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KAPOLEI PROPERTY DEVELOPMENT, LLC

BEFORE THE LAND USE COMMISSION

OF THE STATE OF HAWAI'I

In the Matter of the Petition of KAPOLEI PROPERTY DEVELOPMENT, LLC To Amend the Agricultural Land Use District Boundaries into the Urban Land Use District for Approximately 344.519 Acres in Ewa District, Island of Oahu, Tax Map Key Nos. (1) 9-1-014:033 (por.), 034, 035 and (1) 9-1-015:020 (por.)	DOCKET NO. A06-763

KAPOLEI PROPERTY DEVELOPMENT, LLC'S
WRITTEN DIRECT TESTIMONY OF BRUCE S. PLASCH, PH.D.

EXHIBIT "13"

WRITTEN DIRECT TESTIMONY OF
BRUCE S. PLASCH, PH.D.

BACKGROUND QUESTIONS

1. Please state your name and business address for the record.

Bruce Steven Plasch
1655 Kamole Street
Honolulu, HI 96821

2. What is your current occupation?

Economic and financial consultant

3. How long have you been an economic and financial consultant by profession?

36 years (since 1971)

4. Could you briefly describe your educational background?

B.S. in Engineering, University of California, Santa Barbara
M.S. and Ph.D. in Engineering-Economic Systems, Stanford University
(My education is a blend of economics, finance, quantitative analysis)

5. Do you presently belong to any professional organizations or associations?

Yes. I am currently active in two.

6. Could you please list them for us?

I am an officer of the Aloha Chapter of Lambda Alpha International, which is an honorary land economics society and the Urban Land Institute.

7. Did you provide a copy of your curriculum vitae for purposes of this hearing?

Yes.

8. Is Petitioner's Exhibit "14" a copy of your curriculum vitae?

Yes.

9. Do you specialize in a particular area in your field of work?

Yes. Most of my work involves land economics in two areas: Economic development, and Economic impact assessments.

10. Could you briefly describe your training and your work experience as an economic and financial consultant for us?

- Education: strong background in economics, finance and quantitative analysis.
- Since the early 1980s: economic consultant to various government agencies, landowners, and developers.
- 1971 to early 1980s: consultant mostly to Department of Business Economic Development and Tourism ("DBEDT") on economic issues.
- 1970–1973: taught graduate-level economics and statistics at UH.
- Summer of 1967: student intern with DBEDT; worked on economic development issues.

11. Where are you currently employed?

Decision Analysts Hawai'i, Inc.

12. How long have you been employed at Decision Analysts Hawai'i, Inc. ("DAHI")?

28 years. I changed my practice to a corporation in 1979.

13. What is your title or position?

President

14. Could you briefly describe what DAHI does?

DAHI provides economic and financial consulting services, focused primarily on Hawai'i.

15. Could you briefly describe your duties and responsibilities?

I am the principal consultant at DAHI. I take the lead in research, analysis and preparing reports.

16. Could you briefly describe the type of work you currently perform as an economic and financial consultant?

My services cover:

- Analysis in support of economic development, including agriculture, aquaculture, tourism, energy, commercial activities, etc.
- Assessments of the impacts of projects and actions on agriculture
- Assessments of the impacts of projects and actions on economic and population growth, and on State and County revenues and expenditures
- Financing of infrastructure
- Determining appropriate rents and fees
- Valuation of property and businesses when special expertise is required

17. ***Could you briefly describe the types of projects in which you have performed similar types of studies?***

Economic Development

- Economic development plans for Moloka'i, Ka'u on the Big Island, and Waipahu
- Evaluation of the agricultural potential for lands on O'ahu and Kaua'i
- An agricultural development plan for Kamehameha Schools lands on the north shore of O'ahu
- A housing study for Makaiwa Hills

Economic Impacts on Agriculture

- Impact of a loss of irrigation water on HC&S
- Impact of airport improvements on agriculture
- Impact of residential projects on agriculture
- Economic, Population and Fiscal Impacts
- Impacts of development in 'Ewa
- Impacts of the development of the Kewalo Waterfront

Infrastructure Financing

- Highway impact fees for 'Ewa
- Land Rents and Fees
- Appropriate rents for agricultural land in Central O'ahu

Valuations

- Valued an irrigation water well, Central O'ahu
- Valued Wahiawa Dam/Lake Wilson

18. ***Do you possess specialized knowledge regarding industrial land use demands and the ability to analyze economic and fiscal impacts of proposed industrial land use developments?***

Yes, as follows:

- Demand for industrial space: For the City, I performed a market study to verify a demand for industrial space at the former mill site of O'ahu Sugar Co. I did a similar study for Gentry's 'Ewa development.
- Economic and fiscal impacts of industrial development: For the James Campbell Company, I provided economic and fiscal projections for 'Ewa which included industrial development.

19. Do you possess specialized knowledge within the field of land use and agricultural economics?

Yes.

20. In what areas?

- Agricultural and land-use trends.
- General knowledge of what crops are being grown where, and why.
- Knowledge of what types of agricultural activities work in Hawai'i, and why. And what types of agricultural activities do not work in Hawai'i, and why.
- The size of the market for various crops, their outlooks, and their requirements for land and water.
- The availability of land and water for agriculture.
- Agricultural land rents and property values, and what determines land values.
- Charges for irrigation water.
- The impact of urbanization on agricultural development potential.

21. Have you previously qualified and/or testified before the Land Use Commission as an expert witness in economics dealing with land use and agriculture?

Yes.

22. If yes, on how many occasions have you been qualified to testify as an expert in economics dealing with land use and agriculture?

For the LUC, about 25 to 30 times over the past 25 years. I have also been qualified as an expert in economics dealing with land use at least 5 times in State courts, and a few times before the Board of Land and Natural Resources ("BLNR").

KAPOLEI HARBORSIDE CENTER PROJECT

23. Are you familiar with the Kapolei area located in the 'Ewa District on the island of Oahu?

Yes.

24. Are you familiar with Kapolei Property Development's ("KPD") Kapolei Harborside Center Project?

Yes.

25. How did you become involved in the Kapolei Harborside Center Project ("Project")?

My firm was subcontracted by Group 70 International, Inc. to provide two reports on the Project. One assessed the impact of the Project on agriculture. The second analyzed the economic and fiscal impacts and associated benefits of the Project.

In addition, I was asked to review the market study done for the Project by Robert Charles Lesser & Co., and address questions that were raised about the demand for industrial space, and I addressed questions that were raised about the Project's impact on the housing market.

ECONOMIC AND FISCAL IMPACT REPORT

26. Did you prepare an economic and fiscal impact report about the Project?

Yes.

27. What did the report consist of?

Economic Impacts

- Estimates of economic impacts resulting from construction and related development activity.
- Estimates of economic impacts resulting from operations at full development of the Project.

Fiscal Impacts

- Estimates of the Project's impact on City revenues and expenditures.
- Estimates of the Project's impact on State revenues and expenditures.

28. Was this report prepared by you or under your supervision?

I prepared the report.

29. Is Petitioner's Exhibit "15" a true and correct copy of your report?

Yes.

30. Could you please summarize the scope of your report?

The analysis of economic and fiscal impacts of the Project is divided into five parts that correspond to the five tables at the end of the report:

- Proposed Development (Table 1): The first table presents a summary of the proposed development, starting with the acreage proposed for industrial development and the acreage for infrastructure and preservation. The industrial acreage is then converted into estimated square-footage of eventual industrial space based on the anticipated average floor-area ratio (FAR). This FAR is based on projects in Kapolei.

- Economic Impacts of Development Activities (Table 2): Table 2 provides economic impacts related to development activity. The first section provides the anticipated development period based on the market study. The Section 2.b gives the average annual amount of industrial space (sq. ft.) that will be absorbed. The estimate is based on total square footage divided by the development period.

  Section 2.c provides an estimate of construction expenditures based on average construction costs per square foot for Kapolei. Dividing by the development period gives average annual construction expenditures. The purchase of goods and services by construction companies and their employees will generate indirect sales related to construction activities. These indirect sales are estimated using multipliers from the State Economic Model that reflect the inter-relationships among industries. Profits are next estimated based on a percentage of gross revenues.

  Section 2.h. provides estimates of construction jobs and indirect jobs based on multipliers from the State Economic Model. Estimates of payroll are based on average salaries as reported by the Department of Labor and Industrial Relations ("DLIR").

  Section 2.j provides an estimate of the number of residents supported by development activity. The estimate reflects census data on the ratio of residents to jobs.

  The last section in Table 2 provides an estimate of the number of homes required to house supported residents, based on the average number of residents in homes.

- Economic Impacts of Industrial Operations at Full Development (Table 3): Table 3 provides economic impacts related to operations at full development of the Project. Total direct sales are based on sales per square foot for industrial property in the Kapolei region. Total rents are also based on average rents per square foot. The remaining estimates in Table 3 are similar to those of Table 2, and include: indirect sales; profits; direct (on-site) and indirect employment; payroll; residents supported by the jobs created; and homes to house the families supported by the jobs.

These estimates are based on the same type of ratios as discussed for Table 2.

- Impacts on City Revenues and Expenditures (Table 4): Table 4 gives the impact of the Project on City revenues and expenditures. As indicated, the analysis is divided into three parts.

  The first section addresses changes in the tax and expenditure base corresponding to changes in economic activity associated with (1) development activity (Table 2) and (2) operations at full development (Table 3).

  Section 4.b gives the fiscal impacts related to development activity, including: increased revenues derived from the excise tax surcharge, highway impact fee, and other taxes and fees; increased expenditures on infrastructure and services; net revenues, which are equal to revenues less expenditures; and the estimates of revenues and expenditures are based on published rates or average rates derived from the City's budget.

  Section 4.c gives the fiscal impacts related to industrial operations at full development. The analysis is similar to that for development activity, covering revenues (property taxes, the excise tax surcharge, and other taxes and fees), expenditures (mass transit fund and services), and net revenues.

- Impacts on State Revenues and Expenditures (Table 5): Table 5 gives the impact of the Project on State revenues and expenditures. The analysis is similar to that for the City, and covers the following: changes in the tax and expenditure base (from Tables 2 and 3); fiscal impact of development activity; revenues: highway impact fee, conveyance tax, excise tax, corporate income tax, personal income tax, etc.; expenditures (infrastructure and services); net revenues (revenues less expenditures); fiscal impact of industrial operations at full development; revenues (e.g., excise tax, corporate income tax, personal income tax, and other taxes and fees); expenditures (e.g., services); and net revenues (revenues less expenditures).

31. Could you describe the methodology used to conduct the report?

Planned development is translated into economic and fiscal impacts based on a number of multipliers, including the following:

- Floor area ratio (FAR)
- Construction costs per square foot
- Sales and rents per square foot
- Indirect sales per $1 million in direct sales
- Employment per $1 million in sales

- Average salaries
- Residents supported per job
- Average family size
- Tax rates
- Per-capita expenditures for City and State services

The multipliers were derived from:

- 'Ewa developers and reports on 'Ewa projects
- Research reports on industrial parks
- U.S. Census
- State of Hawai'i Data Book
- The Hawai'i Input-Output Study
- Employment and labor rates from the DLIR
- Revenue and expenditure data from the City and the State

32. ***Is the methodology you employed consistent with accepted industry practices?***

Yes. It is based on a standard approach to evaluating the economic and fiscal impacts of projects.

33. ***Could you discuss the findings of your economic and fiscal impact report as they apply to the Project?***

Economic Impacts

- Development Activities (Table 2): The development of infrastructure and industrial buildings will generate construction expenditures and construction employment. In turn, the purchases of goods and services by construction companies and their employees will generate additional sales and employment.
- Industrial Operations (Table 3): Industrial operations will generate on-site sales and on-site employment. In turn, the purchases of goods and services by industrial companies and their employees will generate additional sales and employment.

Fiscal Impacts, City (Table 4)

- Development Activities: Project construction will generate revenues from the excise tax surcharge and the highway impact fee for 'Ewa. The primary support expenditures will be for mass transit and highways. Most infrastructure to support the Project will be built by the developer, or the Project's fair share will be financed via connect charges and user fees.
- Industrial Operations: Operations will generate revenues from property taxes, the excise tax surcharge, and various taxes and fees (fuel taxes; motor vehicle weight taxes; water and sewer fees; solid-waste disposal fees; other departmental earnings; public service company taxes; other licenses, permits and fees; and fines, forfeits and penalties).

- Support expenditures will include: police, fire, road maintenance, bus service, operations and maintenance (O&M) of water delivery, O&M of sewer systems and the wastewater treatment plant, solid waste disposal, etc.

Fiscal Impacts, State (Table 5)

- Development Activities: Project construction will generate revenues from the highway impact fee for 'Ewa, conveyance taxes on lot sales, excise taxes, corporate income taxes, and personal income taxes. The primary support expenditure will be for highways.
- Industrial Operations: Operations will generate revenues from excise taxes, corporate income taxes, and personal income taxes, and various taxes and fees (the public service companies tax; fuel tax; motor vehicle weight tax; charges for various licenses, permits, and services; departmental earnings; etc.).
- Support expenditures will include: highway maintenance, government administration, etc.

34. What economic impact will the reclassification and development of the Project area have on employment?

Kapolei Harborside Center will provide the following employment impacts:

- Development Activities: Average employment of about 450 construction jobs during the 10-year development period, along with a payroll of about $29.6 million per year. Average employment of about 640 offsite jobs that will be generated by construction activities, along with a payroll of about $24.5 million per year. An average of about 710 direct and indirect jobs in the Kapolei/'Ewa Region.
- Industrial Operations at Full Development: About 3,830 new industrial jobs, along with a payroll of about $176 million per year. About 2,300 offsite jobs that will be generated by the industrial operations, along with a payroll of about $88.4 million per year. About 4,630 new jobs in the Kapolei/'Ewa Region. The new jobs provided by the Project will contribute to the ongoing transformation of 'Ewa from being largely a suburb from which workers commute to jobs outside the region, to being O'ahu's second full-service urban center that provides jobs for those living in the Kapolei/'Ewa region and surrounding communities. These new jobs will result in less commuting by Kapolei/'Ewa residents to jobs outside the region.

35. Based on your report, what impact will the Project have on City finances?

<u>Development Activity</u>

For the City, both revenues and expenditures associated with Project development will be significant, but net revenues are expected to be small. Most City revenues derived from Project construction will come from:

- The excise tax surcharge that will be used to fund mass transit
- The highway impact fee on projects in the Kapolei/'Ewa region
- Other connect changes and user fees for funding infrastructure

However, the developer and companies that will construct and occupy buildings at Kapolei Harborside Center will provide or finance their fair shares of infrastructure to support the Project. This will include: mass transit, highways, interior roads, water source development, interior water distribution, drainage systems, sewer connections, collector sewers and trunks, a wastewater treatment plant, etc. Furthermore, construction activities require few on-site services from the City. Instead, most required services will be provided by construction companies, including: security, sanitation and transportation.

Therefore, neither infrastructure development nor services associated with development of the Project are expected to pose a significant financial burden on the City.

Regarding transportation improvements: The excise tax surcharge (0.5%) on Project construction expenditures will generate revenues of about $3 million over the 10-year development period. Highway impact fees ($2,019 per 1,000 sq. ft.) will generate about $11 million over this same period, of which about $3.1 million (28%) will be for City highways. Thus, the City will realize revenues of about $6.1 million for transportation improvements ($3 million plus $3.1 million). However, these revenues will be offset by corresponding construction expenditures for the mass transit system and highways.

Highway impact fees were purposely set by the City and State to generate sufficient funds to cover the entire local share of highway improvements in 'Ewa, with each development paying its fair share (i.e., revenues from each project approximately equal support expenditures). It was assumed that the ultimate design of the mass transit system will reflect what the City can afford based primarily on capital improvements financed from the excise-tax surcharge and from Federal subsidies. Thus, revenues from the excise tax surcharge should approximately equal the City's share of capital expenditures.

It was further assumed that the fair share for each project will approximate the excise-tax surcharge that each will generate.

Industrial Operations at Full Development

Unlike development activity, industrial operations will greatly benefit City finances. At full development of the Project, these operations will generate increased revenues to the City of about $11.1 million per year. Most of the revenues will come from property taxes: an increase of about $9.3 million per year in property taxes over the current $65,500 currently collected on the

property. (This is based on a tax rate of $11.37 per $1,000 in assessed value, which has been increased to $11.97 for FY2007.)
The excise tax surcharge (0.5%) will generate about $41,000 per year related to on-site rents. The amount of the surcharge is small because industrial sales are assumed to be intermediate sales, which are exempt from the surcharge. In practice, some of the industrial sales may be final sales which are subject to the surcharge.

Additional revenues of about $1.8 million per year will be derived from other business-related taxes and user fees, including: fuel taxes; motor vehicle weight taxes; water and sewer fees; solid-waste disposal fees; other departmental earnings; public service company taxes; other licenses, permits and fees; and fines, forfeits and penalties. These revenues are assumed to be proportional to the number of new jobs (about $460 per job).

City expenditures in support of the industrial operations are estimated at about $3 million per year. Most of the expenditures will be for services, including: police, fire, road maintenance, bus service, operations and maintenance (O&M) of water delivery, O&M of sewer systems and the wastewater treatment plant, solid waste disposal, etc. These expenditures are assumed to be proportional to the number of new jobs (about $780 per job). Thus, at full development, the Project is expected to generate net revenues of about $8 million per year for the City (about $11.1 million less $3 million, and a small adjustment for rounding). This high net reflects high property values for industrial property, a high tax rate (over three times the rate for residential property), and low service requirements compared to residential properties. The increase in net revenues will allow the City to fund various government facilities and services that will benefit communities throughout O'ahu.

36. Based on your report, what impact will the Project have on State finances?

Development Activity

Unlike the City, the State will benefit greatly from the Project's development activity. Over the 10-year development period, the State will collect about $53.1 million in revenues. Most of the revenues will be derived from:

- Highway impact fees (about $11 million generated from an impact fee of $2,019 per 1,000 sq. ft., of which about $7.9 million (72%) will be for State highways)
- Excise taxes (4%) on lot sales and construction expenditures (about $33.9 million).
- Personal and corporate income taxes (about $10.5 million)
- Sate expenditures in support of Project development are estimated at about $7.9 million per year.

These expenditures will be for the Project's fair share of State highway improvements.

Most other support infrastructure is primarily a City responsibility, although the developer and the companies that will occupy buildings at the Project will jointly provide most of this infrastructure or pay a fair share of the cost.

Construction activities will require few on-site services from the State. Furthermore, most required services will be provided by construction companies. Thus, Project development is expected to provide net revenues to the State of about $45.1 million over the 10-year construction period ($53.1 million less $7.9 million, and a small adjustment for rounding). This income will allow the State to fund various government facilities and services that will benefit communities throughout Hawai'i.

Industrial Operations at Full Development Industrial operations at full development of the Project will benefit State finances. These operations will generate increased revenues to the State of about $12.6 million per year. Excises taxes will generate about $3.7 million per year. This is a conservative estimate in that all industrial companies within the Project are assumed to pay excise taxes at 0.5% on intermediate sales while, in practice, some will pay at 4% on final sales.

Personal and corporate income taxes will generate about $6.3 million per year. Additional revenues of about $2.5 million per year will be derived from other business-related taxes and user fees, including: the public service companies tax; fuel tax; motor vehicle weight tax; charges for various licenses, permits, and services; and departmental earnings. These revenues are assumed to be proportional to the number of new jobs (about $650 per job).

State expenditures in support of the industrial operations are estimated at about $4.1 million per year. Most of the expenditures will be for services, including: highway maintenance, government administration, and other expenditures. These expenditures are assumed to be proportional to the number of new jobs (about $1,080 per job). Thus, at full development, the Project is expected to generate net revenues of about $8.4 million per year for the State ($12.6 million less $4.1 million, and a small adjustment for rounding). This increase in net revenues will allow the State to fund various government facilities and services that will benefit communities throughout Hawai'i.

HOUSING

*37. **I am handing you what is marked as Petitioner's Exhibit "16". What is it?***

Appendix M, of the Final Environmental Impact Statement titled, "Ewa and Oahu's Affordable For-Sale Housing: Summary of Recent Market Conditions"

("Housing Summary"). It was prepared by the Mikiko Corporation, and dated September 29, 2005.

38. Have you had an opportunity to review Petitioner's Exhibit "16"?

Yes.

39. Is Petitioner's Exhibit "16" a true and correct copy of the Housing Summary you reviewed?

Yes.

40. Based on your experience as an economic and financial consultant, could you briefly summarize your understanding of the Housing Summary?

This study presents (1) an overview of affordable housing conditions on O'ahu, and (2) the recent and on-going contributions of development in 'Ewa to meet the for-sale segment of this market. The analysis covered two periods: 2000 and 2004/05 (from August 2004 through July 2005).

It presented information on:

- Home prices that are affordable to families earning a given percentage of O'ahu's median income.
- The estimated pent-up demand for housing on O'ahu in 2005, segmented by family incomes.
- The number of single-family and multi-family home sales by price.
- Sales include new sales and resales for properties listed with the Hawai'i Information Services, but excludes new properties sold directly by developers. Thus, the statistics on sales reflect the general housing market rather than the market for just new homes or homes that are sold at specified prices designed to satisfy development approvals (i.e., 30% of the new units to be sold at "affordable" prices).
- The 2004/05 statistics include expensive resort-residential condominiums at Ko Olina which are sold largely to wealthy retirees who are new to Hawai'i, and to wealthy buyers of second homes.

The Housing Summary provided the following observations about the 'Ewa and O'ahu housing markets:

- 'Ewa records a higher percentage of home sales at affordable prices than the island as a whole. For the 2004/05 period, 51% of the home sales in 'Ewa were at prices affordable at 80% to 140% of median income, compared to 44% for O'ahu.
- The number of homes sold in 'Ewa at affordable prices has increased over time: growing from 712 sales in 2000 to 1,258 sales in 2004/05.

- 'Ewa provides far more than its fair share of homes at affordable prices: in 2004/05, 22% of the homes sold on O'ahu at affordable prices were in 'Ewa, while only about 7% of the island's households were in 'Ewa.

41. What conclusions, if any, can you draw from your review of the Housing Summary and your report?

The Project will increase the demand for new homes. However, other projects will meet this demand as indicated by the following:

- About 35,500homes (revised estimate) are planned or proposed for the Kapolei/'Ewa region
- About 10,000 or more of the new homes will be sold at "affordable" prices

For more balanced growth in 'Ewa, the primary need is for more jobs at salaries that are sufficient to allow families to buy or rent homes in the region. Such jobs are a major benefit of the proposed Project.

42. Based you your report, what impact if any, will the Project have on demand for housing in the 'Ewa region?

<u>Development Activity</u>

Homes for Construction Workers

- Direct employment is expected to average about 450 construction jobs during the 10-year construction period. These jobs will support about 1,000 residents living in about 300 homes, of which about 200 homes are expected to be in 'Ewa.
- While these will be new construction jobs, this does not imply an increase in construction employment since construction workers move from project to project. Thus, development activity is not expected to contribute to a significant demand for more housing in 'Ewa or in nearby communities.

Ability of Construction Workers to Afford Homes

- Wages of construction workers are expected to average about $65,000 per year. This is nearly 70% higher than the average wage of about $38,500 for all O'ahu jobs.
- Assuming a second wage-earner at the average O'ahu wage of $38,500, the family income of construction workers will exceed $100,000 per year.

Thus, most construction workers will be able to purchase homes that are priced for families earning more than 140% of median family income for a family of four ($71,300 per year). However, some entry-level construction workers earn less than the average wage, so their initial ability to afford housing will be less.

Industrial Operations at Full Development

Homes for Industrial Workers

- Operations are expected to provide about 3,830 on-site industrial jobs. These jobs will support about 8,420 residents living in about 2,530 homes, of which about 1,770 homes are estimated to be in 'Ewa.

Ability of Industrial Workers to Afford Homes

- Wages of industrial workers are expected to average about $46,000 per year. This is nearly 20% higher than the average wage of about $38,500 for all O'ahu jobs. Assuming a second wage-earner at the average O'ahu wage of $38,500, family income of industrial workers will reach about $84,500 per year.

Thus, most industrial workers will be able to purchase homes that are priced for families earning about 118.5% of median family income for a family of four ($71,300 per year). However, some entry-level workers earn less than the average wage, so their initial ability to afford housing will be less.

AGRICULTURAL REPORT

43. Are you familiar with the agricultural resources of the Kapolei area?

Yes.

44. Did you conduct an assessment of agricultural activities within the Project area?

Yes.

45. What did the report consist of?

The report consisted of:

- An evaluation of the agricultural resources within the Project area, along with the quality of the site for agriculture.
- The impact of the Project on existing agricultural activities.
- The impact of the Project on the growth of diversified crop farming.
- The consistency of the Project with State and City agricultural policies.

46. Was this report prepared by you or under your supervision?

Yes.

47. Is Petitioner's Exhibit "17" a true and correct copy of your report?

Yes.

48. Could you please summarize the scope of your report?

The scope of the report provided the following information on the Project and the Project area:

- The location of the Project site.
- A Project description.
- Agricultural conditions: soil types, soil ratings, soil characteristics, elevation, topography, climatic conditions, availability of water, and road access.
- A listing of potential commercial crops for the given conditions.
- Locational advantages and disadvantages for crop production.
- Surrounding land uses.
- Past and current agricultural land uses.
- The impact of the Project on existing agricultural operations.
- The impact of the Project on the growth of diversified crop farming.
- Potential acreage required for diversified crops.
- Land available for diversified crops.
- Benefits of the Project that will offset adverse agricultural impacts.
- Consistency of the Project with State and City agricultural policies.

49. Could you describe the methodology used to conduct your report?

Agricultural Conditions: the assessment is based mostly on an evaluation of soil maps and other resource documents.

Potential Crops: based on crops grown commercially in similar areas on O'ahu.

Locational Advantages and Disadvantages: based on the trucking distance to Honolulu markets, Honolulu Harbor, and the airport.

Surrounding Land Uses: based on a site inspection, recent photographs of the area, and on recent maps and land-use plans.

Past and Current Agricultural Land Uses: based on personal knowledge of the area, information from the James Campbell Co. land manager, recent and old photographs of the property, and historic documents.

Impact on Existing Agricultural Operations: based on discussions with agricultural tenants.

Acreage Requirements for Diversified Crops: based on DAHI studies for the State, Campbell Estate, and Del Monte. The studies were for O'ahu, Kaua'i, Moloka'i and Ka'u on the Big Island.

Land Availability for Diversified Crops: based on the release of land from plantation agriculture, less the amount of land that was replanted in other crops, urbanized, or went into other uses.

Impact on the Growth of Diversified Crop Farming: based on whether the cumulative loss of land and water that is available for agriculture will be sufficient to limit the future growth of diversified crop farming.

Offsetting Benefits: based on the Project description.

Consistency with State and County Plans: based on a comparison of impacts and policies.

50. Is the methodology you employed consistent with accepted industry standards?

Yes. It is based on a standard approach for evaluating the economic impacts of a Project.

51. What is the U.S. Soil Conservation Service's Agricultural Lands of Importance to the State of Hawaii ("ALISH") map series?

The ALISH map series are soil-rating maps of Hawai'i that were developed in 1977 by the Soil Conservation Service, the UH College of Tropical Agriculture and Human Resources, and the State Department of Agriculture. The system classifies agricultural land into three broad categories:

- Prime agricultural land, which is land that is best suited for the production of crops because of its ability to sustain high yields with relatively little input and with the least damage to the environment.
- Unique agricultural land which is non-Prime agricultural land used for the production of specific high-value crops (e.g., coffee and taro).
- Other agricultural land which is non-Prime and non-Unique agricultural land that is important to the production of crops (e.g., pasture land).

52. Could you describe the soil in the Petition Area?

Approximately 59 to 167 acres (17% to 49%) of the Project area are good or suitable for growing crops. The higher figure reflects the fill material that was added in the past for sugarcane cultivation.

The remaining land (177 acres to 285 acres) is poorly suited for farming, largely because most of it is coral outcrop.

53. Could you please summarize your findings?

Agricultural Conditions, Location, and Surrounding Land Uses

The better agricultural lands are suitable for growing low-elevation crops. Also, the Project Area is well-located for serving the Honolulu consumer market and export markets. However, all of the current and planned land uses surrounding the Project Area are urban, with no adjacent or nearby agricultural activities. Thus the Project Area is an agricultural remnant.

Recent Farming

Aloun Farms held a lease to about 261 acres within the Project Area that was scheduled to expire at the end of 2007. Because of the poor quality of the land, the annual rent was only $50 per acre. On this land, Aloun Farms occasionally grew corn interspersed with watermelon. Aloun Farms stopped farming this land in the fall of 2004, and chose to return the land in May 2006—19 months before the lease expired. This was due to the poor quality of the land, and because it is an agricultural remnant surrounded by urban activities that make operations difficult. Also, Aloun Farms has access to about 2,500 acres of higher quality farm lands that it leases in the central portion of the 'Ewa plain and in Central O'ahu.

Impact on Milo Nursery & Landscape Maintenance

Milo Nursery leases about 32.1 acres in the Project area. The company is a wholesale nursery, and provides such services as landscaping, landscape maintenance, and street sweeping. It is a family operation with about 10 employees. The impact of the Project on the nursery will depend on whether suitable land with water can be obtained. If it can, then the nursery will relocate with no significant impact on revenues, employment or payroll. If suitable land with water cannot be obtained, then the nursery will close. In turn, other nurseries, landscapers and yard-maintenance companies will increase their operations to compensate for the loss. Thus, there will likely be a shift in operations, but no significant island-wide loss of revenues, employment or payroll.

Impact on Menehune Green

Menehune Green is a new company that purchased the State's largest composting operation in late 2005. It is affiliated with (1) other Hawai'i companies involved in collecting and recycling waste, and (2) a mainland company that operates the largest yard-waste composting site in the United States. Menehune Green leases about 52 acres within the Project Area, recently increased from about 39.2 acres. For the 39.2-acre parcel, lease rent was nearly $2,700 per acre, which is very high for agricultural land.

In April 2006, the volume of green waste was about 60,000 tons per year. The volume is high because the City bans truckloads of waste containing more than 10% yard trimmings from its landfill and H-Power. Over time, the volume is expected to double due to the City's new policy of curbside collection of green waste. The green waste is composted at two locations: the leeward location within the Project Area (60%) and a windward location near Kailua (40%). Revenues are derived from disposal fees and from selling compost. The current operation employs about 35 workers, of whom about 30 are located at the leeward facility.

The company plans to centralize composting at its leeward facility, and change the leeward site to a transfer station. Move the composting operation from the Project Area to some undetermined new location, as was planned by the new owners when they purchased Menehune Green. The company also plans to implement technical improvements that will reduce composting time, eliminate the need for some equipment, reduce water requirements per ton of green waste processed, and increase labor productivity. Even though the volume of green waste is expected to more than double, little change is anticipated in the current level of employment.

Relocation to a new site will require about 30 to 50 acres in a centrally located and dry area. Also, the site should offer level or gently sloping terrain, good road access, and access to water. However, the site does not have to be located near the City's H-Power facility or the City's landfill. The new location is likely to be on land zoned Agricultural since it is less expensive than Urban land, and composting is categorized by the City as an agricultural use. Current lease rents indicate that Menehune Green should be able to outbid most other uses for leased agricultural land, or service a mortgage if agricultural land is purchased.

Assuming Menehune Green will be successful in finding a suitable new site, the Project will have no significant impact on the future volume of green waste processed by the company, or on its revenues, employment or payroll.

Impact on the Growth of Diversified Crop Farming

For low-elevation fruits and vegetables that have a history of profitable production in Hawai'i, potential land requirements in 2010 for 100% import substitution for the State and O'ahu markets is estimated at 12,700 acres and 8,600 acres, respectively. When allowing for competition from imports, these estimates drop to about half. Since Hawai'i farmers already supply a portion of the Hawai'i market, land requirements for increased import substitution are even smaller.

Exports Crops

The history of agricultural efforts in Hawai'i reveals that developing major new export crops that would be competitive in overseas markets is difficult. Over the

past 50 years, Hawai'i farmers have explored numerous possibilities for export crops, but they have developed overseas markets for just one diversified crop that requires more than 10,000 acres (macadamia nuts at 18,000 acres); one additional crop that requires more than 5,000 acres (coffee at 7,200 acres); and only five additional crops or crop categories that require more than 1,000 acres.

Feed Crops

If feed crops could be grown in Hawai'i and priced competitively against mainland imports, they could replace some of the grains and hay that are now being imported to the State. Unfortunately, a number of commercial attempts in Hawai'i to grow grains and alfalfa have been unsuccessful.

Biofuel Crops

Crops can be grown to produce biomass to fuel a boiler, or as feedstock to produce fuels. In Hawai'i, the common practice is to produce biomass as a by-product of some principal crop. However, one company is exploring the economics of growing sorghum on O'ahu to supply feedstock to its planned ethanol plant.

Acreage requirements for a new sorghum biofuel plantation on O'ahu would range from about 6,000 acres for viability to 15,000 to replace all imported molasses. However, a number of substantial difficulties must be overcome to develop a sorghum biofuel plantation on O'ahu.

It may be difficult to lease the 6,000+ acres required for economic viability since most major landowners will be reluctant to lease their land at comparatively low rents for the approximately 30-year period that will be required. Substantial capital will be required to cover the cost of a mill to extract the juice from the sorghum, a generating plant to provide power, improvements and upgrades to irrigation systems that are in disrepair, trucks and equipment to harvest and haul the sorghum to the mill and haul the sorghum juice to the ethanol plant, etc.

Emerging technology promises a more plentiful and cheaper source of feedstock for ethanol. Instead of producing ethanol using sugars from conventional sources, the sugar would come from "cellulosic" sources. This would include green waste for which there would be no land rent and no growing costs, but there could be a disposal fee paid to the processor. In the long term, this less expensive source of feedstock could result in an unprofitable biofuel plantation.

These and other difficulties and risks suggest that the probability of successfully developing and sustaining a sorghum biofuel plantation on O'ahu is low.

Crop-acreage Trends

For all diversified crops, Statewide land requirements grew by an average of 240 acres per year (revised) from 1984 through 2004.

Land Available for Diversified Crops

A vast amount of land has been released from plantation agriculture on O'ahu and the Neighbor Islands, and most of this land remains available for diversified crops. From 1968 to 2004, the Statewide decline in plantation land totaled about 249,900 acres, and averaged about 6,940 acres per year. About 14,700 acres of farm land are available on O'ahu. This includes about 9,600 acres on the North Shore plus about 5,100 acres in Kunia due to the 2006 closure of the Del Monte pineapple plantation. However, portions of the North Shore water systems need repair, and the types of crops on fields irrigated with water from Lake Wilson will be restricted so long as partially-treated waste water is discharged into the lake. Statewide, an estimated 160,000+ acres remain available for diversified crops. Cultivating crops on the Neighbor Islands for the Honolulu market, and vice versa, will become more economically feasible once the Superferry begins its scheduled operations in 2007.

The above information indicates that ample land is available in Hawai'i to accommodate the growth of diversified crops, whether demand is based on potential or recent trends. In other words, the limiting factor to the growth of diversified crops is *not* the *land supply,* but rather the *size of the market* for crops that can be grown *profitably* in Hawai'i.

Impact on the Growth of Diversified Crops

The Project will commit 344.5 acres of agricultural land to a non-agricultural use, of which 54 to 171 acres are good or suitable for farming. If this much land were used to grow a typical vegetable crop or fruit crop, it could support about 21 jobs. More realistically, developing this agricultural land—combined with other developments in Hawai'i—involves the loss of too little good agricultural land to significantly affect:

- The availability of land to farmers in Hawai'i
- Agricultural land rents,
- The growth of diversified crop farming
- Potential agricultural employment
- This conclusion is based on the finding that ample land is available for diversified crops, with the available supply far exceeding likely or potential demand.
- In practice, the Petition Area has already been lost to farming because it is an agricultural remnant surrounded by existing and planned urban development.

Offsetting Benefits

The loss of 344.5 acres of agricultural land, of which about 54 to 171 acres are good or suitable for farming, will be offset by over 3,800 jobs at full development of the Project. This is more than 90 times as many as the 40 jobs that are currently provided by the nursery and composting operations.

Consistency with State and City Plans

Availability of Lands for Agriculture
The Project Area Development does not conflict with the thrust of the major State and City policies for agriculture, which is to preserve the economic viability of plantation agriculture and to provide an adequate supply of suitable land to accommodate the growth of diversified crops. The Project will not adversely affect plantation agriculture since O'ahu Sugar Co. closed in 1995 for reasons unrelated to the Project. The Project will not limit the growth of diversified crops since ample agricultural land is available on O'ahu and on other islands. This is due to the enormous supply of agricultural land that is now available due to the contraction of plantation agriculture.

Conservation of Agricultural Lands
The Project conflicts with State policies that call for conserving and protecting agricultural lands. Nevertheless, the Project is justified based on:

- The major change in economic conditions since the State policies were adopted (i.e., the enormous contraction in plantation agriculture, resulting in the supply of agricultural land far exceeding demand)
- The overriding community benefits (over 3,800 jobs at full development compared to 40 jobs currently provided by agriculture)

'Ewa Development Plan
The proposed urban development of the Project Area is consistent with the 'Ewa Development Plan in that the Project Area is within the designated Urban Growth Boundary.

54. ***In your professional opinion and based upon your findings, will the reclassification and development of the Petition Area have an adverse impact on agricultural resources?***

The Project will result in the loss of a relatively small amount of farm land in an urban area that is poorly suited for agriculture. Also, the Project will require the relocation of a nursery and a composting operation.

However, given the availability of good agricultural land elsewhere, the Project will not affect the future growth of diversified crop farming.