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GOVERNOR OF HAWAII

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DEPARTMENT OF LAND AND NATURAL RESOURCES
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WILLIAM W. PATY, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

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AQUACULTURE DEVELOPMENT PROGRAM
AQUATIC RESOURCES
CONSERVATION AND ENVIRONMENTAL AFFAIRS
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION PROGRAM
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

REF:OCEA:JN

NOV 30 1990

FILE: OA-10/19/90-2436
DOC.: 0343E

MEMORANDUM

TO: Office of Environmental Quality Control

FROM: William W. Paty, Chairperson
Board of Land and Natural Resources

SUBJECT: DOCUMENT FOR PUBLICATION IN THE OEQC BULLETIN - ENVIRONMENTAL ASSESSMENT FOR CONSERVATION DISTRICT USE APPLICATION OA-2436 for a Single Family Dwelling; TMK: 4-4-13: 34

The above mentioned Chapter 343 Document was reviewed and a negative declaration was declared based upon the environmental assessment provided with the CDUA.

Please call me or Cathy Tilton of our Office of Conservation and Environmental Affairs, at 548-7837, if you have any questions.

Keith W. Ahue

WILLIAM W. PATY

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1990-12-13-OA-FEA De Silva Residence CDUA

FILE COPY

ENVIRONMENTAL ASSESSMENT

DE SILVA RESIDENCE
CONSERVATION DISTRICT USE APPLICATION

Lands Situated at
Kaneohe, Koolaupoko, Oahu
TMK: 4-4-13: 34

October 1990

ENVIRONMENTAL ASSESSMENT

DE SILVA RESIDENCE
CONSERVATION DISTRICT USE APPLICATION

Lands Situated at
Kaneohe, Koolaupoko, Oahu
TMK: 4-4-13: 34

Prepared for:
DMJM Hawaii

Submitted to:
Board of Land and Natural Resources
State of Hawaii

Prepared by:
Helber Hastert & Kimura Planners

October 1990

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I. INTRODUCTION AND SUMMARY

This environmental assessment (EA) has been prepared in accordance with the content requirements of Chapter 343, Hawaii Revised Statutes (HRS) and Chapter 200, Hawaii Administrative Rules (HAR), as the proposed action contemplates the use of land classified as Conservation District by the State Land Use Commission under Chapter 205, HRS (Section 343 [a] [2], HRS).

This EA contains the following elements (in accordance with Section 11-200-10, EIS Rules, Contents of Environmental Assessment):

- Identification of the applicant;
- Identification of the approving agency;
- Identification of agencies consulted in making assessment;
- General description of the action's technical, economic, social and environmental characteristics;
- Summary description of the affected environment, including location and site maps;
- Identification and summary of major impacts and alternatives considered, if any;
- Proposed mitigation measures, if any;
- Determination; and
- Findings and reasons supporting determination.

A. Identification of the Applicant/Owner

The applicant is DMJM Hawaii, architects for the proposed single-family residence. DMJM Hawaii has authorization from Mr. Colin de Silva (Appendix A), landowner of the subject parcel identified as TMK 4-4-13: parcel 34, Kaneohe, Koolaupoko, Oahu, to make this request on his behalf.

B. Identification of the Approving Agency and Proposed Action

The applicant requests that the State Board of Land and Natural Resources approve a Conservation District Use Permit (CDUP) application to permit the construction of a single-family residence which is located within State Conservation District lands (General Subzone) in Kaneohe, Koolaupoko, Oahu. Refer to Figures 1 and 2.

TABLE 1: PROJECT SUMMARY

Applicant:	DMJM Hawaii
Approving Agency:	Department of Land and Natural Resources
Landowner:	Mr. Colin de Silva
Preparer of Assessment:	Helber Hastert & Kimura, Planners
Project Location:	Near Mokapu Saddle Road, Kaneohe, Koolaupoko, Oahu
TMK:	4-4-13: 34
Acreage:	4.503 acres
Proposed Action/Request:	Construction of a single-family residence
Estimated Cost of Construction:	$1 million

Existing Land Use Controls

State Land Use:	Conservation
Conservation Subzone:	General
County Development Plan:	Preservation
County Zoning:	P-1, Restricted Preservation District
Special Management Area:	Located outside of SMA

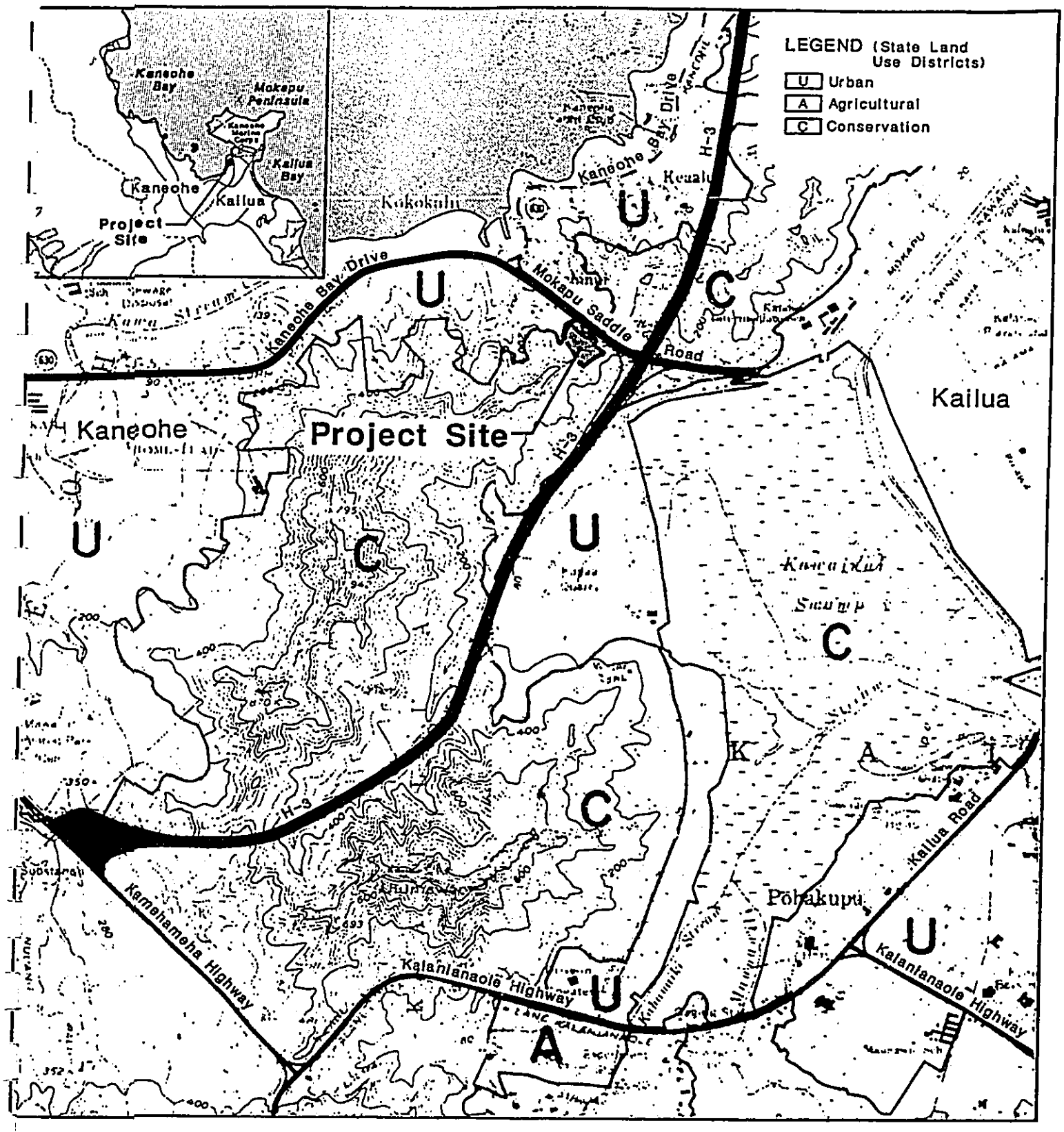

FIGURE 1:
Location Map

de Silva Residence CDUA

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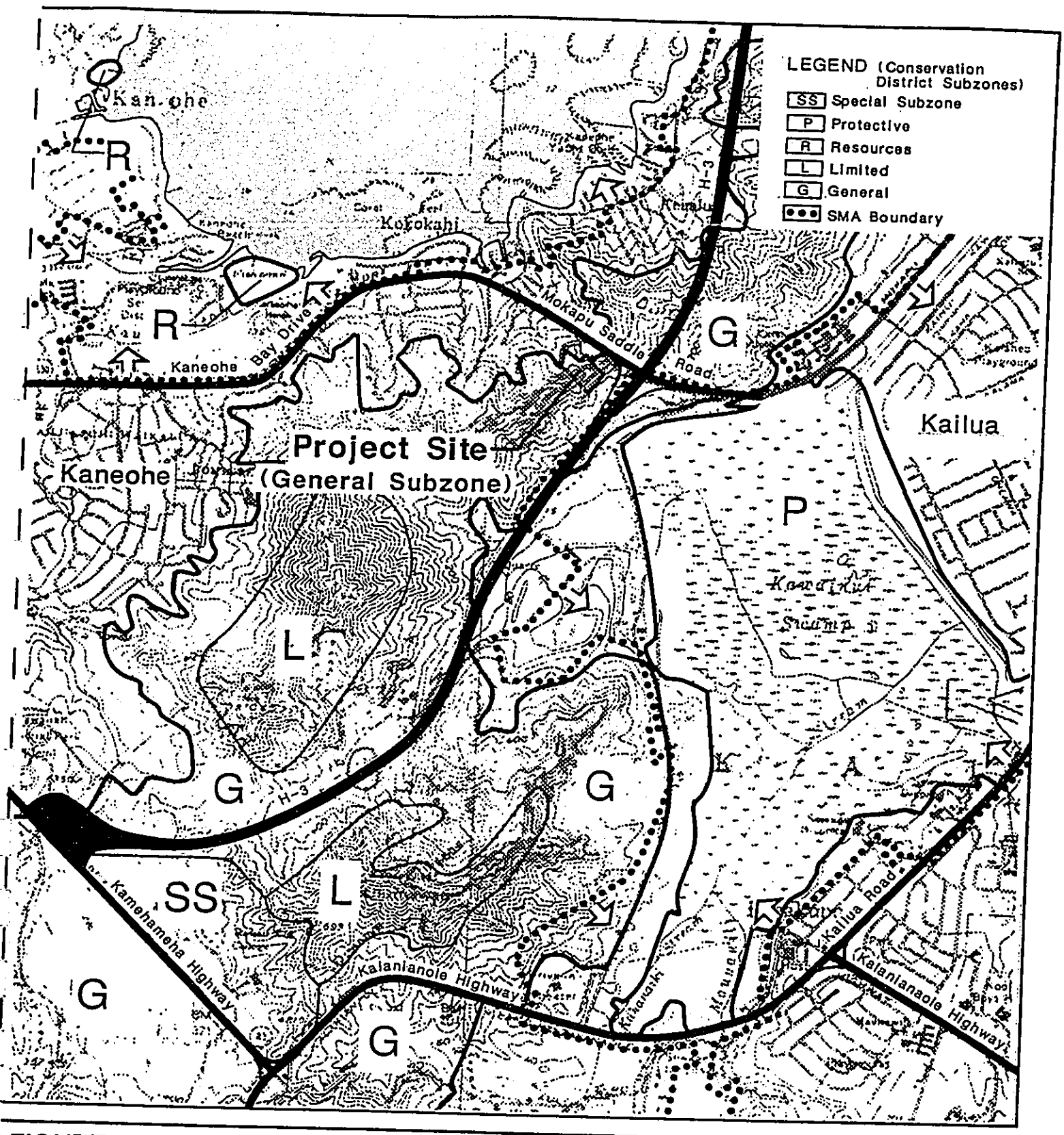

FIGURE 2:
Conservation Subzones and SMA

de Silva Residence CDUA

0' 2000'

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C. Identification of Agencies Consulted in Preparing Assessment

The following agencies were consulted during the preparation of this environmental assessment:

State
Department of Health
Department of Land and Natural Resources
    Office of Conservation and Environmental Affairs
    Division of Historic Preservation
Office of Environmental Quality Control

County
Board of Water Supply
Department of General Planning
Department of Land Utilization
Department of Public Works

D. Summary of Potential Major Impacts, Mitigating Measures and Alternatives Considered

1. Potential Major Impacts and Mitigating Measures

Potential major impacts identified in this EA include: potential for soil erosion and air pollution during construction, construction-related noise, and visual impact. No adverse impacts are expected to groundwater resources, surface water resources, the function or habitat value of existing flora, existing fauna, archaeological/historical resources, the character of the surrounding area, economic conditions or the social environment. The following measures are proposed to mitigate the aforementioned potential impacts:

Potential for Soil Erosion. The impact of construction activities can be mitigated by conforming to strict erosion control measures, particularly those specified in the State Department of Health's Water Quality Standards, Chapter 37-A, Public Health Regulations, 1968; and the SCS's Erosion and Sediment Control Guide for Hawaii, 1968. Primary fugitive dust control methods include wetting down loose soil areas, good housekeeping on the job site, installation of siltation fencing along the

perimeter of disturbed soil areas, early construction of the proposed intercepting storm drain ditch, and landscaping of bare soil areas after construction is completed.

Potential for Air Pollution during Construction. Short-term construction-related impacts are principally in the form of fugitive dust emissions. Department of Health regulations stipulate control measures that are to be employed to reduce this type of emission. Primary control consists of wetting down loose soil areas, good housekeeping on the job site and the prompt pavement or landscaping of bare soil areas.

Construction-Related Noise. Construction-period noise impacts will be mitigated through compliance with the provisions of Title 11, Administrative Rules, Chapter 43, Community Noise Control for Oahu, of the State Department of Health. The hours of construction activities will be limited, and mufflers will be required of all equipment.

Visual Impact. Proposed landscaping will be designed to screen the proposed structures and enhance the attractiveness of the area.

2. Alternatives Considered

Alternatives that were considered included: (1) construction of the residence at a higher elevation; (2) alternative configurations requiring more area to be developed, and (3) the no action alternative.

The alternative of constructing the residence at a higher elevation would be more expensive, more visible and consequently could have greater social impacts than the proposed action. The alternative of constructing the residence with a different configuration, requiring more area to be developed, could possibly have less visual impact (not as tall, more spread out), but would require the development of more land area at the expense of open space and increased erosion potential. The design of the proposed residence is intended to minimize alteration of the terrain. As presently designed, a maximum of 25,860 SF or 13 percent of the subject property will be affected by the proposed development. A no action alternative would not meet the objective of the landowner, which is to build a home on the subject property.

E. Determination

After reviewing the significance criteria outlined in Section 11-200-12, EIS Rules, Contents of Environmental Assessment, it is determined that an Environmental Impact Statement (EIS) is not required. This determination was based on the assessment that the proposed single-family residence does not:

- o Involve an irrevocable commitment to loss or destruction of any natural or cultural resource;
- o Curtail the range of beneficial use of the environment;
- o Conflict with the State's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS;
- o Substantially or adversely affect the economic or social welfare of the community or State;
- o Substantially or adversely affect public health;
- o Involve substantial or adverse secondary impacts, such as population changes or effects on public facilities;
- o Involve a substantial degradation of environmental quality;
- o Cumulatively have a considerable effect upon the environment or involve a commitment for larger actions;
- o Affect a rare, threatened or endangered species, or its habitat;
- o Detrimentally affect air or water quality or ambient noise levels; or
- o Affect an environmentally sensitive area such as a flood plain, tsunami zone, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.

The landowner respectfully requests that the Department of Land and Natural Resources file a Negative Declaration with the State Office of Environmental Quality Control at its earliest convenience.

II. GENERAL DESCRIPTION OF THE ACTION'S TECHNICAL CHARACTERISTICS

The objective of the CDUA is to seek permission to construct a single-family residence for Mr. Colin de Silva (landowner) within a portion of the property identified as TMK 4-4-13: parcel 34, hereinafter referred to as the "subject property" (Figure 3), that is located within the State Conservation District, General Subzone. The subject property occupies approximately 4.5 acres, and is presently vacant and unused.

DMJM Hawaii, architect for the proposed de Silva residence, provides the following description of the proposed single-family residence. The description of landscaping and infrastructure improvements was provided by DHC Hawaii Corporation, the consulting landscape architect and civil engineer for the proposed action.

Residence.

The proposed action will include the development of a single-family residence (3-bedrooms, 4 and one-half baths, one kitchen), a looped driveway, entry gate, garage, swimming pool and landscaping, as shown on the proposed site plan presented in Figure 4. The 430-foot long driveway for the proposed single-family residence will extend from a 20-foot wide, concrete roadway currently being constructed makai of the subject property. Presently, 16 single-family residences are under construction in the parcel directly makai of the subject property (TMK 4-4-13: 33).

The proposed garage will occupy the lowest floor of the main single-family residence structure (Figure 5). The garage level will occupy approximately 1,384 square feet (SF) and will include a workshop, a wine cellar and storage. Most of this level will be below grade (Figure 6). The 2,214 SF entry level will include a family room, recreation room, bathroom and storage (Figure 7). The driveway will be designed so that visitors will be able to drive up to the entrance of the residence, and drive around and below to the garage level (to park their car[s] and/or leave the property). Access to the upper levels of the home will be via stairs and an elevator.

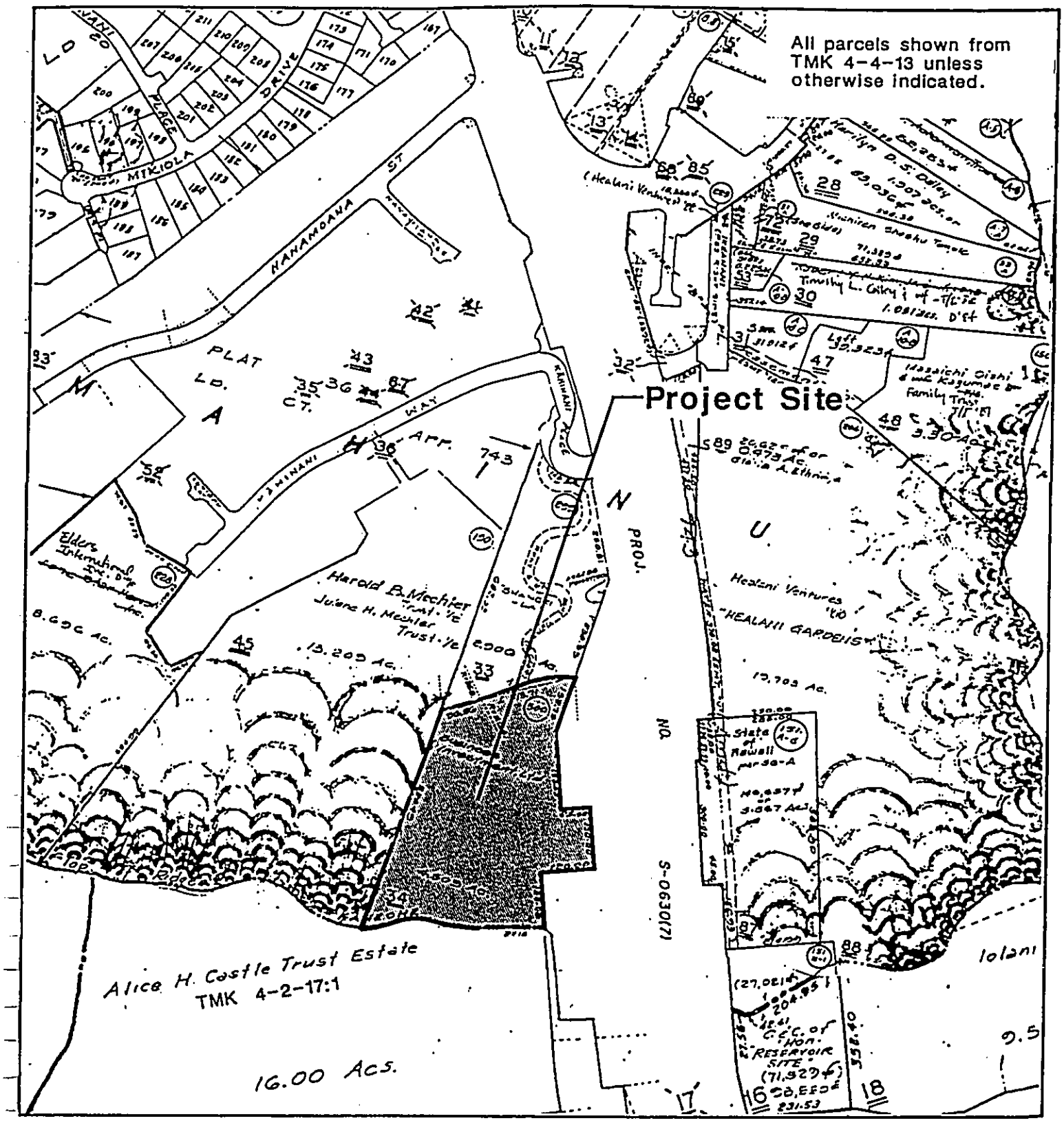

FIGURE 3:
Tax Map

de Silva Residence CDUA

0' 300'

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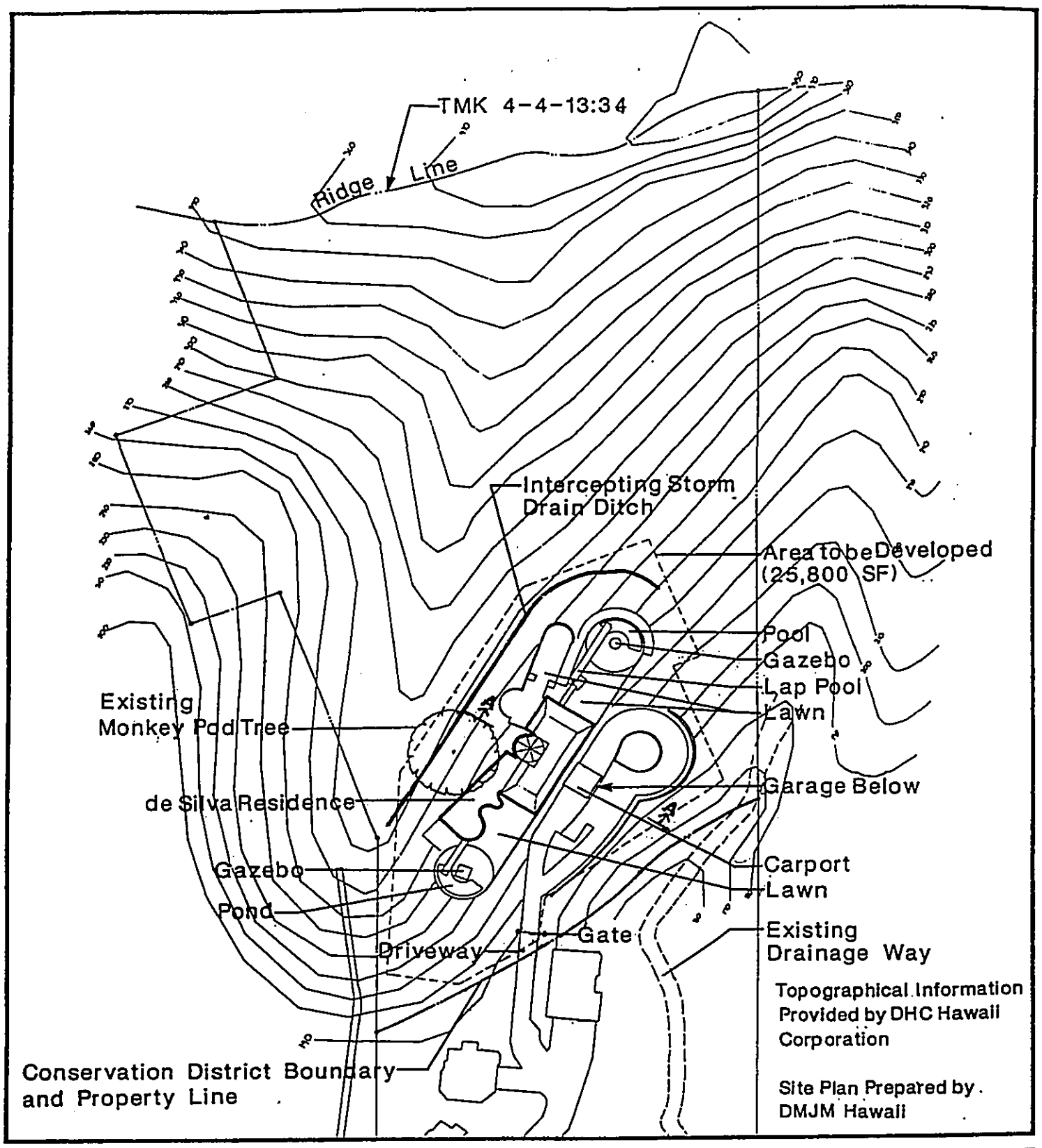

FIGURE 4:
Proposed Site Plan
de Silva Residence CDUA

0' 96'

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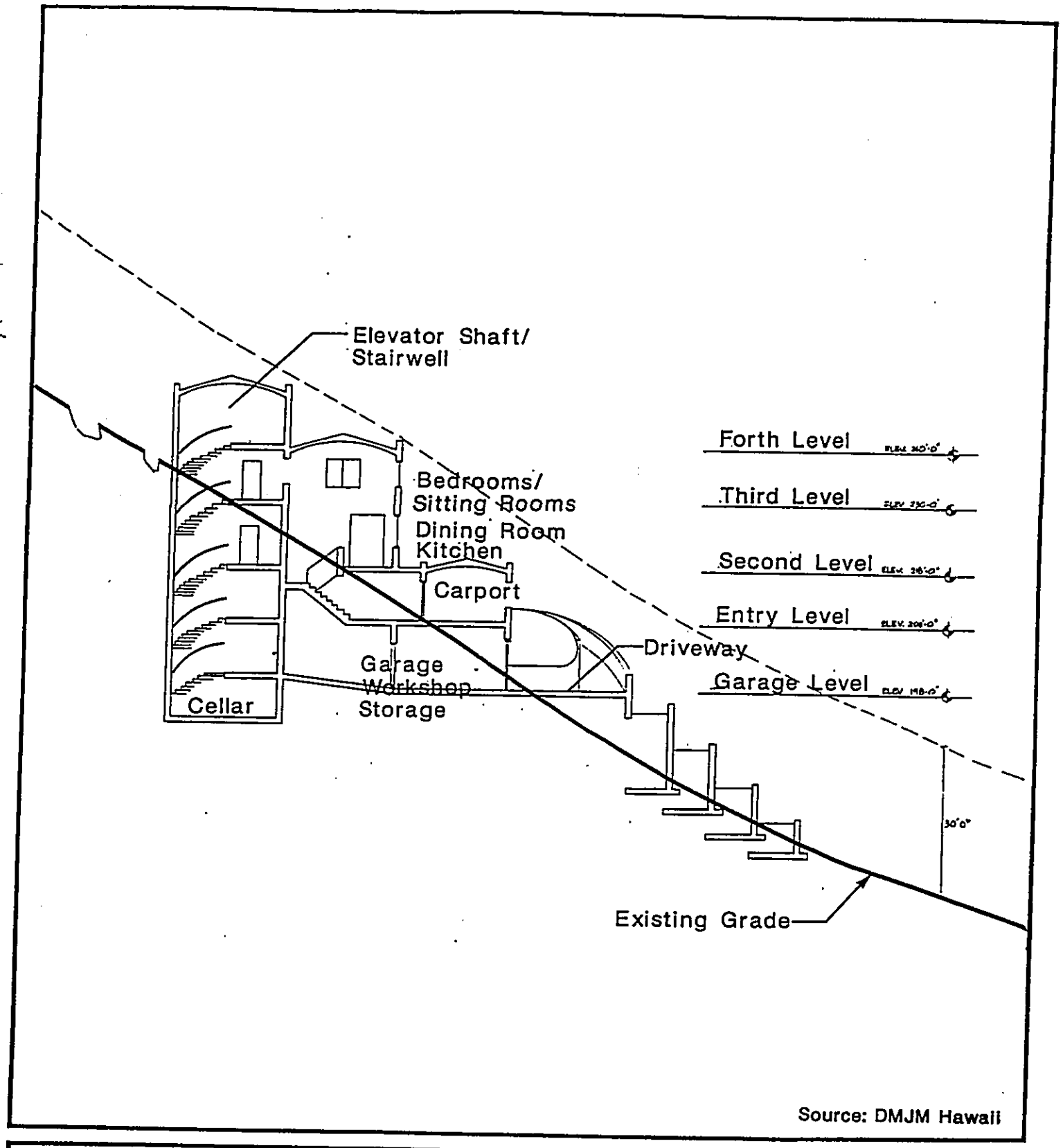

FIGURE 5:
Section AA
de Silva Residence CDUA

0 24'

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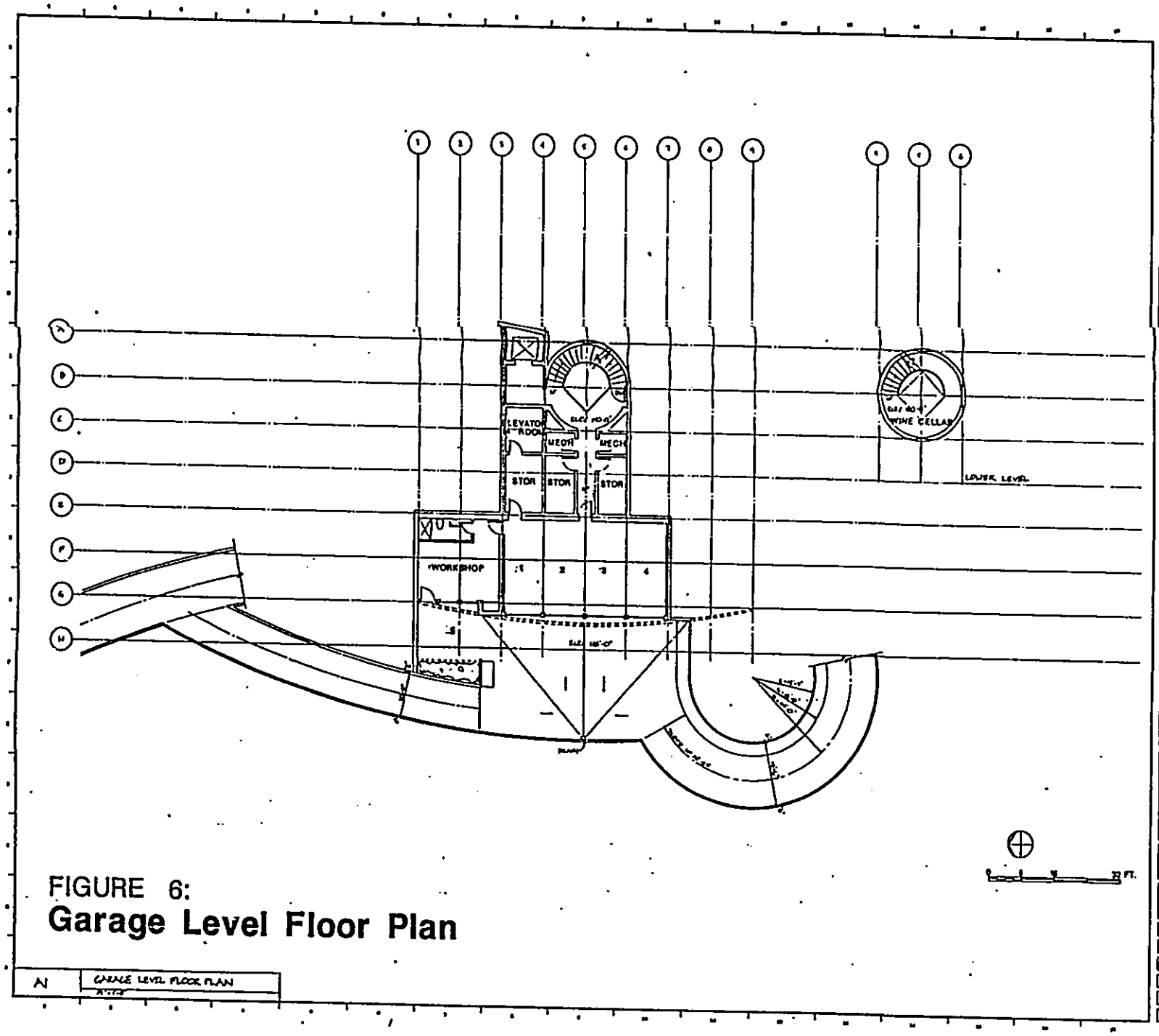


FIGURE 6:
Garage Level Floor Plan

DMJM
Daniel, Mann, Johnson, & Mendenhall
Architects/Engineers

DE SILVA FAMILY RESIDENCE

Revisions

GARAGE LEVEL

2

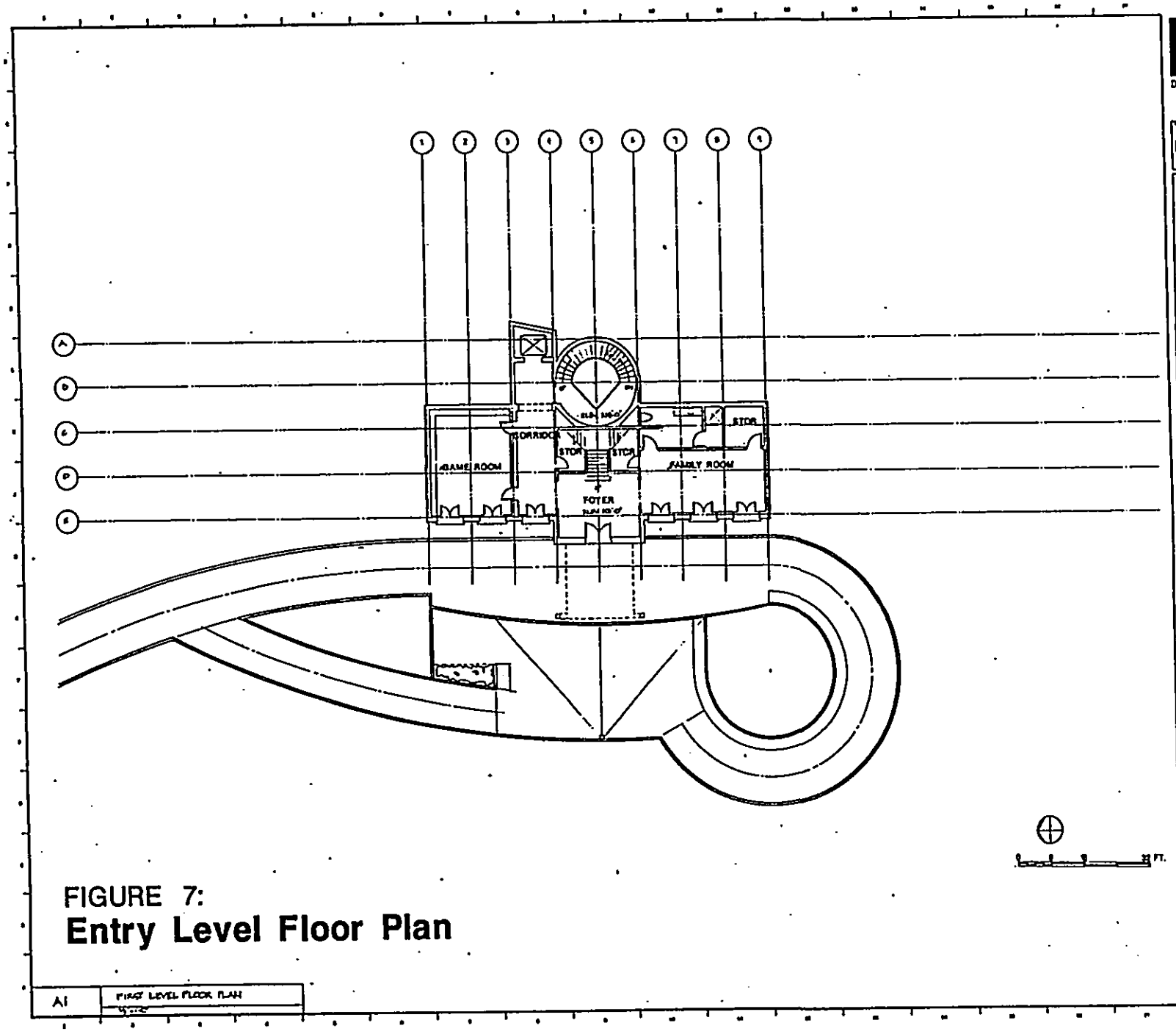


FIGURE 7:
Entry Level Floor Plan

The second level of the proposed residence will occupy 3,108 SF and will include a dining room, living room, kitchen, breakfast room, laundry, bathrooms and storage (Figure 8). At this level will be swimming and lap pools, and deck, and a landscaped fish pond area. The swimming pool and two 100 SF, 10-foot high gazebos will be located off the residential structure.

The 2,409 SF third level will contain 3 bedrooms and a sitting room (Figure 9). At this level there will be a garden and lawn area.

Above the third level will be the elevator penthouse.

Exterior Finishes.

While the exterior material selection is in its preliminary stages, plans call for a lightly-colored (earthtone yellows), stucco exterior, with reddish-brown, stone accents (window frames, parapets), similar in character to the Alexander and Baldwin and C. Brewer buildings in downtown Honolulu. The roof will have a shallow slope and will be tile covered. Pavements will be colored to blend with existing soil colors.

Landscaping.

Approximately 16,946 SF of the subject property will be landscaped. The landscaping planting materials will include those that do not require heavy watering to sustain growth. Typical planting materials will consist of new manila palms on lawn areas, new Italian cypress trees along the proposed driveway and along the mauka edge of the de Silva residence, and new gold trees around the perimeter of the area to be developed. All retaining walls will be designed to allow for subsequent landscaping. Refer to Figure 10.

An irrigation system will be installed to supplement natural rainfall and will be operated on a time clock control system (set to operate between midnight and 5:00 a.m.) to avoid normal domestic high demand periods.

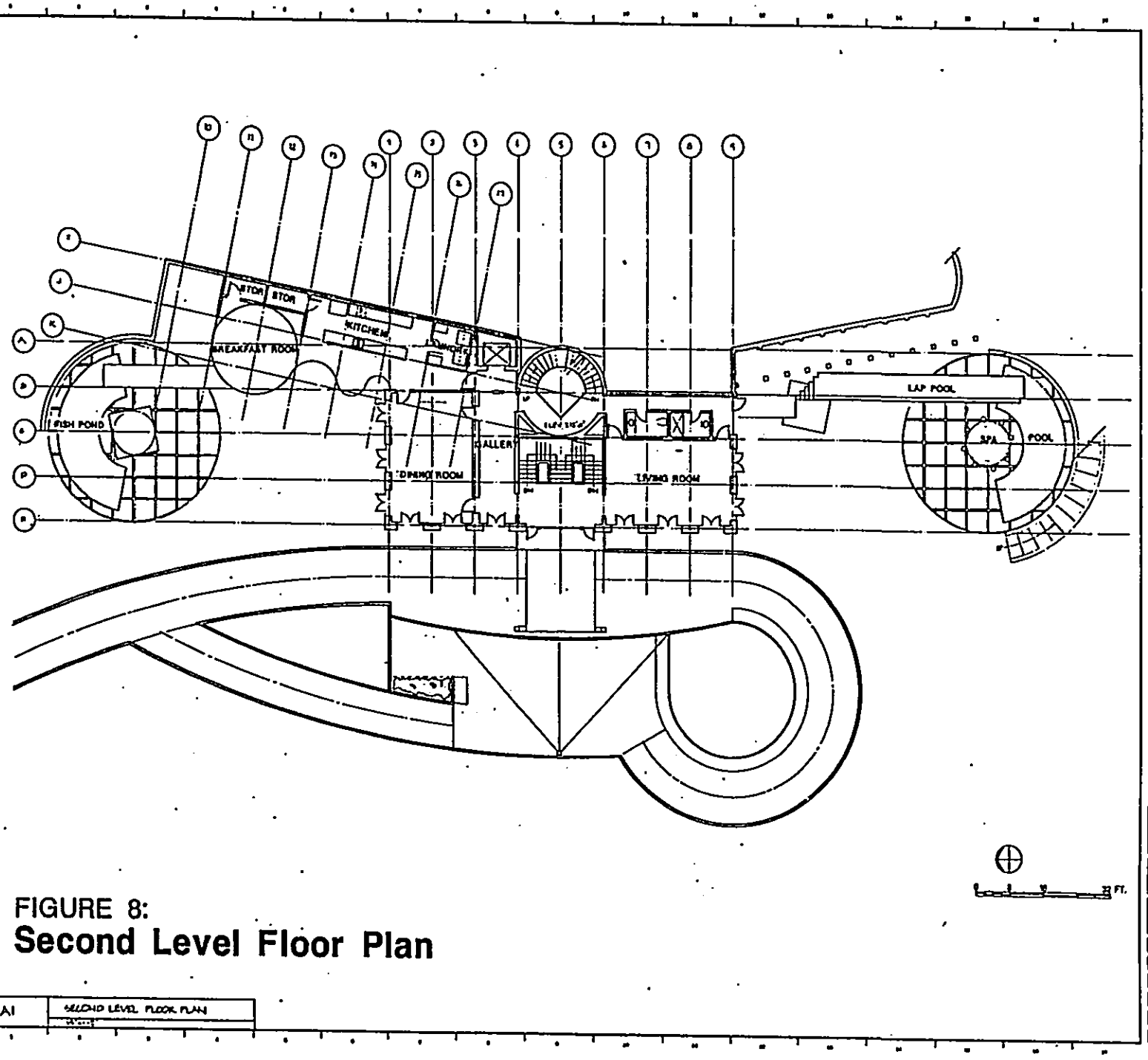


FIGURE 8:
Second Level Floor Plan

A1 SECOND LEVEL FLOOR PLAN

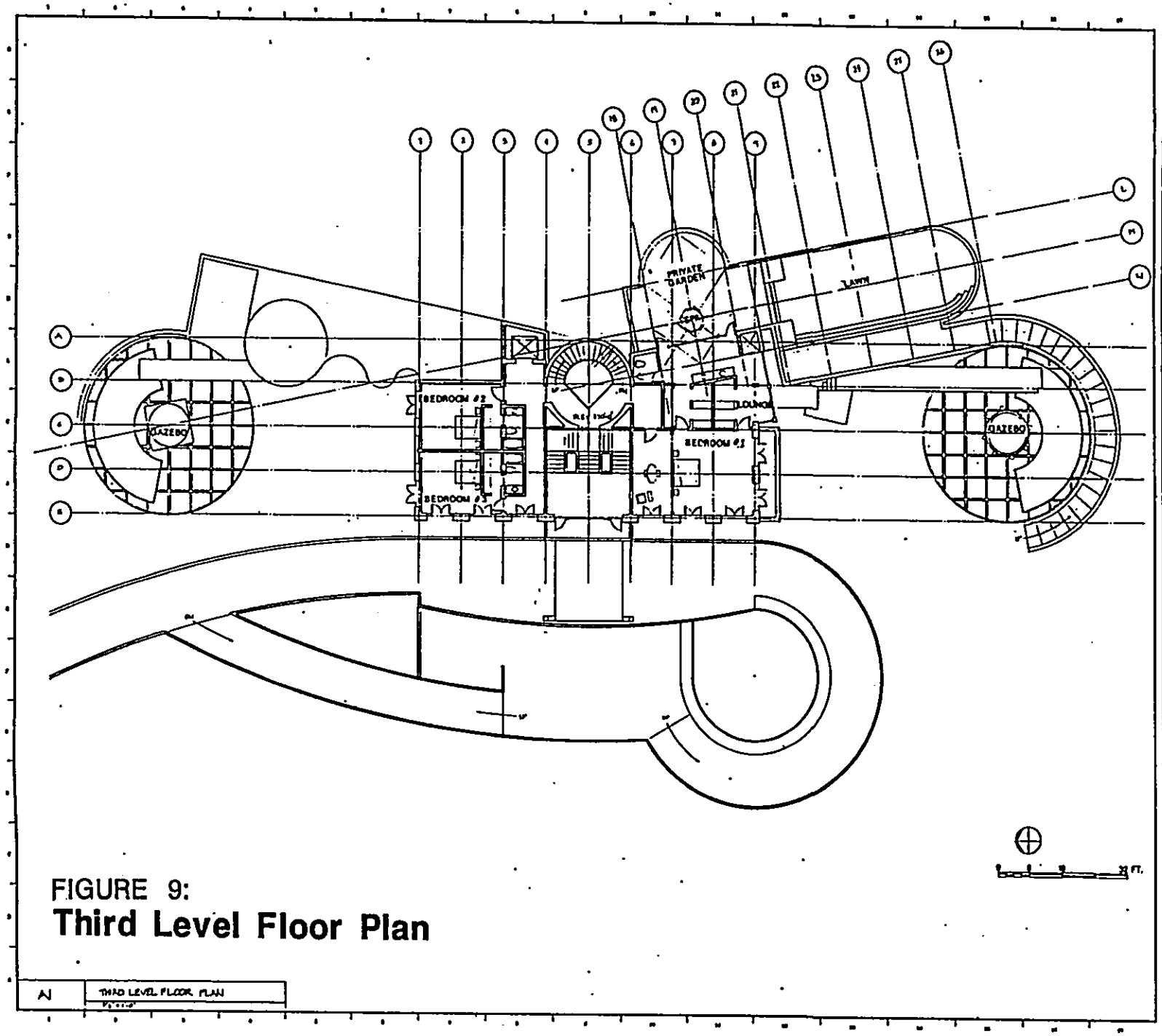
DMJM
Daniel, Mann, Johnson, & Mendenhall

DE SILVA FAMILY RESIDENCE

Revisions

SECOND LEVEL

4



DMJM
Daniel, Mann, Johnson, & Mendenhall

DE SILVA FAMILY RESIDENCE

Revisions

THIRD LEVEL

A1 THIRD LEVEL FLOOR PLAN

FIGURE 9:
Third Level Floor Plan

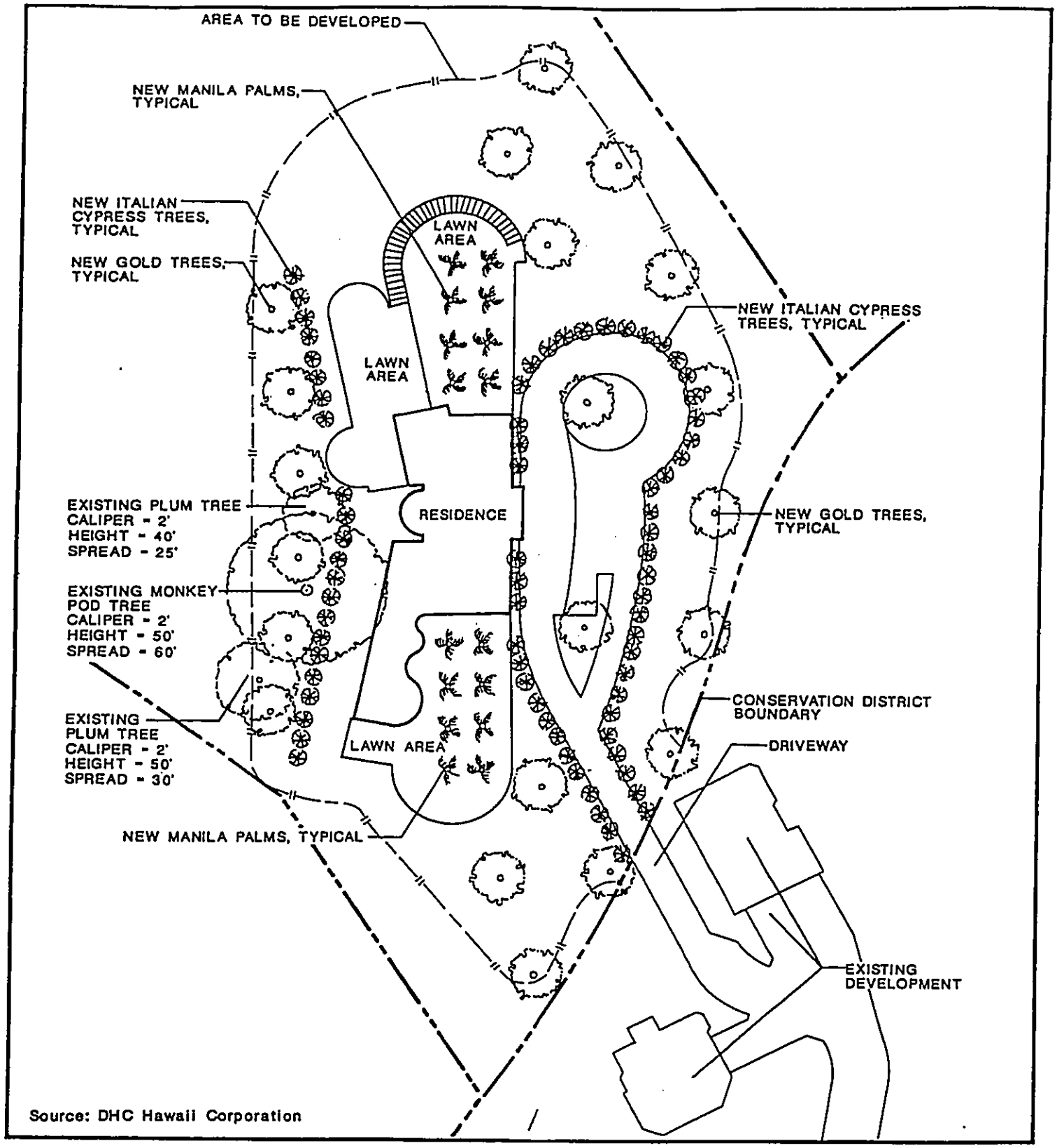


FIGURE 10:
Proposed Landscaping Plan
de Silva Residence CDUA

0 64'

September 1990

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Sitework.

Approximately 6,600 cubic yards (CY) will be excavated for the proposed residence and 2,100 CY for the proposed driveway and lawn areas. Approximately 1,800 CY of the excavated material will be used for fill for the construction of the proposed driveway and lawn areas.

Drainage.

Runoff from about half of the mauka area of the subject property that will be undeveloped (approximately 1.6 acres) will continue to flow towards an existing concrete drainage ditch at the Mokapu Saddle Road. Runoff from the other half of the subject property that will be undeveloped (approximately 1.6 acres) will be captured by a proposed drainage intercepting storm drain ditch to be installed along the mauka edge of the area to be developed and disposed of in an existing drainage way that skirts the western corner of the subject property. Runoff from approximately 0.2 acre of the subject property (which will be mostly undeveloped) will continue to flow towards the adjoining property (the Shangri-La Development). The remainder of the area (which is mostly proposed for development) will continue to drain towards the Shangri-La Development, into the existing drainage way.

Domestic Water Service.

Water service to the de Silva residence will be provided via a 4-inch water line which will connect to an existing 8-inch water line installed along the Shangri-La Development access road. This latter line in turn connects to an existing City and County of Honolulu Board of Water Supply water meter and an 8-inch water main at Kahinani Place. Storage/pressure service will be from the existing 1.0 million gallon capacity Mokapu Saddle Road Reservoir.

A domestic automatic fire sprinkler will be installed in the proposed residence. In addition, the residence will be located within 150 feet of a fire apparatus turnaround area (on the Shangri-La development access road) in accordance with the City and County of Honolulu Fire Department requirements.

Wastewater.

The method of disposing of the wastewater that will be generated at the de Silva Residence will be through connection to an existing 4-inch sewer line makai of the subject property. Ultimate flow will be to an existing County 6-inch sewer line which crosses Kahinani Place. Disposal and treatment will be via the City and County of Honolulu's Kaneohe Wastewater Treatment Facility. The applicant has received sewer connection approval from the City and County of Honolulu Division of Wastewater Management.[1]

Other Utilities.

Other utilities such as electrical, telephone and cable TV service will be installed underground and will connect to existing underground lines within the adjacent Shangri-La Development.

The de Silva residence will include a security system consisting of low profile sensor perimeter and gate controls.

Table 2 below, summarizes the proposed land uses on the subject property, the area to be occupied, and the percentage of the proposed land use of the total area of the subject property. A preliminary building footprint estimate for the proposed single-family residence, two (2) gazebos, driveway and other hardscape shows a total impervious surface of approximately 8,854 SF or approximately 4.4 percent of the 4.5-acre site. The remainder of the subject property (95.6 percent of the property) or 161,496.68 SF will be left in vegetated area with pervious surfaces.

The total area subject to development is approximately 25,800 SF or approximately 13 percent of the 4.5 acre property. Of the developed area, 16,946 SF, or 66 percent (of the developed area) will be landscaped. The remainder of the subject property, 3.910 acres or 87 percent, will be left undisturbed.

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[1]Division of Wastewater Management, City and County of Honolulu. Application for Sewer Connection. Approved September 11, 1990.

TABLE 2: LAND USE SUMMARY

Land Use	Area in Square Feet (SF)	Percentage of Subject Property*
Residence and 2 Gazebos	3,250 SF	1.6%
Driveway/Hardscape	5,604 SF	2.8%
Subtotal (Total Impervious Surfaces)	8,854 SF	4.4%
Landscaping/Sitework	16,946 SF	8.6%
Total Development Area within Subject Property	**25,800 SF**	**13%**
Undisturbed Area within Subject Property	**170,351 SF**	**87%**

* Total area of subject property is 4.503 acres or 196,150.68 SF.

Project Phasing.

Construction will begin upon securing the necessary governmental approvals. Initially, the driveway will built, followed by clearing, grubbing, grading and other site preparation, which will be immediately followed by the construction of retaining walls. Upon the completion of the major site work, the access road will be paved, and the proposed landscape materials will be planted. Finally, the proposed residence will be constructed (i.e., foundation, frame erection, floors and roofs, walls and windows, finishing work, etc.).

Construction Cost.

According to the applicant, the cost of constructing the de Silva residence is estimated at $1 million.

III. DESCRIPTION OF THE AFFECTED ENVIRONMENT, POTENTIAL IMPACTS AND MITIGATING MEASURES

A. Climate

1. Affected Environment

Temperature for the subject property can be estimated based on temperature recordings at the Kaneohe Marine Corps Air Station (State Weather Station No. 840).[2] The average maximum temperature of the hottest month, September, is 82.7 degrees (Fahrenheit); the average minimum temperature of the coolest month, January, is 66.8 degrees.[3]

Data from the Kaneohe Marine Corps Air Station indicates that predominant winds are from the northeast, east northeast and east (67.8 percent of the time). The mean wind speed during these predominant wind conditions is 11.6 miles per hour.[4]

Rainfall for the subject property area can be estimated based on historical records of the State rain gauge station 791.70[5] (in the Mokapu area). The mean annual rainfall is 41.0 inches. The driest month is June with a mean rainfall of 1.3 inches and the wettest month is January with a mean rainfall of 6.5 inches.

2. Potential Impacts

Implementation of the proposed action will not adversely affect climatic conditions.

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[2]Hariguchi, Paul. Data from the Division of Water and Land Development, Department of Land and Natural Resources, State of Hawaii. No date.
[3]Ibid.
[4]U.S. Marine Corps Air Station. Percentage Frequency of Wind Direction and Speed for Kaneohe Bay Oahu Hawaii MCAS. No date.
[5] Water Resources Research Center, University of Hawaii. Rainfall Atlas of Hawai'i. Prepared for Division of Water and Land Development, State of Hawaii Department of Land and Natural Resources, Report R76. June 1986.

B. Topography

1. Affected Environment

The island of Oahu was formed by two major volcanoes, the Waianae and Koolau Shield. The subject property is situated on the windward side of the Koolau Range near the ancient caldera of the volcanoes.[6] Geographically, the subject property is located on the slopes of the Oneawa Hills.

The elevations of the area to be developed range from approximately 180 to approximately 230 feet above sea level. Slopes at the site are steep, ranging from approximately 40 to 70 percent. The subject property is divided by a ridge which extends from the ridgeline of Oneawa Hills.

2. Potential Impacts

About 25,860 SF or 13 percent of the subject property's topography will be affected by the proposed development.

3. Mitigation Measures

The proposed residence has been designed to minimize alteration of the topography. The proposed residence is designed to tie into the hillside by a series of stepping terraces. The house is organized vertically to stack living spaces rather than spread out along the hillside.

C. Soils

1. Affected Environment

According to the U.S. Department of Agriculture Soil Conservation Service (SCS),[7] soils in the subject property consist of Alaeloa Silty Clay (ALF). Refer to Figure 11. The Alaeloa series consists of well-drained soils on

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[6]C.W. Associates Inc. Updated Geotechnical Engineering Exploration Proposed Shangri-La Development, Kaneohe, Oahu, Hawaii. Prepared for Okita, Kunimitsu & Associates, Inc. May 15, 1989.

[7]U.S. Department of Agriculture Soil Conservation Service, University of Hawaii Agricultural Experiment Station. Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii. August 1972.

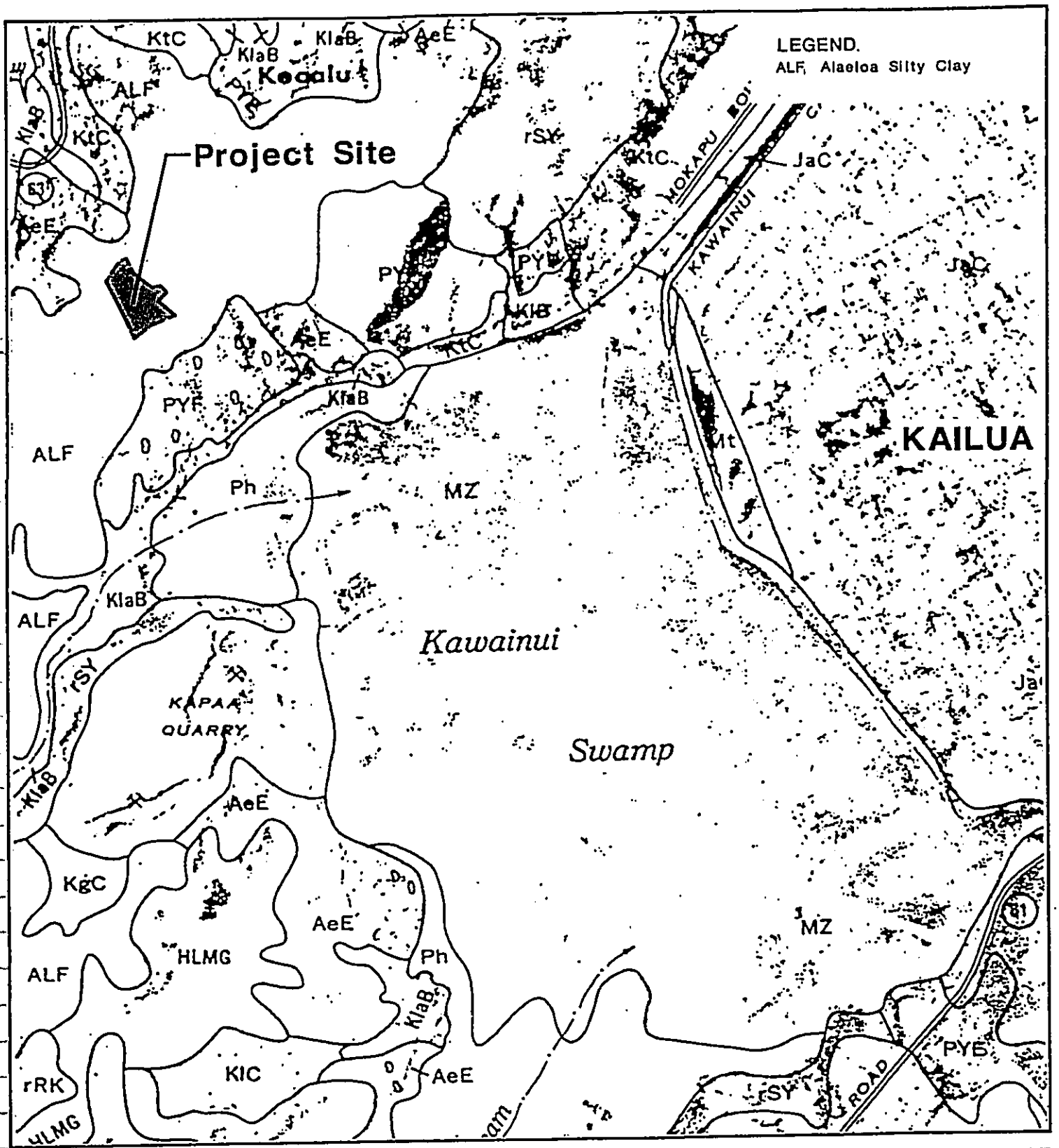

FIGURE 11:
SCS Soils

de Silva Residence CDUA

September 1990

Helber Hastert & Kimura *Planners*

uplands. These soils developed in material weathered from basic igneous rock. The natural vegetation of these soil types consists of guava, Java plum, Christmas berry, Japanese tea and hilograss. Runoff is rapid to very rapid, the erosion hazard is severe and the workability is extremely limited.

2. Potential Impacts

The impact of the proposed residence on soils is limited to the potential for erosion. Clearing and grubbing activities during construction will temporarily disturb the soil retention values of the existing vegetation, and expose the soils to erosional forces.

3. Mitigation Measures

The impact of construction activities can be mitigated by conforming to strict erosion control measures, particularly those specified in the State Department of Health's Water Quality Standards, Chapter 37-A, Public Health Regulations, 1968; and the SCS's Erosion and Sediment Control Guide for Hawaii, 1968. Primary fugitive dust control methods include wetting down loose soil areas, good housekeeping on the job site, and prompt landscaping of bare soil areas after construction is completed.

Appropriate erosion control measures will be installed during and after construction to minimize soil erosion. The proposed intercepting storm drain ditch will be installed early in the construction process. Siltation fencing will be installed along the perimeter of the disturbed soil areas. Sitework will be scheduled for periods of minimal rainfall. Land denuded of vegetation will be replanted, covered or otherwise stabilized as quickly as possible to control erosion. Construction materials, petroleum products, wastes, and landscaping substances will be prevented from washing or leaching into aquatic environments.

D. Groundwater

1. Affected Environment

Along windward Oahu, persistent, northeast tradewinds bring large quantities of moist air to the Koolau Range. This moist air condenses above the crest of the range leaving behind large quantities of precipitation that infiltrate the porous lava flows and percolate through the lava. The

resulting groundwater is then either impounded by the less permeable dike rocks or percolates deeper, eventually forming a lens of freshwater which floats on sea water. Precipitation on the Koolau Range also feeds many of the streams which flow down the windward and leeward slopes.[8]

Geologic features which control groundwater occurrence in windward Oahu include lava flows and dikes, valleys, and alluvium and weathered rock. As mentioned previously, the extremely low permeability dike rocks form compartments in the porous lava rock which impound groundwater. The depth and distance that the valleys have been cut into the dike rock influences the direction of water movement and the quantity of water flowing in streams. The valleys act as drains in the dike compartments, as do man-made tunnels and wells which tap the dike-held groundwater.[9]

The subject property is located makai of the State Department of Health's Underground Injection Control (UIC) line, and is therefore considered makai of important groundwater resources.

2. Potential Impacts

The proposed action will not significantly affect groundwater recharge for the following reasons: groundwater resources in the area are located mauka of the subject property; only 8,854 SF or 4.4 percent of the surface of the subject property will become impervious as a result of the proposed action; and wastewater from the proposed single-family residence will be collected and treated by the City and County of Honolulu wastewater system, and disposed of via ocean outfall.

E. Drainage

1. Affected Environment

There is one existing dry gully that skirts the makai corner of the property.

Figure 12 shows existing drainage areas, direction of flow, and runoff quantities for a 10-year storm event. According to DHC Hawaii

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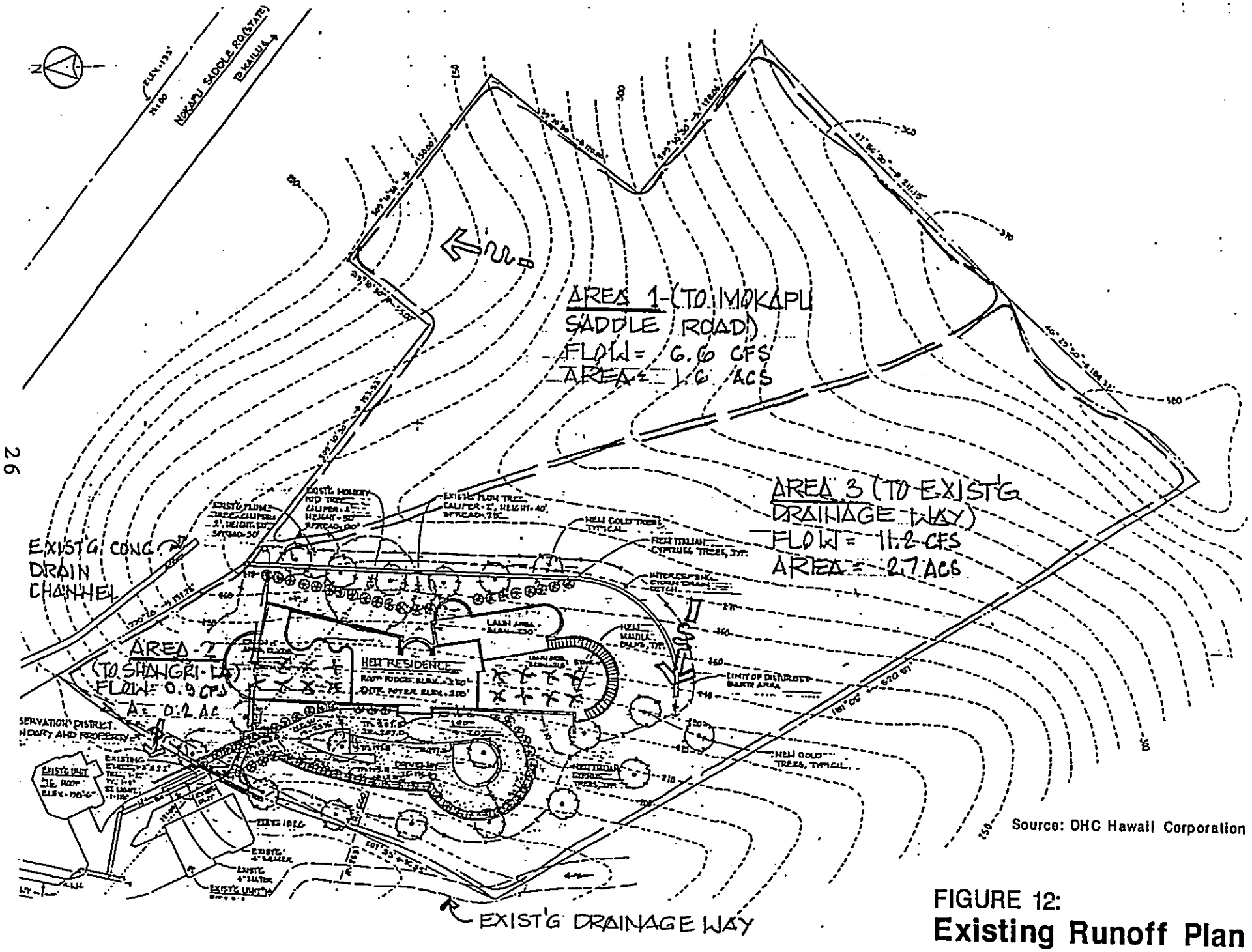
[8]Dames & Moore. Report on the Geologic, Hydrogeologic, and Hydrological Services for the Proposed Malulani Sports Complex, Heeia Kea, Oahu, Hawaii. December 8, 1989.
[9]Ibid.



Source: DHC Hawaii Corporation

FIGURE 12:
Existing Runoff Plan

Corporation, storm runoff from approximately 1.6 acres of the mauka area of the subject property sheetflows towards an existing concrete drainage ditch at the Mokapu Saddle Road at a rate of 6.6 cubic feet per second (CFS) during a 10-year storm event. Approximately 0.2 acre of the subject property drains towards the adjoining property (the Shangri-La Development) at a rate of 0.9 CFS during a 10-year storm event. Runoff from the remainder of the subject property (2.7 acres) drains towards the Shangri-La Development at a rate of 11.2 CFS during a 10-year storm event, into the existing drainage way.

According to the City and County of Honolulu Flood Insurance Rate Map[10], the subject property is located within Zone D or areas in which flood hazards are undetermined. The property is located near the upper slopes of the Oneawa Hills and is therefore not subject to significant flooding potential.

2. Potential Impacts

Figure 13 shows future drainage areas, direction of flow, and runoff quantities for a 10-year storm event. Runoff from about half of the mauka area of the subject property that will be undeveloped (approximately 1.6 acres) will continue to flow towards an existing concrete drainage ditch at the Mokapu Saddle Road at a rate of 6.6 CFS during a 10-year storm event. Runoff from the other half of the subject property that will be undeveloped (approximately 1.6 acres) will be captured by a proposed drainage intercepting storm drain ditch to be installed along the mauka edge of the area to be developed and disposed of in an existing drainage way that skirts the western corner of the subject property at a rate of 6.6 CFS during a 10-year storm event. Runoff from approximately 0.2 acre of the subject property (which will be mostly undeveloped) will continue to flow towards the adjoining property (the Shangri-La Development) at a rate of 0.9 CFS during a 10-year storm event. The remainder of the area (which is mostly proposed for development) will continue to drain towards the Shangri-La Development, into the existing drainage way at a rate of 1.1 CFS during a 10-year storm event.

While the proposed action would change the character of approximately 8,854 SF or 4.4 percent of the subject property (an open, closely cropped

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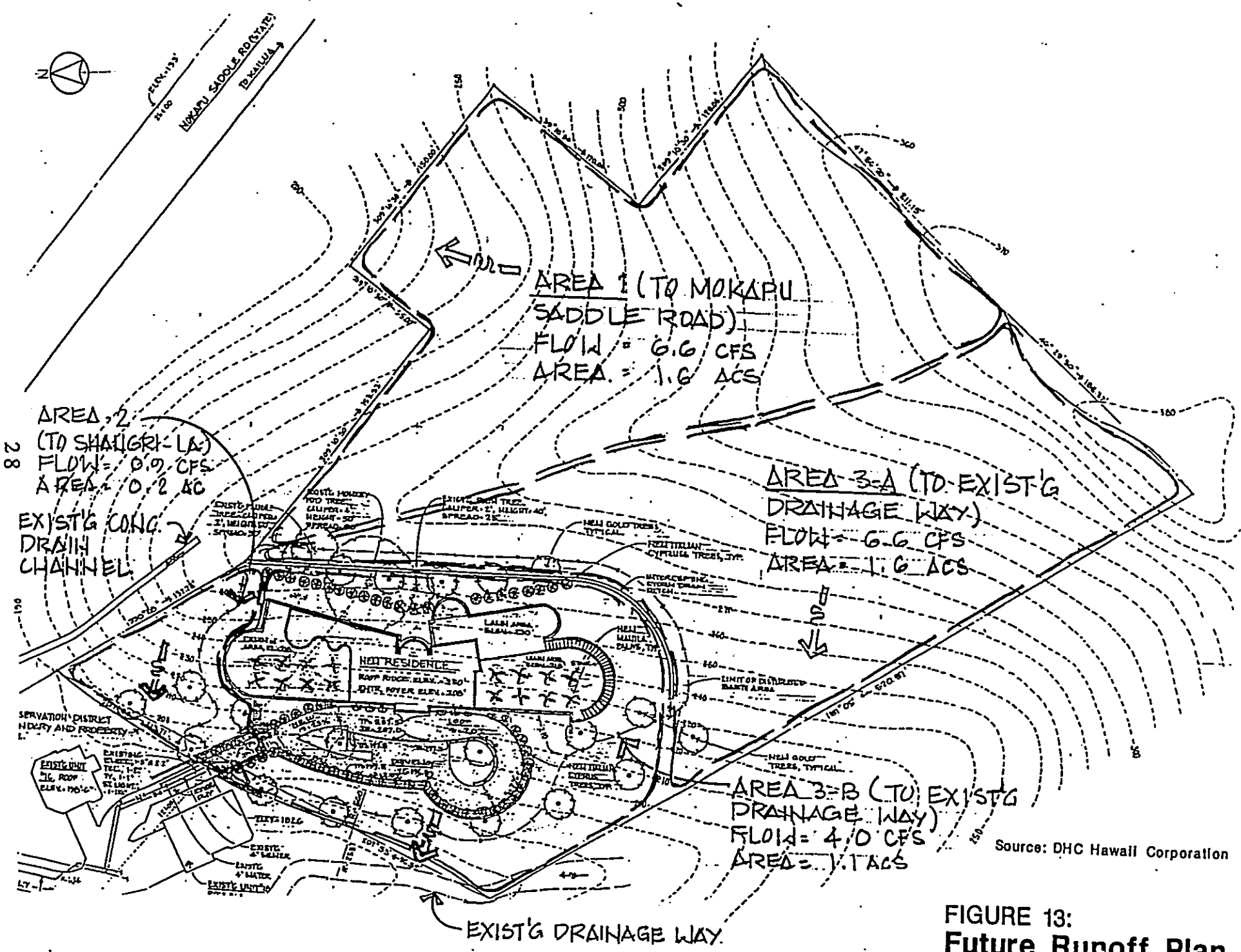
[10]Federal Emergency Management Agency. Flood Insurance Rate Map, City and County of Honolulu, Community-Panel Number 150001 0060 B. September 4, 1987.



Source: DHC Hawaii Corporation

FIGURE 13:
Future Runoff Plan

landscaping would replace the present dense vegetative cover as would improvements such as the residence and the driveway), according to DHC Hawaii Corporation, the proposed improvements will result in a decrease in the amount of total runoff from 18.7 CFS to 18.1 CFS for a 10-year storm, or a decrease of 32 percent.

Clearing and grubbing activities during construction will temporarily disturb the soil retention values of the existing vegetation, and expose the soils to erosional forces.

3. Mitigation Measures

Appropriate erosion control measures will be installed during and after construction to minimize soil erosion. Construction materials, petroleum products, wastes, and landscaping substances will be prevented from washing or leaching into aquatic environments.

F. Flora

1. Affected Environment

According to Donald H. Chung, ASLA, the consulting landscape architect, the subject property is predominantly covered with a variety of grasses, haole koa and christmas berry (Figure 14). Mr. Chung has identified three specimen trees, one monkeypod (with an approximately 60-foot wide canopy), and two nearby Java plum trees (with canopy spreads of approximately 25 to 30 feet). In addition, the following were identified in isolated patches of relatively small size: guava, strawberry guava, fiddle wood, and lantana. No endangered plant species are believed to exist on-site.

2. Potential Impacts

Approximately 25,800 SF or about 13 percent of the property will be developed. Except for the above described specimen trees, most of the existing vegetation within this developed area will be removed. In areas where vegetation is removed, there will be a temporary loss of soil retention values and fauna habitat provided by the existing vegetation.

There are no plans to alter the existing vegetation of most of the subject property (3.9 acres or 87 percent of the property).

Predominant Vegetation - Haole Koa.

Vegetation Types at de Silva Residence Site (in background).

FIGURE 14:
Typical Vegetation

de Silva Residence CDUA

September 1990

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3. Mitigation Measures

Soil erosion will be controlled by wetting down loose soil areas, good housekeeping on the job site, construction of the intercepting storm drain ditch, installation of siltation fencing along the perimeter of disturbed soil areas, the prompt paving of driveways, and landscaping of bare soil areas after construction is completed.

Approximately 3,250 SF or 1.6 percent of the subject property will be occupied by the residence and approximately 5,604 SF or 2.8 percent of the subject property will be occupied by the driveway. The remainder of the developed area, or 16,946 SF (or 8.6 of the subject property), will be landscaped. The landscaping planting materials will include those that do not require heavy watering to sustain growth. Typical planting materials will consist of new *manila palms* on lawn areas, new Italian cypress trees along the proposed driveway and along the mauka edge of the de Silva residence, new gold trees around the perimeter of the area to be developed, and ground cover on other disturbed areas. Refer to Figure 10.

The proposed action will result in the replacement of the mostly exotic vegetation with different species of mostly exotic vegetation within a limited (13 percent) area of the subject property.

G. Fauna

1. Affected Environment

Based on a review of available literature, nine introduced bird species are presumed to inhabit the subject property: laceneck dove, shama thrush, barred dove, red-vented bulbul, common mynah, Japanese white-eye, ricebird, house sparrow, and cardinal.[11] All are common to urban or field situations.[12]

No mammals were observed, but because of their abundance in similar situations on Oahu, the small Indian mongoose is a probable resident in the site. It is also probable that one or more of the following may occur in the property: roof rat, Norway rat, Polynesian rat and house mouse.

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[11]Nagata, Kenneth M. Malulani Biological Survey. May 28, 1989.
[12]Ibid.

No native birds or mammals are known to inhabit the subject property.

2. Potential Impacts

The proposed residence is not expected to have a significant impact on the biological communities of the study site as it is a highly disturbed area. The proposed residence will result in the loss of vegetation (about 13 percent of the subject property) and some faunal habitat, but considering that all of the birds and mammals in the site are wide-ranging species common to most urban and field situations, this loss is not considered to be significant.

H. Archaeological/Historical

1. *Affected Environment*

An archaeological inventory survey of the subject property was conducted by Archaeological Consultants of Hawaii in September 1990. The report of their survey is appended to this environmental assessment as Appendix B. According to the report, there were no surface indications of any cultural activity. It is Archaeological Consultants of Hawaii's opinion that subsurface testing is not warranted at the subject property and that no further archaeological work is necessary.

2. Potential Impacts

No impacts to archaeological or historical resources are expected. In the event that any previously unidentified sites or remains are encountered during construction and site work phases, work in the immediate area will cease until the State Historic Preservation Officer has been notified and is able to assess the impact and make further recommendations for mitigative actions, if warranted.

I. Noise

1. Affected Environment

Depending on the location within the subject property, noise from wind and vegetation and passing vehicles on Mokapu Saddle Road contribute to

the sound level, the majority of the time. Periodically, however, the subject property is exposed to aircraft noise from the U.S. Marine Corps Air Station (MCAS) Kaneohe Bay, which is located nearby. The MCAS Kaneohe Bay has studied the noise impact of its aircraft operations on surrounding areas (AICUZ Update, August 1983). The subject property is not located within the Kaneohe Bay MCAS AICUZ.

2. Potential Impacts

Short-term noise impacts from the proposed residential use are generally related to the initial construction period. The primary source of noise during any construction project can be broken down by activity: 1) clearing, grubbing, grading and other site preparations; 2) excavation and embankment; 3) placing foundations; 4) frame erection, floors and roofs, walls and windows; and 5) finishing work and clean-up. The most obtrusive noise will occur during the first phases of construction because of the use of heavy-duty construction equipment. Earthmoving equipment such as bulldozers and diesel-powered trucks will probably be the loudest equipment used during construction.

Since sound attenuates with distance, the farther away people are from a noise source, the less the sound will affect them. During certain phases of construction, the residences immediately makai of the subject property will be the most affected by noise generated during construction, which by law, will be limited to normal, daylight working hours.

The proposed de Silva residence will not, by its nature, be a significant contributor to the noise environment. During the day, activities that may generate noise include: refuse collection and routine residential and landscaping maintenance.

3. Mitigation Measures

Construction-period noise impacts will be mitigated through compliance with the provisions of Title 11, Administrative Rules, Chapter 43, Community Noise Control for Oahu, of the State Department of Health. The hours of construction activities will be limited, and mufflers will be required of all equipment. Traffic noise from heavy vehicles travelling to and from the construction site must be minimized near existing residential areas and schools, and must comply with the provisions of Title 11, Administrative Rules, Chapter 42, Vehicular Noise Control for Oahu.

The development will be designed and constructed to comply with the provisions of Title 11, Administrative Rules Chapter 43, Community Noise Control for Oahu. Noise from stationary equipment such as air conditioners and exhaust fans will be attenuated to meet the allowable noise levels.

J. Air Quality

1. Affected Environment

Generally, air quality at the site is very good. Natural air pollutant producers, which could affect air quality at the project site, include the ocean (sea spray), plants (aero-allergens), dust, and on occasion, distant volcanic eruptions on the island of Hawaii. Concentrations of air pollutants from these kinds of sources should be fairly uniform for most of the Windward Oahu coastline.

2. Potential Impacts

The principal source of short-term air quality impact will be construction activity. Site preparation and earth moving will create particulate emissions as will building and on-site road construction. Short-term construction-related impacts are principally in the form of fugitive dust emissions.

3. Mitigation Measures

As noted, short-term construction-related impacts are principally in the form of fugitive dust emissions. Department of Health regulations stipulate control measures that are to be employed to reduce this type of emission. Primary erosion control consists of wetting down loose soil areas, good housekeeping on the job site, construction of the proposed intercepting storm drain ditch, installation of siltation fencing along the perimeter of disturbed soil areas, and the prompt pavement or landscaping of bare soil areas after construction is completed.

K. Scenic and Visual Resources

1. Affected Environment

The predominant public view of the site is from Mokapu Saddle Road. The majority of the site is covered with vegetation consisting of grasses, haole koa, and christmas berry. A major visual element of the site is a large monkeypod tree (with an approximately 60-foot wide canopy). According to the City and County of Honolulu's Coastal View Study,[13] the property lies within an area described as the Kailua Bay Viewshed. Oneawa Hills is described an important coastal land form (land masses that are prominent features within the coastal view), but is not identified as a significant roadway view (which is one of the primary viewpoints considered by the Coastal View Study, the other being public spaces such as parks). Figures 15 and 16 were prepared as a visual analysis of the property. Figure 15 indicates the location from which the various photographs were taken, with numbers corresponding to those shown in the caption under each of the photographs.

Photo #1 shows the residential character of the surrounding area. Photo #2 shows the view of the subject property from probably its most visible point along Mokapu Saddle Road (at the intersection with Kaneohe Bay Drive). Photo #3 shows the view of the subject property from the entrance to Kahinani Place with the existing Shangri-La development in the foreground. Photo #4 shows the view of the subject property from near the mauka boundary of the Shangri-La development. Photo #5 shows a view of the subject property from approximately the mid-point of the Shangri-La development.

2. Potential Impacts

Due to the project location, there will be no adverse effects on makai views from Mokapu Saddle Road, Kaneohe Bay Drive or H-3.

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[13] Chu, Michael S. and Robert B. Jones. Coastal View Study. Prepared for the City and County of Honolulu Department of Land Utilization. 1987.

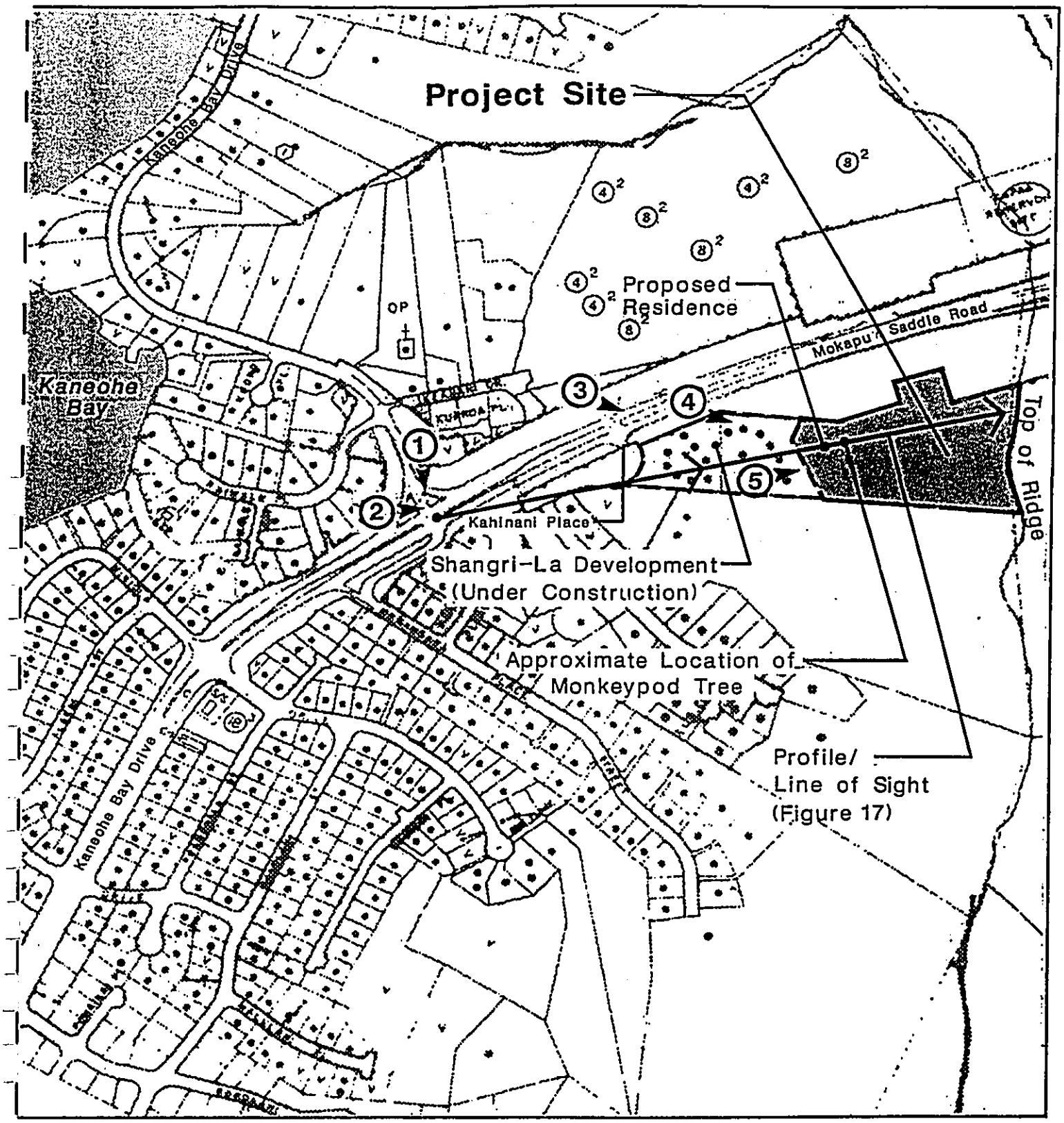

FIGURE 15:
View Analysis Key Map

de Silva Residence CDUA

0' 400'

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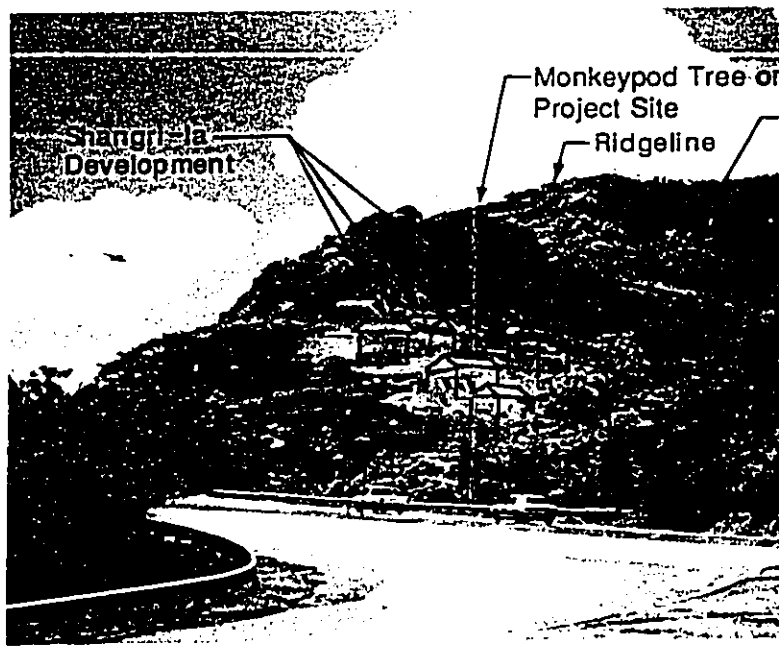
① View from Kaneohe Bay Drive at Mokapu Saddle Road Intersection (Project Site to the left of Image Area).



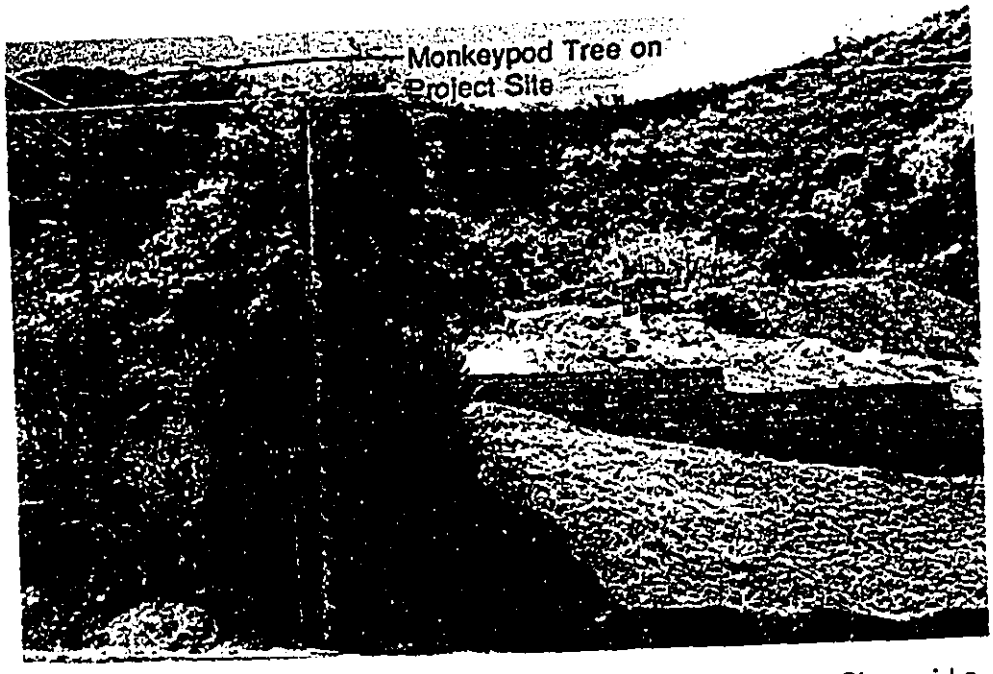
② View Towards Project Site from Kaneohe Bay Drive/ Mokapu Saddle Road Intersection.

④ View of Project Site (in background) from Shangri-La Development (Under Construction).

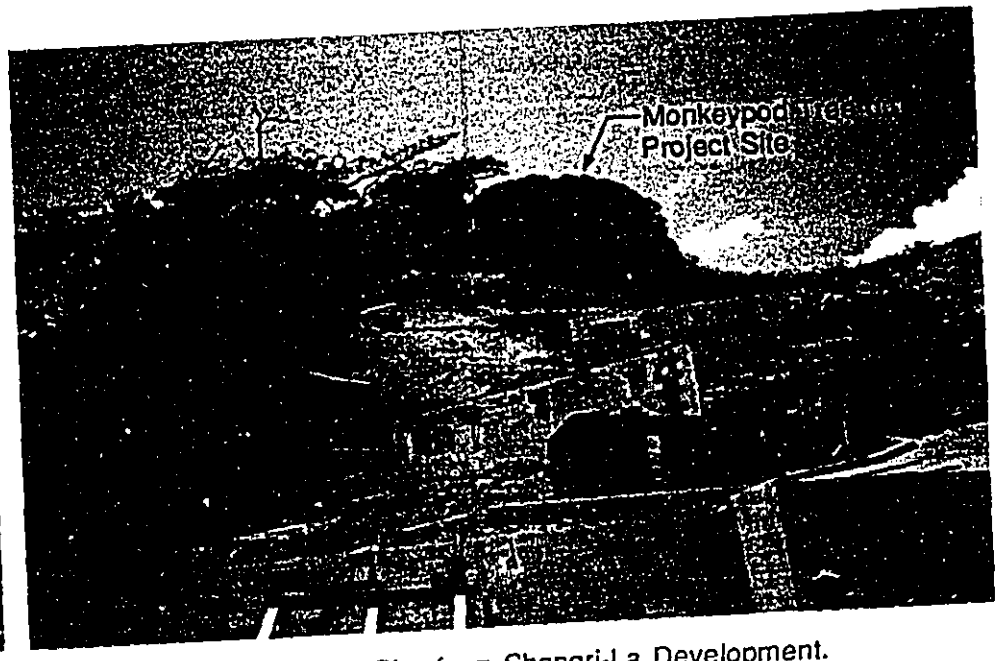
FIGURE 16:
View Analysis Photographs

de Silva Residence CDUA

Drive/



③ View of Project Site from Entrance to Kahinani Place with Shangri-La Development in foreground.



⑤ View Towards Project Site from Shangri-La Development.

(Photographs Taken on August 10, 1990)

To show its approximate visual impact, the building envelope of the proposed de Silva residence was drawn on Photo #2; not shown are the new trees that will be planted as part of the landscaping for the subject property. As shown on Photo #2, the view of the ridgeline from the Kaneohe Bay Drive/Mokapu Saddle Road intersection will not be obscured by the proposed residence.

Figure 17 represents a profile/line of sight from the intersection of Mokapu Saddle Road and Kaneohe Bay Drive to the existing monkeypod tree on the subject property. Figure 17 shows that the proposed de Silva residence is over 1,300 feet from the Kaneohe Bay Drive/Mokapu Saddle Road intersection and the view of the ridgeline will be visible even after the implementation of the proposed action.

3. Mitigation Measures

The residence will be located near the bottom of the subject property so as to minimize visual impact to the Oneawa Hills ridgeline. To further minimize the visual impact of the residence, the maximum building height envelope of the proposed residence will be 30 feet parallel to the existing grade (refer to Figure 6). In addition, the proposed residence is designed to tie into the hillside by a series of stepping terraces. The house is organized vertically to stack living spaces rather than spread out along the hillside. As shown on Figure 6, portions of the lower floors of the residence will be below grade.

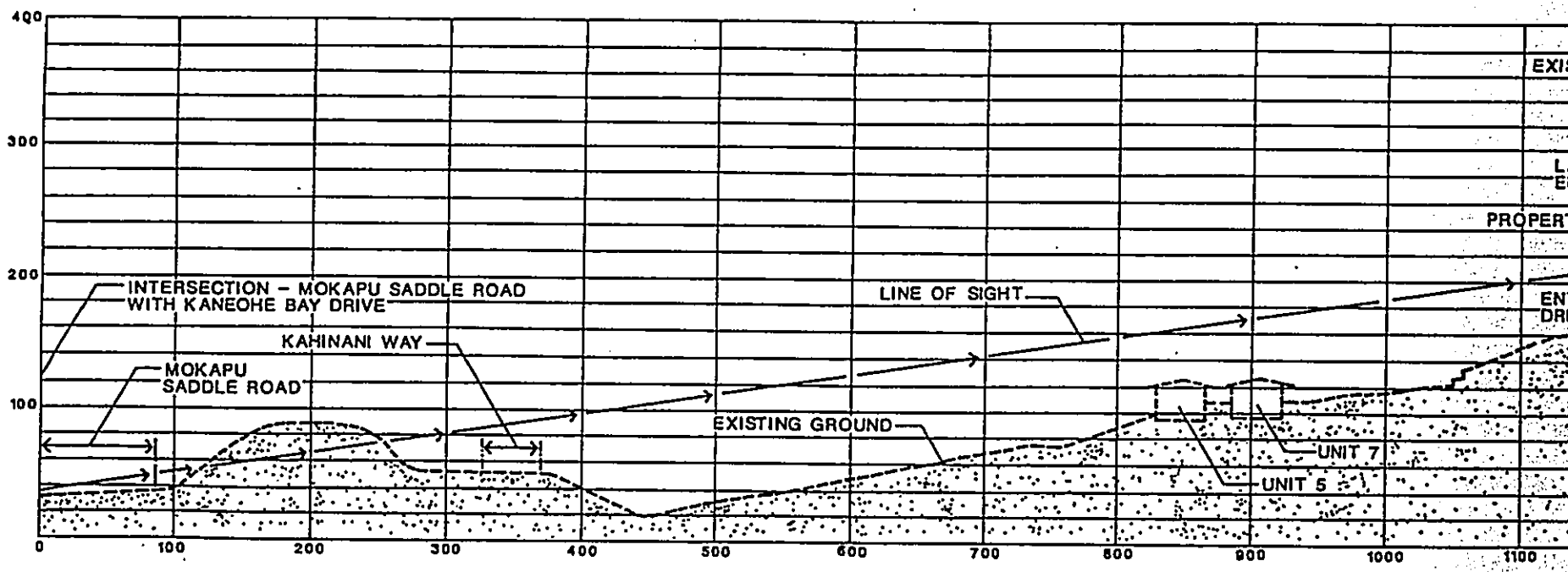
Future landscaping will be designed to enhance the attractiveness of area and to provide necessary sound attenuation and visual separation between the de Silva residence and the makai property. Approximately 13 percent of the property will change from its present vacant and overgrown appearance to a heavily landscaped single family residence.

L. Social Environment

1. Residential Population

a. Existing Conditions

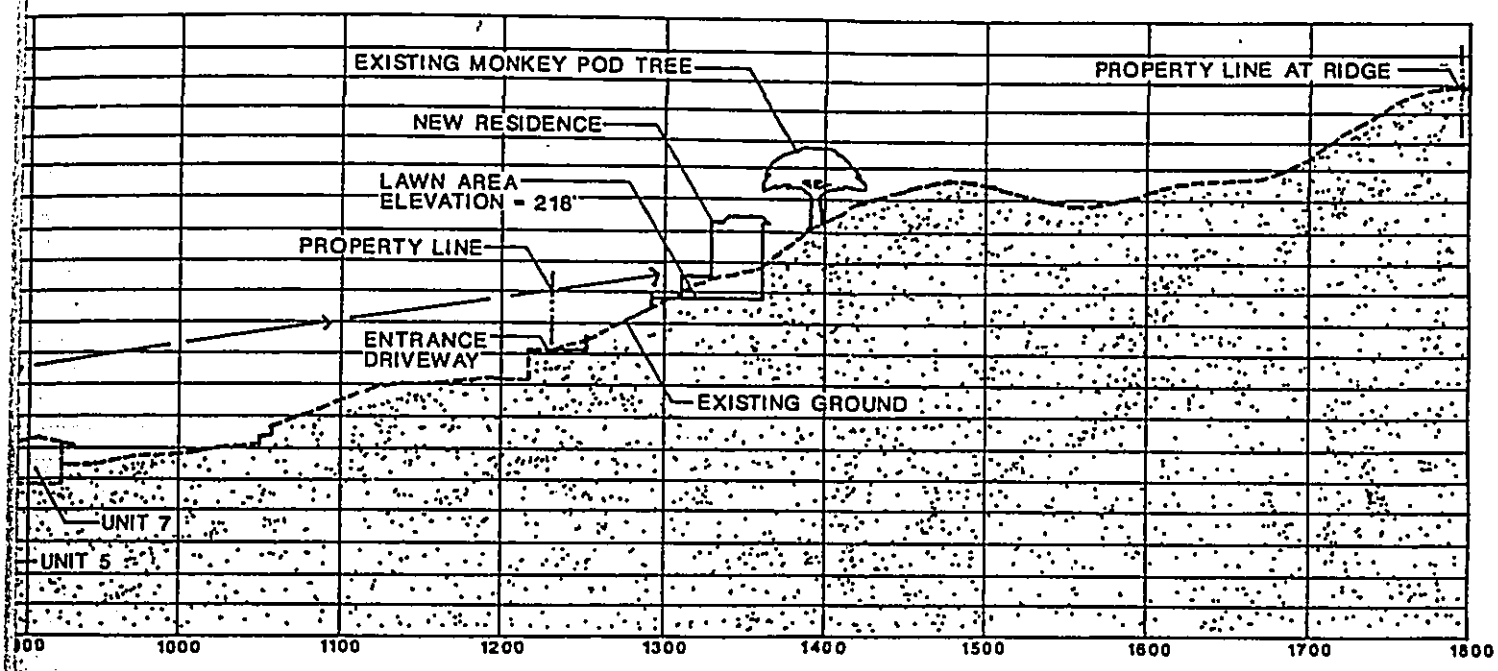
One of the objectives of the City and County of Honolulu General Plan is "to establish a pattern of population distribution that will allow the people of



Source: DHC Hawaii Corporation

FIGURE 17:
Profile/Line of Sight

de Silva Residence CDUA



0 160'

September 1990

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Oahu to live and work in harmony." As a result, one of the policies of the City and County of Honolulu regarding population is to seek a year 2010 distribution of Oahu's residential population which would be in accord with a table found in the General Plan. The table shows that a desirable distribution of residential population for the Koolaupoko District to be 11.0 to 12.2 percent of the year 2010 islandwide population. The City and County of Honolulu Department of General Planning (September, 1988) estimated that the 1990 population of the Koolaupoko Development Plan Area is 118,830. This constituted approximately 14 percent of the island's total estimated population of 859,300 for the same time period. While this is higher than the percentage desired for the Koolaupoko District, City and County of Honolulu policies to direct residential growth to the Ewa and Central Oahu districts is intended distribute Oahu's residential population in accordance with the General Plan, including the year 2010 percentage targeted for the Koolaupoko District.

Presently there is no one residing on the property.

b. Potential Impacts

No one will be displaced as a result of the proposed residence. Once occupied, the residence will add 3 persons to the Koolaupoko District or 0.002 percent of the population within the Koolaupoko District in 1994 (the estimated year of completion for the proposed de Silva residence). Since the subject property is located in a residential area, no significant social impacts are anticipated by the proposed single-family dwelling.

2. Character of the Surrounding Area

a. Existing Conditions

Land uses within the Koolaupoko District consist predominantly of residential use surrounded by substantial amounts of open space and agricultural land. The communities of Kailua and Kaneohe are stable, predominantly single-family suburban "bedroom communities". As shown on Figure 18 and Photo #1 of Figure 16, the surrounding area is primarily used mostly for single-family residential use. The boundary of the State Urban and Conservation Districts on the north side of Oneawa Hills generally follows the 200-foot elevation, and makai of the boundary is densely developed with single-family residences.

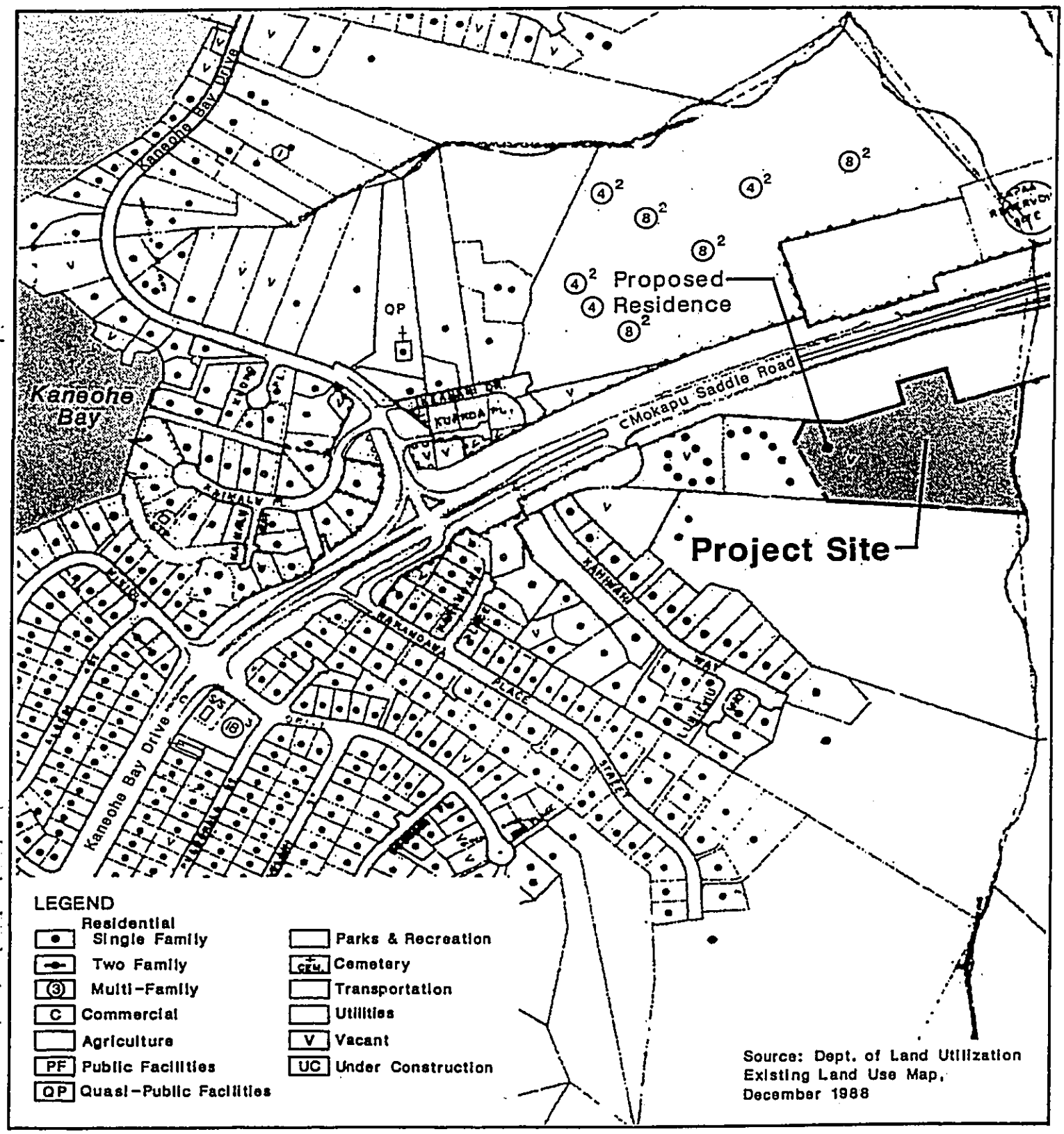

FIGURE 18:
Surrounding Land Uses
de Silva Residence CDUA

0' 400'

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b. Potential Impacts

Since the area to be developed ranges from approximately the 180-foot to 230-foot elevation, the proposed single-family residence is compatible with existing residential development on the slopes of Oneawa Hills. No significant impacts to the character of the surrounding area are expected.

M. Economic Conditions

1. Affected Environment

Presently, revenues to the City and County of Honolulu (in the form of real property taxes) are minimal. No employment is presently being provided on-site.

2. Potential Impacts

The construction of the proposed single-family will generate construction employment, and excise taxes (from the sale of construction materials). Once construction is completed, the proposed improvements will increase the taxable value of the subject property. According to the applicant, the cost of constructing the de Silva residence is estimated at $1 million.

The subject property is intended for single-family use and will not be used for rental or any other commercial purposes.

N. Municipal Services

1. Domestic Water Supply

a. Existing Conditions

There is presently no water service within the subject property.

b. Probable Impacts

It is proposed that water service to the de Silva residence be provided via a 4-inch water line which will connect to an existing 8-inch water line installed along the Shangri-La Development access road. This latter line in turn connects to an existing City and County of Honolulu Board of Water

Supply water meter and an 8-inch water main at Kahinani Place. Storage/pressure service will be from the existing 1.0 million gallon capacity Mokapu Saddle Road Reservoir.

According to the consulting civil engineers, DHC Hawaii Corporation, the de Silva residence is expected to use a total of approximately 5,700 gallons of water per day; this includes 500 gallons per day (gpd) for domestic use and 5,200 gpd for irrigation purposes. Application to the City and County of Honolulu Board of Water Supply has been made for extension of service from the meter servicing the adjacent Shangri-La development but no response has been received to date.

2. Wastewater

a. Existing Conditions

Presently, the property is not serviced by the City and County of Honolulu's wastewater collection, treatment and disposal system.

b. Probable Impacts

According to the consulting civil engineers, DHC Hawaii Corporation, the amount of wastewater that will be generated at the de Silva Residence is estimated at 400 gallons per day. The method of disposing of the wastewater that will be generated at the de Silva Residence will be through connection to an existing 4-inch sewer line makai of the subject property. Ultimate flow will be to an existing County 6-inch sewer line which crosses Kahinani Place. Disposal and treatment will be via the City and County of Honolulu's Kaneohe Wastewater Treatment Facility. The applicant has received sewer connection approval from the City and County of Honolulu Division of Wastewater Management.[14] The applicant will comply with all applicable Public Health regulations.

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[14]Division of Wastewater Management, City and County of Honolulu. Application for Sewer Connection. Approved September 11, 1990.

3. Solid Waste

a. Existing Conditions

Presently, solid waste generated by the adjoining residential area is collected and disposed of by the City and County of Honolulu Department of Public Works, Refuse Division.

b. Probable Impacts

Solid waste is anticipated to be collected by a private collection company.

IV. ALTERNATIVES CONSIDERED

Chapter 200 of Title 11, Environmental Impact Statement Rules (11-200-17 (f)) requires a reasonable discussion of "any known alternatives...which could feasibly attain the objectives of the action." The objective of the landowner is to build a single-family residence on the subject property. The only alternatives to the proposed action are the construction of the residence at a higher elevation or alternative configurations requiring more area to be developed. The alternative of constructing the residence at a higher elevation would be more expensive, more visible and consequently could have greater social impacts than the proposed action. In addition, locating the house further up slope would require a Fire Department vehicle access road and turn around.

The alternative of constructing the residence with a different configuration, requiring more area to be developed, could possibly have less visual impact (not as tall, more spread out), but would require the development of more land area at the expense of open space and increased erosion potential.

The design of the proposed residence is intended to minimize alteration of the terrain. The proposed residence will be designed to tie into the hillside by a series of stepping terraces. The design of the house is organized vertically to stack living spaces rather than spread out along the hillside. As presently designed, a maximum of 25,860 SF or 13 percent of the subject property will be affected by the proposed development.

A no action alternative would not meet the objective of the landowner, which is to build a home on the subject property.

V. RELATIONSHIP TO EXISTING PLANS, POLICIES AND CONTROLS

A. State Conservation District

The subject property is located within State Conservation District lands (General Subzone) in Kaneohe, Koolaupoko, Oahu. Title 13, Chapter 2, Subsection 14 (b), Hawaii Administrative Rules provides the following guidelines in reviewing Conservation District Use applications:

> *"(1) All applications shall be reviewed in such a manner that the objectives of the subzone or subzones are given primary consideration."*

The objective of the General subzone is to designate open space where specific conservation uses may not be defined, but where urban use may be premature. The surrounding area is increasingly being developed for residential uses and it is therefore timely to allow the development of the subject property for single-family residential uses. Not allowing the Mr. de Silva to construct a single-family residence would severely limit the property owner's use of his land.

The proposed action will leave most of the subject property in open space retaining most of the site in its natural condition. The total area subject to development is approximately 25,800 SF or approximately 13 percent of the 4.5 acre property. Of the developed area, 16,946 SF, or 66 percent of the developed area, will be landscaped. The remainder of the subject property, 3.910 acres or 87 percent, will be left in its natural condition.

> *"(2) All applications shall be reviewed so that any physical hazard, as determined by the department shall be alleviated by the applicant when required by the board."*

This environmental assessment was prepared to identify any known environmental impacts associated with the proposed action, including potential physical hazards. Potential major impacts identified in this EA include: potential for soil erosion and air pollution during construction, construction-related noise, and visual impact. All of the potential impacts have

been identified with appropriate mitigative measures to assure no significant adverse impacts. No adverse impacts are expected to groundwater resources, surface water resources, the function or habitat value of existing flora, existing fauna, archaeological/historical resources, the character of the surrounding area, economic conditions or the social environment.

"(3) All applications for subdivision shall address their relationship with the county general plan."

This application does not involve subdivision. Nonetheless, the proposed action is generally consistent with General Plan policies concerning orderly planned development, minimizing environmental impacts, consideration of urban design principles in development projects, protecting Oahu's ridges from incompatible development, consideration of natural features, and protecting mature trees and integrating them into new developments.

"(4) All applications shall meet the purpose and intent of the State's conservation district."

According to Subsection 205-2, HRS, Conservation Districts shall include:

"...areas necessary for protecting watersheds and water sources, preserving scenic and historic areas; providing park lands, wilderness, and beach reserves; conserving endemic plants, fish, and wildlife; preventing floods and soil erosion; forestry; open space areas whose existing openness, natural condition, or present state of use, if retained, would enhance the present or potential value of abutting or surrounding communities, or would maintain or enhance the conservation of natural or scenic resources; areas of value for recreational purposes; other related activities; and other permitted uses not detrimental to a multiple use conservation concept."

The designation of the subject property within the Conservation District does not appear necessary for any of the resources identified above, except for the preservation of open space. As noted above, not allowing Mr. de Silva to construct a

single-family residence would severely limit the property owner's use of his land. Furthermore, the proposed action will leave most of the subject property (87 percent) in a natural, open space condition.

It should also be noted that the site is not located within the Protective subzone, and no commercial use of the subject property is being proposed.

B. State Environmental Policies or Goals and Guidelines (Chapter 344, HRS)

Relevant policies and guidelines from Chapter 343, HRS are as follows:

> *"(1) Conserve the natural resources, so that land, water, mineral, visual* (emphasis added), *air and other natural resources are protected..."* (Subsection 344-3, HRS)

The designation of the subject property within the Conservation District does not appear necessary for any of the resources identified above, except for visual resources. The residence will be designed to minimize the visual impact of the proposed residence (through the siting of the home on the lower portion of the subject property, maintaining a maximum building height envelope of 30 feet above existing grade, designing the home to tie into the hillside by a series of stepping terraces, and the provision of landscaping).

> *"(2) Encourage management practices which conserve and protect watersheds and water sources, forest, and open space* (emphasis added) *areas;"*

The designation of the subject property within the Conservation District does not appear necessary for any of the resources identified above, except for the preservation of open space. As noted earlier, not allowing Mr. de Silva to construct a single-family residence would severely limit the property owner's use of his land. The proposed action will leave most of the subject property (87 percent) in open space.

C. State Coastal Zone Management and Special Management Area

The objectives of the Hawaii Coastal Zone Management Program, Section 205A-2, HRS, are to protect valuable and vulnerable coastal resources such as coastal ecosystems, special scenic and cultural values and recreational opportunities. Hawaii's coastal zone includes the waters from the shoreline to the seaward limit of the State's jurisdiction and all lands excluding those lands designated as state forest reserves.[15] The objectives of the program are also to: identify significant archaeological resources; insure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms; reduce hazard to life and property from erosion; and to improve the review process for activities proposed within the coastal zone. Due to the limited size of the project, the established residential character of the area, and the mitigation measures being proposed, the proposed action is consistent with CZM objectives and policies.

No portion of the property is located within City and County of Honolulu Special Management Area (Figure 2).

D. County General Plan

The General Plan for the City and County of Honolulu (adopted in 1977) was amended by the City Council in 1987. The Plan is a statement of the long-range social, economic, environmental and design objectives for the general welfare and prosperity of the people of Oahu. A major policy of the General Plan is to manage physical growth and development in the urban-fringe and rural areas so that their population densities are consistent with the character of development and environmental qualities desired for such areas (Policy C3).

By the year 1994 (the estimated year of completion for the proposed single-family residence), the proposed de Silva residence is anticipated to add 3 residents to the Koolaupoko population. The City and County of Honolulu Department of General Planning (September, 1988) estimates that in 1994, the Koolaupoko population will be approximately 120,357.

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[15]Office of State Planning, Office of the Governor. Hawaii Coastal Zone Management Program. July 1990.

The 3 residents associated with the proposed single-family residence, then, would represent 0.002 percent of the Koolaupoko population in 1994.

E. County Development Plan

The City and County of Honolulu's Development Plan (DP) provides a relatively detailed framework for implementing General Plan objectives and policies on an area-wide basis. A total of eight DP regions have been established on Oahu. The Koolaupoko DP area encompasses the area from Waimanalo to Kualoa.

The DP Ordinances consist of four elements: Common Provisions (applicable for all DP regions), and Special Provisions, DP Land Use Maps and DP Public Facilities Maps (for each DP region).

1. Land Use Map

The property is designated Preservation on the DP Land Use Map for Koolaupoko.

2. Public Facilities Map

No public facilities are currently planned to be sited on the subject property.

3. Common Provisions

Section 3 of the DP Common Provisions describes the various land use categories found within each of the eight DP regions. According to the DP Common Provisions, Preservation areas include 10 types of land, of which only one appears to describe the subject property:

> *"(G) Lands with general slopes of 20 percent or more which provide for open space amenities and/or scenic values."*

As noted elsewhere, the proposed action will leave most of the subject property in open space retaining most of the site in its natural condition. The total area subject to development is approximately 25,800 SF or approximately 13 percent of the 4.5 acre property. Of the developed area, 16,946 SF, or 66 percent (of the developed area) will be landscaped. The

remainder of the subject property, 3.910 acres or 87 percent, will be left in its natural condition. The residence will be located near the bottom of the subject property so as to minimize visual impact to the Oneawa Hills ridgeline. To further minimize the visual impact of the residence, the maximum building height envelope of the proposed residence will be 30 feet parallel to the existing grade. In addition, the proposed residence is designed to tie into the hillside by a series of stepping terraces. The house is organized vertically to stack living spaces rather than spread out along the hillside.

4. Special Provisions

The DP Special Provisions for Koolaupoko includes an area description which states:

> *"Suburban single-family development is to be the predominant residential use surrounded by substantial amount of open space and agricultural land. Limited apartment uses will be permitted close to regional commercial and industrial centers, but future apartments will be low-rise in keeping with the overall open space setting of Koolaupoko.*
>
> *It is intended that communities of Kailua and Kaneohe will remain stable, predominantly single-family suburban "bedroom communities"..."*

The proposed action is compatible with the description of Koolaupoko. The proposed action involves the construction of a single-family residence in a single-family residential area.

F. County Zoning

Under the City and County of Honolulu Land Use Ordinance[16], it is intended that all lands within the State Conservation District be zoned P-1 Restricted Preservation District. Within the P-1 Restricted Preservation District, all uses, structures and development standards shall be governed by the appropriate State agencies.

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[16]Department of Land Utilization, City and County of Honolulu. Land Use Ordinance (LUO), Ordinance No. 86-96, as amended. October 22, 1986.

APPENDIX A

LETTER OF AUTHORIZATION

from Mr. Colin de Silva

October 1990

BUSINESS INVESTMENT, LTD.
SUITE 2700 PACIFIC TOWER
1001 BISHOP STREET
HONOLULU, HAWAII 96813-3672

COLIN DE SILVA, PRESIDENT

TELEPHONE: (808) 536-1082
FAX: (808) 533-3734

October 17, 1990

Mr. William W. Paty
Chairperson
Board of Land and Natural Resources
State of Hawaii
P.O. Box 621
Honolulu, Hawaii 96809

Conservation District Use Permit Application
Proposed de Silva Residence
Kaneohe, Koolaupoko, Oahu, Hawaii
TMK: 4-4-13:34

Dear Mr. Paty,

This is to authorize DMJM Hawaii to act as our agent in processing the Conservation District Use Permit application for a single-family residence on the side identified as TMK 4-4-13:34. in Kaneohe, Koolaupoko, Oanu.

Yours sincerely,

BUSINESS INVESTMENT, LTD.

Colin de Silva

Colin de Silva
President

CdeS/mk
cc: Mr. John Condrey, DMJM Hawaii
Mr. Thomas Fee, Helber Hastert
& Kimura, Planners

STATE OF HAWAII,)
City and County of Honolulu) ss.

On this 17TH day of October, A. D. 1990, before me appeared Colin de Silva, to me personally known, who, being by me duly sworn, did say that he is the President of Business Investment Ltd. and that the seal affixed to the foregoing instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and the said Colin de Silva acknowledged said instrument to be the free act and deed of said corporation.

Marcia D. Krueger
Notary Public
State of Hawaii

My Commission Expires April 15, 1990

APPENDIX B

ARCHAEOLOGICAL INVENTORY REPORT

Archaeological Consultants of Hawaii

September 1990

ARCHAEOLOGICAL CONSULTANTS
of
HAWAII

59-624 Pupukea Rd.
Haleiwa, Hawaii 96712
(808) 638-7442

JOSEPH KENNEDY
Archaeologist

Mr. Colin De Silva
Business Investment Ltd.
Pacific Tower Suite 2700
1001 Bishop St.
Honolulu, Hawaii 96813

September 20, 1990

RE: ARCHAEOLOGICAL INVENTORY REPORT OF TMK:4-4-13,(LOT 300), LOCATED AT KANEOHE, KOOLAUPOKO, ISLAND OF OAHU

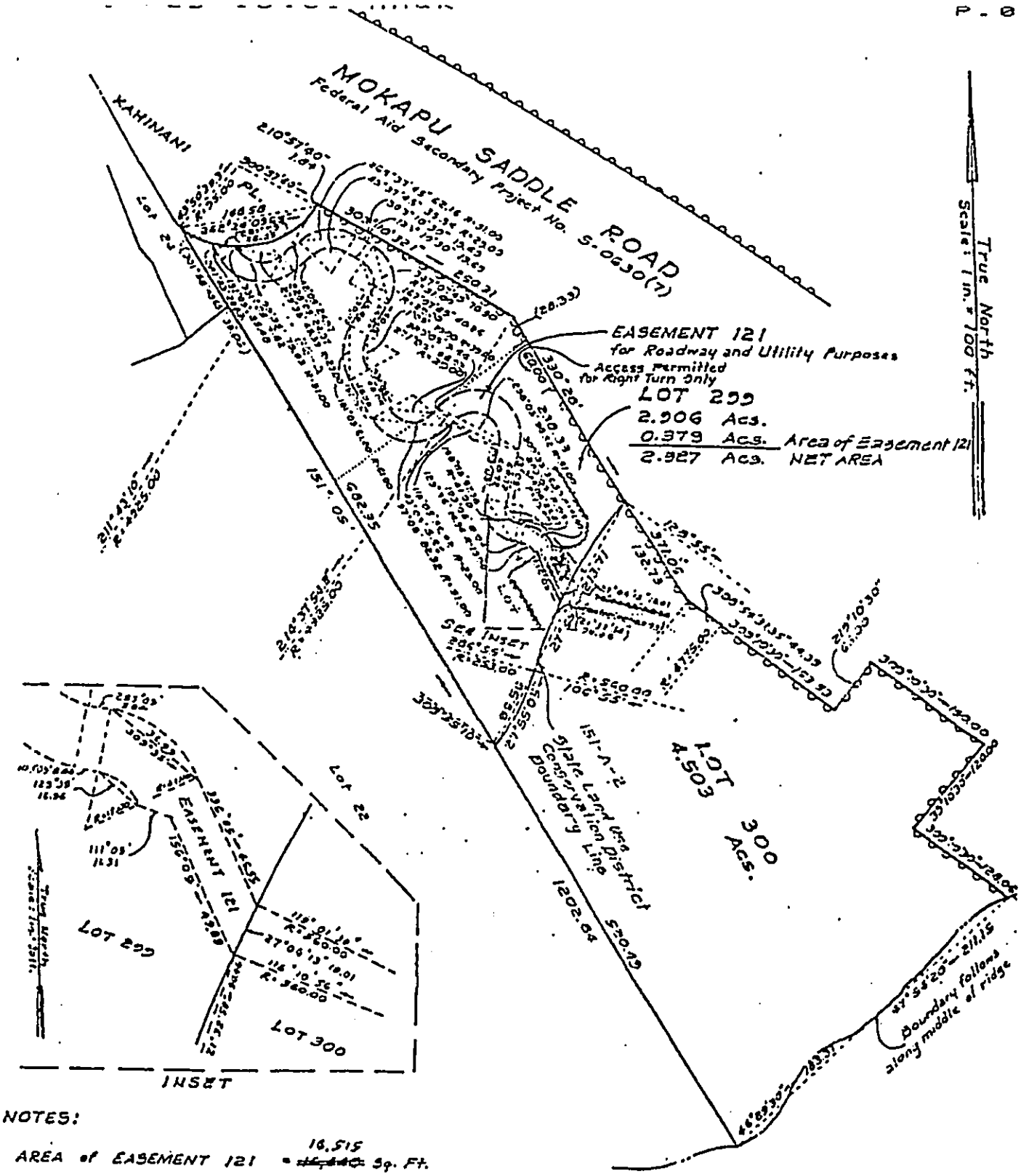
Dear Mr. De Silva:

At the request of your office, Archaeological Consultants of Hawaii, Inc. has conducted an inventory survey at the location described above.

The southern or mauka boundary of the subject property is located near the summit of a talus cliff and drops rather abruptly into a or swale. Vegetation on the property consists of Christmasberry, Schinus terebinthifolius, guava (Psidium guajava), haole koa (Leucaena leucocephala) and a variety of weeds, grasses and vines. There was no running water on the property at the time of this survey.

This survey was conducted on foot by the author and a single assistant making a series of systematic east/west transect sweeps. One hundred percent of this 4.5 acres parcel was covered in this fashion, however, it should be noted that visibility was poor in many areas due to the extremely thick vegetation. In these areas, probes of dense grassy areas were made in an attempt to discover stone features.

A check of the archaeological library located at the Department of Land and Natural Resources, Historic Preservation Program indicates that there are no sites recorded on this land nor has there been any previous survey. The nearest recorded sites are located on the Mokapu Peninsula, several miles away.



NOTES:

AREA of EASEMENT 121 = 16,515 Sq. Ft.

Denotes no vehicle access permitted

Denotes vehicle access permitted

KAZUTAKA SAIKI
REGISTERED PROFESSIONAL LAND SURVEYOR
No. 740-S
HAWAII, U.S.A.

Kazutaka Saiki
KAZUTAKA SAIKI
Registered Professional Land Surveyor
Certificate No. 740-S

AMENDMENT TO EASEMENT 121
AS SHOWN ON MAP 152 OF LD. CT. APP. 743
At Kaneohe, Koolaupoko, Oahu, Hawaii

Address: 44-672 Kahinani St.

Owner: Business Investment, Ltd.
Owner's Certificate of Title: 322,628

TMK: 1st Div. 4-4-13: 33 & 34
June 1, 1990

SAM O. HIROTA, INC.
884 S. BERETANIA ST.
HONOLULU, HAWAII 96813

Job No. 900760

The results of our investigation were negative. There were no surface indications of any cultural activity whatsoever. It is also our opinion that sub surface testing in this location would not be a productive exercise.

Based on the information presented above, it is our opinion that no further archaeological work is necessary at this location.

If there are any questions regarding this brief report, please feel free to contact me.

Aloha,

Joseph Kennedy
Consulting Archaeologist