS, as amended, including the following objectives and policies:

- §226-104(b)(2) "Make available marginal or non-essential agricultural lands for appropriate urban uses while maintaining agricultural lands of importance in the agricultural district."
- §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."
- §226-8(b)(2) "Ensure that visitor industry activities are in keeping with the social, economic, and physical needs and aspiration of Hawaii's people."
- §226-8(b)(3) "Improve the quality of existing visitor destination areas."
- §226-103(b)(4) "Encourage visitor industry practices and activities which respect, preserve and enhance Hawaii's significant natural, scenic, historic, and cultural resources."
- §226-103(b)(1) "Promote visitor satisfaction by fostering an environment which enhances the Aloha Spirit and minimizes inconveniences to Hawaii's residents and visitors."

88. The Property is rated "D" and "E" by the Land Study Bureau as to overall master productivity rating. It is abandoned pasture land which has not been put to agricultural use for many years. Such marginal and non-essential lands if reclassified into the Agricultural District would be appropriate for use as a golf course under §205-2, HRS.

89. Pineapple has been the primary economic base of Lanai. The golf course will cover a varied range of employment choices from food services to course maintenance and

management. The golf course development will add to and diversify the economic opportunities in Lanai, an area especially lacking in convenient job choices for its residents.

90. Lanai has long been without visitor facilities. The designation of the Koele Project District and Manele Project District by the County of Maui acknowledges the need to provide for well-planned developments pursuant to the uses permitted in the districts. The golf courses will serve as necessary amenities to support the success of the developments in the districts.

91. Petitioner proposes to emphasize certain unique features on the golf course such as the terrain, the climatology, and the view which all provide for a unique environmental setting which Petitioner seeks to distinguish the golf course above others in the State as a visitor attraction.

92. The proposed 18-hole golf course supports the economic health and quality of the visitor industry by providing an additional recreational facility which is in heavy demand by visitors. The needs of Lanai's golfers will continue to be served in the Aloha Spirit by Petitioner's decision to continue to maintain the existing 9-hole Cavendish golf course on a "free-play" basis for the Lanai community.

CONFORMANCE TO STATE LAND USE DISTRICT STANDARDS

93. The Property is adjacent to lands in the Agricultural District.

94. The Property is rated "D" and "E" by the Land Study Bureau as to overall master productivity rating. If the Property is reclassified into the Agricultural District, the proposed golf course use would be permitted under §205-2, HRS.

95. The proposed reclassification is in general conformance with the standards for determining "A" agricultural district boundaries as outlined in §15-15-19 of the Land Use Commission Rules.

CONFORMANCE TO COASTAL ZONE POLICIES AND OBJECTIVES

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

RULING ON STIPULATED PROPOSED FINDINGS OF FACT

Any of the stipulated 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.

CONCLUSIONS OF LAW

Pursuant to Chapter 205, Hawaii Revised Statutes, as amended, the Hawaii Land Use Commission Rules, Chapter 15-15, Hawaii Administrative Rules, the Commission finds upon the preponderance of evidence that the reclassification of the Property consisting of approximately 38.7 acres in the Rural District and approximately 2.2 acres in the Conservation District to the Agricultural District at Koele, Island of Lanai, State of Hawaii, Maui Tax Map Key No. 4-9-2: portion of 1, for portions of a golf course, driving range, clubhouse, and a parking lot, subject to 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 and 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 40.9 acres, being the subject of this Docket No. A89-647 by Lanai Resort Partners, situate at Koele, Island of Lanai, State of Hawaii, identified as Tax Map Key No. 4-9-2: portion of 1, and approximately identified on Exhibit "C" attached hereto and incorporated by reference herein, for reclassification of approximately 38.7 acres of the Property in the Rural District and approximately 2.2 acres of the Property in the Conservation District to the Agricultural 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 comply with the environmental health concerns addressed in Exhibit A attached hereto and incorporated herein by reference, entitled "Eight (8) Conditions Applicable to this New Golf Course Development," dated April 7, 1989, issued by the State Department of Health, including its mandatory groundwater monitoring and enforcement program, and the use of sewage effluent for supplemental irrigation purposes.

2. Petitioner shall implement the recommendations contained in Exhibit B attached hereto and incorporated herein by reference relating to groundwater contamination mitigation measures such as irrigation management, judicious use of fertilizers and pesticides, chemical monitoring, grading practices, provision of buffer space, and golf course management.

3. Petitioner shall data recover 5 historic sites and conduct archaeological monitoring of the entire project area during initial grubbing. The data recovery plan for the reservoirs shall be implemented in accordance with the Historic Preservation Program. An archaeological data recovery plan for the historic debris and artifact scatter shall be submitted to and approved by the State's Historic Preservation Program. The scope of work for the monitoring shall be included as part of

the archaeological data recovery plan. The data recovery plan shall be executed prior to construction work and the State's Historic Preservation Program shall verify that the plan has been adequately executed. The monitoring shall occur during initial grubbing.

In addition, the Petitioner shall immediately stop work and contact the Historic Preservation Office should any previously unidentified archaeological resources such as artifacts, shell, bone, or charcoal deposits, human burial, rock or coral alignments, pavings or walls be encountered during the project's development.

4. Petitioner shall have the project-generated wastewater collected and transported to the Lanai City Wastewater Treatment Facility, and shall also participate in the funding of any expansion or improvements to this treatment facility, to the satisfaction of the County of Maui, Department of Public Works, and the State Department of Health.

5. Petitioner shall dispose of any industrial wastes (e.g., used oil and solvent waste, battery electrolyte) or hazardous wastes as specified by the State Department of Health and the County of Maui.

6. Petitioner shall fund the design and construction of all necessary water facility improvements, including source development, to provide adequate quantities of potable and non-potable water to service the subject project.

7. Petitioner shall submit a detailed drainage and erosion control plan including, but not limited to, hydrologic and hydraulic calculations, a scheme for controlling erosion and disposal of runoff water, and an analysis of the soil loss using the Hawaii Environmental Simulation Laboratory (HESL) erosion formula, to the County of Maui, Department of Public Works, for review and approval. This plan shall provide verification that the grading and all runoff water generated by the project will not have an adverse effect on the adjacent and downstream properties. The drainage systems shall be designed to address possible chemical reaction due to use of fertilizers and biocides.

8. Petitioner shall provide to the County of Maui, Department of Public Works and the State Department of Transportation information on proposed roadway improvements, including but not limited to, road rights-of-way, pavement structure and width and construction of curbs, gutters, and sidewalks. In addition, Petitioner shall participate in the funding and construction of any transportation improvements necessitated by the proposed project, identified by and to the satisfaction of the County of Maui, Department of Public Works and State Department of Transportation.

9. Petitioner may partially realign and shall upgrade the existing 9-hole Cavendish golf course situated within the Koele Project District, and shall continue the traditional "free-play" for Lanai residents of this golf course.

10. Petitioner shall develop the petition area in substantial compliance with representations made to the Land Use Commission in obtaining the reclassification of the petition area.

11. Petitioner shall give notice to the Land Use Commission of any intent to sell, lease, assign, place in trust, or otherwise voluntarily alter the ownership interest in the subject property covered by the approved petition, prior to development of the petition area.

Done at Honolulu, Hawaii, this 26th day of April 1990,
per motion on April 10, 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 (conflict)
ALLEN Y. KAJIOKA
Commissioner

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

By James M. Shinno
JAMES M. SHINNO
Commissioner

By Elton Wada
ELTON WADA
Commissioner

Filed and effective on
April 26, 1990

Certified by:

Esther [Signature]
Executive Officer

April 7, 1989

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

Conditions:

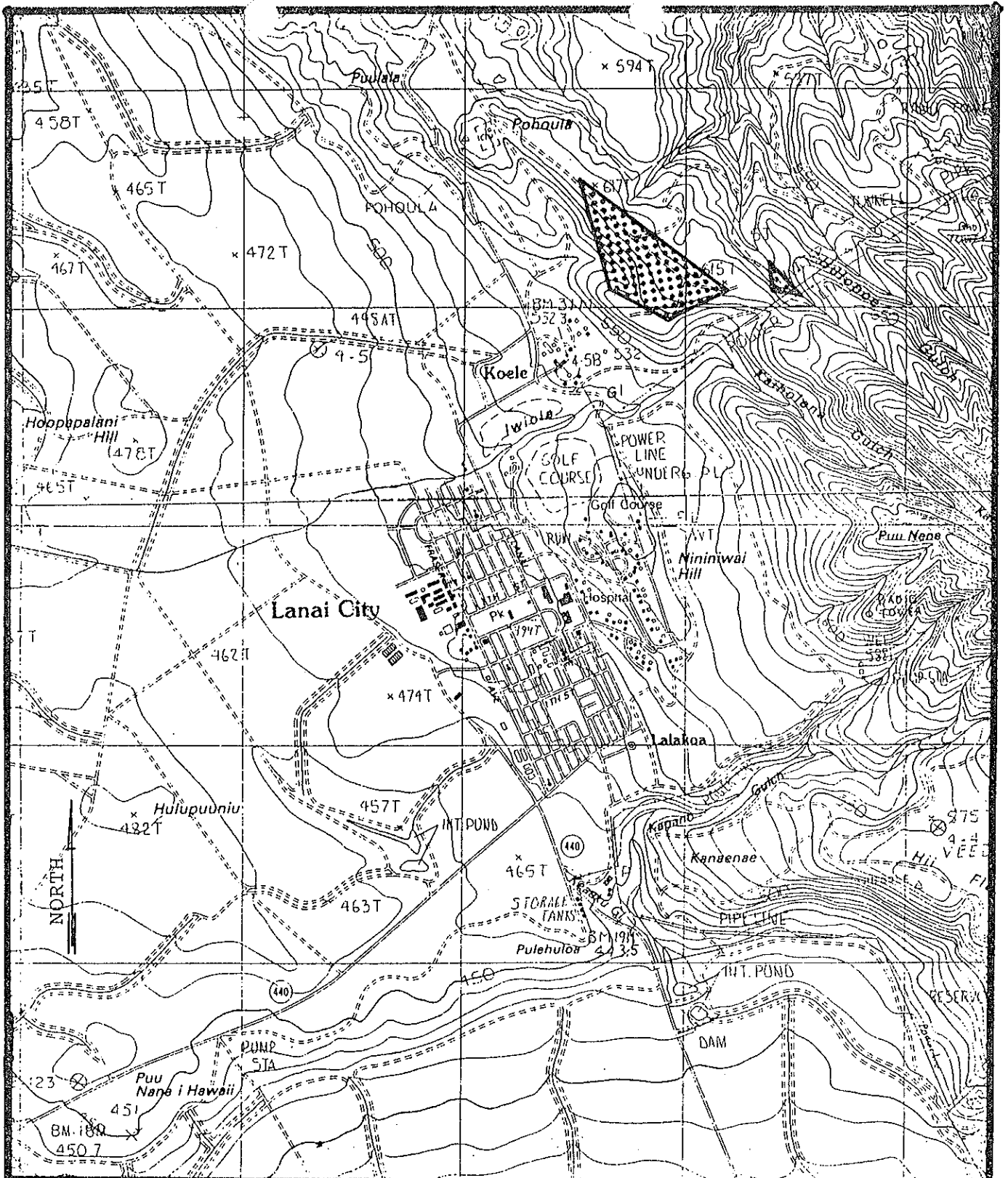
1. The owner/developer and all subsequent owners shall establish a groundwater monitoring plan and system which shall be presented to the State Department of Health for its approval. The groundwater monitoring plan and system shall minimally describe the following components:
 - a. A system of monitoring wells constructed throughout the site. These monitoring wells shall extend approximately ten (10) 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. A baseline groundwater data shall be established as described in this paragraph. Once the test well sites 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 have the groundwater sampled and its data reported to the State Department of Health. Testing of the groundwater shall be done by a certified laboratory.
3. If the data from the monitoring wells 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 100 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:
 - o The irrigation water is unsafe for drinking or washing.
 - o Avoid contact of the water or soil with any open cuts or wounds.
 - o Avoid touching the mouth, nose, ear or eyes with soiled hands, clothes or any other contaminated objects.
 - o Be aware that inanimate objects such as clothes or tools can transport pathogenic organisms.
 - o Always wear shoes or boots to protect feet from the pathogenic organisms in the soil or irrigation water.
6. Use of electrical golf carts is recommended. It is recognized that underground storage tank(s) to store gasoline for gas driven golf carts will impose potential risks to the groundwater. If gasoline-driven golf carts are to be utilized, the developer/owner must meet all federal requirements in the installation of any underground storage tank.
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.

RECOMMENDATIONS

- Irrigation management is critical to the conclusions reached especially in view of the relatively high natural recharge during the winter months. If excessive irrigation water is applied, the likelihood of nitrate movement to groundwater is increased. For this reason we recommend that either computerized environmental monitoring instruments or a U. S. Weather Bureau class A evaporation pan be used to estimate evapotranspiration and schedule irrigation application in the management of the proposed golf course. Excellent discussion of irrigation scheduling can be found in the book Golf Course and Grounds Irrigation and Drainage (Jarret, 1985).
- Judicious use of pesticides and fertilizers is essential, especially in the early establishment of turf since pesticides and nitrogen will be more likely to move before an extensive root system and thatch layer are developed. Reduced applications during the winter months is advisable.
- As nitrogen has the greatest potential for movement to groundwater, special attention should be paid to this element. Either fertigation, whereby a small amount of soluble nitrogen is applied through the irrigation system and turf is watered only when needed, or slow-release N sources, such as IBDU, ureaformaldehyde, sulfur coated soluble fertilizers, etc, should be used to reduce the potential for leaching of fertilizer N to groundwater.
- Topsoil should be stockpiled during grading operations and replaced in a uniform layer over the finish-graded area to insure maximum organic carbon content of the soil to reduce pesticide movement.
- Adequate buffer space, with tall vegetation, should separate the golf course from housing areas, the clubhouse, and other public areas.
- As our conclusions are based on the assumption that sound management practices will be followed with regard to fertilizer and pesticide application and irrigation, we recommend that a well qualified Golf Course Superintendent (preferably a Certified Golf Course Superintendent) be given the responsibility of managing the golf course.



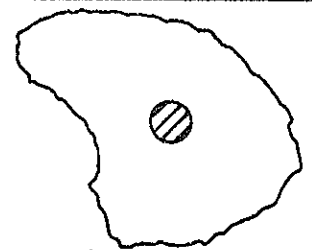
LOCATION MAP

DOCKET NO. A89-647/ LANAI RESORT PARTNERS
 T.M.K. : 4-9-2: portion of 1
 KOELE, LANAI CITY, LANAI, MAUI
 SCALE: 1" = 2083 Feet ±



APPROVED AREA

EXHIBIT "C"



LANAI