DEPARTMENT OF DESIGN AND CONSTRUCTION

CITY AND COUNTY OF HONOLULU

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OFC. OF ENVIRONMENTAL
QUALITY CONTROL

CK-359

July 25, 2000

Ms. Genevieve Salmonson
Office Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Dear Ms. Salmonson:

Subject: Final Environmental Assessment (FEA) for Manoa Valley District Park
TMK: 2-09-036:03, Honolulu, Hawaii

The City and County of Honolulu's Department of Design and Construction has reviewed the comments received during the 30-day public comment period which began on January 8, 2000. The agency has determined that this project will not have significant environmental effects and has issued a FONSI. Please publish this notice in the August 8, 2000 OEQC Environmental Notice.

We have enclosed a completed OEQC Publication Form and four copies of the FEA.

Should there be any questions, please have your staff contact Curtis Kushimaejo at 527-6332.

Very truly yours,

GARY Q. L. YEE, AIA
Director

GQLY:li
Attach.

I. INTRODUCTION

A. Purpose of Study

This report – a study of socio-economic impacts of proposed improvements to the Manoa Valley District Park – is intended as an appendix to the overall Environmental Assessment (EA) for that project. As compared to an Environmental Impact Statement (EIS), an EA is a more succinct and preliminary document, intended to help determine whether the more detailed EIS is needed.

Following the project description (below), this study consists of three parts:

- Community profile of the Manoa area and population;
- Assessment of economic (i.e., employment) impacts of the project;
- Analysis of community issues/concerns and likely actual social impacts.

Given the nature of this project, community concerns and social impacts represent the most significant area of inquiry.

B. Project Description

The project is described in detail in the overall EA. It consists of a number of planned short- and long-term improvements to the Manoa Valley District Park, though the most important is clearly a new gymnasium close to the existing one. The components with known costs include:

Component	Estimated Cost
Phase 1, Construction Feb. – Aug. 2000	
Renovate existing gymnasium	$ 400,000
Expand upper parking lot (67 new stalls and lighting)	$ 824,000
Phase 2, Construction Aug. 2000 – Aug. 2001	
Build new "multi-purpose facility" (2-court gymnasium, 500 seats, plus some attached community meeting rooms)	$4,700,000
Connecting plaza between gyms	$ 90,000
Existing parking lot accessibility improvements	$ 720,000
Phases 3 and 4, Construction Dates Yet Unscheduled	
Perimeter "lei" pedestrian pathway	$ 600,000
Super playground (landscaping only)	$ 50,000
Outdoor exercise stations (landscaping only)	$ 35,000
Enclose pavilion near Ka`aipu Ave.	$ 500,000
Reconstruct and add new parking at lower lot (Ka`aipu Ave.)	$1,500,000
Expand restroom near playing fields	$ 100,000

II. MANOA COMMUNITY PROFILE

A. Geography and Economy

Manoa is one of a number of valleys which have provided residential housing areas for the urban Honolulu core. Compared to most other Honolulu valleys, it is particularly deep, wide, and lush (due to high annual rainfall).

In pre-Western Hawaiian times, the valley was part of a mountain-to-sea *ahupua`a*, forming an economic unit stretching down to what is now the resort community of Waikiki. However, the pattern of development for the modern city of Honolulu – including the dredging of the Ala Wai Canal and the construction of the H-1 freeway – divided the traditional *ahupua`a* into several distinct communities with very different settlement patterns and urban geographies.

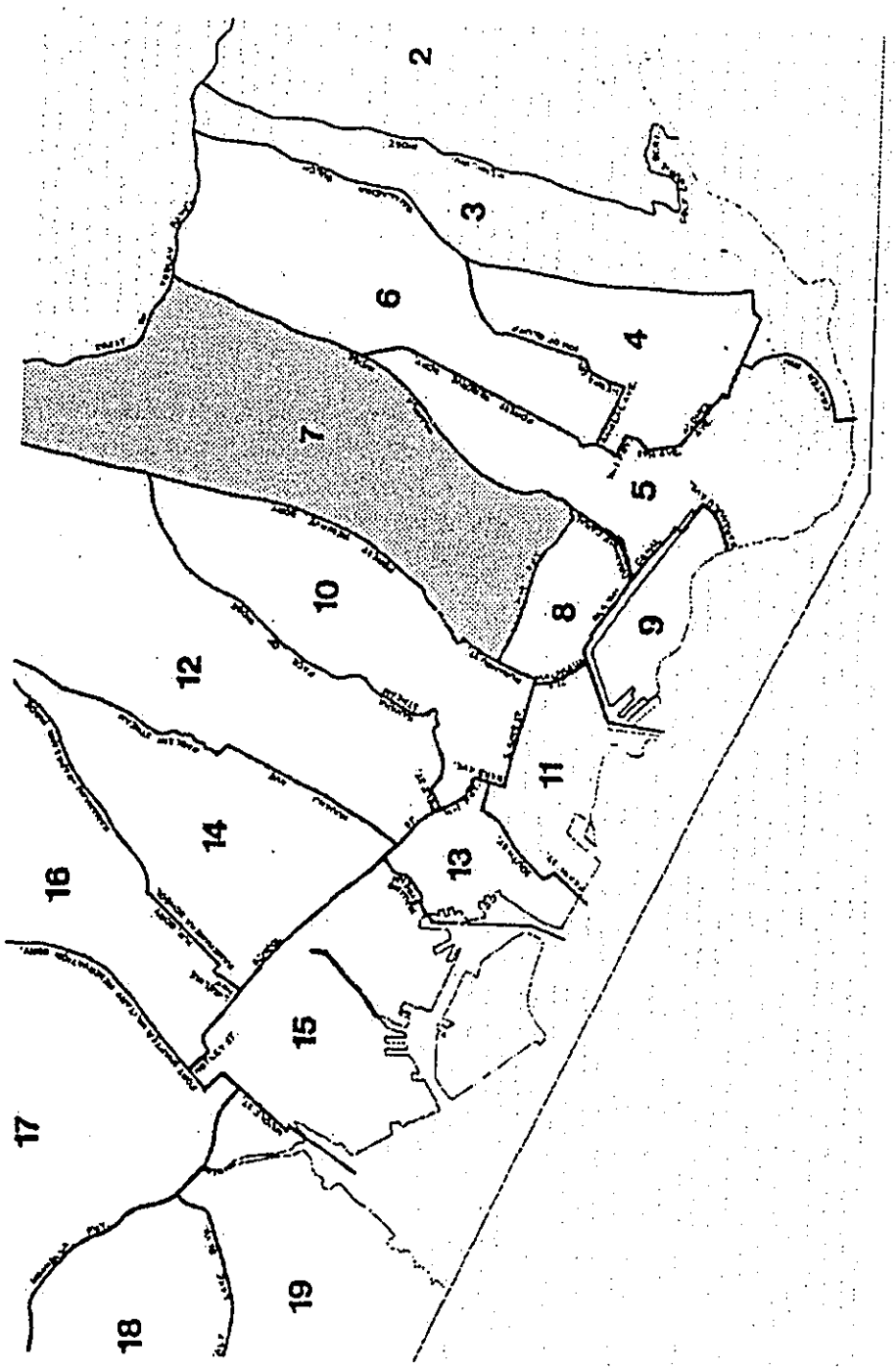
When the City and County of Honolulu created "Neighborhood Areas" (each to be represented by an advisory Neighborhood Board) in the mid-1970s, Manoa was designated Neighborhood Area 7 – bounded by the H-1 on the *makai* or southern edge, Wa`ahila Ridge to the east, the crest of the Ko`olau mountain range to the north, and the forest reserve boundary near the top of the ridge to the west (see Exhibit 1).

Economically, the lower part of Manoa Valley is dominated by academic campuses – principally that of the University of Hawaii at Manoa (the flagship of the UH system), but also those of two major private K-12 schools, the Mid-Pacific Academy (located immediately above UH-Manoa), and Punahou School (in the southwestern corner of the Neighborhood Area).

The middle part of Manoa contains some University-linked think tank facilities, such as the Manoa Innovation Center, and the principal neighborhood shopping center (the Manoa Market Place), as well as a number of other small stores, restaurants, and financial institutions geared to serve the neighborhood and University trade. It is the site of a community playhouse – perhaps the chief visible manifestation of the community's artistic side, though Manoa in fact has a reputation for being the home of many independent artisans, craftsmen, and musicians.

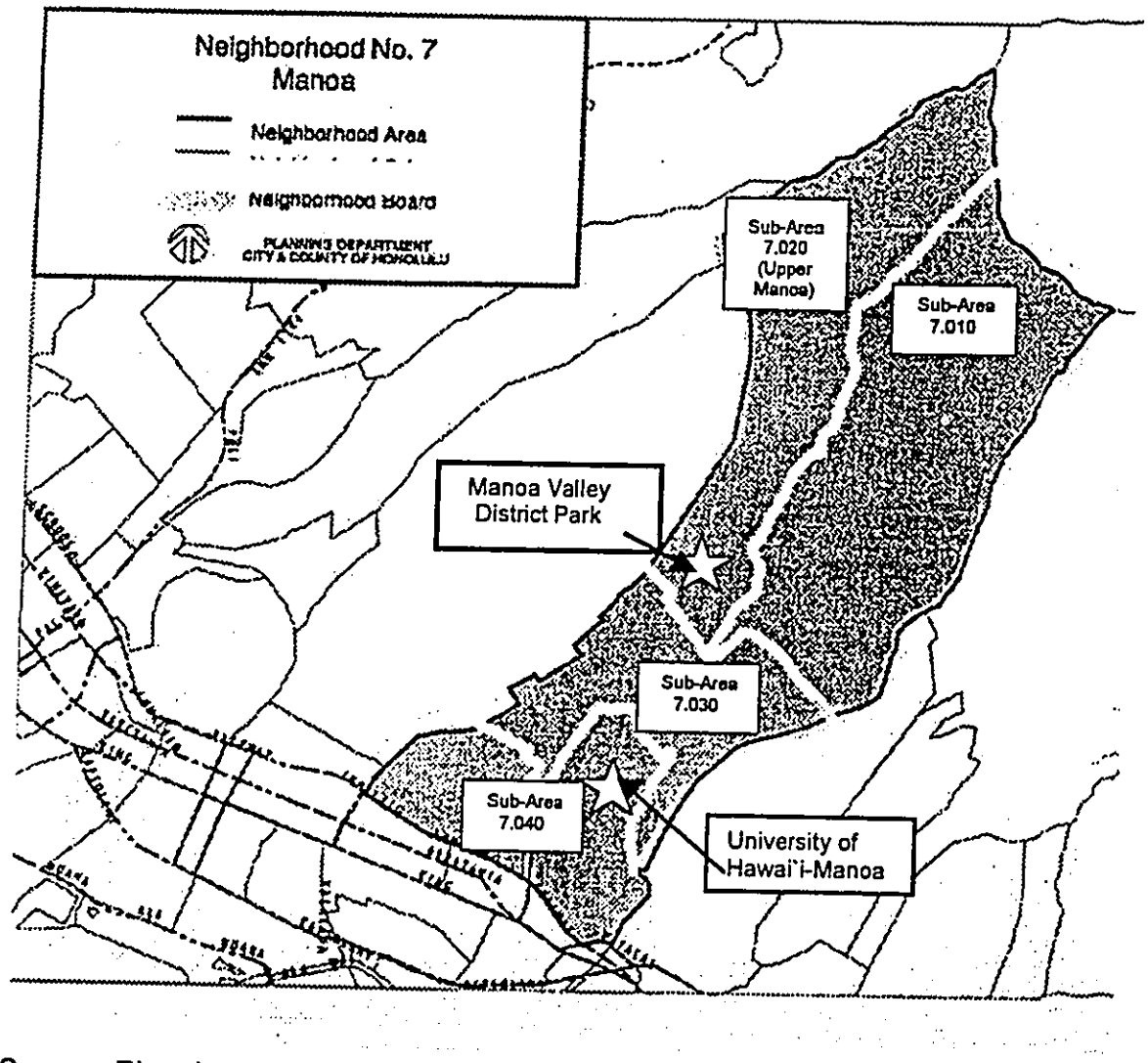
Manoa Valley District Park is located close to the heart of Manoa Valley, on the southern edge of the quadrant which City officials have designated as "Upper Manoa" (Exhibit 2). Manoa Sub-Area 7.020 is generally contiguous with U.S. Census Tract 31.02, while Sub-Area 7.01 to the east is approximately contiguous with U.S. Census Tract 31.01. Both of these regions are primarily residential, with little economic activity except parks and schools. A former visitor attraction, Paradise Park, is now closed, although a family restaurant there still caters largely to the tourist trade. (In lower Manoa, the Waioli Tea Room is more resident-oriented.) The Lyon Arboretum serves both visitors and residents.

Exhibit 1
MANOA NEIGHBORHOOD AREA 7



Source: Planning Department, City and County of Honolulu, 1994

Exhibit 2
MANOA SUB-AREAS AND PROJECT LOCATION



Source: Planning Department, City and County of Honolulu, 1994

B. Resident Population and Social Characteristics

The principal source of information about Manoa's resident population is the 1990 U.S. Census[1], as tailored for O`ahu's Neighborhood Areas in special analyses conducted by the City and County of Honolulu's Planning Department.[2] The information is thus somewhat dated.

However, Manoa appears to be a community which has been changing only slightly during the latter part of the 20th century. The resident population actually declined from 1980 to 1990 – from 22,605 to 20,834 – while characteristics such as ethnicity remained essentially the same.

At the same time, there was clear evidence of aging during the 1980s, as the proportion of senior citizens aged 65+ rose from 9.5 percent in 1980 to nearly 16 percent in 1990. The proportion of children aged 5 to 17 dropped from 12.6 to 11.1 percent, but the percentage of very young children rose slightly from 3.2 to 3.5 percent – a reflection of the "Baby Boom Echo" now being observed as a rise in very youthful population throughout Hawaii and the United States.[3]

Exhibits 3 to 7 provide selected 1990 Census data for the Manoa Neighborhood Area and, for comparison purposes, the overall City and County of Honolulu. Data are also given for "Upper Manoa Only" (the part of Manoa in which the Manoa District Valley Park is located), though it should be remembered that these facilities really serve the entire area.

Highlighting key findings from these exhibits:

Demographic Characteristics: Compared to the county as a whole, Manoa is older, much more Japanese, and more college-educated. Upper Manoa has a

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[1] The Census consists of several parts, including a complete enumeration ("Summary Tape File 1-A") and a 15% sample ("Summary Tape File 3-A").

For the full enumeration, see United States Department of Commerce, Bureau of the Census. *1990 Census of Population and Housing, Summary Tape File 1-A: Pacific Division, Vol I. CD90-1A-9-1.* Washington, D.C., 1991.

For the 15% sample, see United States Department of Commerce, Bureau of the Census. *1990 Census of Population and Housing, Summary Tape File 3-A: Alaska, Hawaii, Oregon. CD90-3A-02.* Washington, D.C., 1992.

[2] Planning Department, City and County of Honolulu. *Statistical Profiles of Oahu Neighborhood Areas (1980 – 1990).* Honolulu, 1994.

[3] Enrollment at Manoa Elementary School has actually dropped very slightly in the late 1990s, but this enrollment is not considered a good indicator of Manoa youth population because of the high proportion of school district exemptions and Manoa students attending private schools. (Personal communication, Victoria Bannan, Principal, Manoa Elementary School, Nov. 24, 1999.)

particularly high proportion of Japanese-Americans (nearly two-thirds of its 1990 population), and had higher percentages of both senior citizens and children than did Manoa as a whole.

Geographic Mobility: Manoa residents are somewhat more likely than Oahu residents in general to be "local" (Hawaii-born) and long-settled in their current homes – tendencies which are even more pronounced in Upper Manoa, where more than three-quarters are Hawaii-born and have lived in the same house for five years or more.

Housing Characteristics: Compared to Oahu in general, Manoa housing units are more likely to be older, single-family homes, occupied by owners rather than renters, with higher values and fewer people per household. All this is even more true in Upper Manoa – except that housing values are not quite so high and household sizes are a little larger. In other words, Upper Manoa is more of a middle-class family residential area, while more expensive homes[4] and smaller families are prevalent in East Manoa and around the University.

Income Characteristics: Manoa residents have higher median household and per capita individual incomes than do Oahu residents in general, and smaller percentages in Manoa live in poverty or receive public assistance income. Renters face higher rents but appear generally able to afford them. On the other hand, there is a greater "rich-poor gap" (interquartile range) in Manoa than on the island as a whole, reflecting the high percentage of seniors – some of whom may be on fixed incomes – and possibly of some student renters in lower Manoa. Upper Manoa residents have particularly high incomes and low poverty rates.

Labor Force Characteristics: As might be expected from the foregoing, workers living in Manoa are more likely than those elsewhere on Oahu to be in professional/managerial occupations and to work in "professional" industries such as law, medicine, and education. The profile for Upper Manoa workers is similar to those for Manoa Valley as a whole.

[4] However, the larger homes in lower or central Manoa are more likely to be shared or to have small rental cottages, which explains the fact that higher average incomes are to be found in Upper Manoa despite lower housing values there.

Exhibit 3
DEMOGRAPHIC CHARACTERISTICS, 1990

	Honolulu County	Manoa Neighborhood Area	Upper Manoa Only
POPULATION	836,231	20,834	3,581
ETHNICITY			
Caucasian	32%	26%	21%
Japanese	23%	47%	64%
Filipino	14%	4%	0%
Hawaiian	11%	5%	4%
Other	20%	18%	12%
AGE			
Under 5 years	7%	3%	4%
5 to 17 years	17%	11%	13%
18 to 64 years	65%	70%	61%
65 or more years	11%	16%	22%
Median age (years)	32.2	35.4	43.6
EDUCATION OF PERSONS AGED 25 & OVER (1)			
High School Diploma (2)	81%	89%	87%
College Degree (3)	33%	51%	48%
PERSONS AGED 5 & OVER WHO SPEAK A LANGUAGE OTHER THAN ENGLISH AT HOME (1)	26%	24%	21%

NOTES: (1) Based on 15% sample; hence, figures represent estimates only.
(2) All persons with a high school diploma, including those with college education.
(3) Includes Associate, Bachelor's, and graduate degrees.

SOURCES: U.S. Bureau of the Census, 1992, 1991. Planning Department, City and County of Honolulu, 1994.

Exhibit 4
GEOGRAPHIC MOBILITY, 1990 (1)

	Honolulu County	Manoa Neigh-borhood Area	Upper Manoa Only
PERSONS (2)			
PLACE OF BIRTH			
Born in Hawaii	54%	66%	76%
Other U.S.-born (3)	30%	23%	18%
Foreign-born	16%	11%	6%
RESIDENCE 5 YEARS PREVIOUS FOR PERSONS AGED 5 & OVER			
Same house	50%	56%	78%
Same county, different house	26%	24%	16%
Same state, different county	1%	4%	0%
Different state	17%	9%	4%
Lived abroad	5%	7%	2%

NOTES: (1) Based on 15% sample; hence, figures represent estimates only.
(2) Base figures used in calculating these data may be different than in 100% count.
(3) Includes persons born in U.S. territories, and persons born abroad or at sea to American parents.

SOURCES: U.S. Bureau of the Census, 1992. Planning Department, City and County of Honolulu, 1994.

Exhibit 5
HOUSING CHARACTERISTICS, 1990

	Honolulu County	Manoa Neighborhood Area	Upper Manoa Only
HOUSING UNITS	281,683	6,647	1,131
TOTAL VACANT UNITS	6%	4%	2%
AGE OF STRUCTURE (1)			
1 year	2%	1%	0%
2 to 10 to years	14%	7%	5%
11 to 20 years	30%	14%	4%
21 years or more	54%	79%	92%
UNITS IN STRUCTURE			
1-2 units	57%	74%	97%
3-4 units	5%	2%	0%
5 or more units	37%	22%	0%
Trailer, other	1%	2%	3%
NOT COMPLETE KITCHEN (1)	1%	2%	1%
HOUSEHOLDS	265,304	6,413	1,113
TENURE			
Owner-occupied	52%	64%	85%
Renter-occupied	48%	36%	15%
PERSONS PER HOUSEHOLD	3.02	2.79	3.17
CROWDED HOUSEHOLDS			
Mildly crowded (2)	8%	4%	1%
Very crowded (3)	8%	4%	2%
MEDIAN VALUE (4)	$281,500	$434,300	$307,489

NOTES: (1) Based on 15% sample; hence, figures represent estimates only.
(2) Indicated by households with 1.00 to 1.50 persons per room.
(3) Indicated by households with 1.51 or more persons per room.
(4) For owner-occupied, non-condominium housing units.

SOURCES: U.S. Bureau of the Census, 1992, 1991. Planning Department, City and County of Honolulu, 1994.

Exhibit 6
INCOME CHARACTERISTICS, 1990 (1)

	Honolulu County	Manoa Neigh-borhood Area	Upper Manoa Only
HOUSEHOLDS (2)			
INCOME LEVEL			
In Lowest Statewide Cohort (3)	13%	8%	4%
In Highest Statewide Cohort (4)	17%	28%	35%
Median Income (5,6)	$40,581	$52,257	$63,178
Interquartile Range (5,7)	$43,154	$50,373	$54,845
WITH SELECTED INCOME SOURCES			
Social Security Income	24%	34%	45%
Retirement Income	20%	25%	34%
Public Assistance Income	6%	3%	1%
RENTER HOUSING COSTS (8)			
35% or more of Household Income	34%	26%	7%
Median Gross Rent (5)	$663	$709	$1,001
POPULATION (2)			
PER CAPITA INCOME (5,9)	$16,256	$20,666	$24,612
PERSONS BELOW POVERTY LEVEL (10)	7%	4%	2%

NOTES: (1) Based on 15% sample (except "Median Gross Rent"); hence, figures represent estimates only.
(2) Base figures used in calculating this data may be different than in 100% count.
(3) Incomes of less than $15,000 (based on lowest 14.8% of incomes statewide).
(4) Incomes of $75,000 or more (based on highest 15.8% of incomes statewide).
(5) In 1989 dollars.
(6) Oahu median taken from City Planning Dept. source, but Manoa medians from that source did not appear correct and so were re-calculated by John M. Knox & Associates, Inc.
(7) A smaller range means less difference between rich and poor, while a larger range means a greater difference between rich and poor.
(8) Renter costs include (but are not limited to) rent, utilities, and fuels.
(9) Per capita income calculated as total household income divided by total persons, working or not.
(10 Estimated, based on Oahu-wide percentage of population for which poverty status determined.

SOURCES: U.S. Bureau of the Census, 1992, 1991. Planning Department, City and County of Honolulu, 1994.

Exhibit 7
LABOR FORCE CHARACTERISTICS, 1990 (1)

	Honolulu County	Manoa Neighborhood Area	Upper Manoa Only
POPULATION AGED 16 & OVER	651,920	18,185	3,019
In Armed Forces	8.2%	0.4%	0.9%
POTENTIAL CLF (2)	598,371	18,107	2,992
% Actually in Civilian Labor Force	69%	68%	65%
ACTUAL CLF	410,023	12,239	1,955
EMPLOYED CLF	395,811	12,014	1,928
BY SELECTED INDUSTRY			
Agriculture, forestry, fisheries	2%	1%	2%
Construction, mining	7%	5%	6%
Manufacturing	6%	4%	5%
Transport., communications, utilities	10%	7%	6%
Retail trade	19%	16%	11%
Wholesale trade	4%	4%	5%
Finance, insurance, real estate	8%	8%	9%
Personal services	6%	5%	6%
Public administration	9%	7%	8%
Other services (business, health, educational, professional, etc.)	28%	43%	43%
BY OCCUPATION			
Managerial, professional	28%	41%	46%
Technical, sales, support	35%	37%	30%
Service	17%	11%	11%
Farming, forestry, fishing	2%	1%	2%
Precision, craft, repair	10%	6%	6%
Operators, cleaners, laborers	9%	4%	4%
COMMUTE TO WORK			
More than 45 minutes	16%	4%	2%
Mean travel time (minutes)	24.8	18.7	20.4

NOTES: (1) Based on 15% sample; hence, figures represent estimates only.
(2) CLF = Civilian Labor Force. Potential CLF calculated by subtracting persons in armed forces from Population Aged 16 & Over.
(3) Calculated by dividing Actual CLF by Potential CLF.

SOURCES: U.S. Bureau of the Census, 1992. Planning Department, City and County of Honolulu, 1994.

III. EMPLOYMENT IMPACTS

A. "Impacts" Defined

A social or economic "impact" is not simply the difference between the existing situation and the situation after a project has been developed. Rather, it is the difference between the future situation with the project and the future situation without the project. This distinction is important for things like population or labor supply, because changes are expected even without some new project.

Technically, most public works projects have little or no economic "impact." That is because it is generally assumed that, if the local government did not expend the funds on Project X, it would probably expend them on some other Project Y instead.[5] Parks and gyms for local use do not bring outside money into the state, and therefore do not create "new" jobs in that sense.

However, it may be said that public works expenditures "support" a certain number of jobs – i.e., assure that they are maintained for a period of time – even if they do not have the technical "impact" of creating new jobs. Employment is the principal economic consequence of parks projects, since no tax revenues directly accrue to the public from these facilities.

B. Construction Employment Supported

Construction projects typically employ many people but for different periods of time. Therefore, employment is estimated in terms of cumulative "man-years" for all employees combined – e.g., 10 man-years could mean that one person filling all roles, including office support, would take 10 years to build the project (or that 10 workers would take one year).

As shown in Exhibit 8, it is estimated the project's components with known costs (see page I-1 of this report) would support about 45 man-years of direct construction employment. This economic activity would also create additional employment in firms which sell supplies or services to construction companies ("indirect employment") and from workers' expenditures in the economy ("induced employment"). These additional jobs are distributed throughout the state's economy. Total direct, indirect, and induced employment supported by the project is estimated to total about 145 man-years.

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[5] The other possible assumption is that government would not collect the tax money for this project. That would still leave the dollars circulating in the Hawai`i economy, creating different types of jobs. Arguably, at least the short-term employment impacts of public works projects are more positive than for a scenario in which nothing is built, because of the particularly high employment multipliers associated with construction – i.e., construction spending generates large numbers of jobs elsewhere in the economy.

Exhibit 8
ESTIMATED MAN-YEARS OF CONSTRUCTION EMPLOYMENT SUPPORTED BY THE PROJECT

Assumptions (Other Than Component Costs)

Percent of Total Cost for Labor (1,2)	50%	Statewide Employment Multiplier for Indirect/Induced Jobs (3)	2.29
Individual Labor Cost/Day (2)	$425		
Man-Days/Year (2)	250		

Component	Cost (2)	Labor Cost	Man-Days	Man-Years
Phase 1: Renovate existing gym, expand parking lot	$1,224,000	$612,000	1,440.0	5.8
Phase 2: Build new multi-purpose facility, connecting plaza, existing parking lot accessibility	$5,510,000	$2,755,000	6,482.4	25.9
Phases 3 and 4: Perimeter "lei" pedestrian path; enclose Ka`aipu pavilion; improve and expand lowe parking lot; expand restroom; landscape playground & exercise stations	$2,785,000	$1,392,500	3,276.5	13.1
TOTAL, DIRECT CONSTRUCTION:	$9,519,000	$4,759,500	11,198.8	44.8
Indirect and Induced Employment:				102.6
TOTAL STATEWIDE EMPLOYMENT:				147.4

NOTES: (1) Based on discussions with local construction companies -- pooled estimates
(2) From Mitsunaga & Associates, Inc., project engineers
(3) Employment multiplier for new industrial and commercial construction. In Hawaii State Dept. of Business and Economic Development. *The Hawaii Input-Output Study: 1992 Benchmark Report.* Honolulu, 1998.

C. Operational Employment

The Manoa Valley District Park currently operates with four full-time recreational management staff and two full-time maintenance positions. There are two long-unfilled maintenance positions, and some of their duties are performed by 16 part-time recreational aides (personal communication, Elizabeth Tsuruda, Manoa Recreational Director, November 30, 1999). The City has not yet determined whether additional positions will be created to staff the expanded facilities, but it seems probable that – at a minimum – one or both of the currently unfilled maintenance position would need to be filled.

IV. COMMUNITY INPUT AND LIKELY ACTUAL SOCIAL IMPACTS

The purposes of this chapter are (1) to document community input, including an inventory of issues and concerns, and (2) to analyze likely actual social impacts. In other words, the idea is to generate a list of questions and concerns voiced by stakeholders, then to answer selected questions of a nature consistent with the socio-economic focus of this report.

The chapter has four sections:

- Description of the community input process conducted prior to this study;
- Methods used in the present study;
- Inventory of community issues and concerns;
- Analysis of likely actual social impacts.

A. Community Input Process Independent of This Study

On April 28, 1998, the Nineteenth Legislature of the State of Hawaii passed Senate Concurrent Resolution 157 Senate Draft 1, requesting the formation of a Joint State and County task force to develop a plan for the Manoa Valley District Park and School Complex. SCR 157 SD1 also requested that the Task Force include the following:

- Representatives of the Manoa Districts of the Senate, House of Representatives, and City Council
- City and County of Honolulu Department of Parks and Recreation officials, including the Park Director
- Members of the sports user leagues
- The State Department of Education, Manoa School and APT officials
- A representative of the Manoa Neighborhood Board

State Sen. Brian Taniguchi and his staff coordinated a total of five task force meetings, held between September 8 and January 12, 1999. In addition to all the aforementioned, participants included representatives of:

- The Office of the Governor
- The Ala Wai Canal Watershed Improvement Project
- The Manoa Subwatershed Group
- Community organizations Hui o Manoa and Malama o Manoa
- The East Manoa and Waioli Lions Clubs
- Area residents

The Task Force report was submitted to the Twentieth Legislature of the State of Hawaii on January 15, 1999. Approximately 37 desired features were described in the report. Of these, nine were listed as priorities, with the top three being:

- The planning, design and construction of a multi-purpose building and community center, including two full size play courts, plus classroom, meeting, office, storage, and other recreational space for use by the Manoa Valley District Park, Manoa Elementary School, the A+ Program, and the community at large;

- The creation of a full perimeter pedestrian pathway with benches and picnic areas;

- Additional parking, roadway entrance design treatments, and traffic flow improvements.

Both Sen. Taniguchi and State Rep. Ed Case included notice of the Manoa Park project in their annual session reports, which were mailed to all registered voters in their districts. In addition, members of the Manoa Valley Neighborhood Board were active throughout the entire visioning process.

In September and October of 1999, a series of Community Design Charette meetings were organized by Sen. Taniguchi's office to review and discuss the various possible design scenarios and develop a conceptual master plan for the project. The same broad range of users and stakeholders listed above were represented at these meetings.

Despite the legislative mailings, some residents were still not aware of the project or the planning process until a project consultant contacted some adjacent residents after the first few Charette meetings. A few produced their own notification flyer about the project and reportedly distributed it to all other residents on the park perimeter. A substantially increased number of residents attended the following meeting, and they raised a number of additional issues.

A number of "design schemes" were developed, critiqued and modified during these Charettes. One issue of significant debate was the location of the Multi-Purpose Facility itself. The original plan located the new facility between the existing gym and the Elementary School cafetorium. School officials rejected the intrusion onto the school's blacktop play area and expressed concerns that the proximity of the building would make it too difficult to keep strangers out of the school grounds during school hours.

As a result, the planned location of the new building was temporarily shifted in the Ewa direction, to a site in what is presently a parking lot.

However, residents objected to that site, saying it would be too noisy, obstruct their views, and cause even more parking problems. Designers then worked with DOE and school officials to develop a revised plan with the building at its original proposed site, redesigning and reorienting it to address the school's concerns.

In the media, several Honolulu news articles in early October focused on then-unresolved issues about the facility location and feelings about the community input process.[6]

In November, Manoa Neighborhood Board member Gary Andersen wrote that building additional facilities at the Manoa park would increase usage, and questioned the public notice process.[7] Several weeks later, Manoa resident Mike Yamamoto wrote a rebuttal column saying park improvements are long overdue and would better accommodate present use without encouraging increased use.[8]

B. Methods Used for Additional Input and Analysis

The principal methods include (1) review of minutes from the aforementioned meetings; and (2) a series of interviews with various Manoa stakeholders. The interviews represented the primary source material.

Exhibit 9 lists the interviewees, contacted from November 10 through December 5, 1999. There was a total of 27 interview sessions with 32 individuals, plus a group discussion with 33 Manoa Elementary students (third- through sixth-graders). The great majority of interviews were conducted face-to-face, using a semi-structured interview guide, though a few were telephone interviews.

Most interviews focused on issues and concerns, but some – with individuals chosen for expertise or official position – focused on unearthing factual information. Except for the latter group, all interviewees were assured that individual comments would kept confidential.

It should be stressed that such an interview process does not constitute a valid opinion survey, but is rather an attempt to surface key concerns expressed by people who seem to have a major stake in the project. Exhibit 9 lists organizational affiliations in order to help clarify the nature of individuals' interests, but no person interviewed officially spoke on behalf on any organization.

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[6] Lum, Curtis. "Manoa Park to Undergo Renovation." *Honolulu Advertiser*, October 8, 1999. Also Tighe, Lori. "Manoa Residents Seize Role in Park Plans." *Honolulu Star-Bulletin*, October 11, 1999.

[7] Andersen, Gary. "Manoa Park Project is Too Much." Island Voices column, *Honolulu Advertiser*, November 1, 1999.

[8] Yamamoto, Mike N. "Manoa Gym Needs Upgrade." Island Voices column, *Honolulu Advertiser*, November 18, 1999.

Exhibit 9
INTERVIEWEES LIST

Park and League Officials

Howard Yoshioka	Director, Manoa Valley District Park
Elizabeth Tsuruda	Recreation Director, Manoa Valley District Park
Steven Min	Pool Manager, Manoa Valley District Park
Cass Kasparovitch	Treasurer, Manoa Athletic Club (Boys Volleyball)
Craig Okazaki	Regional Commissioner, American Youth Soccer Organization
Kali Tamay	President, Manoa Girls Athletic Club (Girls Basketball and Volleyball)
Norman Touchi	President, Manoa Boys Basketball League

School, Police, Public Officials

Senator Brian Taniguchi	Hawaii State Senate, District 11
Representative Ed Case	Hawaii State House of Representatives, District 23
Victoria Bannan	Principal, Manoa Elementary School
Kara Mark	Manoa Elementary School
Kathy Nohara	Manoa Elementary School
Becky Ebisu	Manoa Elementary School
Manoa School Student Association	Manoa Elementary School (33 member students)
Kenneth Nakamura	Police Officer, Beat 750, Night Duty
Floyd Matsuda	Police Officer, Beat 750, Day Duty

Residents (Adjacent or General Manoa), Community Groups

Richard, Kay, and J.R. Allen	Home on Ka`aipu Ave. near park
Gary Andersen	Member, Manoa Neighborhood Board #7
David Arakawa	Board Member, Boy Scout Troop #33
Mandy Bowers	Member, Malama o Manoa
Tom Heinrich	Chairman, Manoa Neighborhood Board #7
Joan and Mark Helbling	Home on Loomis St. near park
Helen Hu	President, Hui o Manoa
Kozen Kaneshiro	President, Malama o Manoa
Meg Lin	Home borders park boundary on Loomis St.
Harriett Nakamura	Member, Hui o Manoa
Jana and Howard Wolf	Home borders park boundary on Vista Pl.
Henry & Evelyn Yonamine	Area residents and users

Note: In talking to park users, we focused on indoor activities (basketball, volleyball, indoor soccer), rather than outdoor activities (e.g., baseball) that would be little affected by the planned new project.

C. Community Issues and Concerns

Exhibit 10 provides a detailed summary of the principal issues which emerged from the interviews (and, to a lesser extent, review of past meeting notes). The general issues are ordered by approximate *intensity of feeling* associated with each of the over-arching issues.[9]

This ordering of course represents the consultants' subjective judgment, since the interview process was not a formal survey and contained no attitudinal measurement scales. Also, high levels of passion sometimes came from only a relatively few interviewees, but it is the nature of the political process that attention is paid to minorities with a strong sense of feeling or involvement, and not just to apparent majorities.

1. Inadequacy of Current Facilities (Need for Project)

Both meeting notes and the majority of our interviews were marked by a strong prevailing sentiment that "Manoa needs this project" for reasons specified at the start of Exhibit 10. Interviewees were particularly inclined to point out limitations of the current gym and the impact on families. Most of the after-school user groups are youth leagues. Games must be scheduled back to back in late afternoons or evenings. Delays in ending one game result in delays starting another, and sometimes children in the last game are kept up past the point when parents feel they should be doing homework or going to bed. Some of the other specific indicators of need will be discussed in the next section, as we review objective information about whether the facility will simply meet existing needs or lead to increased use, particularly by "outsiders."

2. Anxiety Over Possible Increased Demand and Associated Problems

This was a minority perspective, but one that was strongly expressed by those who possessed it – particularly but not exclusively residents of homes very close to the park. To the extent that residents have ever experienced annoyances due to the proximity of the park (or have witnessed problems in the park), they are concerned that additional capacity will lead to increased use and more problems.

One concern was the effect on neighbors that might result from *concentrated* use at any one time (i.e., more people using the gyms and other park facilities at the same time, whether or not the total daily or weekly use expanded). This most often overlaps with the more specific issue of parking overflow, as well as lights, noise, etc.

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[9] A few general or specific issues generated relatively higher levels of concern earlier in the process – e.g., school officials' concerns about security for students, which they feel has generally been addressed in the final version of the plan.

Exhibit 10
SUMMARY OF COMMUNITY ISSUES AND CONCERNS

Problem/Issue	Comments; Proposed Solutions	Voiced By:
1. Feeling that current facilities are inadequate		
Due to lack of space, league enrollments limited; little or no indoor practice time; facilities available at inconvenient hours	New Multi Purpose Facility (MPF) should mostly alleviate, though careful scheduling still needed	Leagues, parents, residents, employees, users
Weather often prevents outdoor court use	New MPF gym should mostly alleviate by providing indoor courts instead	Leagues, parents, residents, employees, users
Existing facilities run down	Renovation plans should help	Almost all interviewees
Restroom facilities unsanitary and inadequate; not enough of them	Renovate, upgrade, and improve maintenance of all existing restrooms -- build even more if possible	Students, users
2. Anxiety that increased capacity will result in increased demand and associated problems		
500+ more seats will result in more concentrated gym use and more high attendance events, affecting neighbors	Limit attendance to events, or stagger scheduling of large events (such as tournaments and swim meets)	Residents (particularly nearby); park employees also concerned about scheduling
New facilities will attract "outside" users	Build more parks in other areas so more people have "their own"	Some residents
	Don't build additional Manoa facilities (no-build)	1-2 individuals
Security & noise concerns due to proximity of neighboring properties by "lei" walkway	Densely landscape or otherwise define boundary	Residents, police
Impact on use of existing facility during construction period	Minimize as much as possible through phasing of construction and scheduling	Users, employees, school
Vandalism to park structures	Current resources inadequate to prevent, & new facilities will increase the problem; install camera security system	Residents, employees

Exhibit 10 (Continued)
SUMMARY OF COMMUNITY ISSUES AND CONCERNS

Problem/Issue	Comments; Proposed Solutions	Voiced By:
3. Adequacy of community involvement in planning process		
Satisfied or even pleased with the process	Process was thorough and well attended	Most interviewees (except for a few residents)
Dissatisfaction: Inadequate or late notification to adjacent residents	Continue planning process w/ increased resident input	Some residents (adjacent)
No presentation made to Neighborhood Board or wider electorate	City should make formal presentation to Manoa Neighborhood Board	One Board member (and point made in published column)
4. Perceived crime/nuisances related to parking lots		
Parking lots are "hangout" areas for criminals, lawbreakers, etc.	Better enforcement of existing laws (i.e., no drinking)	Residents, Employees
Criminals occasionally watch nearby houses from parking lots and break in when they see residents leave	Most crimes occur at night, so lots should be chained off when park is closed to make patrolling easier	Residents, Police
Noise after hours (car boom boxes,etc.)	Limit hours of use (scheduled to start in early 2000)	Residents, Police
Vehicle lights	Shield adjacent properties from public view and disturbing lights with extensive landscaping	Residents (adjacent)
Parking lot lights	Shield lot lights to prevent them from shining into neighborhood windows	Residents (adjacent)
5. Parking inadequacy vs. space/visual impacts		
Not enough (current & proposed)	Park is too small to ever have enough New parking will help but will not be adequate	Fairly universal
During large events, overflow parking to nearby streets affects neighbors, blocks emergency vehicle access to park	Problem mostly associated with baseball and swim meets, but may be exacerbated by new facilities; Ka`aipu Ave. needs to be "no parking"	Residents, Govt., users
Too much open space sacrificed for parking	Proposed lower lot controversial; upper lot expansion is generally considered a necessary evil	Residents, Govt., community groups, passive users
Some residents will have open space views replaced with parking lot views	Do not build upper lot in proposed location and/or completely shield lots from view with heavy landscaping	Residents (adjacent)

Exhibit 10 (Continued)
SUMMARY OF COMMUNITY ISSUES AND CONCERNS

Problem/Issue	Comments; Proposed Solutions	Voiced By:
6. Concerns about open & passive spaces		
Protection of view planes, character of Manoa	Make preservation of open space a high priority in planning; dense landscaping at park perimeter, parking areas, buildings to maintain green feeling	Users, Malama o Manoa, Hui o Manoa, Residents, passive users
	Overall views not seriously affected by this project due to siting, existing trees, etc.	Most All
	A few would like to just renovate existing gym, not build new facilities -- but also say it's probably unrealistic	A few residents
7. Issues relating to school uses of new multi-purpose facility		
Existing gym no longer suitable as auditorium due to poor acoustics (acoustical treatments were removed)	New MPF should be designed to allow for such uses	School, students
Location of classrooms areas in multi-purpose building may make adequate cross-ventilation impossible	New classrooms should be air conditioned	School personnel
8. Concerns about school security and safety		
Keeping general public off school grounds and away from school functions during school hours	Final placement of new building addresses this issue well Add school security personnel (currently none)	School personnel
Safety during construction, esp. for school children	Site must be fenced and supervised	School, Employees, Community Groups
Increased number of users brought into proximity of school by walkway	In final plan, walkway has been modified to circum-navigate park only, not school -- no longer an issue	

Exhibit 10 (Continued)
SUMMARY OF COMMUNITY ISSUES AND CONCERNS

Problem/Issue	Comments; Proposed Solutions	Voiced By:
6. Concerns about open & passive spaces		
Protection of view planes, character of Manoa	Make preservation of open space a high priority in planning; dense landscaping at park perimeter, parking areas, buildings to maintain green feeling	Users, Malama o Manoa, Hui o Manoa, Residents, passive users
	Overall views not seriously affected by this project due to siting, existing trees, etc.	Most All
	A few would like to just renovate existing gym, not build new facilities -- but also say it's probably unrealistic	A few residents
7. Issues relating to school uses of new multi-purpose facility		
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Safety during construction, esp. for school children	Site must be fenced and supervised	School, Employees, Community Groups
Increased number of users brought into proximity of school by walkway	In final plan, walkway has been modified to circum-navigate park only, not school -- no longer an issue	

Exhibit 10 (Continued)
SUMMARY OF COMMUNITY ISSUES AND CONCERNS

Problem/Issue	Comments; Proposed Solutions	Voiced By:
9. Questions about impacts on natural environment		
Drainage; flooding	Design must take into account proper measures to avoid flooding and runoff during heaviest rains	A few residents, school, community groups
Stream and waterway protection	Protect, preserve or restore as much as possible	Residents, community groups, passive users
Red dirt brought in from outside of valley for fill	Inappropriate for recreation field use because it is unsightly and stains everything; should use only local fill!	1 Resident
10. Miscellaneous other		
• Access to disabled	Assure that all facilities meet ADA provisions	[Generally scattered comments made by one or few interviees each]
• Cost overruns	None suggested	
• Bark Park, performance mound, lo'i	No longer included in scope of this project	
• Boy Scouts building is old, needs to be relocated and/or replaced	School property, not within scope of this project.	
• Emergency Shelter	Will new facility serve as community emergency shelter?	
• Skateboarding	Desire to accommodate this use in future	

Some anxiety was expressed about the possibility of increased *total* use – both increased use by existing users and inducing people to use the park (especially the gym) who are not already doing so. One or two people were further concerned that the new facilities would actually attract "outsiders" to the park.

3. Adequacy of Community Input Process

The majority of the people interviewed took pains to praise the process for its inclusiveness. However, a minority strongly disagreed, saying that a greater effort should have been made to contact and notify individual households bordering or nearby the park. While the Neighborhood Board chair participated in Task Force planning and reported to the Board on its progress, another Board member felt the City should have made a complete and formal presentation to the Board.

4. Perceived Crime or Other Nuisances Related to Parking Lots

This general set of issues (along with parking overflow) comprised most of the specific annoyances reported by neighbors – occasional rowdy or even criminal activities in parking lots, use of parking lots to case nearby homes for burglaries, or more innocent but still distracting noise and lights. Police concurred that most calls relating to Manoa Valley District Park had something to do with activity in the parking lots. Again, some residents' anxiety was that increased capacity for gymnasium events would attract more new people and result in more problems.

5. Parking Inadequacy Vs. Space and Visual Impacts

Almost everyone interviewed for this report felt there are not enough parking stalls currently at the facility, and many feared that even the proposed increase would not be enough. For neighbors, the problem is often overflow onto the streets (usually just an inconvenience, but sometimes a more serious problem, as when emergency fire or ambulance access to the park is blocked) – for park users, the problem is sometimes not being able to find parking.

Most people felt there was no single perfect answer to this problem, because neighbors and park users alike value the park's open space and greenery. They do not want a parking structure, and they are reluctant to sacrifice open space for parking lots. The proposed upper parking lot expansion was generally accepted, but there were mixed and sometimes negative reactions to the possible lower lot expansion. And neighbors (along with some other residents) want new parking areas well landscaped and shielded lighting to minimize visual impacts from nighttime lights.

6. Concerns About Open Space and Passive Areas

In addition to parking, there was also some strongly expressed concern about the need to keep open space and dense landscaping (especially along the perimeter) as high priorities in planning and implementation. Although a few people said they would almost rather not build the new facility to preserve the current character, most interviewees felt the final plan does a good job of minimizing impacts on open space and passive use areas because of siting and landscaping elements.

7. Issues Relating to Joint School Use of New Facility

School officials and students expressed a strong desire for the new Multi-Purpose Facility to have the sort of acoustical elements needed to permit its use as an auditorium during school hours, and to be sure that school classrooms in the facility are sufficiently ventilated (preferably air-conditioned).

8. Concerns About School Security and Safety

As previously noted, these were major issues to school personnel early in the planning process but have now largely been resolved. However, there was still a concern about assuring children's safety during constructions, and a feeling that it would be nice to assign some sort of security position to the school.

9. Environmental Concerns and Questions

While residents raised questions and concerns about things like drainage and stream protection, they mostly just wanted to be sure that good planning ideals would be carried out in practice.

10. Miscellaneous Other Issues

Most of the various "other" concerns iisted at the end of Exhibit 10 were expressed by just one or two people each. However, a number of people mentioned the need for new park facilities to comply with provisions of the "Americans with Disabilities Act." As with environmental concerns, the attitude seemed to be confidence that these issues would be properly dealt with, but were still important enough to be stressed by the interviewees.

D. Actual Likely Social Impacts

Some information and analysis can be offered on the following topics:

(1) Accommodating existing demand vs. generating new demand (i.e., combining the first two issues from the interviews);

(2) Crime and nuisances in parking lots;

(3) Adequacy of community input process;

(4) Additional school and community benefits.

We will also note a few unresolved issues – integrating school and public use, and parking adequacy/overflow.

1. Accommodating Existing Demand Vs. Generating New Demand

A majority of interviewees strongly supported the project based on the premise that it would essentially fill an existing demand. On the other hand, a minority questioned the project because of concerns that it would generate new demand – including more use by "outsiders" to the community – that could in turn exacerbate problems for neighbors caused by the park. Some of these people were also raising a social equity question: They felt that each community should have access to recreational facilities locally, rather than having to drive to Manoa.

Indications of Demand: Because enrollment for girls' leagues is limited to a fixed number on a "first come, first served" basis, some programs for which registrations were supposed to begin at 9 a.m. were already filled by 6 a.m. Parents report having to wait in line as early as 3 a.m. in order to place their daughters on teams, and many girls are turned away because of limits on league enrollment.

Boys' basketball teams are allowed only one indoor practice during an entire 16-game season. While on-site outdoor courts accommodate many practice sessions, coaches routinely have to schedule practices on "catch as catch can" basis at other public parks, schools, etc.

Social Equity Issue: The issue of attracting "outsiders" turns out to have several sides.

- Although improvements are being planned for other parks, the new facilities will probably make Manoa Valley District Park the "best" district park in the county park in terms of overall facilities, at least for the time being (personal communication, Howard Yoshioka, park director, November 8, 1999).

- In terms of its organized recreational activities, Manoa is already serving many "outside" youth, especially in programs which utilize indoor courts. Since residency is not recorded for league enrollments, the number of current participants who live outside of Manoa cannot be accurately determined. However, league and park officials repeatedly characterized present users as coming from "all over."

- According to parents and league officials, there are reasons why the Manoa park and gym do, and probably will continue to, attract families from outside the immediate area:

  - Proximity to town where many parents work;
  - Proximity to private schools;
  - Quality of programs offered;
  - Perception of Manoa as a "safe" neighborhood.

Finally, although City & County of Honolulu Department of Recreation Parks and Facilities Standards stipulate the desirability of roughly equal park facilities for each area, district parks are not limited to serving a particular community. There are no residency requirements for use of parks.

In short, City policies do not strive to satisfy each community's recreational demands strictly within the boundaries of that community – and, even if they were changed to do so, there are significant social forces that funnel some "outside" demand for youth-based recreation into the Manoa area. Parents do not usually "need" to drive to Manoa for youth recreation; they choose to do so.

Quantitative Aspects of Increased Use: No reliable figures currently exist for *overall* park usage. Park officials say the heaviest use is usually generated by special events, including school craft fairs; baseball games and swim meets[10] (which would be unaffected by the proposed project); and indoor youth leagues (which would be affected). Other park activities, for which exact average daily use figures are not available, include youth football, soccer, adult leagues, tennis, classes, meetings, and the weekly City Open Market.

It should also be noted that:

- Saturdays are normally the heaviest days for use and the most problematic for parking and traffic issues. During baseball season, the four baseball fields are often filled all day, and Saturdays are preferred days for many special

[10] As an indicator, according to figures provided by Manoa Valley District Park, current baseball league enrollments total approximately 1,000 users (not including ASA Girls Softball, for which figures were not available). Manoa Aquatics has only about 45 registered members, but swim meets, which are held three times a year, can attract up to 300 to 400 people.

events such as swim meets. (Special events can cause park congestion on other days, too, but Saturdays are the most predictably crowded.)

- According to park officials, different events have different implications for parking vs. traffic. They believe parents often drop off children for practices and pick them up later, but tend to park and watch their games. Thus, practices generated more traffic trips but games fill more parking lot stalls. (Detailed traffic and parking studies are beyond the scope of a social impact study, and we will not attempt quantitative analysis of either. However, because they are in some senses social concerns, we felt the distinction was worth noting.)

The current gymnasium attracts the following primary uses, expected to be the major uses for the future proposed indoor courts as well:

- Manoa Elementary School has sole use of the current gym during school periods for physical education, recess when raining, and for school-wide assemblies. During the summer, periods corresponding to school hours are used for YMCA-run Summer Fun Programs for children aged 3 to 12 years.

- Community-based youth leagues (those not run by the City) – boys' basketball, girls' basketball, boys' volleyball, and girls' volleyball – represent by far the heaviest after-school users, according to park and league officials. Many different teams in various age groups play one another, with all games held at the Manoa park.

- District youth leagues (sponsored by the City) are relatively lighter users, fielding only one to three teams per district league. "Home" games are held in Manoa, but teams play many "away" games at other district parks as well.

- Other gym uses – when none of the foregoing activities have claimed the gym, there is an opportunity for scheduling things like church or adult leagues or the American Youth Soccer Organization's indoor soccer games for mentally and physically handicapped children. The gym is also available for hire on a fee basis for "exclusive use" by private groups. During "open gym," it is open to the general public for pick-up games or other appropriate activities.

Because community-based youth leagues are the heaviest after-school indoor court users and are the chief source of "unmet demand" for recreation at the park, quantitative analysis for this report focuses on the periods that such leagues use indoor courts – weekdays after school and daytimes on Saturday (and on Sunday during boys' basketball season).

Exhibit 11 represents "best guesses" by league and park officials for current use levels of indoor and outdoor courts during the four principal sports seasons:

Exhibit 11
COMMUNITY-BASED YOUTH LEAGUE AND OTHER PLAYERS AT PARK
(ESTIMATED CURRENT USE)

number = assumed non-league public use

Period	Sport	Days	No. Using Current Gym	No. Using 2 Outdoor Courts	Total	Week's Total
Dec. - Feb.	Girls' Basketball	Weekdays *per period:*	20	20	40	
		Total League Players at Park Each Weekday (3 periods):			120	
		Saturdays	20	**(1)	20	
		Total Players Each Saturday (9 periods):			180	780
Feb. - May	Girls' Volleyball	Weekdays	24	24	48	
		Total Players Each Day (3 periods):			144	
		Saturdays	24	*10*	34	
		Total League and Other Players Each Day (9 periods):			306	1,026
June-Aug.	Boys' Volleyball	Tues/Thurs	24	16	40	
		Total Players Each Day (3 periods):			120	
		MWF	*10*	20	30	
		Total Players Each Day (3 periods):			90	
		Saturdays	24	**(1)	24	
		Total Players Each Day (6 periods):			144	654
Aug. - Dec.	Boys' Basketball	Weekdays	20	40	60	
		Total Players Each Day (3 periods):			180	
		Saturdays	20	40	60	
		Total Players Each Day (Avg 7.33 periods over time):			440	
		Sundays	20	40	60	
		Total Players Each Day (Avg 7.33 periods over time):			440	1,780

NOTES: (1) At these times, players are using outdoor courts for practice prior to or after playing games. Therefore, the total number of bodies on-site at any given period is actually greater than indicated, but, because people remain more than one period, the daily total is correct.

(2) Numbers combine people present for games (indoors) and practices (indoors or outdoors).

(3) Some periods are averaged over time, to reflect the fact that the number of practice sessions may not equal the number of games on some days, or different numbers of periods in different months.

SOURCE: Discussions with league and park officials. Figures represent typical uses, but schedules are often complicated and actual conditions may vary.

- Boys' Basketball, which runs for about four months, is the heaviest generator of demand. There are currently about 640 youth league members. All games are played at the park, but the two outdoor courts do not accommodate all practice sessions, and coaches often hold these outside the park. (Off-site practices raise increased liability issues for all leagues.)

- Girls' Basketball, which runs from December to February, differs in philosophy from boys' basketball in that it currently limits membership so that off-site practices are usually not needed, though a few still occur. Hence, of its present 180 members, most play (indoors) or practice (outdoors) at the park each weekday, and play games only on Saturday, not Sunday.

- Girls' Volleyball, which takes place in the spring, also limits its membership to minimize the need for practice outside the park. Current membership is 216. Its schedule is very similar to that for girls' basketball, as both are run by the Manoa Girls Athletic Club. The league does not use the outdoor courts on Saturdays, leaving those available for general public use at that time.

- Boys' Volleyball, held during the summer, has the smallest league membership – 144 – and the least intensive schedule. They currently have only a few off-site practices. The league does not use the current gym after schools on three weekdays, leaving it available for general public use then.

The actual impact of the two new indoor courts will be determined in some part by league desires for increased play, although Parks Department officials have final scheduling authority.

Exhibit 12 presents a "Maximal Demand Scenario" based strictly on youth league desires. (These are *preliminary* estimates; until contacted for this report, league officials had not developed precise requests and still have not formally asked for these uses.) Exhibit 12 thus shows what could happen if leagues were not constrained by the Parks Department's need to attend to other priorities:

- Boys' Basketball: The new facility would not necessarily increase overall league participation, but it would allow more off-site practices to be held at the park. About four more teams (40 boys) would be present at the park each hour after school on weekends – a 120-person daily increase, since three one-hour periods are affected. Sunday games could be shifted to one of the new courts on Saturday, with one court available for public use but all other remaining courts split up for league practices. The net increase for Saturday would thus be quite substantial – 320 persons on a day that is usually busy from outside field use as well. The net increase over a week's time could exceed 800 player bodies (plus coaches, parents, etc., which we do not try to count here).

Exhibit 12
MAXIMAL DEMAND SCENARIO
(BASED ON PRELIMINARY YOUTH LEAGUE DESIRES)

number = assumed non-league public use

Period	Sport	Days	Numbers Using ... Court 1	Court 2	Court 3	No. Using 2 Outdoor Courts	Total	Week's Total	Change Total	Change Week's Total
Dec. - Feb.	Girls' Basketball	Weekdays *per period:*	20	20	20	20	80			
			Total Players Each Weekday (3 periods):				240		120	
		Saturdays	20	20	*15*	**(1)	55			
			Total League and Other Players Each Saturday (6 periods):				330	1,530	150	750
Feb. - May	Girls' Volleyball	Weekdays	24	24	24	24	96			
			Total Players Each Day (3 periods):				288		144	
		Saturdays	24	24	*15*	*15*	78			
			Total Players Each Day (6 periods):				468	1,908	162	882
June-Aug.	Boys' Volleyball	Tues/Thurs	24	16	*10*	*10*	60			
			Total Players Each Day (3 periods):				180		60	
		MWF	20	*10*	*10*	*10*	50			
			Total Players Each Day (3 periods):				150		60	
		Saturdays	24	*15*	*15*	**(1)	54			
			Total Players Each Day (6 periods):				324	1134	180	480
Aug. - Dec.	Boys' Basketball	Weekdays	20	20	20	40	100			
			Total Players Each Day (3 periods):				300		120	
		Saturdays	20	20	*15*	40	95			
			Total Players Each Day (8 periods):				760		320	
		Sundays	*2*	*2*	*2*	40	46			
			Total Players Each Day (Avg 7.33 periods over time):				337	2,597	-103	817

NOTES: (1) At these times, players are using outdoor courts for practice prior to or after playing games. Therefore, the total number of bodies on-site at any given period is actually greater than indicated, but, because people remain more than one period, the daily total is correct.
(2) Numbers combine people present for games (indoors) and practices (indoors or outdoors).
(3) Some periods averaged over time, to reflect the fact that number of practice sessions may not equal the number of games on some days, or different numbers of periods in different months.

SOURCE: Discussions with league officials. These are preliminary estimates based on maximal demand. All scenarios, and particularly boys' basketball, subject to further consideration.

Additionally, there is a possibility that the new facility could become the site of season's end inter-league tournaments, adding to the figures shown in Exhibit 12 for one concentrated period.

- Girls' Basketball: Since the league turns away many applicants each year, if league officials had unrestricted access, the new facility would likely permit expansion to 240 league members (i.e., six more teams, or 60 girls). There could well be four more teams (40 girls) on-site at the park each of the three after-school weekday periods, and two more teams (20 girls) for six of the Saturday periods (although three Saturday hours could be eliminated). One indoor court would be available for public use. The Saturday increase would be about 150 bodies, both league and public. Over a week's time, the net total increase in bodies could be 750 for this part of the year.

- Girls' Volleyball: Granted unrestricted access, this league would probably also be able to expand – possibly up to 288 members (i.e., six more teams, or 72 girls) – as a result of the new indoor courts. There could be four more teams (48 more girls) on-site at the park each of the three after-school weekday periods, meaning 144 more girls each day. Additionally, there would probably be two more teams (24 more girls) for six Saturday periods (again, though, with elimination of three Saturday periods). One indoor court and the two outdoor courts would not be needed by the league, though other people would then be using them. The estimated daily increase for Saturday would be more than 160 bodies throughout the day – and nearly 900 bodies throughout the week.

- Boys' Volleyball: The new facility would allow all games and practices to be held in the new gym, with no net increase in the number of boys at the park at any given period or on a cumulative daily or weekly basis. However, the new courts would attract non-league use at this time, estimated to add 60 more bodies per day on both weekdays and Saturdays.

League desires are subject to final scheduling decisions by the City Parks Department. That department also has made no final or firm policy decisions, but the preliminary thinking would limit maximal league use because (1) on both weekdays and weekends, one indoor court would be reserved for public use (which would still attract some new bodies), and (2) on Saturdays, all three courts would be closed in the morning to help manage parking problems.

Exhibit 13 shows the possible quantitative implications of those policies (for direct players, again acknowledging that coaches, parents, and other observers would also be present).

Exhibit 13
INTENDED FUTURE IMPACT SCENARIO
(BASED ON PARKS DEPARTMENT ESTIMATE)

number = assumed non-league public use

Period	Sport	Days	Numbers Using ... Court 1	Court 2	*Court 3*	No. Using 2 Outdoor Courts	Total	Week's Total	*Change* Total	Week's Total
Dec. - Feb.	Girls' Basketball	Weekdays *per period:*	20	20	*10*	20	70			
		Total League and Other Players Each Weekday (3 periods):					210		90	
		Saturdays am	closed	closed	*closed*	*10*	10			
		Saturdays pm	20	20	*10*	**(1)	50			
		Total Players Each Saturday (4 periods am, 4 periods pm):					240	1,290	60	510
Feb. - May	Girls' Volleyball	Weekdays	24	24	*10*	24	82			
		Total Players Each Day (3 periods):					246		102	
		Saturdays am	closed	closed	*closed*	*10*	10			
		Saturdays pm	24	24	*10*	*5*	63			
		Total Players Each Day (4 periods am, 4 periods pm):					292	1,522	-14	496
June-Aug.	Boys' Volleyball	Tues/Thurs	24	16	*10*	*10*	60			
		Total Players Each Day (3 periods):					180		60	
		MWF	20	*10*	*10*	*10*	50			
		Total Players Each Day (3 periods):					150		60	
		Saturdays am	closed	closed	*closed*	*5*	5			
		Saturdays pm	24	*10*	*15*	*5*	54			
		Total Players Each Day (4 periods am, 4 periods pm):					236	1046	92	392
Aug. - Dec.	Boys' Basketball	Weekdays	20	20	*10*	40	90			
		Total Players Each Day (3 periods):					270		90	
		Saturdays am	closed	closed	*closed*	40	40			
		Saturdays pm	20	20	*10*	40	90			
		Total Players Each Day (4 periods am, 4 periods pm):					520		80	
		Sundays	20	2	2	40	64			
		Total Players Each Day (7.33 periods):					469	2,339	29	559

NOTES: (1) At these times, players are using outdoor courts for practice prior to or after playing games. Therefore, the total number of bodies on-site at any given period is actually greater than indicated, but, because people remain more than one period, the daily total is correct.
(2) Numbers combine people present for games (indoors) and practices (indoors or outdoors).
(3) The City is now contemplating keeping one court available for non-league public use on weekdays, and closing all three courts on Saturday mornings for traffic/parking control reasons. We also assume some public use of courts when not required for league use.

SOURCE: Discussion with Manoa Valley District Park Officials. These are also preliminary estimates.

Compared to Exhibit 12, the figures in Exhibit 13 show less impact, particularly on Saturdays. The Boys' Basketball league would have to continue playing Sunday games and still have some off-site practices, but they would gain the ability to play more three games a day indoors each weekday. Girls' Basketball could probably expand by at least four more teams, if not their desired six teams; they could also play three more games a day on weekdays than at present, plus eight more games (or 16 more practices) on Saturdays. Girls' Volleyball would be the same – not quite as much expansion as desired, but still much more play or practice than at present. Boys' Volleyball would be unaffected by either the Exhibit 12 or Exhibit 13 scenario, since there are no plans to expand or increase use (though the contemplated scheduling policies would reduce Saturday *public* use going on during the same time periods).

Nevertheless, the figures in Exhibit 13 do suggest increased use of the courts, corresponding with increased capacity. Again, this analysis does not extend to total use in either the gyms or the overall park. Parks officials have estimated that the overall increase might be in the range of 10%. This assumption is particularly critical for Saturdays. Given the heavy use of outdoor fields on Saturday, the Saturday "Change" figures in Exhibit 13 would seem to be in line with that overall 10% estimate.

2. Crime and Nuisances from Parking Lots, Perimeter Pathway

Parking Lot Rowdy Behavior, Criminal Activity: Parking lots are occasional hangouts for drinkers or (more rarely) burglars casing nearby homes – mostly when the lots are *not* being heavily used for sporting events. Police and neighbors say the main problem time is late night. The Neighborhood Board has requested that the park be closed nights from 11 p.m. to 5 a.m. The police recommend chaining all or parts of the lots after park hours to reduce late-night complaints and to make it easier for them to patrol the area, although it remains to be seen who would do so. If these mitigation measures are carried out, the feared social impacts will become much less likely.

Parking Lot Noise, Lights: Expanding the upper parking lot will bring parking areas closer to the homes of some adjacent residents. This will also result in increased noise and nuisances like headlights shining in their windows at night. It could negatively affect their existing views of open green spaces. However, visual impacts and headlights can be blocked by dense landscaping, and pole lights can be shielded to prevent them from shining into nearby residents' windows. Most interviewees felt the plan was satisfactory in these regards, if proposed safeguards are actually carried out in an effective way.

Perimeter Pathway Impacts: The construction of a "lei" perimeter pathway will bring more users into closer proximity of adjacent homes. The City could put up fences, walls, or dense landscaping around the park perimeter to shield houses

from view and provide security, or individual residents may choose to erect their own.

3. Adequacy of Community Input Process

Often a planning process — or perceived lack thereof — can create nearly as much of a social impact as a project itself. In this case, the original process appeared to be excellent from the perspective of user groups and the wider community, but inadequate from the perspective of park neighbors. The eventual effort to bring neighbors into the process has partially assuaged them, but some remain doubtful and suspicious.

It should still be noted that the overall process, despite imperfections, struck most participants as praiseworthy. Even those who did not fully support the proposed project described the final plan as a reasonable compromise, saying many potential problems have already been addressed and resolved in the course of the planning process.

4. Additional School and Community Benefits

The Manoa Elementary School currently enjoys many benefits as a result of their association with the park, including use of the existing gym and pool for classes as well as increased open space for outdoor activities. The new Multi-Purpose Facility will provide the school with the following additional benefits:

- Increased and improved space for physical education classes;
- Additional space for recesses during rainy weather;
- An improved space for assemblies and other large gatherings;
- Upgraded classroom areas.

Depending on the season of the year, the Manoa community will also have more "open gym" opportunities to schedule church league uses or classes for things like fencing or tai chi.

5. Unresolved Issues

Parking Adequacy/Overflow: As previously noted, users and other interviewees believe the additional parking stalls will not totally meet peak event parking needs, but they are unwilling to pay the visual costs associated with more parking stalls than now planned (or an actual parking structure). Thus, it is probable that occasional parking overflow problems associated with peak event use – particularly from baseball and swim meets – will continue; they may even be somewhat exacerbated by the new project despite the additional stalls.

One important possible mitigation is to impose a "No Parking" regulation for one or both sides of Ka'aipu Avenue to assure emergency vehicle access to the park.

Joint School/Community Use: Concerns about student security are inevitable in a joint use situation. Many of the specific aspects of the design of the new facility, such as its orientation and the location of the classroom and public meetings spaces, were developed with these concerns in mind. School personnel now say they are generally satisfied, but would like a security position assigned to the school.

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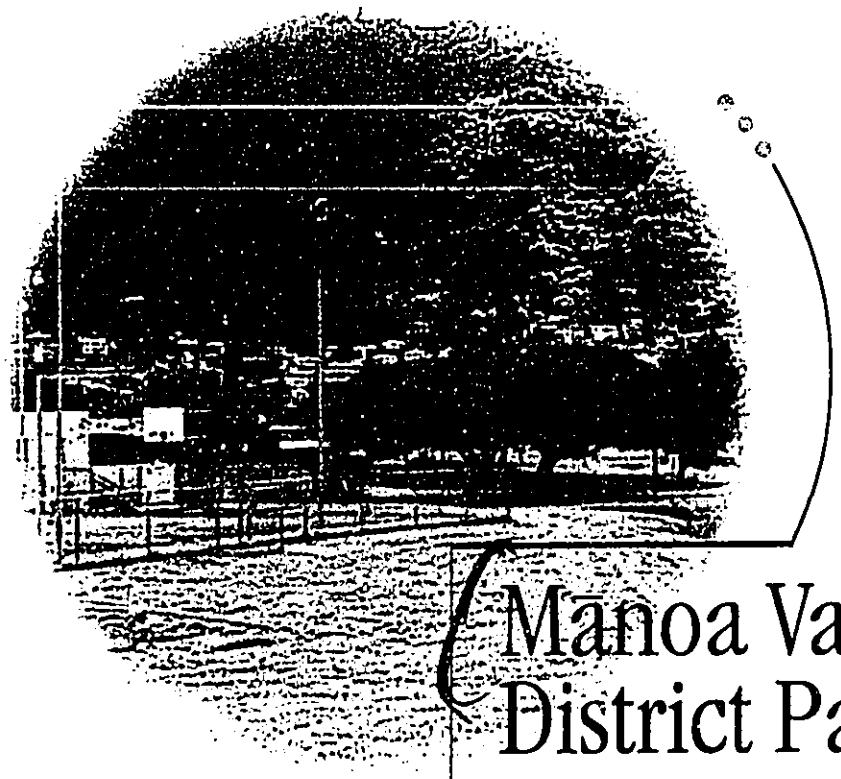

Manoa Valley District Park

Final Environmental Assessment

Prepared for:
City and County of Honolulu
Department of Design and Construction

Prepared by:

PBR HAWAII

1001 Bishop Street
Pacific Tower, Suite 650
Honolulu, Hawaii 96813

July 2000

Mānoa Valley District Park

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July 2000

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1.0 INTRODUCTION

This environmental assessment is prepared in accordance with Chapter 343, *Hawai'i Revised Statutes* for proposed improvements to the Mānoa Valley District Park and Mānoa Elementary School.

1.1 PROJECT SUMMARY

Project Name:	Mānoa Valley District Park
Applicant:	Department of Design and Construction, City and County of Honolulu
Landowner:	City and County of Honolulu
Location:	Mānoa Valley District Park 2721 Ka'aipū Avenue Honolulu, Hawai'i 96822
Tax Map Key:	2-09-036: 03
Existing Use:	City and County of Honolulu District Park and Mānoa Elementary School
Proposed Project:	Various improvements, including a new multi-purpose building/gymnasium, modifications to the existing gym, additional parking, ADA improvements, additional landscaping, a perimeter pedestrian pathway, and outdoor exercise stations.
Project Area:	Approximately 44 acres
Land Use Designations:	State Land Use: Urban Development Plan: Park Zoning: P-2, R 7.5
SMA:	The subject property is not in the Special Management Area (SMA)
Actions Requested:	Compliance with Chapter 343, *Hawai'i Revised Statutes*
Approving Agency:	Department of Design and Construction for the Mayor, City and County of Honolulu
Determination:	Finding of No Significant Impact (FONSI)

1.2 LOCATION

The site of the project is the Mānoa Valley District Park and Mānoa Elementary School, within the City and County of Honolulu Primary Urban Center (Figure 1). The property is located in Mānoa Valley and is generally bounded by Mānoa Road, Lowrey Avenue, Mānoa Stream, Kahaloa Drive, and residential uses. It may be accessed from Mānoa Road, Ka'aipū Avenue and Kahaloa Drive. This Environmental Assessment covers proposed improvements to the Mānoa Valley District Park and the Mānoa Elementary School. Improvements to the park will be funded by the City and County of Honolulu and the State of Hawaii. Improvements to the school will be funded solely by the State Department of Education.

1.3 LAND OWNERSHIP

The landowner is the City and County of Honolulu. The property consists of the parcel identified as TMK: 2-09-036: 03 and contains approximately 44 acres (Figure 2).

1.4 IDENTIFICATION OF THE APPLICANT

The Department of Design and Construction, City and County of Honolulu is the project applicant.

1.5 IDENTIFICATION OF APPROVING AGENCY

The Department of Design and Construction for the Mayor, City and County of Honolulu is the approving agency.

1.6 IDENTIFICATION OF AGENCIES, ORGANIZATIONS AND INDIVIDUALS CONSULTED

In the course of planning for this project, agencies (or agency documents), community individuals and organizations were consulted and/or provided information for the preparation of the Mānoa Valley District Park master plan and/or this environmental assessment.

City and County of Honolulu Agencies

Board of Water Supply
City Council, Council Member Andy Mirikitani
Department of Parks and Recreation
Department of Planning and Permitting
Department of Transportation Services
Fire Department
Police Department

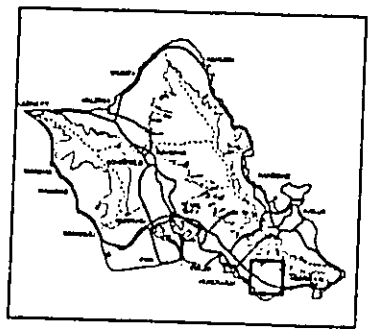
State of Hawai'i Agencies

Department of Business, Economic Development and Tourism, State Office of Planning
Department of Education
Department of Health

PROJECT AREA

LEGEND

Project Area



Source: USGS Topographical Map

FIGURE 1
Regional Location Map

Manoa Valley District Park

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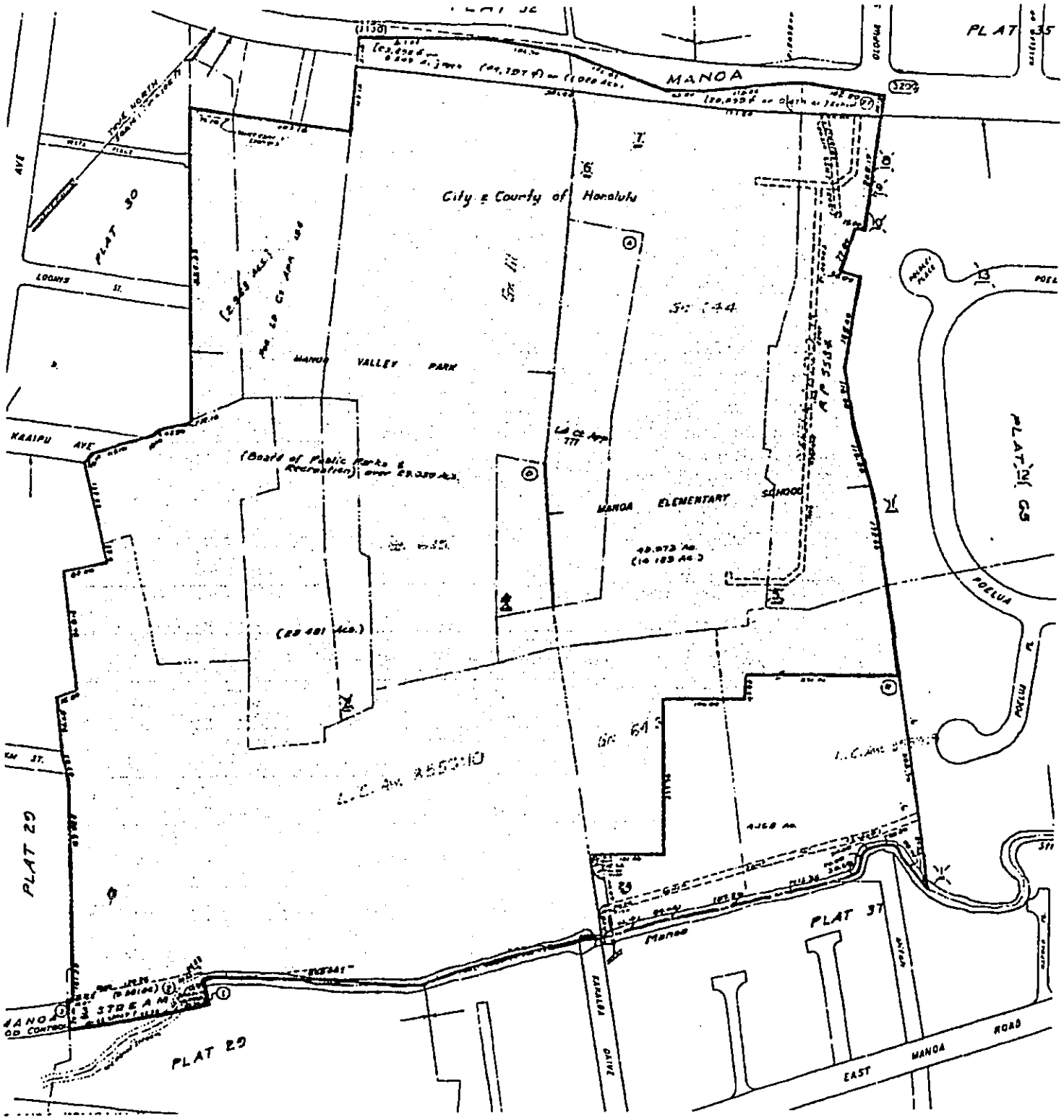

LEGEND

Project Area

Source: Tax Map Key

FIGURE 2
Tax Map Key / Land Ownership Map

Manoa Valley District Park

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Department of Land and Natural Resources - Commission on Water Resource Management
Department of Land and Natural Resources - Historic Preservation Division
Department of Transportation
Land Use Commission
Mānoa Elementary School
Office of Environmental Quality Control
State Legislature, Senator Brian Taniguchi
State Legislature, Representative Ed Case

Federal Agencies

Federal Emergency Management Agency
National Weather Service
U.S. Department of the Army
U.S. Department of the Interior, Fish and Wildlife Service

Community Individuals and Organizations

Akamine, Megan
Allen, Richard and Kay
Anderson, Gary
Angell, Lowell
Arakawa, David
Bannan, Victoria
Bowers, Mandy
Doike, Troy
Ebisu, Becky
Ezaki, Joe
Figueiredo, Chico
Fujii, Aaron
Fujimoto, Randal
Garcia, Robert
Gilding, Gladys
Heinrich, Tom
Helbling, Mark and Joan
Hu, Helen
Hui O Mānoa
Ito, Alan
Kamo, Clem
Kaneshiro, Kozen
Kasparovitch, Cass
Kawasaki, Shane
Kobayashi, Ann
Komo, Carol
Kunishi, Hanayo
Kunishi, Marilyn
Lee Miki
Lee, Mark
Lin, Steve
Lin, Meg
Lowe, Barbara
Malama O Mānoa
Mark, Kara
Matsuno, Miyuki
Mitchell, Kurt
Miyagawa, Vincent
Nakamori, Harriet
Nakamura, Harriet
Nakanishi, Ron
Nakano, George
Nakata, Kevin
Nitahara, Nathan
Nohara, Kathi
Oda, Dale
Ogawa, Garrett
Okazaki, Craig
Okuna, Neil
Oyama, Ted
Park, Corey
Pinell, Jerry
Ragsdale, Milton
Ranario, David
Robinson, Toni
Sato, Darek
Sekiya, Steve
Service, Mark
Siracusa, Jonette
Solmssen, Mia

Soma, Teruto
Stone, James
Taniguchi, Shirley
Tarnay, Kali
Teramae, Ray
Tom, Clifford
Touchi, Norman
Tucker, Jan
Weinstein, Samuel
Wolf, Howard and Jana
Yamasato, Maurice
Yokochi, Lance
Yonamine, Henry and Evelyn

2.0 PROJECT DESCRIPTION

This section provides background information, identifies the project's goals and objectives, describes the proposed improvements and delineates construction activities, the preliminary development phases and approximate development costs.

2.1 BACKGROUND INFORMATION

2.1.1 Description of the Property

The Mānoa Valley District Park occupies a portion of an approximately 44 acre parcel (TMK: 2-09-36: 03) (Figure 2) owned entirely by City and County of Honolulu. Through an agreement between the City and County of Honolulu and the State Department of Education (DOE), the City uses approximately 29 acres of the parcel for the park, while DOE uses the remainder of the parcel for Mānoa Elementary School. The parcel is bordered by Mānoa Road on the northwest, private residences on the northeast, the Mānoa Gardens Senior Housing Project on the east, Mānoa Stream on the southeast and private residences on the southwest and northwest. This Environmental Assessment covers proposed improvements to the Mānoa Valley District Park and the Mānoa Elementary School. Improvements to the park will be funded by the City and County of Honolulu and the State of Hawaii. Improvements to the school will be funded solely by the State Department of Education.

Land uses immediately surrounding the parcel include private residences and roadways. The predominate land use in the surrounding area is residential. Commercial uses, including the Mānoa Marketplace, are located approximately one half mile to the southeast.

Access to the property is from Mānoa Road, Ka'aipū Avenue and Kahaloa Drive. The parcel is mostly gently sloping from north to south with a high elevation in the north of approximately 209 feet mean sea level (MSL) to approximately 148 feet MSL in the south.

The park area includes a gym, a swimming pool, outdoor tennis courts, basketball and volleyball courts, restrooms, a playground, a pavilion with two meeting rooms, playing fields, and parking lots.

2.1.2 Services Provided

The Mānoa Valley District Park provides an array of recreational opportunities for all age groups—children through seniors. Activities include: arts and craft classes, dance classes, cooking instruction, various sports leagues, individual and group exercise and conditioning programs, Tai Chi and Karate instruction, and swimming classes. The open space and landscaping also provide opportunities for both active and passive enjoyment of the park. Additionally, the park provides meeting space for community groups and public meetings and the Department of Parks and Recreation provides space for community gardens. Currently, a City and County of Honolulu-sponsored open market is held at the park's Ka'aipū Avenue parking lot on Monday mornings.

Mānoa Elementary School provides education to children in kindergarten through sixth grade. Buildings of the school are also occasionally used by community groups.

2.1.3 Organizations Using the Mānoa Valley District Park

The following is a list of organizations and groups that have scheduled activities at, or are regular users of, the Mānoa Valley District Park.

ASA Girls Softball
AYSO
East Mānoa Lions Club
Flag Football, PAL League
Hui O Mānoa
Malama O Mānoa
Mānoa Makule Softball
Mānoa Aquatics
Mānoa Athletic Club
Mānoa Youth Baseball League
Mānoa Boys Basketball
Mānoa Paniolos Pop Warner Football
Mānoa Elementary School
Mānoa Girls Athletic Club
Mānoa Neighborhood Board
Pony Baseball
Waioli Lions Club

2.1.4 Operating Hours

Currently, there is 24-hour access to the park, however, in December of 1998, the Mānoa Neighborhood Board requested the Department of Parks and Recreation to close the park at night from 12:00 am (midnight) to 5:00 am for a trial period of six months. This change is expected to take effect in 2000.

Current operating hours for the both the existing gym and swimming pool are as follows:

Gym:	<u>Monday — Friday</u>	
	8:00 am — 2:00 pm	Elementary school physical education classes
	2:00 pm — 9:30 pm	Park programs
	<u>Saturday</u>	
	8:30 am — 5:00 pm	Park programs
	5:00 pm — 9:30 pm	Open for community rental
	<u>Sunday</u>	
	9:00 am — 9:30 pm	Park programs
Swimming Pool	<u>Monday/Wednesday</u>	
	9:00 am — 9:00 pm	
	<u>Tuesday/Thursday</u>	
	10:00 am — 8:15 pm	
	<u>Friday</u>	
	9:00 am — 8:30 pm	
	<u>Saturday</u>	
	9:30 am — 5:00 pm	
	<u>Sunday</u>	
	1:00 pm — 5:00 pm	

Increased hours of operation are not expected as a result of the completion of the multi-purpose building/gymnasium or other improvements.

2.1.5 Staff

The Mānoa Valley District Park operates with a staff of six full-time individuals. The staff includes one (1) District Park Supervisor, one (1) Recreation Director, one (1) Pool Manager, one (1) Swimming Instructor and two (2) maintenance personnel. Currently, there are two (2) unfilled maintenance positions.

Additional staffing needs upon the completion of the multi-purpose building/gymnasium are undetermined, however, additional full-time recreation employees are not expected to be hired. Instead, there may be a need for additional part-time attendants, or the working hours of current part-time attendants may be increased. Additional school personnel are not expected to be needed as a result of proposed improvements to the school.

2.1.6 Community Planning Process

In 1998, the Legislature adopted Senate Concurrent Resolution No. 157, Senate Draft 1, calling for the establishment of a City, State, and community task force to develop a master plan for improvements to Mānoa Recreational Park and Mānoa Elementary School.

The resulting task force included the State Legislators and the City Council member representing Mānoa, State Department of Education personnel, Mānoa Elementary School personnel, a student representative from Mānoa Elementary School, City and County Department of Parks and Recreation personnel, Mānoa residents, and representatives of the Governor, the Mānoa Neighborhood Board, Malama O Mānoa, Hui O Mānoa, various athletic leagues, the Ala Wai Canal Watershed Improvement Project and Mānoa Subwatershed Group, the Mānoa School Association of Parents and Teachers, the A+ Program, Mānoa Boy Scout Troop 33, and the East Mānoa and Waioli Lions Clubs.

Together, through consensus, these concerned individuals created a list of desired improvements and a conceptual site plan for the Mānoa Valley District Park and Mānoa Elementary School. The ideas were then submitted to the Legislature on January 15, 1999, in a report titled, "Concerning Development of a Master Plan for Improvements to the Mānoa Valley District Park and Mānoa Elementary School Complex, City and County of Honolulu, Island of O'ahu."

The report identified the development of a multi-purpose building/covered playcourt area located between the existing park gymnasium and school blacktop as the highest priority park improvement. Other improvements identified by the task force include:

- A full perimeter ("lei") pedestrian pathway with benches and picnic table areas.
- Additional parking, roadway entrance design treatments and traffic flow improvements.
- Relocation of playground equipment areas and installation of new equipment in the area east of and close to the pool and existing gymnasium to improve safety, permit easier adult supervision and allow reconfiguration of the open play fields.

In September of 1999 community members gathered for a design charette to plan the multi-purpose building/gymnasium. In subsequent meetings held in September and October, details of the project

were discussed, including alternative building sites. After reviewing several configurations and sites for the new facility, the consensus of the group was to locate the multipurpose building/gymnasium on the site between the blacktop area and the existing gym (Figure 3).

2.2 PROJECT GOALS AND OBJECTIVES

Currently, the recreational facilities at the Mānoa Valley District Park are well-used. For instance, the existing gym, which only has one full-size basketball court, requires the Mānoa Boys Basketball League to hold games until 9:30 pm on school nights. Also, open landscaping in front of the pavilion is used for soccer practice for younger children.

The proposed improvements will allow the recreational needs of the community to be better served. In particular, the addition of the multi-purpose building/gymnasium will allow uses by the Mānoa Elementary School, the A+ Program, various sports leagues, and the community at large. The proposed facility would replace an aged one-story wooden classroom/office building of Mānoa Elementary School and provide additional classroom, office, meeting, recreational, and storage space.

The goals of the proposed improvements are to:

- Provide an accessible, safe, secure, and pleasant environment for all citizens that use the park
- Provide for the City's Recreational programs at the park
- Implement the task force recommendations
- Provide a true community center

The objectives of the proposed improvements are to:

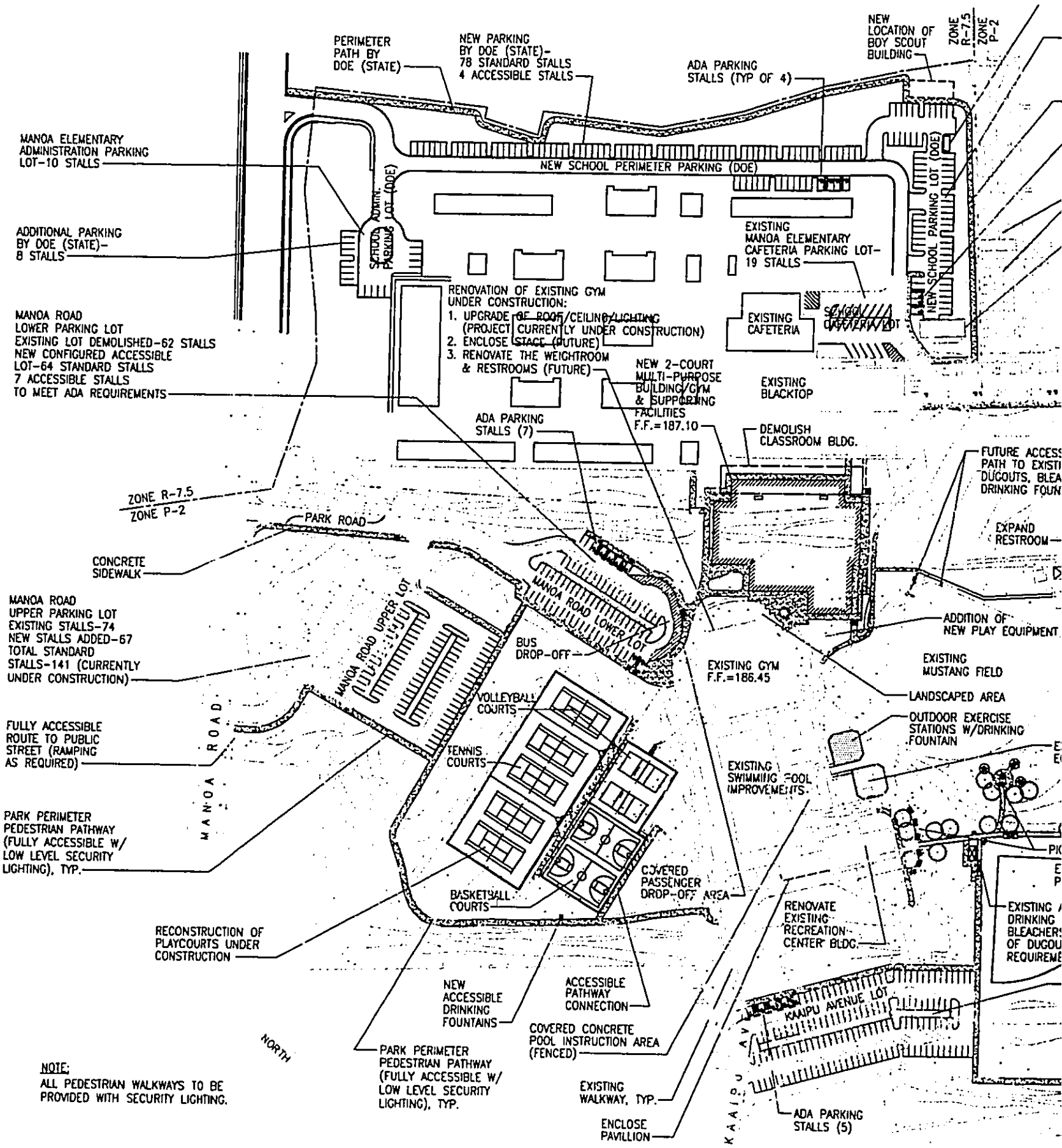
- Improve and modernize run-down, out-of-date facilities that are inadequate for the current volume of uses that occur at the park
- Provide for the most efficient and effective use of the area and facilities
- Increase the level of safety and security for park users
- Increase accessability for all users of the park

2.3 DESCRIPTION OF THE PROPOSED IMPROVEMENTS

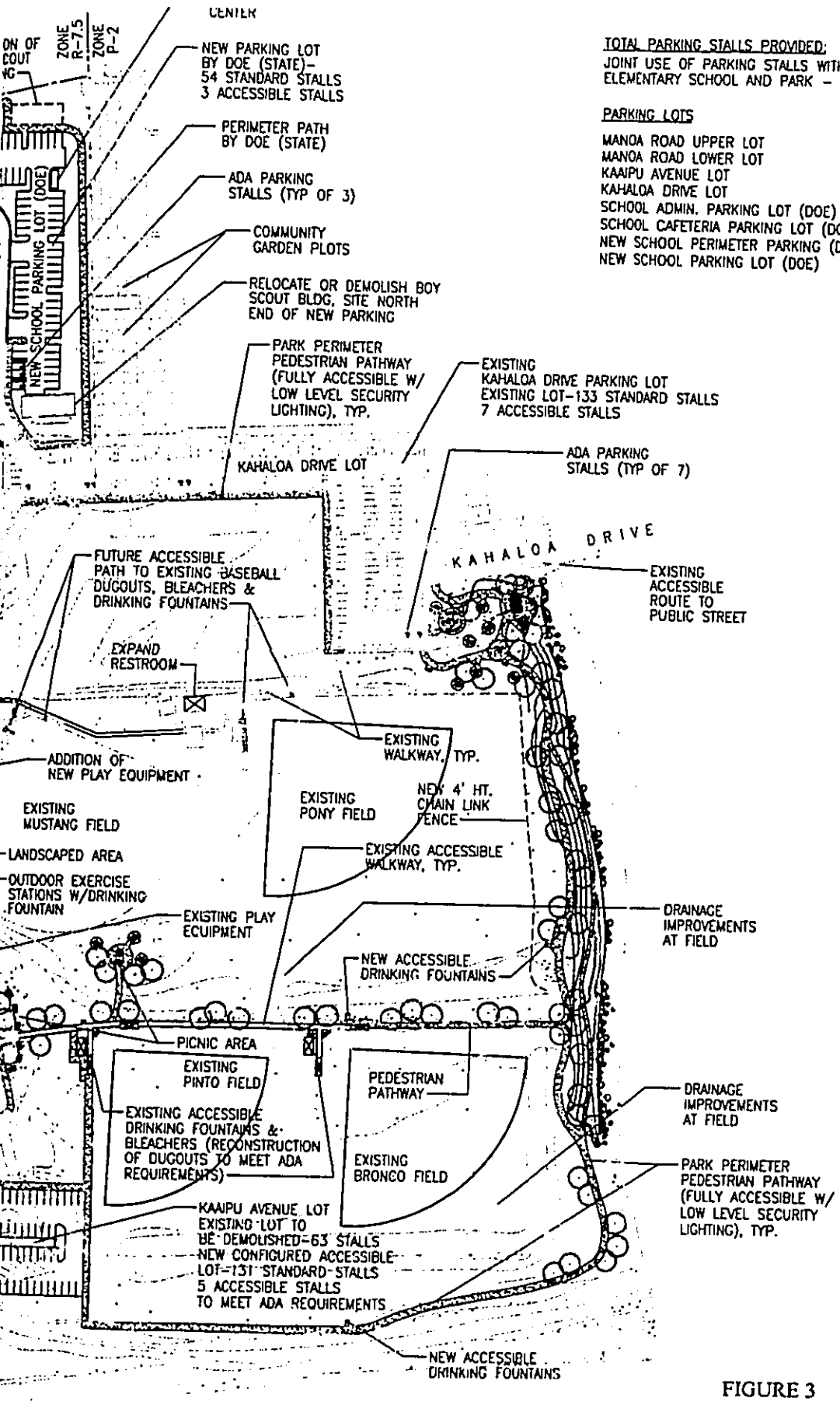
The proposed improvements are shown in Figure 3 and are described below.

2.3.1 Multi-Purpose Building/Gymnasium

The multi-purpose building/gymnasium will be located between the existing gymnasium and the black top area of the school. This site requires the demolition and removal of an existing wooden classroom building. The new building will be on one floor and will include two full-size indoor



Source: Mitsunaga & Associates, Inc.



TOTAL PARKING STALLS PROVIDED:
JOINT USE OF PARKING STALLS WITH MANOA ELEMENTARY SCHOOL AND PARK – 645 TOTAL STALLS

PARKING LOTS	STANDARD	ACCESSIBLE	TOTAL
MANOA ROAD UPPER LOT	141	0	141
MANOA ROAD LOWER LOT	64	7	71
KAAIPU AVENUE LOT	131	5	136
KAHALOA DRIVE LOT	133	7	140
SCHOOL ADMIN. PARKING LOT (DOE)	18	0	18
SCHOOL CAFETERIA PARKING LOT (DOE)	19	0	19
NEW SCHOOL PERIMETER PARKING (DOE)	78	4	82
NEW SCHOOL PARKING LOT (DOE)	54	3	57
	638	26	664

FIGURE 3
Site Master Plan

Manoa Valley District Park

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basketball courts aligned along their long axis (as opposed to side-by-side). Classrooms to be used by Mānoa Elementary School will be located in the mauka side of the building near the black top area. A solid wall will physically separate the classroom spaces from the two courts. Arts and crafts rooms, office and storage space, and restrooms to be used by the Department of Parks and Recreation will be located on the makai side of the of the facility. Limited kitchen facilities for use by community groups will also be included. The court area will have electrically-controlled, retractable, bleacher seating for approximately 500 people. The main entrance/exit to and from the facility will be on the makai side facing the existing gymnasium.

2.3.2 Plaza Between the New and Existing Gym

A landscaped plaza will be created between the new and existing gym and will include appropriate outdoor site furniture and lighting.

2.3.3 Existing Gym Renovations

Renovations to the existing gym include upgrading of the roof, ceiling, and lighting. Possible future improvements may include enclosing the stage area and renovating the weightroom and restrooms.

2.3.4 Additional Parking and Passenger Drop-Off Area

Additional parking will be created by reconfiguring and expanding existing parking areas at the park and adding new parking areas at Mānoa Elementary School.

Approximately 149 new parking spaces are proposed in perimeter areas of the park to maximize open space. Additional parking at the park will be provided by: 1) expanding the upper parking area accessed from Mānoa Road near the tennis courts (67 new spaces); 2) reconfiguring the existing parking area near the school and existing gym to meet ADA requirements (9 new spaces); and 3) reconfiguring the existing Ka'aipū Avenue parking area and creating additional parking in the grassy area near the playing fields (73 new spaces). New and reconfigured parking areas will include ADA accessible spaces.

In addition to increased parking at the park, a covered passenger drop-off areas will be added to the lower parking lot between the existing gym and the new multi-purpose building/gymnasium.

Approximately 147 parking spaces are proposed at the school as a future phased State project for Mānoa School. The additional parking is proposed as follows: 82 new stalls at the school fire lane access road; 57 new stalls at the north east end of the school; 8 new stalls at the school's main drop off area.

Combined, approximately 296 new parking stalls are proposed at both the park and the school. With the existing 368 stalls, the park and school site will contain a total of 664 parking stalls.

2.3.5 Perimeter "Lei" Pedestrian Pathway

A perimeter "lei" pedestrian pathway will encircle the entire park and school. The pathway will be designed and constructed to meet ADA requirements. Accessible drinking fountains will be located

intermittently along the route. Appropriate landscaping and low-level security lighting will be also be provided. Portions of the pathway within the school area will be provided by the State Department of Education.

2.3.6 Playground and Exercise Stations

New playground equipment will be installed in an area between the existing gym and the new multi-purpose building/gymnasium. Outdoor exercise stations and a drinking fountain will be installed on the east side of the pool area.

2.3.7 Other Improvements

Other improvements include:

1) Enclosing the pavilion near the Ka'aipū Avenue parking lot;
2) Expanding the restroom facilities near the Kahaloa Place entrance and the playing fields;
3) Adding a picnic area near the pool facility;
4) Renovating and re-paving existing play courts;
5) Constructing ball field dugouts and bleachers to meet ADA requirements;
6) New accessible drinking fountains at various locations;
7) Implementing drainage improvements; and
8) Providing landscaping and security lighting as appropriate.

2.4 SUSTAINABLE BUILDING DESIGN

The Office of Environmental Quality Control has issued "Guidelines for Sustainable Building Design in Hawai'i: A planner's checklist" (OEQC May 1999) and has requested that consideration be made in applying sustainable building techniques to projects. The OEQC Guidelines state that "[a] sustainable building is built to minimize energy use, expense, waste and impact on the environment. It seeks to improve the region's sustainability by meeting the needs of Hawai'i's residents and visitors today without compromising the needs of future generations."

An evaluation of the plans for the Mānoa Valley District Park multi-purpose building/gymnasium indicates that the building will apply many of the techniques described in the Guidelines to: 1) use less energy for operation and maintenance, 2) preserve and conserve water and other natural resources, 3) minimize health risks to those who construct, maintain and occupy the building, 4) minimize construction waste, 5) recycle and reuse generated constructed wastes, 6) provide the highest quality product practical at competitive (affordable) costs. Specifically, the project will implement the following measures:

- The building will be naturally cooled through the extensive use of louvered ventilation openings (classroom areas will be designed for natural ventilation that may be converted to air conditioning).
- Project specifications will include requirements for water-saving fixtures to meet current City and County of Honolulu standards. Storm drainage run-off will be mitigated by providing extensive landscaping to act as an absorptive surface.
- Landscaping will serve to reduce the building's visual bulk.
- Parking lot lighting will use energy-efficient, high-pressure sodium fixtures.

2.5 APPROXIMATE COSTS AND DEVELOPMENT PHASES

The Mānoa community has identified construction of the multi-purpose building/gymnasium and the provision of additional parking as the highest priority improvements. The City and County of Honolulu has appropriated $2.5 million for these facilities for fiscal year 1999-2000. The State of Hawai'i has appropriated $4 million in matching funds. The City has also budgeted an additional $1.5 million to implement other proposed improvements. Table 1 details approximate project costs and phases. Approximate costs and phasing of the proposed improvements are subject to revision.

Table 1
Approximate Project Costs and Phases

Project Component	Cost	Phase
Renovation of existing gym	$550,000	Phase I
Upper parking lot expansion (67 stalls) and lighting	$580,000	Phase I
Outdoor playcourt improvements & parking lot lighting	$850,000	Phase I
Landscaping[1]	$250,000	Phases I — IV
Multi-purpose building/gym	$6,000,000	Phase II
Reconstruct existing gym parking lot to meet accessability requirements (ADA)	$670,000	Phase II
Connecting plaza between new and existing gym	$90,000	Phase II
Further renovations to existing gym	$600,000	Phase III
Pavilion near Ka'aipū Ave. enclosed	$100,000	Phase III
Perimeter "lei" pedestrian pathway	$600,000	Phase IV
Reconstruct existing and add new parking lot at Ka'aipū Ave.	1,500,000	Phase IV
Expand Restroom near playing fields	$100,000	Phase IV
Security and/or activity lighting	$500,000	Phase IV
Drainage and utility improvements	$300,000	Phase IV
Ballfield improvements	$100,000	Phase IV

[1] Landscaping includes miscellaneous landscaping throughout the park. For specific improvements, the total cost of the improvement includes landscaping.

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3.0 LAND USE CONFORMANCE

The State of Hawai'i and City and County of Honolulu land use plans, policies and ordinances relevant to the proposed Mānoa Valley District Park and Mānoa Elementary School improvements are described below.

3.1 STATE OF HAWAI'I

3.1.1 State Land Use Law (Chapter 205, Hawaii Revised Statutes)

The State Land Use Law (Chapter 205, Hawaii Revised Statutes (HRS)), establishes the State Land Use Commission (LUC) and gives this body the authority to designate all lands in the State into one of four districts: Urban, Rural, Agriculture, or Conservation. The Mānoa Valley District Park and the Mānoa Elementary School are located within the State Urban District (Figure 4). The proposed improvements are consistent with uses allowed within the Urban District.

3.2 CITY AND COUNTY OF HONOLULU

Relevant land use plans of the City and County of Honolulu that pertain to the proposed improvements include the General Plan, the Primary Urban Center Development Plan, the Primary Urban Center Development Plan Land Use Map, the Primary Urban Center Development Plan Public Facilities Map and Zoning Map #3.

3.2.1 General Plan

As required by the City Charter, the General Plan for the City and County of Honolulu serves two purposes. The first is a statement of the long-range social, economic, environmental and design objectives for the general welfare and prosperity of the people of O'ahu. Second, the General Plan is a statement of broad policies that facilitate the attainment of the objectives of the plan.

The proposed improvements are in accordance with the following General Plan policies:

Policy VII. Physical Development and Urban Design
Objective A, Policy 1: *Plan for the construction of new public facilities and utilities in the various parts of the Island according to the following order of priority: first, in the primary urban center; second, in the secondary urban center at Kapolei; and third, in the urban-fringe and rural areas.*

Objective A, Policy 8: *Locate community facilities on sites that will be convenient to the people they are intended to serve.*

Policy IX. Health and Education
Objective B, Policy 3: *Encourage after-hours use of school buildings, grounds and facilities.*

Objective B, Policy 4: *Encourage the construction of school facilities that are designed for flexibility and high levels of use.*

Policy X. Culture and Recreation
Objective D, Policy 1: *Develop and maintain community-based parks to meet the needs of different communities on O'ahu.*

Objective D, Policy 7: *Provide for recreation programs which serve a broad spectrum of the population.*

Objective D, Policy 11: *Encourage the after-hours, weekend and summertime use of public school facilities for recreation.*

Objective D, Policy 12: *Provide for safe and secure use of public parks, beaches and recreation facilities.*

Discussion: The proposed improvements to the Mānoa Valley District Park and Mānoa Elementary School conform to many objectives of the General Plan. In particular, the provision of the multi-purpose building/gymnasium within the site is fitting with the General Plan priority to first locate new public facilities within the Primary Urban Center and the policy to locate public facilities on sites that are convenient to the people they are intended to serve. Because the multi-purpose building/gymnasium is a joint effort between the State and City, and because it will be used by both the school and park, it meets the objective of encouraging after-hours use of school buildings, grounds and facilities, and the objective of constructing school facilities that are designed for flexibility and high levels of use. Additionally, use of the multi-purpose building/gymnasium for park programs after school hours, on weekends and in the summertime is also encouraged by the General Plan.

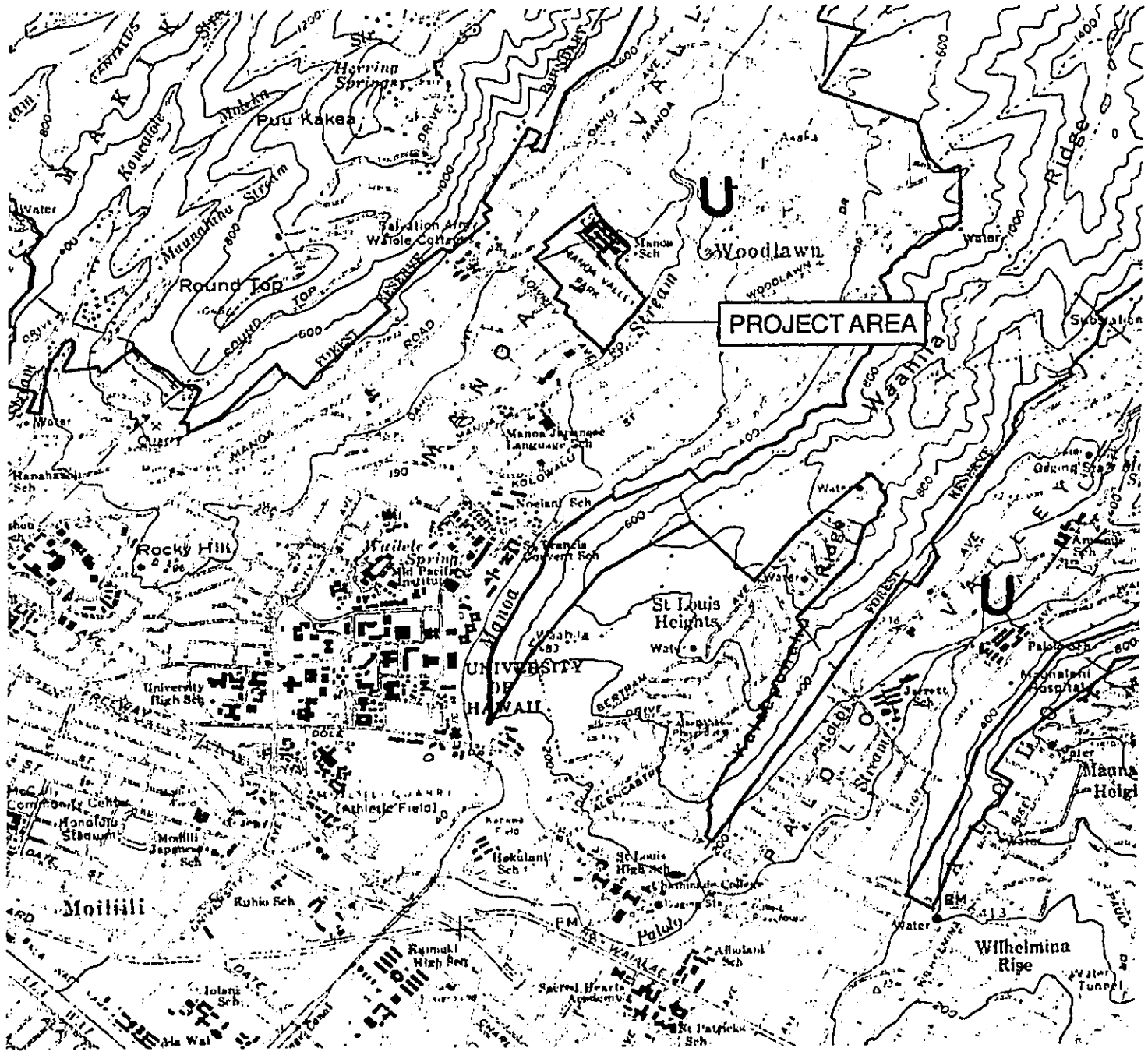
The entire list of proposed improvements are in line with the policy to develop and maintain community-based parks to meet the needs of the community. The task force that defined the necessary improvements developed their recommendations based on knowledge of the desires and needs of the community. Because the proposed improvements are of benefit to all age groups—from children to seniors—they meet the policy objective of providing recreation programs that serve a broad spectrum of the population. Further, the General Plan policy of providing safe and secure use of public parks will be facilitated by many of the proposed improvements, including parking area lighting, landscaping and accessability enhancements.

3.2.2 Development Plan—Current and Proposed

The City and County Development Plans (DPs) represent eight geographic regions that include all areas of O'ahu. The Mānoa Valley District Park is located in the area designated as the Primary Urban Center (PUC). The corresponding development plan for this area is the *Primary Urban Center Development Plan.*

Before 1992, the City Charter required DPs to be "relatively detailed plans" for implementing and accomplishing the development objectives and policies of the General Plan. In 1992, a Charter amendment changed this to require the DPs to consist of "conceptual schemes."

In response to the 1992 Charter amendments, the City and County Department of Planning (now the Department of Planning and Permitting) launched a thorough review of all eight DPs to bring them



LEGEND

- Project Area
- C Conservation
- U Urban

Source: Land Use Commission

FIGURE 4
State Land Use Boundary Map

Manoa Valley District Park

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into conformance with the Charter-mandated conceptual orientation. Currently, the *Primary Urban Center Development Plan* is under revision to bring it into conformance. However, until the proposed plan is adopted by the City Council, the current, more detailed, plan is still in effect. Both the current and proposed plans are discussed below.

3.2.2.1 Current Development Plan

The current *Primary Urban Center Development Plan* includes two parts—text and maps. The text portion also contains two portions: 1) common provisions that are common to all unrevised pre-1992 O'ahu development plan areas, and 2) special provisions that are specific to the Primary Urban Center and include descriptions, urban design principles, controls and development priorities.

Those sections of the DP Common Provisions and Special Provisions that are applicable to the proposed improvements are listed and discussed below.

Common Provisions

Sec. 24-1.5 *General principles and controls for parks, recreation and preservation areas.*

Discussion: Classified as a "district park," the Mānoa Valley District Park is in conformance with the DP common provisions for this class of park. The proposed improvements are consistent with the types of facilities common to district parks.

Special Provisions

SECTION 24-2.2. *URBAN DESIGN PRINCIPLES AND CONTROLS FOR THE PRIMARY URBAN CENTER*

24-2.2(a) *Specific Urban Design Considerations*

(1) Open Space
(2) Public Views
(3) Height Controls

Discussion: The Mānoa Valley District Park site is in accord with the Primary Urban Center Special Provisions for open space. Construction of the multi-purpose building/gymnasium may affect public views of the Ko'olau mountains from certain vantage points, however the surrounding open space should mitigate this impact. The height of the multi-purpose building/gymnasium will exceed the height limits for buildings in the Preservation and Residential districts, however, the Land Use Ordinance (discussed below) contains a provision for a waiver of these limits for public use structures.

Development Plan Maps

The current *Primary Urban Center Development Plan* also includes two map elements: 1) the Land Use Map, which defines the area and distributes the various land uses in a manner that implements the General Plan objectives and policies; and 2) the Public Facilities Map, which identifies planned public and private facilities and infrastructure.

Discussion: The Primary Urban Center Development Plan Land Use Map (Figure 5) identifies the site of the Mānoa Valley District Park as "Park" and the site of Mānoa Elementary School as "Public Facility." These designations are consistent with the current uses and proposed improvements. The Primary Urban Center Development Plan Public Facilities Map (Figure 6) includes a designation for a proposed well and drainage system in the vicinity of the Mānoa Valley District Park. The proposed improvements do not preclude these uses. The City has recently amended the Primary Urban Center Development Plan Public Facilities Map to include a park symbol on the location of Mānoa Valley District Park (Odinance 00-29)

3.2.2.2 Proposed Development Plan

As mandated by the City Charter, the proposed *Primary Urban Center Development Plan* is more conceptual in nature. It includes vision statements, policies, and guidelines to direct the development and improvement of the PUC. Pertinent sections applicable to the proposed improvements include the following.

2.1.4 *The City of Livable Neighborhoods*
3.1 *Open Space Preservation and Access*
3.1.1.4 *Public Parks and Recreation Complexes*
3.1.3.5 *Parks and Recreational Open Space*

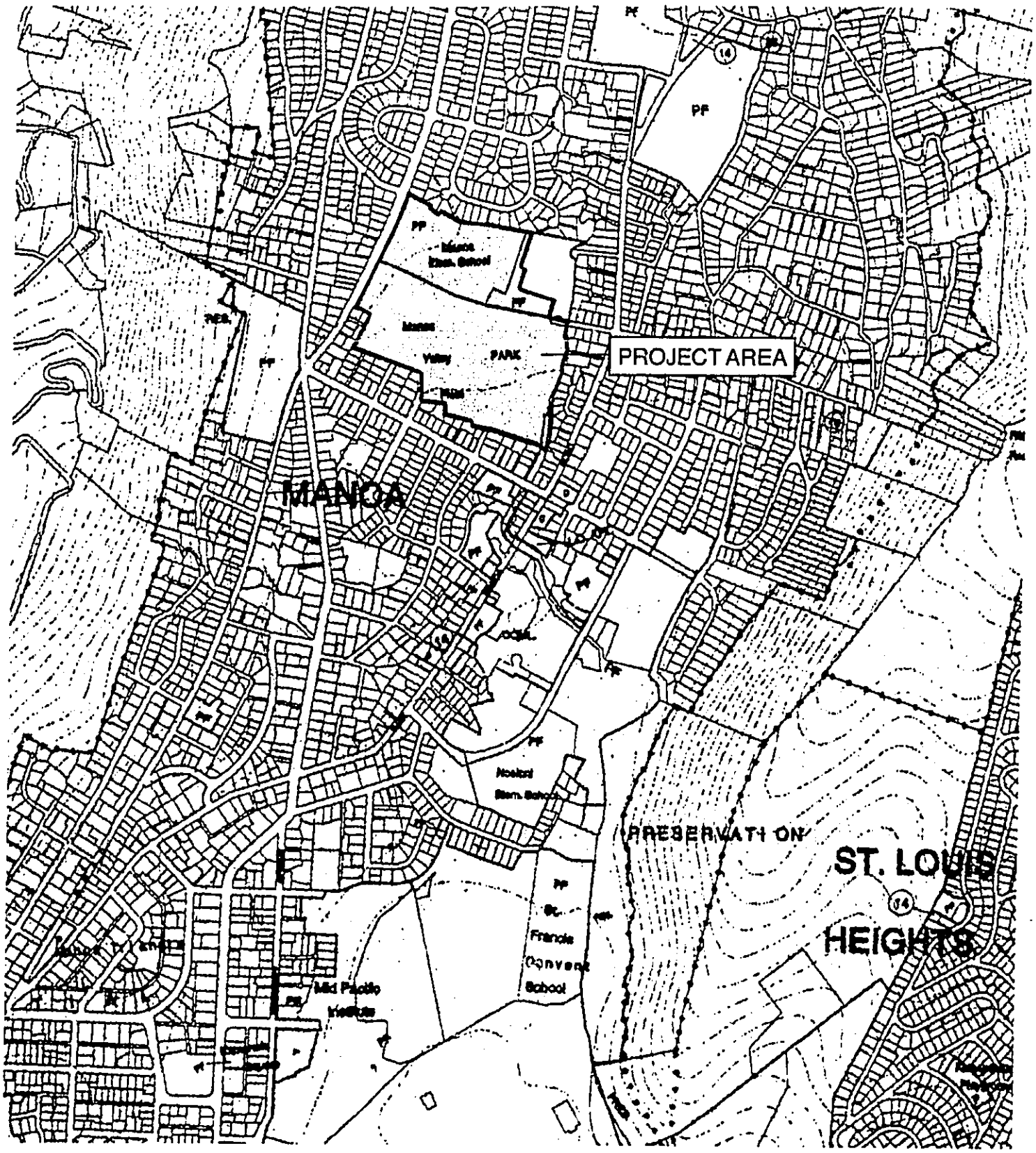
Discussion: The Mānoa Valley District Park and the proposed improvements are consistent with the plan's vision of a city of livable neighborhoods where parks, recreation, cultural centers and schools are in close proximity to the neighborhoods they serve. The plan's encouragement of the City and the State Department of Education entering into partnerships to develop or improve recreational facilities, including gymnasiums, is perfectly realized through the construction of the multi-purpose building/gymnasium, which is jointly funded by the State and City and will be used by both the park and the school.

3.2.3 Land Use Ordinance

The Land Use Ordinance (LUO) is the City and County of Honolulu's zoning ordinance. Besides zoning regulations, the LUO contains ordinances regulating the use of land and regulations intended to ensure that adequate controls and review mechanisms are in place for proposed land uses.

The parcel containing the Mānoa Valley District Park also contains Mānoa Elementary School. While this is a single parcel owned by the City and County of Honolulu, it is split zoned; the park area is zoned General Preservation (P-2) and the school area is in the Residential 7.5 (R-7.5) zone (Figure 7). The purpose of the General Preservation zone is to preserve and manage major open space and recreation land and lands of scenic and other natural resource value. The purpose of the Residential zone is to allow for a range of residential densities, however, non-dwelling uses that support and complement residential neighborhood activities are also permitted.

Discussion: The existing uses of the park and school on the parcel are appropriate uses under the respective zoning. The proposed improvements, including the multi-purpose building/gymnasium, are also allowed within each zone.



LEGEND

Project Area

PF Public Facility

Source: Primary Urban Center Development Plan Land Use Map

FIGURE 5
Development Plan Land Use Map

Manoa Valley District Park

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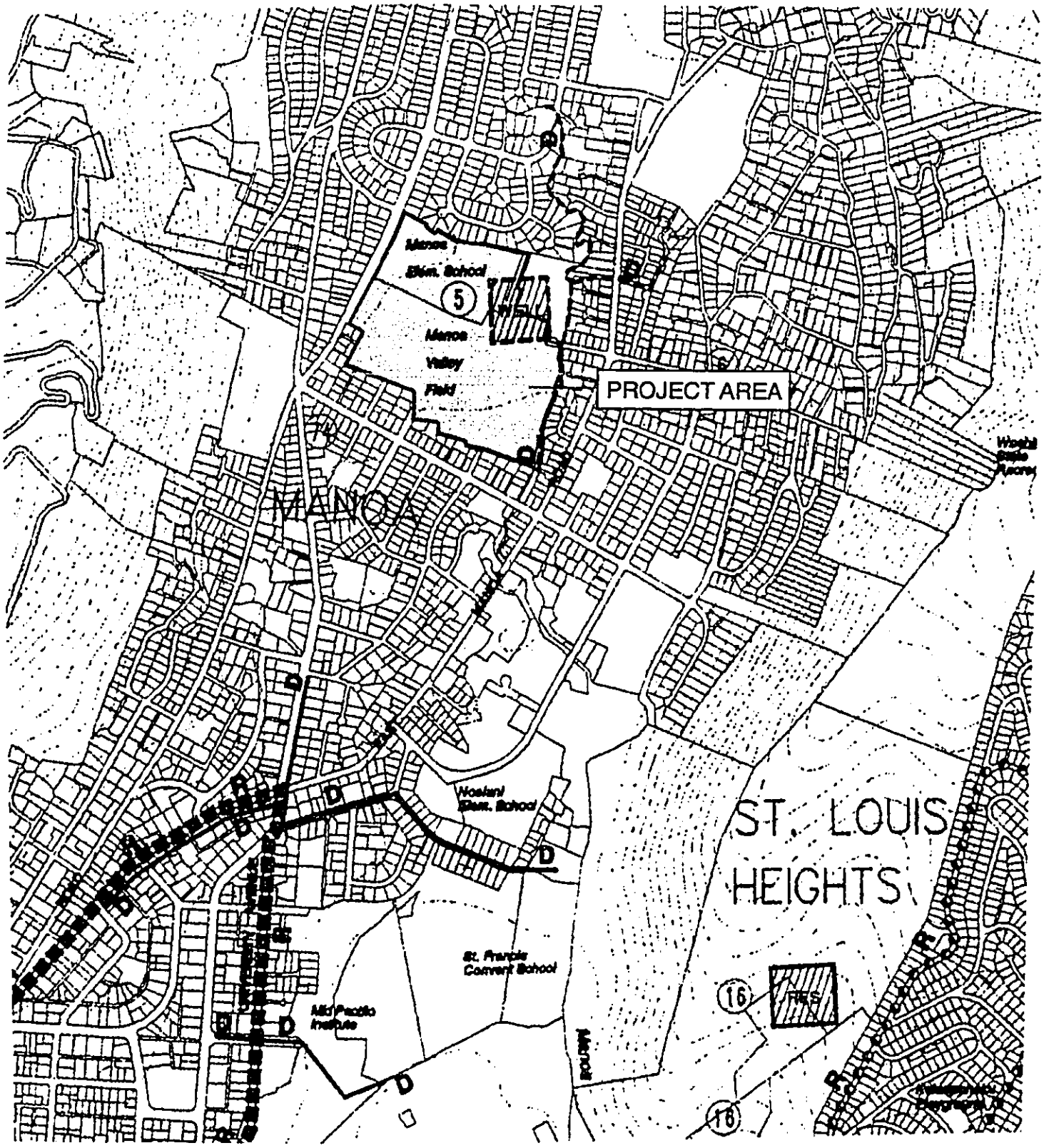

LEGEND

Project Area

D Drainage System

Source: Primary Urban Center Development Plan Public Facilities Map

FIGURE 6
Development Plan Public Facilities Map

Manoa Valley District Park

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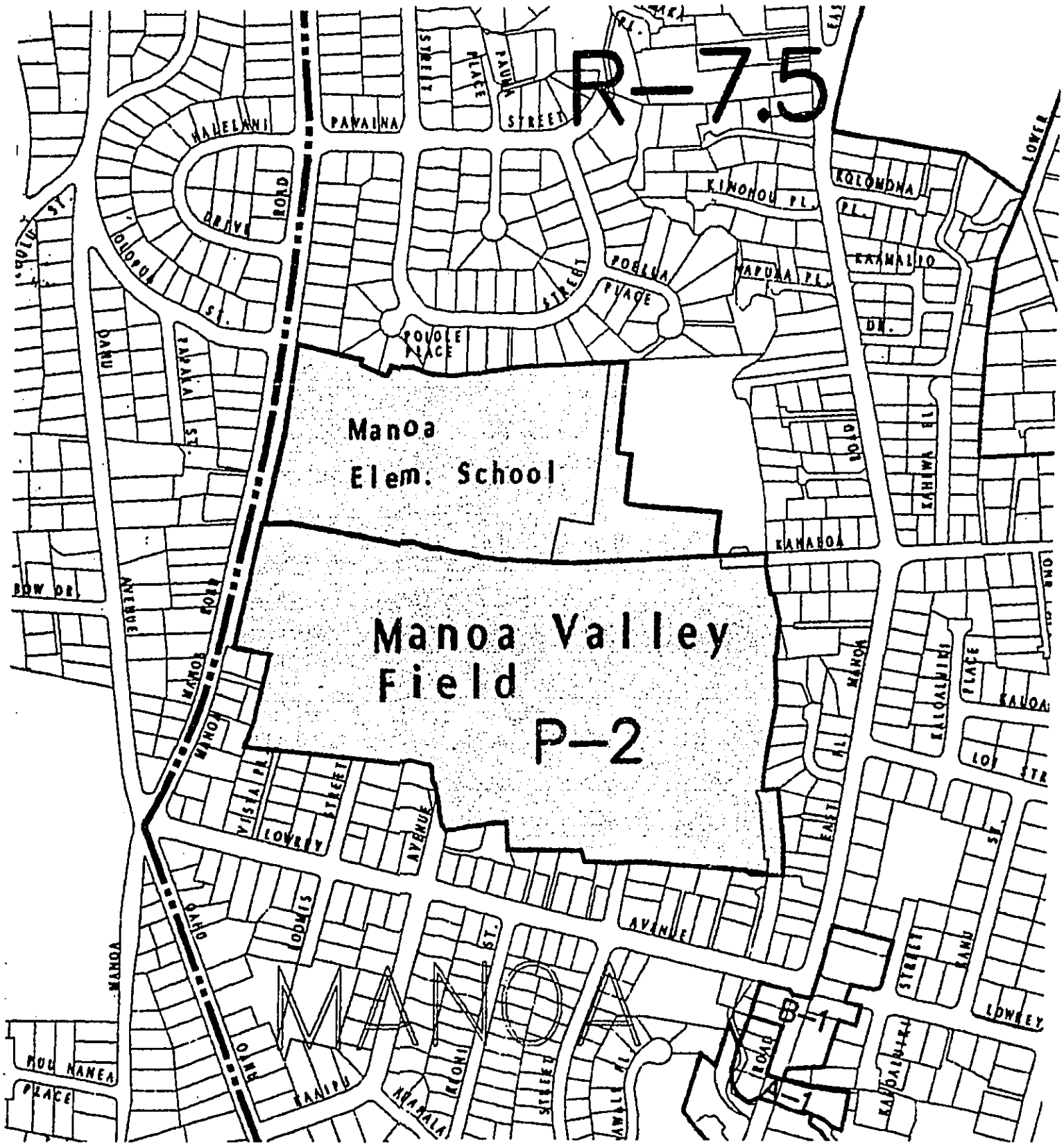

LEGEND

- Project Area
- P-2 General Preservation
- R-7.5 Residential

Source: City and County of Honolulu

FIGURE 7
Zoning Map

Manoa Valley District Park

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The proposed multi-purpose building/gymnasium will be situated so that the front of the building is in the P-2 zone and the rear of the building is in the R-7.5 zone. Classified as a public use and structure, the multi-purpose building/gymnasium, is a permitted use in both the P-2 zone and the R-7.5 zone. The LUO defines "public use and structure" in part, as:

> . . . uses conducted by or structures owned or managed by the federal, the State of Hawai'i or the city to fulfill a governmental function activity or service for public benefit and in accordance with public policy . . . Typical public uses and structures include: libraries, base yards, satellite city halls, public schools and post offices.

Because the multi-purpose building/gymnasium is a permitted use in both the P-2 and R-7.5 zones, a zone change is not necessary. The line designating the zoning is also the jurisdictional boundary between the park and the school. After the final footprint of the building is determined, the City will revise the jurisdictional boundary so that the classroom portion of the new building is within the school boundary and gym and other portions of the building are within the park boundary.

The proposed multi-purpose building/gymnasium will be approximately 44 feet tall at the peak of the roof line. The LUO sets maximum height levels of 25 feet in the P-2 zone and 25-30 feet in the R-7.5 zone; however, the LUO also allows the Director of the Department of Planning and Permitting to grant a waiver of the strict application of design standards for public use structures. For comparison purposes, it should be noted that the existing gymnasium is 42 feet high; therefore, at 44 feet high, the new multipurpose building/gymnasium is only two feet higher.

3.3 APPROVALS AND PERMITS

Table 2 provides an approximate list of approvals and permits required for the implementation of the proposed improvements.

Table 2
Required Permits and Approvals

Permit/Approval	Responsible Agency
ADA Accessibility	Disability and Communication Access Board
Building Permit for Building, Electrical, Plumbing, Sidewalk/Driveway and Demolition work	Department of Planning and Permitting
Grubbing, Grading, and Stockpiling Permit	Department of Planning and Permitting
Height Limit Zoning Waiver	Department of Planning and Permitting
NPDES	State Department of Health
Places of Assembly	Honolulu Fire Department
Sewer Connection Permits	Department of Planning and Permitting
Water	Board of Water Supply
Water Quality	State Department of Health

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4.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT, POTENTIAL IMPACTS OF THE PROPOSED ACTION, AND MITIGATIVE MEASURES

The environment surrounding the Mānoa Valley District Park and Mānoa Elementary School includes the physical or natural environment and the human or social environment. This section describes the existing conditions, potential impacts to the environment and mitigative measures.

4.1 PHYSICAL CHARACTERISTICS

4.1.1 Topography

The site is mostly gently sloping from approximately 209 feet mean sea level (MSL) in the north, to approximately 148 feet MSL in the south. The outdoor tennis and basketball courts are graded and level. The playing fields are also generally level. The Mānoa Stream borders the site on the southeast.

Portions of the property are located in the floodway as delineated on the Federal Flood Insurance Rate Map (FIRM).

Potential Impacts and Mitigative Measures

The site already has been extensively modified by improvements related to the park and school. The proposed improvements will not require any major alterations to the site, including the areas nearest the stream, therefore no significant impacts to the site topography are anticipated. No structures are proposed to be built in the floodway adjacent to Mānoa Stream as delineated on the FIRM.

4.1.2 Climate

Temperatures in the area are generally very moderate with average daily minimum and maximum temperatures ranging from about 70 to 85 degrees Fahrenheit. Average annual rainfall at the elevation where the park is located is about 55 inches with summer months being the driest. Trades winds are generally from the northeast. Strong winds do occur at times in connection with storm systems moving through the area.

Potential Impacts and Mitigative Measures

The proposed improvements are not expected to have an effect on climatic conditions and no mitigative measures are necessary. Project landscaping will help mitigate any localized temperature increases from the multi-purpose building/gymnasium and parking lot expansions.

4.1.3 Geology

The park and school are within Mānoa Valley, a valley of the Ko'olau Mountain Range. The mountain range is believed to have formed during the late Tertiary/early Pleistocene time (between 1 and 12 million years ago). After cessation of the main volcanic activity, erosion reduced the height

of the volcanic dome by as much as 1,000 feet. Stream activity cut deep valleys into the mountain range. During high stands of sea level, the valleys were infilled with sediment (alluviated) grading to the high sea level stands (Stearns and Chamberlain, 1967).

Ten to twenty thousand years ago, the Sugarloaf volcanic vent, above Roundtop, sent a cascading lava flow down the western wall of Mānoa Valley which spread out on the lower valley floor somewhat below the current site of the park. This lava flow profoundly altered the drainage of Mānoa Valley by forcing Mānoa Stream out of its former channel near the middle of the valley and causing it to swing far eastward, where it now follows the boundary between the flow and the ridge of Ko'olau rock that bounds the valley on the east. The flow raised the level of the floor of the valley near its mouth, which reduced the gradient of Mānoa Stream and caused it to deposit alluvium in the upper part of the valley, building up the floor upstream from the lava flow until it is now in essentially continuous slope with the lava-covered portion at the mouth (Macdonald and Abbott, 1970).

Potential Impacts and Mitigative Measures

Impacts on the geology of the site could be caused by alterations to accommodate the proposed improvements. Proposed improvements, such as the multi-purpose building/gymnasium and the perimeter "lei" pedestrian pathway, however, are relatively insignificant compared to the overall geologic character of the site and region. As such, significant impacts resulting from the proposed improvements are not expected. Appropriate engineering, design, and construction measures will be undertaken to minimize potential erosion due to the grading of soils during construction.

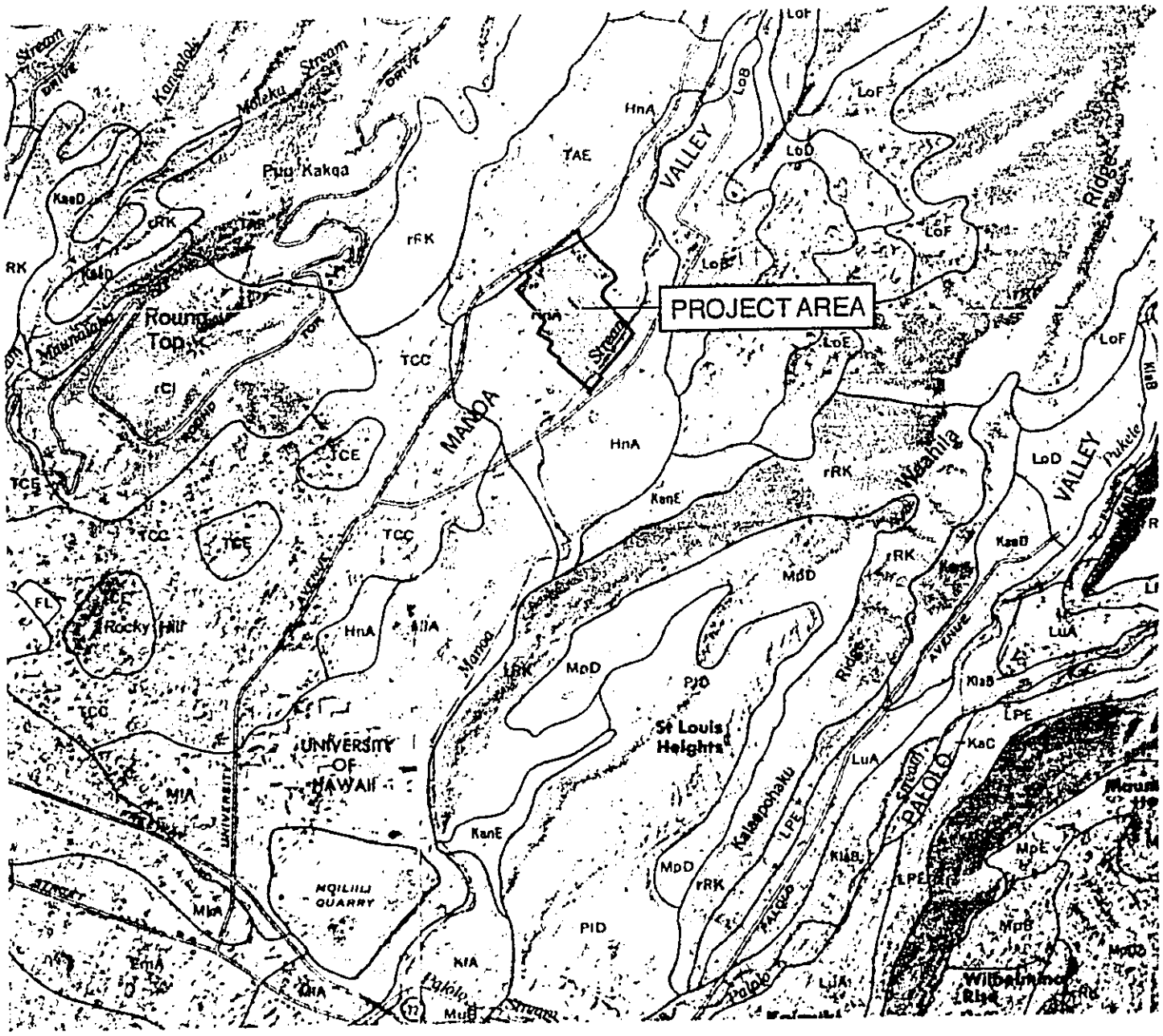
4.1.4 Soils

There have been three soil suitability studies prepared for Hawai'i whose principal focus have been to describe the physical attributes of land and the relative productivity of different land types for agricultural production. These are: 1) the U.S. Department of Agriculture Soil Conservation Service (SCS) Soil Survey; 2) Land Study Bureau Detailed Land Classification; and 3) the Agricultural Lands of Importance to the State of Hawai'i (ALISH).

Soil Conservation Survey. According to the *United States Department of Agriculture Soil Conservation Service, Soil Survey of Islands of Kaua'i, O'ahu, Maui, Moloka'i and Lāna'i, State of Hawai'i,* 1972, the soils on the Mānoa Valley District Park and Mānoa Elementary School site are classified as Hanalei Silty Clay (HnA) (Figure 8).

Hanalei Silty Clay soils are found on Kaua'i and O'ahu on stream bottoms and in flood zones. In general they are somewhat poorly drained to poorly drained. They developed in alluvium derived from basic igneous rock and are level to gently sloping. Elevations range from nearly sea level to 300 feet. The annual rainfall amounts to 20 to 120 inches. Permeability is moderate. Runoff is very slow and the erosion hazard is no more than slight. Flooding is a hazard. These soils are used for taro, pasture, sugarcane and vegetables. The natural vegetation consists of paragrass, sensitiveplant, honohono, Java plum and guava.

Detailed Land Classification. This classification system applies a five-class productivity rating to soils using the letters A, B, C, D and E—with A representing the class of highest productivity and E the lowest. The University of Hawai'i's Land Study Bureau *Detailed Land Classification—Island*



LEGEND

- Project Area
- HnA Hanalei Silty Clay 0 to 2% Slopes
- TCC Tantalus Silty Clay Loam 8 to 15% Slopes
- TLE Tantalus Silty Clay Loam 15 to 40% Slopes
- TAE Tantalus Silty Loam 15 to 40% Slopes

Source: U.S. Soil Conservation Service

FIGURE 8
Soil Conservation Service Soil Survey

Manoa Valley District Park

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of O'ahu, has not classified the site of the Mānoa Valley District Park and Mānoa Elementary School by an agricultural potential rating.

Agricultural Lands of Importance to the State of Hawai'i. The State Department of Agriculture's *Agricultural Lands of Importance to the State of Hawai'i (ALISH)* system of defining soil agricultural suitability has not classified the site of the Mānoa Valley District Park and Mānoa Elementary School according to its rating system. All of the site is delineated within the existing urban development boundary, therefore, there are no soils on site classified as "prime agricultural land" or "other important agricultural land."

Potential Impacts and Mitigative Measures

The site of the park and school is in an established residential neighborhood. The park area is zoned P-2 and the school area is zoned R 7.5. Both areas are completely within the State Urban district. Surrounding land uses are primarily residential. Factors of the site limiting its agricultural potential are its: 1) established uses as a park and school; 2) designation within the State Urban district; and 3) surrounding City residential zoning. Rainfall in the project area is sufficient for soil based agricultural crops. However, other areas within the state exist where soil conditions are better suited for commercial agriculture.

All grading operations will be conducted in full compliance with dust and erosion control and other requirements of the City and County of Honolulu Grading Ordinance and the provisions of Chapter 11-60.1, Hawai'i Administrative Rules, Section 11-60.1-33 on fugitive dust. Best management practices (BMPs) to mitigate pollutants will be included in the construction plans.

4.1.5 Drainage

The Flood Insurance Rate Map (Community-Panel No. 150001 0120 C) (Figure 9) indicates the southern portion of the park bordering Mānoa Stream is located within the 100-year flood (Zone AE 169 feet floodway with a base flood elevation at 169 feet above sea level). This area consists of open grassed areas and a baseball field.

Mānoa Valley District Park and Mānoa Elementary School currently use overland sheet flow, swales, on-site ditches, drain inlets and underground drain lines to intercept on-site generated runoff. The runoff accumulated within the park and school discharges into Mānoa Stream through the use of outlet structures located at various points along Mānoa Stream.

Potential Impacts and Mitigative Measures

There will be no structures within the floodway area as delineated on the federal Flood Insurance Rate Map. The proposed multi-purpose building/gymnasium is outside of the floodway district. Improvements within the floodway include, baseball fields, a portion of the perimeter "lei" pedestrian pathway, and landscaping. According to Section 21-9.10 of the Land Use Ordinance, public and private outdoor recreational facilities, lawn, garden, and play areas are not prohibited in the floodway district. In addition, as provided in Section 21-9.10-13 of the Land Use Ordinance, the following uses are exempt from the flood hazard regulations: comfort stations, open park pavilions, picnic tables and benches, playground equipment, recreational open play courts, and recreational outdoor lighting and landscaping.

Some of the proposed improvements, such as additional parking and the perimeter "lei" pedestrian pathway, have the potential to increase runoff to surrounding areas because of increased impermeable surfaces. However, drainage patterns will not be altered. Flows which currently sheet flow will continue as usual and any additional runoff from the improvements will be directed to landscape plantings.

The amount of impervious area added by the improvements is small in relation to the larger basin. As a result, changes to the runoff coefficient are expected to be negligible. Therefore, it is concluded that the proposed improvements will not significantly increase the peak discharge to the existing drain system.

Construction work on the site will temporarily expose bare soil and will slightly increase the erosion potential until the foundation of the multi-purpose building/gymnasium is in place and ground cover is established. Upon completion, the presence of impermeable surfaces (walkways and parking areas) and landscaping will reduce the overall rate of erosion. Project specifications will incorporate erosion control requirements to mitigate any negative impacts during construction.

Detailed site specific measures for erosion and sediment control will be specified in the grading plans. Silt laden runoff from the site is anticipated during construction, however, the use of silt fences around the perimeter of the construction area will prevent the silt laden runoff from leaving the site and entering the stream.

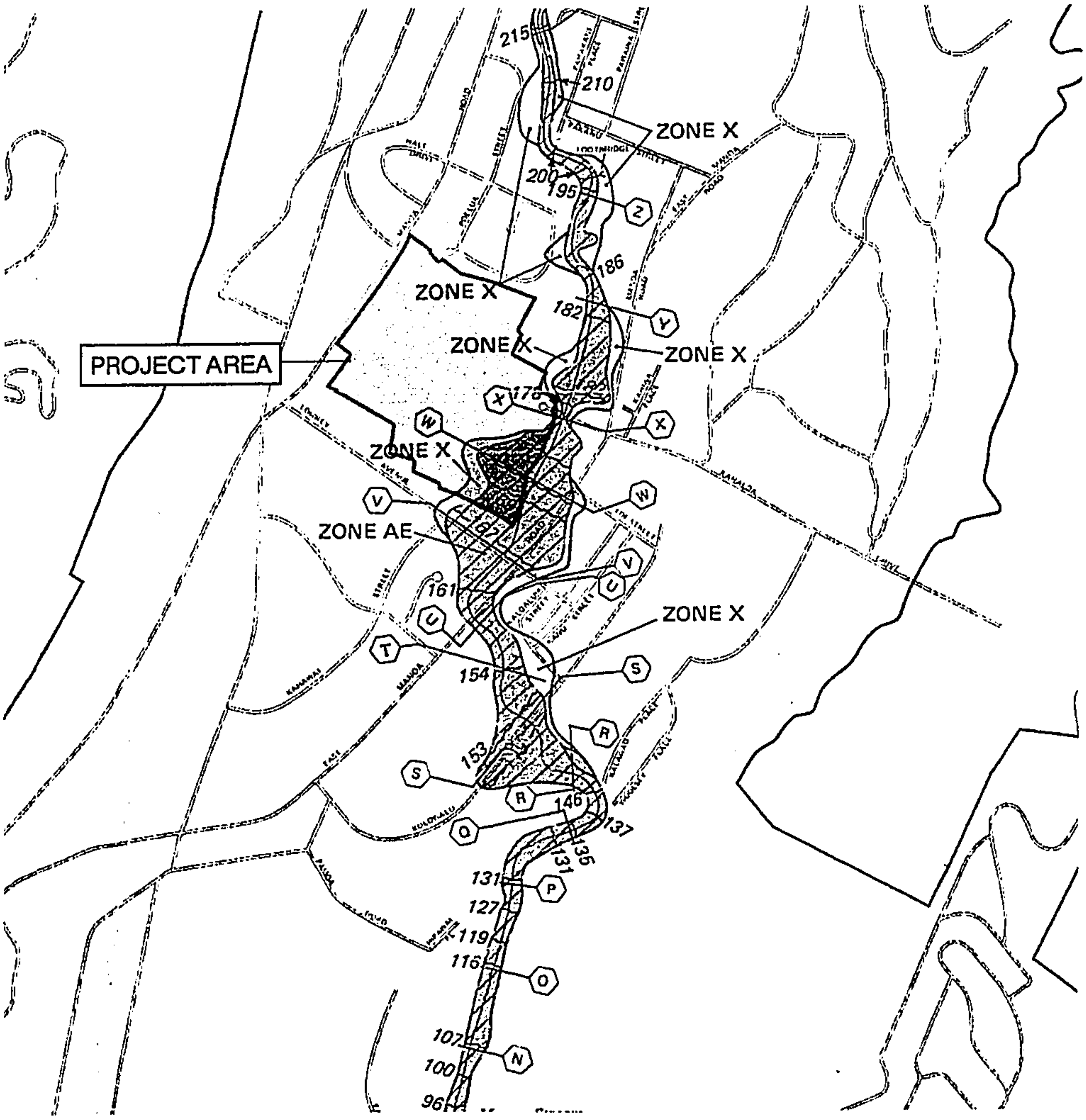
4.1.6 Flora and Fauna

The site of the Mānoa Valley District Park and Mānoa Elementary School and the surrounding area has been extensively altered by urbanization. The park and school site is landscaped with introduced plants that include monkeypod, paper bark, pink tecomas, rainbow shower, Formosa koa, and eucalyptus trees, ornamental plants, and grass. The stream banks include non-native herbaceous plants and weeds. In places, ornamental landscape plants line the upper stream banks. On the southwestern border the auwai adjoining the stream contains cultivated taro in some places. None of the plants observed on the site during site visits are rare, threatened, or endangered species.

Mammals found within the park and school include domesticated and feral cats and dogs. Typically, mice and rats are also likely to be found in this type of urban habitat. The park has limited native wildlife value; human use and domesticated and feral cats and dogs make conditions unfavorable to native wildlife.

Potential Impacts and Mitigation Measures

While final landscaping plans have not been completed, proposed park improvements include landscaping in various areas throughout the park. New landscaping will be included as part of the multi-purpose building/gymnasium, the perimeter "lei" pedestrian pathway, playground improvements, outdoor exercise stations, and the picnic area. Parking areas will be landscaped with trees in conformance with City regulations. Potential landscape plants in these areas include, monkeypod trees, rainbow shower trees, Formosa koa trees, and Bermuda grass. Significant trees will be preserved or relocated when feasible. Hence, the proposed improvements should have a positive impact on the botanical resources of the park.



LEGEND

	Project Area
AE	Areas within 100-year flood plain with base elevations determined
X	Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 sq. mile; and areas protected by levees from 100-year flood

Source: Flood Insurance Rate Map #15 0001 0120 C

FIGURE 9
Flood Insurance Rate Map

Manoa Valley District Park

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The proposed improvements, including the multi-purpose building/gymnasium, should not have a significant negative impact to birds or introduced wildlife in the area. Birds and the introduced wildlife will most likely benefit from landscape improvements.

4.1.7 Natural Hazards

The Hawaiian islands are associated with volcanic eruption and tectonic movement. All structures will be constructed for protection from earthquakes in accordance with the Uniform Building Codes adopted by the City and County of Honolulu.

The State of Hawai'i has been affected twice in the past 17 years by devastating hurricanes, 'Iwa in 1982 and 'Iniki in 1992. While it is difficult to predict these natural occurrences, it is reasonable to assume that future events could be likely given the recent record. The Mānoa Valley District Park, as the rest of the island or state, is no more or less vulnerable to the destructive winds and torrential rains associated with hurricanes and cyclones. Mānoa Elementary School adjacent to the Mānoa Valley District Park and Noelani Elementary School approximately one half mile from the park are the designated Emergency Evacuation Centers for the Mānoa area.

Potential Impacts and Mitigation Measures

The proposed improvements will not exacerbate any hazard conditions. The potential impact of destructive winds and torrential rainfall of tropical hurricanes and cyclones on the multi-purpose building/gymnasium and other improvements will be mitigated by compliance with the Uniform Building Code adopted by the City and County. All structures will be constructed for protection from earthquakes and tropical hurricanes and cyclones in accordance with the requirements of the City and County.

4.1.8 Wetlands and Stream Resources

Extensive urbanization of the park site and surrounding area precludes the presence of wetlands (with the exception of Mānoa Stream) in the vicinity of the park. The Mānoa Stream borders the park on the southeastern edge and the southeastern portion of the park is within the flood zone. Currently, a planning process—separate from the proposed improvements discussed in this assessment—is underway as part of a streambank stabilization project for the portion of the Mānoa Stream within the Mānoa Valley District Park. The goal of this project is to reduce sedimentation and flooding of the stream. As part of this project, a topographic survey of the immediate stream area surrounding the park will be conducted along with a flood evaluation. Landscaping and other improvements are also proposed.

Potential Impacts and Mitigative Measures

During the construction period, measures will be taken to prevent silt from entering the stream as described earlier in sections 4.1.4 and 4.1.5.

4.2 HUMAN ENVIRONMENT

4.2.1 Archaeological and Historic Resources

The entire site of the Mānoa Valley District park and Mānoa Elementary School, along with the surrounding area, has been extensively modified from its natural state for park uses, the school, and residential uses. Before urbanization, the area may have been used for agricultural activities (e.g., taro cultivation) due to its proximity to Mānoa Stream. However, based on a review of the National and Hawai'i Registers of Historic Places and site inspections, the proposed improvements will have no effect on any known historic property.

Potential Impacts and Mitigative Measures

The development of the project will require minimal grading, therefore, any subsurface features will remain preserved in situ. All construction plans will include the following language as normally recommended by the State Historic Preservation Division:

> Should historic remains such as artifacts, burials, concentrations of shell or charcoal be encountered during the construction activities, work shall cease immediately in the immediate vicinity of the find and the find shall be protected from further damage. The contractor shall immediately contact the State Historic Preservation Division at 692-8015 which will assess the significance of the find and recommend an appropriate mitigation measure, if necessary.

4.2.2 Traffic and Circulation

Two major collector roadways provide primary access to and from Mānoa Valley District Park and Mānoa Elementary School. Mānoa Road, located on the 'Ewa side of the park and school, provides direct access to the park and school, while East Mānoa Road, located on the Koko Head side of the park, provides access via Kahaloa Drive. Lowrey Avenue provides an east-west connection between Mānoa Road and East Mānoa Road and provides access to the park via Ka'aipū Avenue.

Mānoa Road is a two-lane, undivided roadway. The park has two access driveways on Mānoa Road. These intersections are unsignalized with stop-sign control on the access driveway approaches. Mānoa Road also provides access to Mānoa Elementary School. The school driveway is located opposite Olopua Street. The Mānoa Road/Mānoa Elementary School Driveway/Olopua Street intersection is unsignalized with stop-sign control on the Olopua Street and Mānoa Elementary School Driveway approaches. The Mānoa Elementary School Driveway also provides access to parking areas of the park.

East Mānoa Road is a two-lane, undivided roadway that provides access to the park via Kahaloa Drive. The intersection of East Mānoa Road and Kahaloa Drive is signalized. Further makai, East Mānoa Road intersects Lowrey Avenue. The intersection is also signalized.

Lowrey Avenue is a two-lane, undivided roadway that provides access to the park via Ka'aipū Avenue. Ka'aipū Avenue intersects Lowrey Avenue at an unsignalized intersection with stop-sign control on the Ka'aipū Avenue approaches.

A traffic impact analysis conducted for this assessment (Appendix A) indicates that all intersections currently operate very well during peak traffic hours.

Potential Impacts and Mitigative Measures

Based on the traffic impact analysis, the proposed improvements are not expected to generate a substantial amount of new traffic. The only improvement expected to generate more traffic within a specific time period is the multi-purpose building/gymnasium. The multi-purpose building/ gymnasium is expected to allow more gym activities to occur simultaneously, thereby slightly increasing traffic per hour, but not necessarily increasing total traffic during the day. The current restriction of one gym causes events to stretch out over the day rather than causing events not to take place. The new multi-purpose building/gymnasium is not being built to serve a substantial unserved demand, but rather to allow events to occur at the same time or at hours more convenient to park users. Therefore, demand is not expected to significantly increase, but peak time hours of use may change.

The traffic impact forecast and analysis indicate that traffic generated by the proposed improvements will have negligible impact on traffic operations at the key intersections surrounding the park. Most intersections will operate well during the projected peak hours, with or without the proposed improvements. As such, no changes to the roadway system or intersections surrounding the Mānoa Valley District Park are necessary as a result of the proposed improvements.

The traffic impact forecast and analysis also indicates the proposed increases in parking and associated traffic in areas served by driveways to Mānoa Road and Ka'aipū Avenue do not warrant new signalization of these driveways. Because increases in parking are proposed to be distributed in a manner similar to the existing traffic pattern, the increases in traffic volume are projected to be minor: 13 vehicles per hour (vph) at the Kahaloa Drive/East Mānoa Road intersection, 13 vph at the mauka school/park road/Mānoa Road intersection, 17 vph at the main driveway/Mānoa Road intersection, 2 vph at the secondary driveway/Mānoa Road intersection, and 16 vph at the Ka'aipū Avenue/Lowrey Avenue intersection. Intersection level of service (LOS) an index that measures intersection performance, was unchanged between the without and with improvement alternatives, confirming that traffic signals are not needed for operational purposes.

Construction vehicles and equipment may have a temporary impact on local traffic. Mitigative measures include:

1) Mobilizing and demobilizing construction vehicles and equipment during non-peak traffic hours;
2) The use of temporary traffic control devices, such as signs, cones, and barricades installed in accordance with the City's traffic standards; and
3) If necessary, the use of an off-duty police officer to direct traffic.

4.2.3 Air Quality

Air quality in the vicinity of the Mānoa Valley District Park and Mānoa Elementary School is probably currently affected mainly by emissions from motor vehicle traffic on nearby roadways. The State of Hawai'i Department of Health operates a network of air quality monitoring stations located at various sites around the state, however, there are no stations located in Mānoa Valley. Available data from other locations on O'ahu suggest that both state and national ambient air quality

standards are currently being met in the area, except possibly for the state standard for ozone. Ozone concentrations are generally found to be high throughout the state, partly because of the abundance of sunshine and partly because of Hawai'i's island setting. Although recent Department of Health data suggest that carbon monoxide concentrations are within both state and federal standards, it should be noted that carbon monoxide concentrations along sidewalks near traffic-congested intersections may be higher than concentrations measured at the Department of Health monitoring stations.

Potential Impacts and Mitigative Measures

An air quality assessment conducted for this environmental assessment (Appendix B) concludes that the proposed improvements are not likely to significantly impact air quality in the area. Short term potential direct impacts on air quality due to construction activity include: 1) fugitive dust from demolition work, vehicle movement and soil excavation; and 2) exhaust emissions from construction equipment. Short-term potential indirect impacts could result from slow-moving construction equipment traveling to and from the project site and from a temporary increase in local traffic caused by commuting construction workers.

Adequate fugitive dust control can usually be accomplished by the establishment of a frequent watering program to keep demolition areas and bare dirt surfaces in active construction areas from becoming significant sources of dust. Rapid establishment of plant materials once grading is completed can also lower the potential for fugitive dust emissions.

Exhaust emissions from construction equipment are not likely to exceed established air quality standards. Additionally, increased vehicular traffic from slow-moving construction vehicles traveling to and from the project site and from commuting construction workers is not likely to violate state or federal air quality standards based on the moderate level of existing traffic volumes in the project area.

After construction, long-term detrimental impacts on air quality due to increased vehicle traffic are not projected to be significant. Upon completion of the proposed improvements, traffic volumes are forecast to increase by only one to three percent, except at the intersection of Lowrey Avenue and Ka'aipū Avenue, where an increase of about eight percent during weekday peak-hour is forecast. Current level of service conditions at all intersections in the vicinity are adequate and are not expected to be degraded by the proposed improvements.

Traffic volume increases of less than five percent and about 100 vehicles per hour or traffic approach volumes of less than 1000 vehicles per hour do not cause significant impacts on air quality if adequate traffic level of service is provided. Although the intersection of Lowrey Avenue and Ka'aipū Avenue is forecast to experience an eight percent increase in traffic during the weekday peak hour, the traffic approach volumes with the project will be less than 650 vehicles per hour. Thus, it is extremely unlikely that the added traffic associated with the proposed project will cause any significant detrimental impacts on air quality in the project area.

4.2.4 Noise

Noise level measurements conducted for this assessment (Appendix C) indicate that the Mānoa Valley District Park and Mānoa Elementary School site is currently exposed to low ambient noise

levels of approximately 45 dBA to 59 dBA. Dominate noise sources are traffic on local roadways and occasional aircraft flybys. Typical noise generating activities at the park include sporting events, parking lot activities, and lawn mowing. Residents near the park report occasional rowdy behavior and associated noise in the parking lots late at night.

Potential Impacts and Mitigative Measures

Predicted traffic noise level increases along local roadways in the vicinity of the park were determined to be less than 1.0 dBA, which is below the threshold of change perceptible by most people and is not considered significant. Thus, traffic noise impacts from the proposed improvements are not considered significant and noise mitigation is not required.

Residents bordering the park have expressed concerns over noise and nuisances associated with activities in the existing parking lots (i.e., late night drinking and rowdy behavior). The potential exists for continued nuisances in the proposed new parking areas, especially in the proposed parking area adjoining and to the south of the existing Ka'aipū Avenue parking area. However, the Mānoa Neighborhood Board has asked the City to close the park from 12:00 a.m. (midnight) to 5:00 a.m. This change is expected to take place in 2000. The police believe closing the park late at night will improve security and make patrolling easier.

Sound produced inside the new multi-purpose building/gymnasium (e.g., crowd noise and sound from the public address system) will propagate through the louvers and may impact the school and nearby residences. The effect of impacts to the school is mitigated by the fact that league and community use of the multi-purpose building/gymnasium will only take place after school hours. As far as the effect of noise from the multi-purpose building/gymnasium on surrounding neighbors, the site of the new building in relation to the distance from the surrounding residences should lessen the noise impact on residents. Design measures for mitigating noise from the multi-purpose building/gymnasium include using acoustical louvers instead of standard aluminum louvers, installing sound absorptive materials on the ceiling and walls to reduce sound energy build up, and properly locating and orienting the loudspeakers of the public address system to minimize sound transmission through the louvers.

While the basketball courts will be naturally-ventilated, classroom and office spaces of the multi-purpose building/gymnasium will be designed for natural ventilation that may be converted to air-conditioning. Depending on if air conditioning is provided, and the type and location of the equipment, operating noise could impact the Mānoa Gardens Senior Housing Project, especially during late evening and early morning hours when ambient noise levels are low. If necessary, possible noise mitigation includes properly installed acoustic enclosures, acoustical louvers, silencers and/or noise barrier walls.

During the construction period, the use of construction equipment is expected to increase the noise levels on the site. Proper mitigating measures (such as limiting construction to daylight hours) will be employed to minimize the noise impacts. All work will be monitored to comply with State of Hawai'i Department of Health noise limits.

4.2.5 Visual Resources

The primary visual impact from the proposed improvements will be from the multi-purpose building/gymnasium. At 44 feet high, it will be the largest building in the area. Figure 10A shows the site of the new building. Figure 10B shows the parking lot areas that are proposed to be expanded, and Figure 10C shows areas where the perimeter "lei" pedestrian pathway will border the park.

Potential Impacts and Mitigative Measures

The site of the multi-purpose building/gymnasium between the blacktop area and the existing gym was chosen, in part, to reduce the visual impact of the building. An alternative site in the parking lot area fronting the existing gym, was thought to create a greater visual impact on neighboring residents on the Ka'aipū side of the park.

The visual bulk of the building will be partially off-set by building design and surrounding landscaping. As designed, the building will have two roof lines, with the second higher roof being that of the enclosed court area. The lower roof will encircle the higher roofed area containing the court area. Uses under lower roof will include the classrooms, arts and crafts rooms, offices, and restrooms. As viewed from the exterior, the roof lines will appear as "steps" thereby mitigating the visual bulk of the building and making it more in scale with the surrounding buildings. Additionally, the surrounding open space of the park should serve to mitigate the visual impact of the structure. For comparison purposes, it should be noted that the existing gymnasium is 42 feet high; therefore, at 44 feet high, the new multipurpose building/gymnasium is only two feet higher.

4.2.6 Social and Economic Impacts

As part of this assessment, a separate socio-economic impact assessment (Appendix D) was conducted to gauge the community concerns regarding the proposed improvements and to assess the potential social and economic impacts. The following sections summarize the main points from this socio-economic impact assessment.

4.2.6.1 Mānoa Community Profile

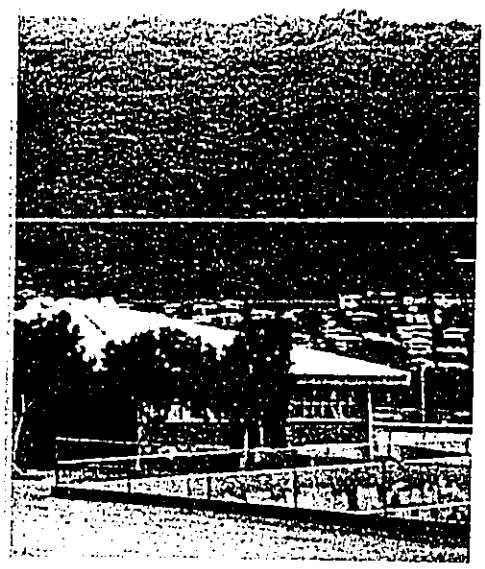
The Mānoa Neighborhood Area (defined by the City and County of Honolulu as "Neighborhood Area 7") extends from the H-1 freeway to the back of Mānoa Valley. Education is the dominant economic activity in the lower part of Mānoa, which is the site of the University of Hawai'i at Mānoa, Mid-Pacific Academy and Punahou School.

Upper Mānoa—where the Mānoa Valley District Park is located—is primarily a residential community, with economic activities mostly limited to a neighborhood shopping center and other facilities serving community residents (and, to some extent, the University trade).

According to U.S. Census figures (as re-analyzed by City planners in 1994), the Mānoa Neighborhood Area population declined from 22,600 in 1980 to 20,830 in 1990 (United States Dept. of Commerce, 1991, 1992; Planning Dept., City and County of Honolulu, 1994). During this period, the percentage of senior citizens aged 65+ increased from 9.5 percent in 1980 to nearly 16 percent in 1990, but other demographic characteristics such as ethnicity were little changed.

1. Looking east from the parking lot near Manoa Road toward the site of the new multi purpose building/gymnasium. The existing gym is the building on the right. The new multi-purpose building/gymnasium will be located on a portion of the grassy area to the left of the existing gym.

2. Looking west from the playing fields toward the site of the new multi-purpose building/gymnasium. The existing gym is the building on the left. The new building will be located between the existing gym and the blacktop area. The wooden classroom building on the right will be demolished to make way for the new building.



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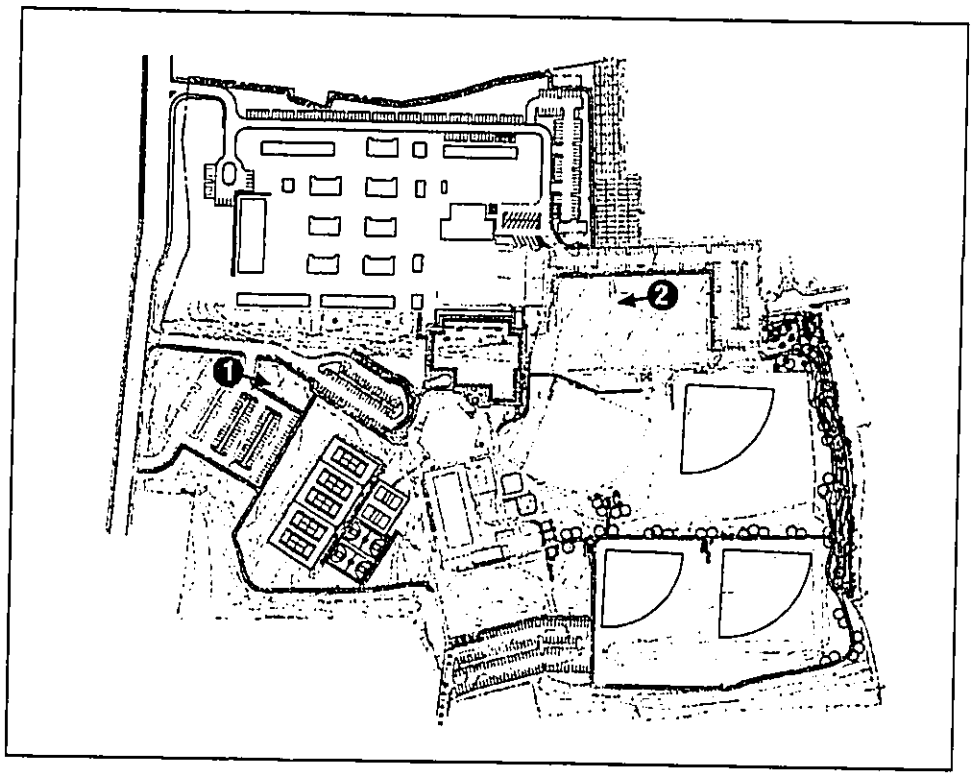
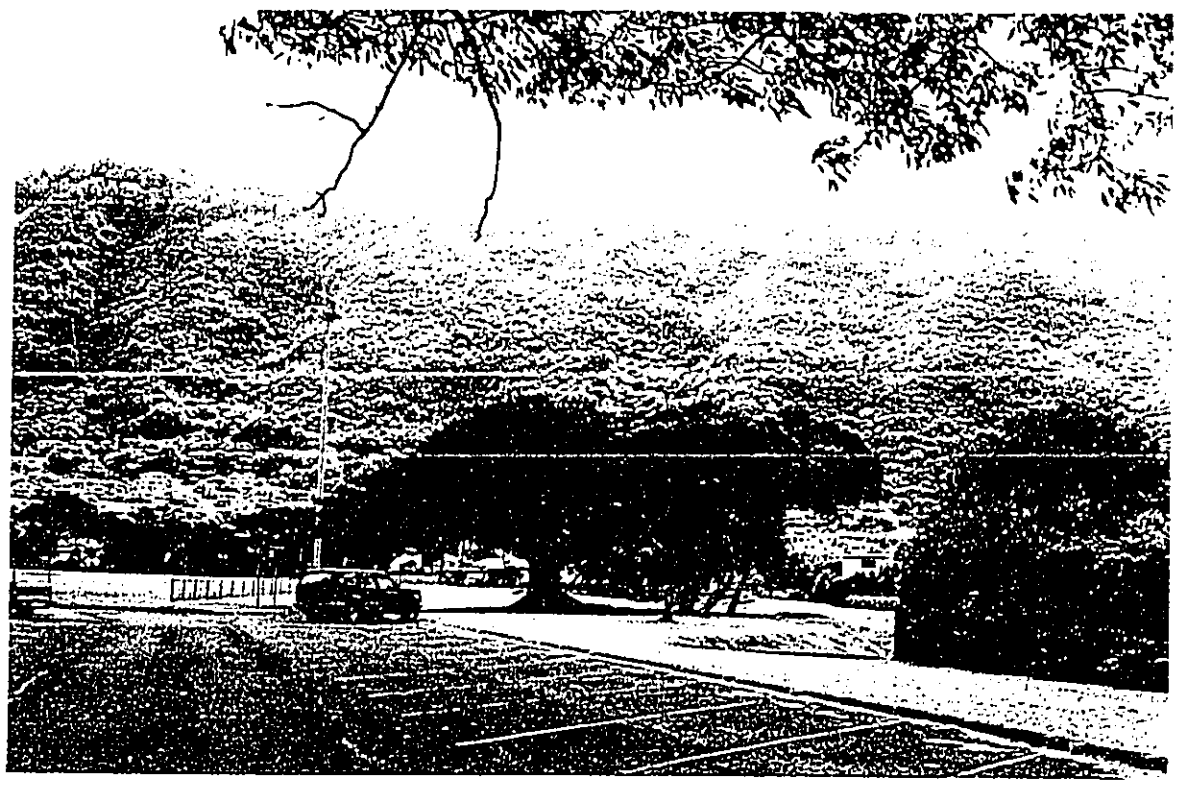


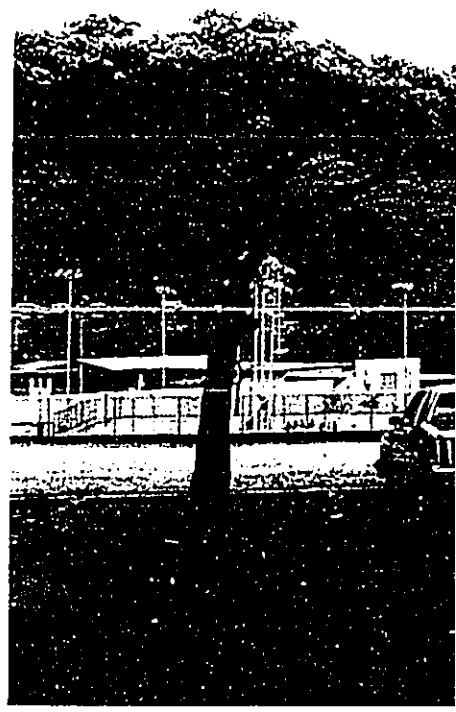
FIGURE 10a
Site Photographs

Manoa Valley District Park

July 2000

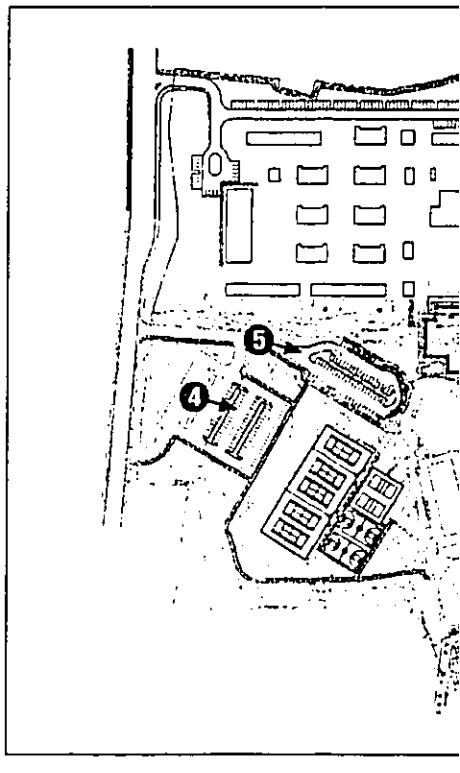


3. The Kaaipu Avenue parking lot is proposed to be reconfigured and extended into the open grassy area shown beyond the large tree in this photo. Ninety-nine new spaces will be created (including six accessible spaces), for a total of 162 parking spaces in this area.



4. The upper parking lot accessed from the M the tennis courts. Sixty-seven new spaces w total of 141 spaces.

5. The lower parking lot, accessed from Manoa Road and near the existing gym, will be improved to meet ADA standards. Seventeen new spaces will be added for a total of 79 spaces.



g lot accessed from the Manoa Road is proposed to be extended towards
Sixty-seven new spaces would be added to the existing 74 spaces, for a
s.

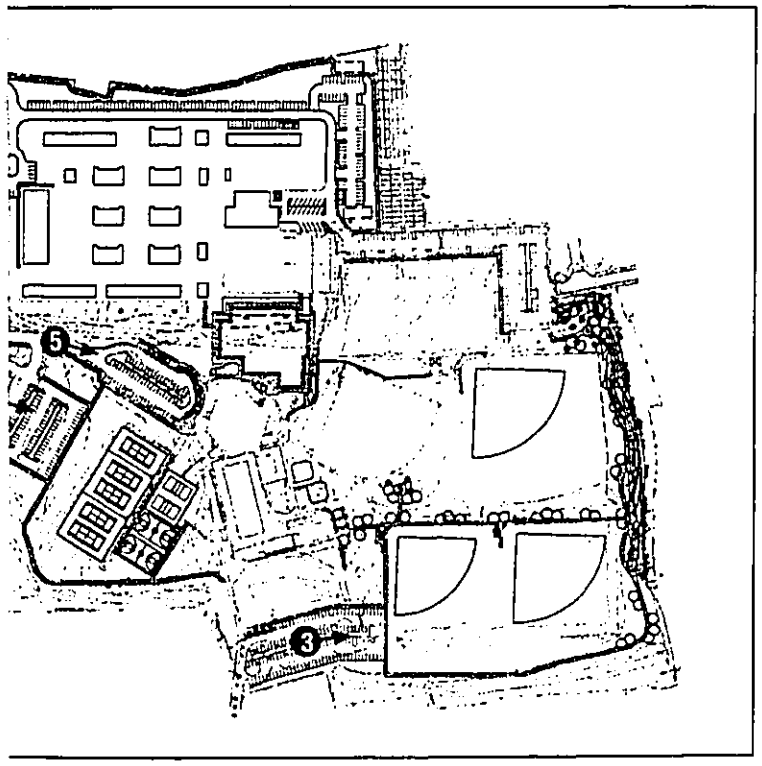
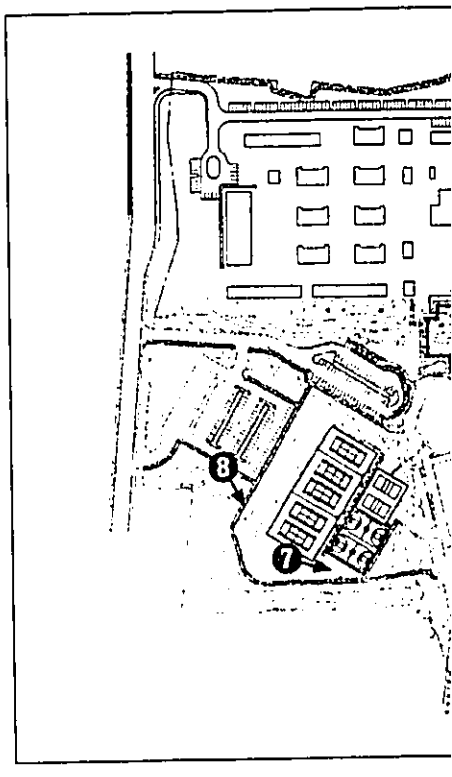


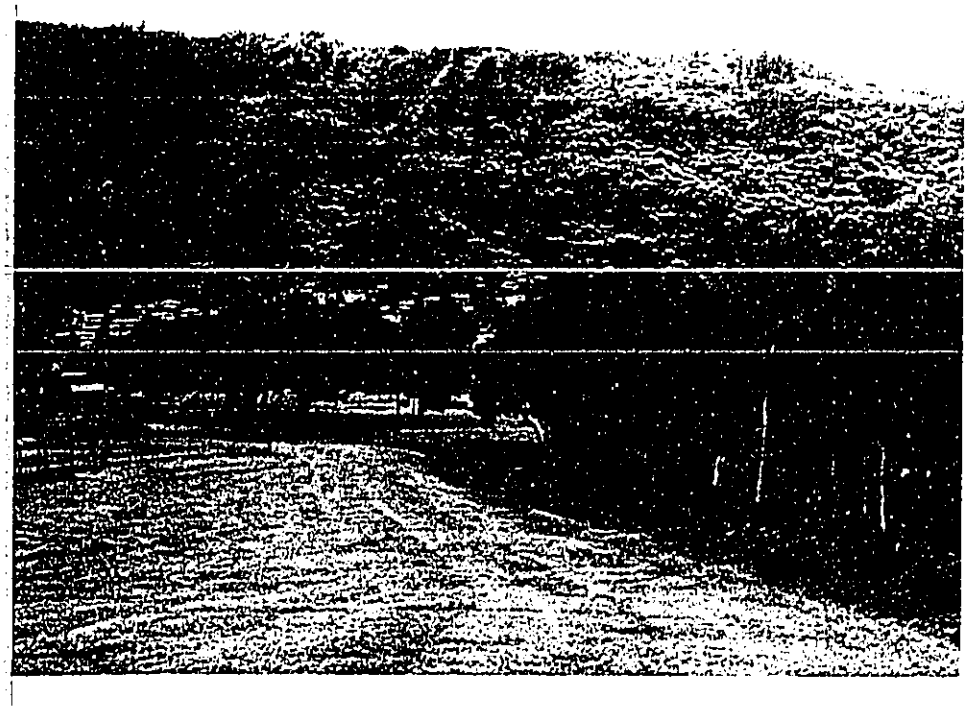
FIGURE 10b
Site Photographs

Manoa Valley District Park

July 2000

6, 7 & 8. The perimeter "lei" pedestrian pathw
along Manoa Stream (6) and along p
courts (7) and the tennis courts (8).





eter "lei" pedestrian pathway will border the park in most areas, including oa Stream (6) and along portions of the auwai near the outdoor basketball nd the tennis courts (8).

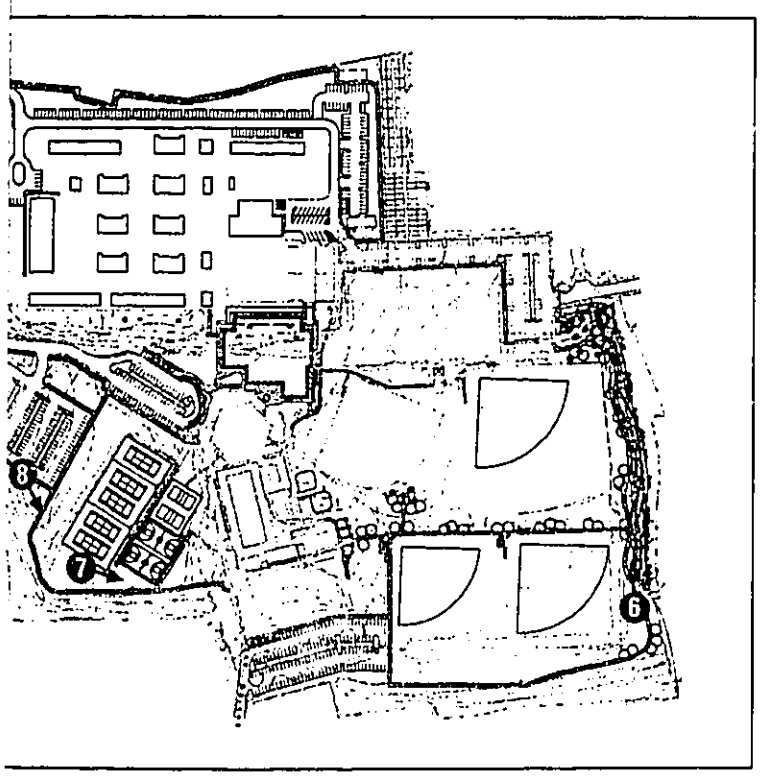


FIGURE 10c
Site Photographs

Manoa Valley District Park

July 2000

These figures indicate that, compared to the island as a whole, Mānoa residents tend to be older, more college-educated and more likely to be of Japanese extraction. Mānoa residents tend to have higher than average household incomes and to work in professional occupations. The community consists mostly of owner-occupied single-family residential homes with relatively high values. Small pockets of multi-family units include the Mānoa Gardens Elderly Housing project adjacent to the park.

4.2.6.2 Economic Impacts

The primary economic impact consists of employment (particularly construction employment), since the facility generates no tax revenues. Technically, there is little or no true employment "impact," since the funds for building and maintaining this facility are already in the economy—and the new gymnasium is not expected to attract additional money from outside Hawai`i.

However, the facility can "support" or maintain ongoing construction employment and associated other jobs in the economy generated by sales to construction companies or the expenditure of wages by workers. It is estimated that projects with known cost components will support about 45 man-years of direct construction employment and a total of about 145 man-years in the economy statewide, including indirect and induced jobs.

It is not currently known if or how many additional operational jobs will be needed to staff the expanded facilities. However, there are currently two unfilled maintenance positions at the park, and it seems likely the additional activities will increase pressure on the City at least to fill one or both of these positions.

Park personnel do not expect additional full-time recreation employees to be hired as a result of the expanded facilities. Instead, there may be a need for additional part-time attendants, or the working hours of current part-time attendants may be increased. Additional school personnel are not expected to be needed as a result of proposed improvements to the school.

4.2.6.3 Community Issues and Social Impacts

Interviews with key stakeholders, including community members, public officials, park officials and youth league representatives, were conducted to assess issues and concerns associated with the proposed improvements. Interviewers conducted a total of 27 interview sessions with 32 adult individuals (plus 33 members of the Mānoa School Student Association). In rough order of the intensity of feeling expressed by the particular stakeholders who were interviewed, key issues and concerns included:

- *Inadequacy of current facilities and need for project*—Interviewees felt that current lack of space is limiting league enrollments, curtailing practice time, and resulting in delayed playing times that can interfere with homework or family time. They felt the existing gym is run down and rainy Mānoa weather often makes the outdoor courts unavailable for practice.

- *Concerns over possible increased demand and associated problems*—Although a minority among the particular people interviewed for this project, some residents (especially but not exclusively those living near the park) expressed strong concern that new facilities would

generate increased park usage, exacerbating various specific problems for neighbors. Part of this was a sense that new facilities would increase demand from "outsiders," such that Mānoa would be hosting a disproportionate share of recreational users.

- *Adequacy of community review process*—Some residents, particularly park neighbors, felt there was inadequate notification and/or review by the Neighborhood Board. However, a majority of interviewees disputed this viewpoint and praised the process for its inclusiveness.

- *Crime and other nuisances related to parking lots*—Neighbors and other residents (and police) said most problems at the park emanate from the parking lots: occasional rowdy or even criminal activities, use of the lots to case nearby homes for burglaries, or simple distractions such as noise and lights (vehicle or night lighting). These problems, along with parking overflow, were the source of much of the concern about additional park use.

- *Parking inadequacy vs. space/visual impacts*—Interviewees concurred that on-site parking is inadequate and may well still be inadequate even after the planned new stalls are built. Parking overflow onto nearby streets annoys neighbors (although on-street parking is legal in designated areas) and can block emergency vehicle access to the park (Ka`aipu Ave.). However, almost nobody wanted to sacrifice open space for more parking. The proposed upper parking lot expansion was generally accepted, but there were mixed and sometimes negative reactions to the possible lower lot expansion.

- *Open space and passive areas*—Interviewees generally felt the plan does a good job of minimizing impacts on open space and passive use areas, but emphasized the need for dense landscaping (especially along the park perimeter) and retention of open space as the plan is implemented.

- *Joint school use of new multi-purpose facility*—School officials stressed the need for the new gym to be acoustically suited for use as an auditorium and for good ventilation (preferably air-conditioning) of classrooms in the building.
- *School security and safety*—Earlier concerns about students' exposures to outside users have largely been resolved by final siting and design elements, but there still was some anxiety about safety during construction.

- *Environmental concerns*—Interviewees felt the final plan seemed to address issues like stream protection and drainage, but still emphasized concern.

- *Other*—A variety of miscellaneous other concerns were expressed. The most common was the simple desire for assurance of compliance with laws providing for access by disabled persons.

Potential Impacts and Mitigative Measures

The new gymnasium will provide the Mānoa Elementary School with greatly improved physical education and auditorium facilities, as well as attached new classrooms. However, the heaviest after-school users of the current gymnasium and the new multi-purpose facility indoor courts are and will likely continue to be community-based youth leagues—boys' basketball, boys' volleyball, girls' basketball and girls' volleyball. Their use of the new facility would represent both fulfillment of

recreational demand and also the main source of new park use (to the extent that increased use generates increased problems for neighbors).

"Demand" and "use" are somewhat different concepts here, because some leagues would probably expand to fill unmet demand, while others would not necessarily recruit new members but would still use the park more often because practice sessions now held off-site could be accommodated on site.

Discussions with both league and park officials indicate the leagues would like to use the new courts even more intensively than park officials—who have final scheduling authority—will probably be able to allow. The leagues have not officially made requests for use, nor have City officials officially set policies for use. However, the social impact assessment includes a rough and highly preliminary analysis of likely expansion of use during periods when both indoor and outdoor courts are heavily used for league play, i.e., weekdays after school and Saturdays (and on Sundays during boys' basketball season). Saturdays are particularly important because they are often the most crowded, with attendant parking lot problems, due to simultaneous heavy use of outdoor fields.

Table 3 (on the next page) summarizes the analysis. It should be noted that this analysis is "indicative" of changes in use rather than completely definitive, because it looks only at players (including non-league players when courts are open for public use, but excluding coaches, parents and other observers) and because no comparable figures are available for outside field use.

Without additional figures relating to outside field use, parents, coaches, etc., it is not possible to translate the numerical changes in use into percentage increases. However, Parks officials have estimated the overall increase in park use as about 10% percent due to the new multi-purpose facility. The increases suggested in the second column of Table 3 (generally 60 to 100 additional league and other players each day) seem consistent with this estimate.

Concerns about "outsiders" using the gyms are in one sense accurate, because many youth players already come from outside Mānoa. Interviews suggest that "outside" parents choose to enroll their children in Mānoa youth leagues because of its proximity to workplaces and to private schools, because of the neighborhood's reputation for safety, and because of the leagues' reputation for quality. They are not necessarily reacting to lack of facilities in their own areas. However, it should also be recognized that City parks have no residency requirements and are focused on serving an islandwide clientele.

Parking lot expansion and construction of a perimeter "lei" pathway pose legitimate security and other nuisance issues for adjacent residential neighbors. Police say most complaints about parking lot problems (e.g., drinking, rowdy behavior) are made late at night, and the Neighborhood Board has asked the City to close the park from 12:00 a.m. (midnight) to 5:00 a.m. The police believe that chaining the lots after hours also will improve security and make patrolling easier. Planned dense landscaping and shielding of night lighting should alleviate nuisance impacts from noise and lights. However, neighbors by the new walkway may still feel a need or desire to erect their own barriers if they are dissatisfied with City measures.

Parking adequacy and overflow impacts remain an unresolved social issue because of community unwillingness to add more parking than is now planned, despite frustrations over full parking lots

Table 3
Youth League Desires vs. Parks Official Estimates of Change in Use of Courts

Sport/Time of Year	"Maximal Demand Scenario" (Based on league Desires)	"Intended Future Impact Scenario" (Based on Preliminary Parks Thinking)
General Assumptions	Leagues would resolve all current needs through unrestricted access to new indoor courts (and could also keep practicing on outdoor courts). Assumes all courts open on Saturday.	One of the future indoor courts would be reserved for non-league public use, and all three indoor courts would be closed Saturday mornings to help manage parking issues.
Boys' Basketball (Aug. - Dec.) Current members: 640	**General:** No expansion of league, but any practices now being held off-site could be accommodated at park. Sunday games eliminated (though Sunday practice session could continue). **Numerical Change in Use:** Additional 120 boys using courts throughout day on weekends; additional 320 bodies (including public use) on Saturdays; 100 fewer bodies on Sundays.	**General:** Some practices would still have to be held off-site, and Sunday games must continue, but additional three games could be held at park each weekday. **Numerical Change in Use:** Additional 90 bodies (including public use) each weekday; additional 80 bodies on Saturday afternoons; additional 30 bodies on Sundays.
Girls' Basketball (Dec. - Feb) Current members: 180	**General:** Expand league up to six new teams (60 members) to meet existing demand. Mast games & practices already on-site, but all would be on-site with new gym. Need for fewer hours of games on Saturdays. **Numerical Change in Use:** Additional 120 girls using courts throughout day on weekdays; additional 150 bodies (including public use) on Saturdays.	**General:** League expansion probably held back to something like four teams (40 members). Saturday hours cut back slightly. **Numerical Change in Use:** Additional 90 bodies (including public use) on weekdays; additional 60 bodies (due to public use on Saturdays.
Girls' Volleyball (Feb. - May) Current members: 216	**General:** Same as for girls' basketball, but six teams means 72 members. **Numerical Change in Use:** Additional 144 girls using courts throughout the day on weekdays; additional 162 bodies (including public use) on Saturdays.	**General:** Same as for girls' basketball, but four teams means 48 members. **Numerical Change in Use:** About 100 more bodies (including public use) on weekdays; slightly fewer (-14) bodies than now on Saturdays.
Boys' Volleyball (June - Aug.)	**General:** No league expansion. All games and practices would be on-site (a few are now off-site). **Numerical Change in Use:** Due to public (not league) use of new courts, additional 60 people throughout weekdays and additional 180 on Saturdays.	**General:** [No real effect on boys' volleyball use from new facilities] **Numerical Change in Use:** Due to public (not league) use of new courts, additional 60 people throughout weekdays and additional 90 on Saturdays.

and overflow onto nearby streets (though parking there is legal in designated areas) on Saturdays and other peak event days. The new multi-purpose facility may somewhat exacerbate problems even though approximately 289 new parking stalls will be added at both the park and the school when all phases are complete. One suggested mitigation is to initiate "No Parking" regulations on one or both sides of Ka`aipu Avenue to assure emergency vehicle access to the park.

Earlier school personnel concerns about student security were largely resolved by final siting and design elements. However, there will always be lingering concerns about student security occasioned by a joint use arrangement, and the school would like to have a security position assigned someday.

Park areas affected by construction activities will be closed off from public use by installing temporary fencing. There will be designated staging areas(s) for construction equipment and material within the park boundaries. The staging areas will be located in areas of the park that will minimize impact to park users and will be secured by fencing to protect against theft, vandalism, and unauthorized entry.

4.2.7 Infrastructure

Infrastructure improvements necessary for the project will be provided by connecting to existing easements.

4.2.7.1 Water System

The City and County of Honolulu Board of Water Supply owns and maintains the water system that services Mānoa Valley District Park and Mānoa Elementary School. The complex is presently served by Mānoa 405 Reservoir. The 1.0 MG reservoir has a spillway elevation of 405 feet and a bottom elevation of 385 feet. Mānoa 405 Reservoir receives water from Mānoa Well II which has a capacity of 700 gallons per minute (GPM) and a total head of 387 feet. In addition, the Board of Water Supply has stated that there are two existing wells in the immediate vicinity that may have the potential to meet irrigation requirements.

The water distribution system for the park and school ties into the Mānoa 405 system at Kahaloa Place. A two-inch water meter serves the park site and a 3-inch compound water meter serves Mānoa Elementary School.

Potential Impacts and Mitigative Measures

The Board of Water Supply indicates that the existing off-site water system is presently adequate to accommodate the proposed improvements. However, the on-site water system will need to be improved to accommodate the required fire protection for the proposed multi-purpose building/gymnasium. The existing two-inch and three-inch water lines feeding the park and school facilities will need to be upgraded to eight-inch or 12-inch water lines.

Although an irrigation plan has not been prepared, when developed, the plan will consider the use of the two existing wells for sources of irrigation water. In addition, the use of moisture sensors will be considered to avoid operating the irrigation system while it is raining or if the ground has adequate moisture.

4.2.7.2 Wastewater Facilities

An existing eight-inch sewer main runs through Mānoa Valley District Park and is the main collector pipeline for park facilities. The effluent is directed southwest to Ka'aipū Avenue through a 10-inch line. The 10-inch sewer line continues down Ka'aipū to Lowrey Avenue. The existing wastewater system is owned and maintained by the City and County of Honolulu.

Potential Impacts and Mitigative Measures

The multi-purpose building/gymnasium will include restroom facilities. Additionally, the current restroom facility near the play fields is proposed to be expanded. Both will be connected to the existing municipal sewer system. The existing on-site sewer system is adequate to handle the increase in wastewater effluent generated by the proposed improvements.

4.2.7.3 Drainage Facilities

Mānoa Valley District Park and Mānoa Elementary School currently uses overland sheet flow, swales, on-site ditches, drain inlets and underground drain lines to intercept on-site generated runoff. The runoff accumulated within the park and school discharges into Mānoa Stream through the use of outlet structures located a various points along Mānoa Stream.

The southern portion of the park, along Mānoa Stream, currently used as open space and a baseball field, is located within the 100-year flood zone.

Potential Impacts and Mitigative Measures

Potential impacts on drainage from the proposed improvements, along with mitigative measures are discussed in section 4.1.5.

4.2.7.4 Electrical and Communication Utilities

Primary electrical, telephone, and cable television (CATV) service for Mānoa Valley District Park originates from Hawaiian Electric Company's (HECO), GTE Hawaiian Telephone's (HTCO) and Oceanic Cablevision's overhead facilities along Ka'aipū Avenue, adjacent to the park site. An underground ductline and handhole system routes the primary electrical from a utility pole along Ka'aipū Avenue to a HECO transformer vault located within the existing gymnasium. Underground ductlines and handholes also route telephone and CATV service from a utility pole along Ka'aipū Avenue to various facilities on the park site.

Potential Impacts and Mitigative Measures

Present electrical and telephone capacities are inadequate to support the new multi-purpose building/ gymnasium and associated improvements, such as additional parking lot and walkway lighting. Significant modifications to the existing gymnasium's transformer vault and electrical room would be necessary to support an upgrade of the existing electrical system. Therefore, new primary electrical, telephone and cable television service for the multi-purpose building/gymnasium will be obtained from overhead facilities along Mānoa Avenue. The primary power system will consist of an underground ductline and handholes, which will deliver

primary power from a utility pole along Mānoa Avenue to a new HECO pad mounted transformer located on the project site and dedicated to the park. Underground ductlines and handholes will route telephone and cable television services from a utility pole along Mānoa Avenue to signal rooms located within the new multi-purpose building/gymnasium. Pole mounted parking lot lighting, approximately 16 feet high, will be added at parking lots, driveways and walkways.

4.2.8 Solid Waste Disposal

On O'ahu, residential and commercial wastes are hauled to landfills, the incinerator, or transfer stations. A waste-to-energy conbuster, H-POWER (Honolulu Program of Waste Energy Recovery) located at the Campbell Industrial Park incinerates about 1,800 tons of cobustable waste per day. The electricity generated is bought by Hawaiian Electric Company. Currently, the H-POWER facility receives all residential and commercial packer truck wastes on the island.

The Waimānalo Gulch Landfill, which opened in 1989, is the City's primary solid waste disposal facility and is located mauka of Farrington Highway near Kahe Point. The site accepts residential, commercial and nonhazardous industrial solid wastes, demolition debris and ash and residue from the H-POWER waste-to-energy facility. Wastewater treatment sludge, septic tank wastes and cesspool pumpings are accepted, provided such disposal is in accordance with the landfill's operating guidelines. The site also handles special wastes such as spent lime, contaminated foods and asbestos.

Potential Impacts and Mitigative Measures

The planned improvements to the park and school will comply with the State Department of Health and the City and County of Honolulu Department of Facility Maintenance requirements to ensure that all aspects of the project conform to the program goals and objectives of the Integrated Solid Waste Management Act, Chapter 342G, Hawai'i Revised Statues, and the County's approved integrated solid waste management plans in accordance with a schedule and time frame satisfactory to the Department of Health.

Vegetation removed from the property during the construction of the multi-purpose building/gymnasium and other improvements will be chipped and then hauled to a green waste disposal site for composting. Green waste will be disposed of in compliance with all state and county laws and ordinances.

Solid waste generated during the operation of the project will be collected and disposed of by the City and County, Department of Environmental Services, Refuse Division.

4.2.9 Public Services

4.2.9.1 Fire Protection

Fire protection is provided by the Mānoa Fire Station located at 2850 East Mānoa Road, approximately one half mile from the Mānoa Valley District Park.

Potential Impacts and Mitigative Measures

There may be an occasional and unavoidable demand for fire protection services associated with the proposed improvements. The applicant will advise the Fire Department of project implementation and phasing to permit adequate planning and advance notice of project completion. Existing levels of fire protection services and facilities are considered adequate to service the proposed project.

4.2.9.2 Police Protection

Police protection is provided by the Main Police Station located at 801 South Beretania Street.

Potential Impacts and Mitigative Measures

There may be an occasional and unavoidable demand for police protection services associated with the project, however, it is anticipated that the existing police service will not be adversely affected by the proposed development.

4.2.9.3 Health Care Services

Various health care services in Honolulu provide primary patient care to adults, women, and children. The nearest hospital with 24-hour emergency services is the Kapi'olani Medical Center for Women and Children at 1319 Punahou Street, approximately five minutes from the Mānoa Valley District Park by ambulance service.

Potential Impacts and Mitigative Measures

There will be an unavoidable and occasional need for emergency health care services. However, the proposed project will not have a long-term adverse impact on emergency medical services.

4.2.9.4 Public Transit

Fixed route bus service is provided through the City Department of Transportation Services, which currently contracts with O'ahu Transit Services (OTS) for operation of TheBus. The OTS also operates the Handi-Van system, which is a demand responsive paratransit service for semi-ambulatory and non-ambulatory persons with disabilities. Mānoa Valley is serviced by two bus routes, #5 and # 6 (Woodlawn). A bus stop is located on Mānoa Road near the Mānoa Valley District Park.

Potential Impacts and Mitigative Measures

The proposed improvements to Mānoa Valley District Park are not expected to significantly increase bus ridership to the park.

4.2.9.5 Proximity of Commercial and Other Services

The Mānoa Marketplace shopping center is located approximately one half mile from the park. Services at the Marketplace and the surrounding commercial area include: a supermarket, retail shops, restaurants, financial and professional services, and gas stations.

Potential Impacts and Mitigative Measures

The proposed improvements to Mānoa Valley District Park and Mānoa Elementary School are not anticipated to create addition demand for commercial and other services.

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5.0 ALTERNATIVES TO THE PROPOSED ACTION

In compliance with the provisions of Title 11, Department of Health, Chapter 200, Environmental Impact Statement Rules, Section 11-200-17(f), *the "known feasible" alternatives to the proposed project are limited to those that would allow the objectives of the project to be met, while minimizing potential adverse environmental impacts.* As such, several alternatives have been evaluated.

5.1 NO ACTION ALTERNATIVE

The no action alternative will not accomplish the goal of implementing the Mānoa Valley District Park Task Force's and the community's recommendations for improvements to the park. In its January 1999 report to the Legislature, the task force identified the development of a multi-purpose building/gymnasium as their highest priority park improvement. The Mānoa School Student Organization also is in favor of the multi-purpose building/gymnasium and Malama O Mānoa views a larger playground/gym expansion as desirable. Other community members have actively participated in design charettes and meetings focusing on the multi-purpose building/gymnasium and other park improvements.

In addition to not implementing the community's desires, the no action alternative would do nothing to ease the heavy use currently placed on the existing park facilities.

5.2 ALTERNATIVE SITES

As part of the planning process for the multi-purpose building/gymnasium, the community considered placing the facility on several alternative sites within the park. These included placing the building: 1) on the site of the existing gym; 2) within the existing parking lot adjacent to the existing gym; and 3) at the location of the existing tennis courts. After several community meetings and much discussion, a consensus decision was reached for placement of the building between the blacktop area the existing gym.

5.3 THE PREFERRED SITE

The location of the multi-purpose building/gymnasium on the site between the blacktop area and the existing gym is the most suitable site for the following reasons:

- Multi-purpose building/gymnasium will have the least visual impact on the surrounding neighborhood.
- It provides continuity between the school and the park.
- The existing gym could still be used while the new facility is being built.

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6.0 ANTICIPATED DETERMINATION, FINDINGS, AND REASONS FOR SUPPORTING DETERMINATION

To determine whether the proposed action may have a significant impact on the environment, every phase and expected consequences, both primary and secondary, and the cumulative as well as short- and long-term effects have been evaluated. Based on the studies performed and research evaluated, a finding of no significant impact is anticipated as summarized in this section.

6.1 SIGNIFICANCE CRITERIA

According to the Department of Health Rules (11-200-12), an applicant or agency must determine whether an action may have a significant impact on the environment, including all phases of the project, its expected consequences both primary and secondary, its cumulative impact with other projects and its short and long-term effects. In making the determination, the Rules establish "Significance Criteria" to be used as a basis for identifying whether significant environmental impact will occur. According to the Rules, an action shall be determined to have a significant impact on the environment if it meets any one of the following criteria:

(1) Involves an irrevocable commitment to loss or destruction of any natural or cultural resources;

The entire site of the Mānoa Valley District park and Mānoa Elementary School, along with the surrounding area, has been extensively modified from its natural state for park uses, a school, and residential uses. Before urbanization, the area may have been used for agricultural activities (e.g. taro cultivation) due to its proximity to Mānoa Stream. However, based on a review of the National and Hawai'i Registers of Historic Places and site inspections, the proposed improvements will have no effect on any known historic property.

Should any archaeologically significant artifacts, bones, or other indicators of previous on-site activity be uncovered during the construction phases of development, their treatment will be conducted in compliance with the requirements of the Department of Land and Natural Resources, State Historic Preservation Division.

The various proposed improvements to Mānoa Valley District park, such as the multi-purpose building/gymnasium, the perimeter "lei" pedestrian pathway, and additional parking will be designed in such a way as to minimize potential hazards from runoff into Mānoa Stream. As such, there will be no irrevocable commitment to loss or destruction of any natural resources.

(2) Curtails the range of beneficial uses of the environment;

Since the site of the proposed improvements is already being used as a district park and school, it is unlikely that uses other than those related to parks and schools would be developed on the site. The proposed uses are consistent with park and school uses. Construction of the proposed park and school improvements, including the multi-purpose building/gymnasium, will foreclose other

uses, however, the proposed uses are beneficial to the social environment of the Mānoa community. Thus, the provision of the proposed improvements will enhance the range of beneficial uses of the environment and could be determined to be the best use of the property.

(3) Conflicts with the State's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS; and any revisions thereof and amendments thereto, court decisions, or executive orders;

The proposed improvements are consistent with the Environmental Policies established in Chapter 344, HRS and the National Environmental Policy Act.

(4) Substantially affects the economic or social welfare of the community or state;

The new facilities and other improvements will positively affect the social welfare of the Mānoa community. The proposed improvements will satisfy the demand for increased recreational facilities and will improve and modernize existing facilities that are inadequate for the current volume of uses that occur at the park. In particular, the construction of the multi-purpose building/gymnasium will allow improved scheduling of athletic events, enhance the quality of services provided by the Mānoa Elementary School and the A+ Program, and provide the community with increased meeting and recreational space. These improvements will significantly improve the quality of life for many residents.

During construction, the proposed improvements will create temporary employment which will have a positive, short-term effect on the community and the state.

(5) Substantially affects public health;

Impacts to public health may be temporarily affected by air, noise, and water quality impacts during construction, however, these will be of a short-term duration, and insignificant, especially when weighed against the positive social and quality of life benefits associated with the proposed improvements.

(6) Involves substantial secondary impacts, such as population changes or effects on public facilities;

The proposed improvements to Mānoa Valley District Park and Mānoa Elementary School will not have secondary impacts associated with population growth; Mānoa Valley is a mature residential community with little room for increased residential dwelling units. The proposed improvements are public facilities that are necessary to meet the current demand for recreation, and as such are not expected to increase the need for further recreational facilities.

The infrastructure demands on roads, water and sewer drainage systems are minimal and can be accommodated by the existing systems.

(7) Involves a substantial degradation of environmental quality;

The proposed improvements at the Mānoa Valley District Park and Mānoa Elementary School do not involve substantial degradation of environmental quality on-site or in the surrounding neighborhood. Situated within an established residential neighborhood, the site of the proposed improvements is already in use as a park. As such, extensive modifications have been made to the site for current recreational facilities. There are no anticipated impacts that would degrade environmental quality. The addition of new landscaping will enhance the park environment by providing new plant materials.

Appropriate best management practices will provide safeguards for protection of water quality during the short-term construction period.

(8) Is individually limited but cumulatively has considerable effect on the environment, or involves a commitment for larger actions;

The proposed improvements, including the multi-purpose building/gymnasium, combined with the existing facilities will not have a cumulative negative effect on the environment. The proposed improvements are consistent with the urban uses designated for the State Land Use Urban District, and are also consistent with the City and County of Honolulu General Plan, the Primary Urban Center Development Plan and City zoning. The proposed improvements are meant to satisfy long-term demand for recreational facilities and are not envisioned involve a commitment for larger actions. The commitment of fiscal resources to construct the proposed improvements, however, will foreclose other uses of those resources.

(9) Substantially affects a rare, threatened or endangered species or its habitat;

The site of the Mānoa Valley District Park and Mānoa Elementary School and the surrounding area has been extensively altered by urbanization. The park and school site is landscaped and includes monkeypod, paper bark and eucalyptus trees, ornamental plants, and grass. The stream banks include non-native herbaceous plants and weeds. In places, ornamental landscape plants line the upper stream banks. On the southwestern border the auwai adjoining the stream contains cultivated taro in some places. This extensively landscaped environment does not contain any rare, threatened, or endangered species.

(10) Detrimentally affects air or water quality or ambient noise levels;

An air quality assessment conducted for this environmental assessment (Appendix B) concludes that the proposed improvements are not likely to significantly impact air quality in the area. Short term potential impacts on air quality (fugitive dust and construction equipment exhaust emissions) may result due to construction activity, however, these impacts will be limited by appropriate construction practices.

Because the amount of impervious area added by the proposed improvements is small in relation to the larger basin, the runoff coefficient into the existing drain system is expected to be negligible and it is therefore concluded that the proposed improvements will not significantly affect water quality. During construction phases, any possible impact to the water quality of

adjacent Mānoa Stream will be minimized and mitigated by the implementation of appropriate erosion control requirements.

Noise levels due to the proposed improvements are expected to be either insignificant or mitigated through proper design. In particular, traffic related noise levels due to the proposed improvements are forecast to be imperceptible by most people. The location of the proposed multi-purpose building/gymnasium in relation to the distance from the surrounding residences, combined with proper design measures to address sound emanating from the building, will serve to mitigate ambient noise levels from the project. During construction proper mitigating measures (such as limiting construction to daylight hours) will be employed to minimize noise impacts.

(11) Affects or is likely to suffer damage by being located in an environmentally sensitive area, such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, freshwater, or coastal waters.

While a portion of Mānoa Valley District Park bordering Mānoa Stream is located in the flood plain, the natural physical character of the park and the surrounding area has been previously disturbed by grading and construction of recreational facilities on the park site, Mānoa Elementary School adjacent to the park, and homes on the surrounding property. As such, the project area no longer reflects a "natural environment." The proposed multi-purpose building/gymnasium will be outside of the floodway district. Other proposed improvements, including the expansion of the existing restroom, and the perimeter "lei" pedestrian pathway are exempt from floodplain requirements under the City's Land Use Ordinance; however, their design will comply with appropriate City regulations. Shorelines, valleys, or ridges will not be impacted by the proposed improvements.

(12) Substantially affects scenic vistas and view planes identified in county or state plans or studies;

The multi-purpose building/gymnasium will be the largest building in the area. Surrounding landscaping will serve to reduce the building's visual bulk. Additionally, the surrounding open space of the park and Mānoa Elementary School will mitigate the effect of the building's height on view plains. Furthermore, in relation to the height of the valley ridge lines, the building's height is substantially less. As such, although the building may affect views from certain nearby vantage points, it will not significantly obscure scenic vistas and view plains. Panoramic viewplanes identified in the Primary Urban Center Development Plan Special and Common Provisions will not be affected.

Other proposed park improvements, such as the perimeter "lei" pedestrian pathway, and parking lot expansions will have no affect on panoramic viewplanes; however, the look of the park will be altered by these improvements. Specifically, the addition of more parking will lessen the amount of "green" or landscaped areas at the park and school.

(13) Requires substantial energy consumption.

Construction of the proposed improvements will not require substantial energy consumption relative to other similar projects. Design of the proposed improvements, including the multi-

purpose building/gymnasium, will incorporate energy saving design measures. Once completed, the new building is expected to consume energy similar to other developments.

6.2 DETERMINATION

On the basis of the above criteria, the discussion of impacts and mitigative measures contained in this document, and the public agency and community comments received in the review of the Draft EA, the Accepting Authority of this Environmental Assessment has determined that the proposed improvements to Mānoa Valley District Park and Mānoa Elementary School will not have significant environmental effects. Pursuant to Chapter 343, Hawaii Revised Statutes, the Accepting Authority has issued a Finding of No Significant Impact (FONSI).

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7.0 REFERENCES

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8.0 COMMENTS AND RESPONSES TO THE DRAFT ENVIRONMENTAL ASSESSMENT

The following agencies, organizations, and individuals submitted comments on the Draft Environmental Assessment (DEA). Copies of the comment letters, along with responses to the comments, are included in this section.

	AGENCY	DEA Mail Date	Date of Comments
	STATE		
1	Department of Accounting and General Services	1/8/00	1/20/00
2	Department of Defense	1/8/00	1/21/00
3	Department of Education	1/8/00	1/14/00
4	Department of Education — Mānoa Elementary School	1/8/00	1/25/00
5	Department of Education — Mānoa Public Library	1/8/00	
6	Department of Health — Office of Environmental Quality Control	1/8/00	1/10/00
7	Department of Land and Natural Resources State Historic Preservation Division	1/8/00	
8	Office of Hawaiian Affairs	1/8/00	
9	Representative Ed Case	1/8/00	2/4/00
10	Senator Carol Fukunaga	1/8/00	
11	Senator Brian Taniguchi	1/8/00	2/3/00
12	University of Hawaii — Environmental Center	1/8/00	2/7/00
13	University of Hawaii — Hamilton Library, Hawaii Collection	1/8/00	
	CITY & COUNTY OF HONOLULU		
14	Board of Water Supply	1/8/00	2/3/00
15	Councilmember Andy Mirikitani	1/8/00	
16	Department of Facility Maintenance	1/8/00	1/6/00
17	Department of Parks and Recreation	1/8/00	2/2/00
18	Department of Parks and Recreation — Mānoa District Park	1/8/00	
19	Department of Planning and Permitting	1/8/00	2/7/00
20	Department of Transportation Services	1/8/00	2/7/00
21	Fire Department	1/8/00	2/2/00
22	Neighborhood Board Commission — Mānoa Neighborhood Board	1/8/00	
23	Police Department	1/8/00	2/4/00

24	INDIVIDUALS AND ORGANIZATIONS	DEA Mail Date	Date of Comments
25	Richard and Kay Allen	1/8/00	
26	Gary Andersen	1/8/00	1/12/00 1/18/00 1/28/00
27	Randal Fujimoto		2/7/00
28	Mark and Joan Helbling	1/8/00	
29	Hui O Mānoa	1/8/00	2/5/00
30	Steve and Meg Lin	1/8/00	
31	Malama O Mānoa	1/8/00	
32	Mānoa Boys Baseball League	1/8/00	
33	Mānoa Boys Basketball League	1/8/00	
34	Mānoa Girls Athletic Club	1/8/00	2/7/00
35	Mānoa School Student Association	1/8/00	2./4/00
36	Mānoa Youth Baseball League	1/8/00	
37	Outdoor Circle	1/8/00	2/7/00
38	Saint Francis Schools	1/8/00	1/20/00
39	Clifton Takamura	1/8/00	
40	Henry and Evelyn Yonamine	1/8/00	
41	Waioli Lions Club	1/8/00	2/4/00

(P)1013.0

JAN 20 2000

Department of Design and Construction
City and County of Honolulu
650 South King Street, 2nd Floor
Honolulu, Hawaii 96813

Attention: Mr. Curtis Kushimaejo

Gentlemen:

Subject: Manoa Valley District Park
Draft Environmental Assessment (EA)
Honolulu, Oahu, Hawaii
Tax Map Keys: 2-09-036: 03 (portion)

Thank you for the opportunity to review the Draft EA for the subject project.

The proposed project does not impact any of our facilities, therefore, we have no comments to offer.

Should you have further questions regarding the above, please have your staff contact Mr. Ralph Yukumoto of the Planning Branch at 586-0488.

Sincerely,

GORDON MATSUOKA
Public Works Administrator

RY:mo
c: PBR Hawaii
Office of Environmental Quality Control

PBR HAWAII
LAND PLANNING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL STUDIES

July 27, 2000

Mr. Gordon Matsuoka,
Public Works Administrator
Department of Accounting & General Services
P.O. Box 119
Honolulu, Hawaii 96810

SUBJECT: RESPONSE TO COMMENTS ON THE MANOA VALLEY DISTRICT PARK DRAFT ENVIRONMENTAL ASSESSMENT TMK: 2-09-036: 03

Dear Mr. Matsuoka:

We have reviewed your letter to the Department of Design and Construction dated January 20, 2000, regarding the Draft Environmental Assessment for the Manoa Valley District Park. We acknowledge that you have no comments.

Thank you for participating in the environmental review process.

Sincerely,

PBR HAWAII

Tom Schnell, AICP
Planner

cc: Office of Environmental Quality Control
Department of Design and Construction

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

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1001 BISHOP STREET, PACIFIC TOWER, SUITE 650, HONOLULU, HAWAII 96813-3429
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BENJAMIN J. CAYETANO
GOVERNOR

BRIGADIER GENERAL EDWARD L. CORREA, JR.
DIRECTOR OF CIVIL DEFENSE

EDWARD T. TEIXEIRA
INTERIM VICE DIRECTOR OF CIVIL DEFENSE

STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE DIRECTOR OF CIVIL DEFENSE
3949 DIAMOND HEAD ROAD
HONOLULU, HAWAII 96816-4495

PHONE (808) 733-4300
FAX (808) 733-4287

January 21, 2000

JAN 25

TO: Mr. Curtis Kushimaejo
City and County of Honolulu
650 S. King Street, 2nd Floor
Honolulu, Hawaii 96813

FROM: Edward T. Teixeira
Interim Vice Director of Civil Defense

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT, MANOA VALLEY DISTRICT PARK

We appreciate the opportunity to review and comment on the Draft Environmental Assessment on the subject document.

State Civil Defense (SCD) does not have any comments or recommendations with regard to this project. Our SCD planners and technicians are available to discuss this further if there is a requirement.

Please contact Mr. Norman Ogasawara of SCD at 733-4300, extension 531, if you have any questions.

c: Oahu Civil Defense Agency
Office of Environmental Quality Control
✓ PBR Hawaii

PBR HAWAII
LAND PLANNING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL STUDIES

July 27, 2000

Mr. Edward T. Teixeira
Interim Vice Director of Civil Defense
State of Hawaii Department Defense
3949 Diamond Head Road
Honolulu, Hawaii 96816

SUBJECT: RESPONSE TO COMMENTS ON THE MANOA VALLEY DISTRICT PARK DRAFT ENVIRONMENTAL ASSESSMENT TMK: 2-9-036: 03

Dear Mr. Teixeira:

We have reviewed your memorandum to Mr. Curtis Kushimaejo dated January 21, 2000, regarding the Draft Environmental Assessment for the Manoa Valley District Park. We acknowledge that you have no comments.

Thank you for participating in the environmental review process.

Sincerely,

PBR HAWAII

Tom Schnell, AICP
Planner

cc: Office of Environmental Quality Control
Department of Design and Construction

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

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GOVERNOR

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DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAII 96804

PAUL G. LAMAHIEU, Ph.D.
SUPERINTENDENT

JAN 20

OFFICE OF THE SUPERINTENDENT

January 14, 2000

Mr. Gary Yee, Director
Department of Design and Construction
City and County of Honolulu
650 South King Street, 2nd Floor
Honolulu, Hawaii 96813

Attn: Mr. Curtis Kushimaejo

Dear Mr. Yee:

Subject: Manoa Valley District Park Draft EA

The Department of Education (DOE) offers the following comment on the subject draft environmental assessment:

1. The report states that the configuration of the proposed multi-purpose building/gymnasium ("structure") reflects a consensus decision reached during the charette. However, the layout of the structure as shown in Figure 3 of the report appears to differ from the layout agreed upon earlier. Specifically, the structure's footprint has been rotated and occupies space that is planned for various curriculum activities by Manoa Elementary School.

   The layout of the structure as shown in Figure 3 of the report is therefore not presently acceptable to the DOE.

We would appreciate your clarification of this matter. If you have any questions, please call Mr. Raynor Minami at 733-4862.

Thank you for the opportunity to comment.

Very truly yours,

Paul G. LeMahieu, Ph.D.
Superintendent of Education

PLeM:bv

cc: C. Ito, OBS
OEQC
T. Schnell, PBR Hawaii

AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER

PBR HAWAII
LAND PLANNING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL STUDIES

July 27, 2000

Mr. Paul G. LeMahieu, Ph.D.
Superintendent of Education
State of Hawaii
Department of Education
P.O. Box 2360
Honolulu, Hawaii 96804

SUBJECT: RESPONSE TO COMMENTS ON THE MANOA VALLEY DISTRICT PARK DRAFT ENVIRONMENTAL ASSESSMENT TMK: 2-09-036: 03

Dear Dr. LeMahieu:

We have reviewed your letter to Mr. Curtis Kushimaejo dated January 14, 2000, regarding the Draft Environmental Assessment (DEA) for the Manoa Valley District Park. The alignment of the multi-purpose building/gymnasium has been returned to the alignment agreed upon by the community at meetings held in the fall of 1999.

The revised site plan will be included in the final environmental assessment.

Thank you for participating in the environmental review process.

Sincerely,

PBR HAWAII

Tom Schnell, AICP
Planner

cc: Office of Environmental Quality Control
Department of Design and Construction

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

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BENJAMIN CAYETANO
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF EDUCATION
MANOA SCHOOL
3168 MANOA ROAD
HONOLULU, HAWAII 96822

PAUL G. LeMAHIEU, Ph.D.
SUPERINTENDENT

January 25, 2000

JAN 2 8

Mr. Gary Yee, Director
Department of Design and Construction
650 South King Street, 2nd Floor
Honolulu, Hawaii 96813

Re: Manoa Valley District Park: Draft Environmental Assessment

Dear Mr. Yee,

Manoa Elementary School appreciates the opportunity to respond to the draft of the Environmental Assessment for the Manoa Valley District Park, dated December 1999.

Most significant in our review of the assessment is our strong objection to the proposed site plan referenced for the multipurpose structure. The alignment of the proposed structure to the existing Manoa School blacktop is not what was agreed upon and poses a significant safety impact on the children of Manoa School. (See diagrams.) It is not satisfactory from the Department of Education (DOE) standpoint, and Manoa School will not agree to the proposal as indicated.

Statements attributed to the school referring to decisions made about building orientation and the location of the classroom and public meeting spaces with student security in mind (*Appendix D*, page IV-22) and the resolution of security concerns "by final siting and design elements" (paragraph 4 on page 30; top of page 28,*4.0 Description of the Affected Environment, Potential Impacts of the Proposed Action, and Mitigative Measures*) are true to the alignment that was agreed upon by the group; those very issues of safety were not addressed in the new alignment as shown. The inclusion of the new and different alignment, as shown throughout the document, totally disregards 18 months of community discussion about the facility.

The DOE position remains consistent that the new structure must have parallel alignment with the blacktop. Agreement for this resulted from lengthy discussions about student safety during the school day, other security issues, as well as program issues.

- Entry to the building within full view of school personnel from the school campus provides greater oversight for security purposes. In addition, teacher supervision during recess activities is facilitated by the parallel alignment.
- The massive size of the structure abutting the school campus was to be softened by appropriate landscaping that would provide transition to the new facility. From the aesthetic perspective, this was an acceptable compromise. In addition, the parallel alignment of the building with the blacktop is aesthetically pleasing from the school perspective. It will not be with the new alignment.
- The Manoa School Master Plan for Recreation indicates an open grassy area for Hawaiian games. This space between the building and blacktop is identified for that purpose and allows for appropriate supervision for these activities.
- The clear demarcation provides usable space between the blacktop and new building. In addition to a usable grassy area, a covered corridor on the new building would also be feasible. This would provide additional program space, as well as a flexible protected area for student use. The alignment as shown precludes this covered corridor.

Other notable items include plans for the Boy Scout Building. *Site Plan, Figure 2* (prior to page 4, *Traffic Impact Analysis*), shows the relocation of the Boy Scout Building. In fact, this building would be demolished and not replaced. Discussions with the Boy Scouts have addressed their need for storage facilities, and alternate possibilities have been taken under advisement.

Another item is use of the current gym by our A+ after school program (*Appendix D*, IV-14). In fact, our A+ program does not use the gym at all. After the A+ program ends at 5:30 p.m., as well as on week ends, community athletic groups use school courts and fields for practice. Approval for use is received through the DOE Use of Facilities application process.

Labels for two figures outlined in heavy line boxes in Figure 6, prior to page 15, *3.0 Land Use Conformance*, are unreadable.

DOE personnel involved in the development of this master plan for the Manoa Valley District Park worked in good faith to agree upon a plan that is beneficial for the people of the community. The DOE has been open to compromises that balanced good outcomes for all parties concerned. In all of the discussions, however, the school position has been consistent in advocating for the safety and security of the children. The safety of our children is something that the school will never compromise. For this reason, it must be made clear that we will not agree to the proposed alignment of the building as shown and strongly object to the assessment based on that factor.

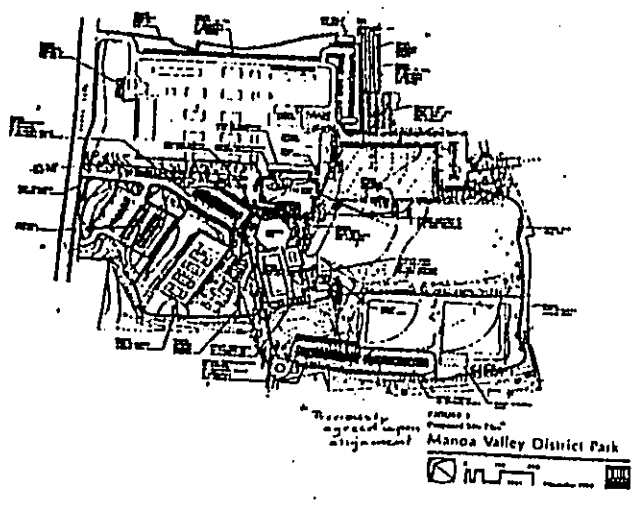
It is our understanding that the positioning of the Multipurpose building will be changed back to the origiant agreement. If that is so, then the school is satisfied with the plan because it reflects our 18 months of working together and agreements made. We appreciate the work of the architects to ensure that needs of all segments of the community have been met.

Sincerely,

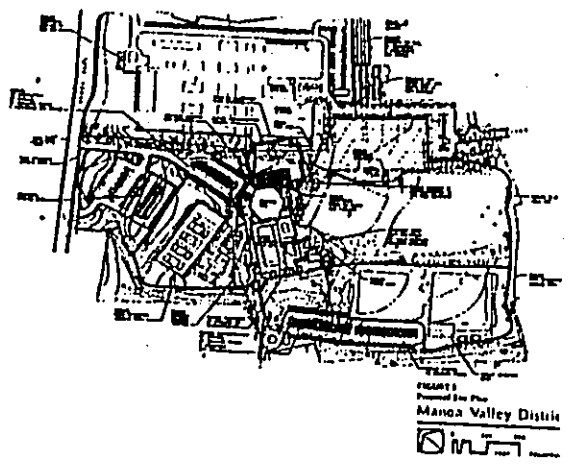
Victoria Bannan

Victoria Bannan
Principal

cc: Superintendent Paul LeMahieu
Honolulu District Superintendent Patricia Dang
Mayor Jeremy Harris
Senator Brian Taniguchi
Councilman Andy Mirikitani
Lester Chuck, Director, DOE Facilities, Office of Business Services
Office of Environmental Quality Control
Tom Schnell, PBR Hawaii



Building placement as agreed upon by community group
Satisfactory



Building placement used in the Environmental Assessment
Unsatisfactory

PBR HAWAII

LAND PLANNING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL STUDIES

July 27, 2000

Ms. Victoria Bannan, Principal
Manoa School
3155 Manoa Road
Honolulu, Hawaii 96822

SUBJECT: RESPONSE TO COMMENTS ON THE MANOA VALLEY DISTRICT PARK DRAFT ENVIRONMENTAL ASSESSMENT TMK: 2-9-036: 03

Dear Ms. Bannan:

We have reviewed your letter to Mr. Gary Yee dated January 25, 2000, regarding the Draft Environmental Assessment (DEA) for the Manoa Valley District Park and offer the following responses to your comments:

1) The alignment of the multi-purpose building/gymnasium has been returned to the alignment agreed upon by the community at meetings held in the fall of 1999.

   The revised site plan will be included in the final environmental assessment.

2) You are correct in stating that the Boy Scout building will be demolished and not replaced. The revised site plan identifies a possible future location for a new building or portable structure, but current plans do not include replacing the building.

3) We acknowledge that the A+ Program does not use the current gym. Thank you for pointing this out. It will be corrected in the final environmental assessment.

4) The labels for the two figures outlined in heavy line boxes in Figure 6 will be made more legible in the final environmental assessment.

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

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Thank you for participating in the environmental review process.

Sincerely,

PBR HAWAII

Tom Schnell, AICP
Planner

cc: Office of Environmental Quality Control
Department of Design and Construction

BENJAMIN J. CAYETANO
GOVERNOR

GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE [808] 586-4185
FACSIMILE [808] 586-4186

January 10, 2000

Randall Fujiki, Director
Department of Design & Construction
650 South King Street
Honolulu, Hawaii 96813

Attention: Curtis Kushimaejo

Dear Mr. Fujiki:

Subject: Draft Environmental Assessment (EA) for Manoa Valley District Park

We have the following comments to offer:

1. Cumulative impacts:
   Improvements are planned for Manoa Elementary School but are not covered in this draft EA. The Environmental Impact Statement law requires that full disclosure of cumulative impacts be made on geographically related projects. Specifically, HAR section 11-200-5 (a) states, "For all proposed actions which are not exempt as defined in section 11-200-8, the agency shall assess at the earliest practicable time the significance of potential impacts of its actions, including the overall, cumulative impact in light of related actions in the region and further actions contemplated."
   Section 11-200-2 defines cumulative impact as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."
   In the final EA provide an analysis and discussion, including cumulative impacts, of the Park and School improvement projects.

2. Visual impacts: In the final EA include photographs with superimposed renderings or drawings of the proposed buildings and landscaping that show the final appearance of the project.

3. Hours of use: The Neighborhood Board has requested park closure from 11 p.m. to 5 a.m. Will the goal of expanding park use by the proposed new facilities and improvements be defeated by restricting park hours?

4. Construction impacts:

   a. Will construction vehicles and equipment hinder the free flow of local traffic? If so, what mitigation measures are planned to reduce or eliminate this?

   b. Will affected park areas have to be closed during construction activities? Will there be a staging area for heavy trucks and equipment within park boundaries? How will such an area be protected from theft and vandalism?

5. Resource conservation measures:

   a. Section 4.2.8 of the draft EA, *Solid Waste Disposal*, states that green waste may be deposited at a landfill. Please be aware that City & County Ordinance #89113, effective 10-1-94, prohibits green waste at landfills. The ordinance states: "Trash containing 25% corrugated cardboard or green waste will be banned from disposal facilities, white goods and scrap ferrous metal is completely prohibited. Also, items already banned are tires, auto batteries and white goods containing freon." In the final EA include a revised plan for the disposition of the green waste generated by this project.

   b. We recommend the use of recycled-content playground equipment and the use of glasphalt for the new parking areas.

If you have any questions, please call Nancy Heinrich at 586-4185.

Sincerely,

GENEVIEVE SALMONSON
Director

c: Tom Schnell

PBR HAWAII

LAND PLANNING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL STUDIES

July 27, 2000

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
236 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

SUBJECT: RESPONSE TO COMMENTS ON THE MANOA VALLEY DISTRICT PARK DRAFT ENVIRONMENTAL ASSESSMENT TMK: 2-09-036: 03

Dear Ms. Salmonson:

We have reviewed your letter the the Department of Design and Construction dated January 10, 2000, regarding the DEA for the Manoa Valley District Park and offer the following responses to your comments:

1. Cumulative Impacts: The final EA will include and discuss improvements planned for Manoa Elementary School.

2. Visual Impacts: Because final architectural drawings of the multipurpose building/gymnasium and landscape plans have not be completed, photographs with superimposed renderings or drawings of the proposed buildings and landscaping will not be included in the final EA. However, for comparison purposes, please note that the existing gymnasium is 42 feet high and the new multipurpose building/gymnasium is proposed to be 44 feet high.

3. Hours of Use: As stated on page 6 of the DEA, which also lists current operating hours of the existing gym and swimming pool, "increased hours of operation are not expected as a result of the completion of the multi-purpose building/gymnasium". Since the earliest time the existing gym is now open is 8:00 a.m., and the latest time it is closed is 9:30 p.m., and since increased hours of operation are not expected with the new facilities, closing of the park from 12:00 a.m. to 5:00 a.m. is not expected to effect operations of the new facilities.
   Please note that the draft EA stated that the Manoa Neighborhood Board had requested park closure from 11:00 p.m. to 5 a.m. The Neighborhood Board actually requested park closure from 12:00 a.m. (Midnight) to 5:00 a.m. This correction will be made in the final EA.

4. Construction Impacts:
   a. Construction vehicles and equipment may have a temporary impact on local traffic. Mitigative measures include:

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

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   1) Mobilizing and demobilizing construction vehicles and equipment during non-peak traffic hours;
   2) The use of temporary traffic control devices, such as signs, cones, and barricades installed in accordance with the City's traffic standards; and
   3) If necessary, the use of an off-duty police officer to direct traffic.

   b. Park areas affected by construction activities will be closed off from public use by installing temporary fencing. There will be designated staging areas(s) for construction equipment and material within the park boundaries. The staging areas will be located in areas of the park that will minimize impact to park users and will be secured by fencing to protect against theft, vandalism, and unauthorized entry.

   The final environmental assessment will be revised to reflect these issues.

5. Resource Conservation Measures

   a. The final EA will be revised to reflect that green waste will be disposed of in compliance with all state and county laws and ordinances. Vegetation removed from the property during the construction of the multi-purpose building/gymnasium and other improvements will be chipped and then hauled to a green waste disposal site for composting.

   b. Recycled-content playground equipment and glasphalt for the new parking areas are not City standards.

Thank you for participating in the environmental review process.

Sincerely,

PBR HAWAII

Tom Schnell, AICP
Planner

cc: Department of Design and Construction

ED CASE
MAJORITY LEADER

HOUSE OF REPRESENTATIVES
STATE OF HAWAII
STATE CAPITOL
HONOLULU, HAWAII 96813

February 4, 2000

Mr. Curtis Kushimaejo
City and County of Honolulu
Department of Design and Construction
650 S. King Street, 2nd floor
Honolulu, HI 96813

re: Manoa Valley District Park Draft Environmental Assessment

Dear Mr. Kushimaejo:

Thank you for this opportunity to submit comments on the Manoa Valley District Park Draft Environmental Assessment. While the draft EA is a good assessment of the project, which was developed over the past years with significant community input, the following are three deviations from the design agreed upon by the community.

1. Originally, the multi-purpose building was parallel to the blacktop. The current design shows the building at an angle to the blacktop.

2. The makai parking area near the Kaaipu Street parking lot was not part of the design agreed upon by the community. The community expressed a desire to maintain green space in this central part of the park and to expand parking instead in the area ewa of the tennis courts near the Manoa Road lot.

3. A recreation room requested by the City and County has been eliminated from the design.

Given the significance of the project to the community, and the time many participants invested in participating in the design of the project, I ask that the project design return to that formulated in the community charettes.

With aloha,

Ed Case

Ed Case
Representative, 23rd district
Manoa/University/Wilder

cc: PBR Hawaii
Office of Environmental Quality Control

PBR HAWAII

LAND PLANNING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL STUDIES

July 27, 2000

Representative Ed Case
House of Representatives, 23rd District
State of Hawaii
State Capitol, Room 439
Honolulu, Hawaii 96813

SUBJECT: RESPONSE TO COMMENTS ON THE MANOA VALLEY DISTRICT PARK DRAFT ENVIRONMENTAL ASSESSMENT TMK: 2-09-036: 03

Dear Representative Case:

We have reviewed your letter to Mr. Curtis Kashimaejo dated February 4, 2000, regarding the Draft Environmental Assessment (DEA) for the Manoa Valley District Park and offer the following responses to your comments:

1) The alignment of the multi-purpose building/gymnasium has been returned to the alignment agreed upon by the community at meetings held in the fall of 1999.

   The revised site plan will be included in the final environmental assessment.

2) While the parking area near Kaaipu Street was not a part of the design agreed upon by the community, the task force convened in response to Senate Concurrent Resolution No. 157 SD1 (1998) (which included community members) did express a desire for addition parking. In fact, additional parking was the third highest ranked desired improvement of the task force.

   In the site plan to be included in the final environmental assessment, the parking area near Kaaipu Street has been reduced from what was previously proposed: 73 new stalls are now proposed; the previous plan proposed 99 new stalls. Please note that parking is also being expanded in the area Ewa of the tennis courts near the Manoa Road lot.

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

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3) In regard to the recreation room, please note that an "arts and crafts" room is being included in the final plans for the new multipurpose building/gymnasium. While this room is included in the final plans, its construction is dependent on available funding. There is a possibility that this room may be built in a later phase.

Thank you for participating in the environmental review process.

Sincerely,

PBR HAWAII

Tom Schnell, AICP
Planner

cc: Office of Environmental Quality Control
Department of Design and Construction

The Senate
The Twentieth Legislature
of the
State of Hawaii

STATE CAPITOL
HONOLULU, HAWAII 96813

February 3, 2000

FEB - 8

PBR Hawaii
Pacific Tower, Suite 650
1001 Bishop Street
Honolulu, Hawaii 96813

Attn: Mr. Tom Schnell

Re: Manoa Valley District Park: Draft Environmental Assessment

Dear Mr. Tom Schnell,

After careful consideration of this document, I generally agree with its content and with its conclusion that "the proposed improvements to Manoa Valley District Park will not have a significant effect on the environment issue".

I do, however, want to raise an issue as to how the siting of the building was changed from the original plan developed by the community without any explanation or notice to anyone. This seems to be a unilateral action by the City. And while it may seem that this is just a minor rotation of the building, it is very significant to me and to members of the community who diligently participated in the many meetings and discussions leading to the final compromise plan proposed by the Task Force. It shows a lack of sensitivity by members of the City administration who also participated in the discussions and were fully a part and party to the compromises agreed upon. I strongly believe that if we as public servants ask citizens to work on these kinds of projects, then it is incumbent upon us to ensure that their input is heeded to as reasonable an extent as possible.

Along with the disregard of the community process, the rotation of the building also caused the elimination of one segment of the original building layout and the loss of a buffer area between the building and the school's blacktop. The elimination of the segment of the building means that much-needed storage, meeting rooms, and other possible amenities will not be included. More importantly, the loss of the buffer zone would create safety concerns for the school. This matter was thoroughly discussed and was a key element of the compromise agreed to by the school representatives.

NORMAN MIZUGUCHI
PRESIDENT
AVERY B. CHUMBLEY
VICE PRESIDENT
LES IHARA, JR.
MAJORITY LEADER
JONATHAN CHUN
MAJORITY FLOOR LEADER
WHITNEY T. ANDERSON
MINORITY LEADER
SAM SLOM
MINORITY FLOOR LEADER

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SECOND DISTRICT
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THIRD DISTRICT
ANDREW LEVIN
FOURTH DISTRICT
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FIFTH DISTRICT
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EIGHTH DISTRICT
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ROD TAM
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RANDY IWASE
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CAL KAWAMOTO
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ROBERT BUNDA
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MARSHALL IGE
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CHIEF CLERK
PAUL T. KAWAGUCHI

The Senate
The Twentieth Legislature
of the
State of Hawaii

STATE CAPITOL
HONOLULU, HAWAII 96813

I must ask that the City reconsider its unilateral action and return to the original siting of the multipurpose building as agreed to by the community. I do not believe that this will affect the conclusions of the Environment Assessment in any way. With this change, I can wholeheartedly support the finding of no significant impact. If you have any questions, please call my office at 586-6460.

Sincerely,

Brian Taniguchi
Senator, District 11

Cc: Office of Environmental Quality Control
Department of Design and Construction

PBR HAWAII

LAND PLANNING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL STUDIES

July 27, 2000

Senator Brian Taniguchi
State Senate, District 11
State of Hawaii
State Capitol, Room 219
Honolulu, Hawaii 96813

SUBJECT: RESPONSE TO COMMENTS ON THE MANOA VALLEY DISTRICT PARK DRAFT ENVIRONMENTAL ASSESSMENT TMK: 2-09-036: 03

Dear Senator Taniguchi:

We have reviewed your letter dated February 3, 2000, regarding the Draft Environmental Assessment (DEA) for the Manoa Valley District Park. The alignment of the multi-purpose building/gymnasium has been returned to the alignment agreed upon by the community at meetings held in the fall of 1999.

The revised site plan will be included in the final environmental assessment.

Thank you for participating in the environmental review process.

Sincerely,

PBR HAWAII

Tom Schnell, AICP
Planner

cc: Office of Environmental Quality Control
Department of Design and Construction

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

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University of Hawai'i at Mānoa

Environmental Center
A Unit of Water Resources Research Center
2550 Campus Road • Crawford 317 • Honolulu, Hawai'i 96822
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EA: 00193
February 7, 2000

Mr. Curtis Kushimaejo
City and County of Honolulu
Department of Design and Construction
650 South King Street, 2nd Floor
Honolulu, Hawaii 96813

Dear Mr. Curtis Kushimaejo,

Draft Environmental Assessment
Manoa Valley District Park
Manoa, Oahu

The Manoa Valley District Park project proposes various improvements to Manoa Valley District Park including modifications to the existing gym and the addition of a new multi-purpose building/gymnasium, parking stalls, ADA improvements, landscaping, a perimeter pedestrian pathway, and outdoor exercise stations. Project goals include ensuring an accessible, safe, secure, and pleasant environment for park users.

This review was prepared with the assistance of Karl Kim, Urban and Regional Planning; and Sherri Hiraoka, Environmental Center.

General Comments

Our reviewers found the Draft EA (DEA) to be complete and systematic in its approach, particularly in the incorporation of community input. Several specific issues were brought up that we believe deserve your further consideration. One such issue is the inclusion in the Final Environmental Assessment (EA) of a map that details the current park and surrounding neighborhood. This will enable a clearer visualization of the affected areas both within and adjacent to the park. This will also help reviewers judge whether they should be concerned with noise effects on the nearby senior housing and residences.

Multi-Purpose Building/Gymnasium

Our reviewers noted on page 8 of the document that the current wooden classroom building will be demolished to allow for construction of the multi-purpose building/gymnasium. There was some concern over the current use of the classroom building. Is it used for both Manoa Elementary School classes and community classes and meetings? Will demolition of the building affect the current users? If so, where will these displaced users be housed until construction is completed? Are there any other areas in the park that will have to be closed to the public during construction, and if so, how will the community be accommodated?

On page 10, the document proposes the use of vents to ensure natural cooling of the multi-purpose room/gymnasium. Has there been examination into the benefits of building orientation to maximize air flow? Certain lighting fixtures may also contribute towards maintaining cooler temperatures.

Approximate Costs and Development Phases

In section 2.5 (page 10), appropriations for the project will come from the City and County of Honolulu and the State of Hawaii, totaling $8 million. The cost projections stated in Table 1 on page 11, however, run in excess of $9 million. Where will the additional funds come from to complete the project?

Flora and Fauna

Site visits mentioned in section 4.1.6 of the DEA indicate "no rare, threatened, or endangered species." Who conducted these site visits? The document states on page 20 that "Mammals found within the park include common birds." Birds are not mammals.

Landscaping within the park is proposed using monkeypod trees, rainbow shower trees, and Bermuda grass. Has the use of native plants been considered?

Wetlands and Stream Resources

Section 4.1.8 states that "Extensive urbanization of the park site and surrounding area precludes the presence of wetlands." Our reviewers point out that there is a stream bordering the park. Shouldn't that be considered a wetland?

Noise

The section on noise, 4.2.4, does not discuss noise effects on classrooms in the multi-purpose building. Once the new multi-purpose building is constructed, will there be any type of noise control efforts to minimize potential disruptions in the classrooms from the basketball courts? Will classes be held when the court is in use?

Construction activities are proposed to be restricted to daytime hours (page 25). Due to its close proximity to the construction site, how will Manoa Elementary School classes be affected by the noise?

Community Issues and Social Impacts

There is a misspelling of the word "gauge" in section 4.2.6 Social and Economic Impacts. The sentence reads: "As part of this assessment, a separate socio-economic impact assessment (Appendix D) was conducted to *gage* the community concerns". (Emphasis added)

Community Issues and Social Impacts

Parking seemed to be of concern despite the additional stalls planned. Is parking at the Manoa Elementary School parking lot currently allowed? If not, would it be possible to park there if it does not conflict with school needs, such as during non-school hours?

Thank you for the opportunity to comment on this Draft EA.

Sincerely,

Peter Rappa
Assistant Environmental Coordinator

cc: OEQC
PBR Hawaii
Karl Kim
Sherri Hiraoka

PBR HAWAII

LAND PLANNING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL STUDIES

July 27, 2000

Mr. Peter Rappa
Assistant Environmental Coordinator
Environmental Center
University of Hawaii at Manoa
2550 Campus Road, Crawford 317
Honolulu, Hawaii 96822

SUBJECT: RESPONSE TO COMMENTS ON THE MANOA VALLEY DISTRICT PARK DRAFT ENVIRONMENTAL ASSESSMENT TMK: 2-09-036: 03

Dear Mr. Rappa:

We have reviewed your letter to Mr. Curtis Kushimaejo dated February 7, 2000, regarding the Draft Environmental Assessment (DEA) for the Manoa Valley District Park and offer the following responses to your comments:

General Comments
Please note that Figure 1 in the DEA contains a regional location map showing the park and the surrounding neighborhood. Several other figures throughout the DEA contain maps detailing the park and surrounding neighborhood. Figure 3 contains a park site plan that shows existing and proposed park uses. As far as noise effects on the nearby senior housing and residences, this is discussed in Section 4.2.4 of the DEA and more fully in Appendix C, Environmental Noise Assessment.

Multi-Purpose Building/Gymnasium
The wooden classroom building that will be demolished is currently used for school classes and programs and community users. According to school principal Victoria Bannan, there are not yet plans for displacement of services; however the Department of Education Honolulu District and other affected agencies will address relocation needs when notified to vacate the wooden classroom building.

Safety for park users will require park areas affected by construction activities to be temporarily closed off from public use by installation of temporary fencing. In addition, there

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

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will be designated staging areas(s) for construction equipment and material within the park boundaries. The staging areas will be located in areas of the park that will minimize impact to park users and will be secured by fencing to protect against theft, vandalism, and unauthorized entry.

The architect designing the multi-purpose building/gymnasium is aware of the benefits of building orientation to maximize air flow to ensure natural cooling and has examined various schemes orientating the building to obtain maximum air flow. We acknowledge that certain lighting fixtures may also contribute towards maintaining cooler temperatures.

Approximate Costs and Development Phases
Additional funds to complete the project, beyond the $8 million that has already been appropriated, are expected to be appropriated by the City and County of Honolulu in accordance with project phasing.

Flora and Fauna
Consultant staff, including landscape architects and planners, conducted site visits. Because of the urbanized nature of the park and the surrounding neighborhood, botanists and biologists were not retained as consultants.

We acknowledge that birds are not mammals. This mistake will be corrected in the final EA.

The use of native plants has been considered as a part of the landscape plan.

Wetlands and Stream Resources
We acknowledge that a stream should be considered a wetland. Corrections will be made in the final EA.

Noise
The school and the park will have joint use of the multi-purpose building/gymnasium. As is currently the arrangement between the school and the park with the existing gym, the new facility will be used by the school on school days during school hours. After school hours and on non-school days, the new facility will be used for park and community programs. Thus, use of the courts during school hours will be only for school activities.

Construction activities are expected to affect Manoa Elementary School classes, however, all construction work will be monitored to comply with State of Hawaii Department of Health noise limits. The school is aware that there will be a temporary inconvenience associated with construction activities.

Community Issues and Social Impacts
We acknowledge the incorrect use of the word "gage" in section 4.2.6. This will be corrected in the final EA.

Community Issues and Social Impacts
Currently park users do use school parking lots during non-school hours. This practice is expected to continue after the proposed park improvements are completed.

Thank you for participating in the environmental review process.

Sincerely,

PBR HAWAII

Tom Schnell, AICP
Planner

cc: Office of Environmental Quality Control
Department of Design and Construction

BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HAWAII 96843

February 3, 2000

COPY

FEB - 9

TO: MR. GARY Q.L. YEE, DIRECTOR
DEPARTMENT OF DESIGN AND CONSTRUCTION

ATTN: CURTIS KUSHIMAEJO

FROM: CLIFFORD S. JAMILE

SUBJECT: YOUR TRANSMITTAL OF THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE MANOA VALLEY DISTRICT PARK IMPROVEMENTS, MANOA, OAHU, TMK: 2-9-36: PORTION 3

Thank you for the opportunity to review the document for the proposed park improvements.

We have the following comments to offer:

1. The existing off-site water system is presently adequate to accommodate the proposed park improvements.

2. The availability of water will be determined when the Building Permit Applications are submitted for our review and approval. If water is made available, the applicant will be required to pay the applicable Water System Facilities Charges for resource development, transmission and daily storage.

3. There are two (2) existing water services in the project vicinity. One 2-inch water meter serves the project site while a 3-inch compound water meter serves Manoa Elementary School.

4. If an additional 3-inch or larger water meter is required, the construction drawings showing the installation of the meter should be submitted for our review and approval.

5. The construction plans for any off-site water main improvements in conjunction with this project should be submitted for our review and approval.

6. As part of our overall water conservation policy, we promote the use of alternate water sources for the irrigation of large landscaped areas if a suitable supply is available. Although sources are not always readily available, in this case there are two existing wells in the immediate vicinity that may have the potential to meet the irrigation requirements. These wells were drilled several years ago and while the quality was adequate, they failed to produce sufficient yield for our purposes.

   We also note that the irrigation system is not included in the improvement plans. Considering the rainfall in the Manoa area, we suggest an efficient irrigation system be installed that would utilize moisture sensors to avoid operating the system while it is raining or if the ground has adequate moisture.

7. The on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

8. Our cross-connection control and backflow prevention requirements will be determined when the Building Permit Application is submitted for our review and approval.

If you have any questions, please contact Rian Adachi at 527-5245.

cc: Office of Environmental Control
PBR Hawaii

PBR HAWAII

LAND PLANNING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL STUDIES

July 27, 2000

Mr. Clifford S. Jamile,
Manager and Chief Engineer,
Board of Water Supply
630 South Beretania Street
Honolulu, Hawaii 96843

SUBJECT: RESPONSE TO COMMENTS ON THE MANOA VALLEY DISTRICT PARK DRAFT ENVIRONMENTAL ASSESSMENT TMK: 2-09-036: 03

Dear Mr. Jamile:

We have reviewed your memorandum to Mr. Gary Yee dated February 3, 2000, regarding the Draft Environmental Assessment (DEA) for the Manoa Valley District Park and offer the following responses:

1) We acknowledge that the existing water system is presently adequate to accommodate the proposed development.

2) The building permit application will be submitted to the Board for your review and approval. The Department of Design and Construction will comply with the applicable water system facilities charges for resource development, transmission, and daily storage.

3) We acknowledge that there are two existing water services in the project vicinity: one 2-inch water meter serves that project site, while a 3-inch compound water meter serves Manoa Elementary School.

4) If a 3-inch or larger water meter is required, construction drawings showing the installation of the water meter will be submitted for your review and approval.

5) Construction plans for any off-site water main improvements in conjunction with the project will be submitted for your review and approval.

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

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6) We acknowledge that there are two existing wells in the immediate vicinity that may have the potential to meet irrigation requirements. At this time the irrigation plan for the project has not been finalized, however, we will consider the existence of the wells when completing the irrigation plan.

   Currently an automatic irrigation plan is not being considered for the project, however, if final plans do include an automatic system, the use of moisture sensors will be considered.

7) The on-site fire protection requirements will be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

8) We acknowledge that your cross-connection control and backflow prevention requirements will be determined when the Building Permit Application is submitted for your review and approval.

Thank you for participating in the environmental review process.

Sincerely,

PBR HAWAII

Tom Schnell, AICP
Planner

cc: Office of Environmental Quality Control
Department of Design and Construction

PBR HAWAII

LAND PLANNING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL STUDIES

RECEIVED
DEPARTMENT OF
FACILITY MAINTENANCE

JAN 4 7 59 AM '00

We do not have any comments. I
you have any questions, please
call Laverne Higa at 527-6246.

ROSS S. SASAMURA
Director and Chief Engineer
Department of Facility Mainte-
nance, C&C of Honolulu

January 3, 2000

Dear Participant:

Attached for your review is a Draft Environmental Assessment (EA) which was prepared pursuant to the EIS Law (Hawaii Revised Statutes, Chapter 343) and the EIS rules (Administrative Rules, Title 11, Chapter 200).

Title of Project: Manoa Valley District Park:

Location: Island: Oahu District: Primary Urban Center

Tax Map Keys: 2-09-036: 03 (portion)

Agency Action: X **Applicant Action:** —

Your comments must be received or postmarked by February 7, 2000.

Please address your comments to:

Agency/Approving Agency:
Department of Design and Construction
City and County of Honolulu
650 S. King Street, 2nd Floor
Honolulu, Hawaii 96813

Contact: Mr. Curtis Kushimaejo **Phone:** 527-6332

Copies of your comments should also be sent to the following:

Office of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, Hawaii 96813

Consultant:
PBR Hawaii
Pacific Tower, Suite 650
1001 Bishop Street
Honolulu, Hawaii 96813

Contact: Mr. Tom Schnell **Phone:** 521-5631

Thank you for participating in the environmental assessment review process.

W. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung
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1001 BISHOP STREET, PACIFIC TOWER, SUITE 650, HONOLULU, HAWAII 96813
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TELEPHONE: (808) 961-3333 FAX: (808) 961-4989

JAN-04-00 07:18AM FROM-DEPARTMENT OF FACILITY MAINTENANCE 808-527-5857 T-132 P.01/01 F-132

PBR HAWAII

LAND PLANNING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL STUDIES

July 27, 2000

Mr. Ross S. Sasamura, Director
Department of Facility Maintenance
650 South King Street, 11th Floor
Honolulu, HI 96813

SUBJECT: **RESPONSE TO COMMENTS ON THE MANOA VALLEY DISTRICT PARK DRAFT ENVIRONMENTAL ASSESSMENT TMK: 2-09-036: 03**

Dear Mr. Sasamura:

We have reviewed your statement dated January 6, 2000, regarding the DEA for the Manoa Valley District Park.

We acknowledge that you have no comments. Thank you for participating in the environmental review process.

Sincerely,

PBR HAWAII

Tom Schnell, AICP
Planner

cc: Office of Environmental Quality Control
Department of Design and Construction

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung
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DEPARTMENT OF PARKS AND RECREATION

CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 10TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 523-4182 • FAX 523-4054

JEREMY HARRIS
MAYOR

00 FEB -4 P1 1:58

WILLIAM D. BALFOUR, JR.
DIRECTOR

MICHAEL T. AMI
DEPUTY DIRECTOR

00 FEB -4 AM 8:21
CITY & COUNTY OF HONOLULU
PLANNING

February 2, 2000

TO: RANDALL K. FUJIKI, ACTING DIRECTOR
DEPARTMENT OF PLANNING AND PERMITTING

FROM: WILLIAM D. BALFOUR, JR., DIRECTOR

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT
MANOA DISTRICT PARK

Thank you for the opportunity to review the Draft Environmental Assessment (DEA) for Manoa District Park.

We have no comments to offer at this time. We will look forward to reviewing the final.

Should you have any questions, please contact Mr. John Reid, Planner, at 547-7396.

W. D. Balfour

WILLIAM D. BALFOUR, JR.
Director

WDB:cu
[00-0022JR]

PBR HAWAII

LAND PLANNING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL STUDIES

July 27, 2000

Mr. William D. Balfour, Jr., Director
Department of Parks and Recreation
650 South King Street, 10th Floor
Honolulu, HI 96813

SUBJECT: RESPONSE TO COMMENTS ON THE MANOA VALLEY DISTRICT PARK DRAFT ENVIRONMENTAL ASSESSMENT TMK: 2-09-036: 03

Dear Mr. Balfour:

We have reviewed your memorandum to the Department of Design and Construction dated February 2, 2000, regarding the Draft Environmental Assessment for the Manoa Valley District Park. We acknowledge that you have no comments.

Thank you for participating in the environmental review process.

Sincerely,

PBR HAWAII

Tom Schnell, AICP
Planner

cc: Office of Environmental Quality Control
Department of Design and Construction

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

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DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU

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JEREMY HARRIS
MAYOR

RANDALL K. FUJIKI, AIA
ACTING DIRECTOR

LORETTA K.C. CHEE
DEPUTY DIRECTOR

00 FEB -8 P3:49

2000/CLOG-48(as)

February 7, 2000

MEMORANDUM

TO: GARY Q. L. YEE, ACTING DIRECTOR
DEPARTMENT OF DESIGN AND CONSTRUCTION

ATTN: CURTIS KUSHIMAEJO

FROM: Barbara A Moon for RANDALL K. FUJIKI, AIA, ACTING DIRECTOR
DEPARTMENT OF PLANNING AND PERMITTING

SUBJECT: PUBLIC REVIEW OF DRAFT ENVIRONMENTAL ASSESSMENT FOR MANOA VALLEY DISTRICT PARK
TAX MAP KEY 2-9-36: 3

This is in response to your request dated January 3, 2000 for comments on the Draft Environmental Assessment (DEA) for the Manoa Valley District Park project. We have the following comments:

The proposed expansion of the Manoa Valley District Park includes renovations to the existing gym, a new multi-purpose building and addition of 183 parking stalls. We have no objections to the proposed expansion and generally concur with the findings contained in the Traffic Impact Analysis. However, based on comments from our Traffic Review Branch, the following should be considered during the development of the various phases for expansion of the park:

1. Adequate parking should be provided and contained on-site to accommodate the anticipated number of users of the park to the greatest extent practical to minimize impacts to the surrounding neighborhood. Efforts should be made to stagger large events, so that there is adequate time between the events to dissipate traffic using the parking areas and on the surrounding streets before the next event begins.

2. The park personnel should also notify affected residents prior to any major activity which will significantly impact traffic and parking in the surrounding area.

3. The applicant should work with the residents on Kaaipu Avenue, with regard to the proposal to initiate "No Parking" regulations on the street to assure that there is emergency access to the park, if there is a need to provide this type of access. If this cannot be achieved, an alternate location to provide adequate access for emergency vehicles should be pursued.

Thank you for the opportunity to review and comment. Should you have any questions, you may contact Adrian Siu-Li of our staff at 527-5072.

cc: Office of Environmental Quality Control

POSSE doc. no.24303
bcc: TFB

PBR HAWAII

LAND PLANNING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL STUDIES

July 27, 2000

Mr. Randall K. Fujiki, AIA, Director
Department of Planning and Permitting
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

SUBJECT: RESPONSE TO COMMENTS ON THE MANOA VALLEY DISTRICT PARK DRAFT ENVIRONMENTAL ASSESSMENT TMK: 2-09-036: 03

Dear Mr. Fujiki:

We have reviewed your memorandum to Mr. Gary Yee dated February 7, 2000, regarding the Draft Environmental Assessment (DEA) for the Manoa Valley District Park and offer the following responses to your comments:

1) Under the site plan to be provided in the final environmental assessment, 296 new parking stalls will be added to the existing 368 stalls, for a total of 664 parking stalls. This includes parking stalls proposed at both the park and the school site.

   We acknowledge your suggestion that efforts should be made to stagger large events so that there is adequate time between the events to dissipate cars parking on-site and on the streets before the next event begins.

2) We acknowledge your suggestion that park personnel should notify affected residents prior to any major activity that will significantly impact traffic and parking in the surrounding area.

3) "No parking" regulations will not be initiated anywhere in the area of the park or school without consulting with area residents. If emergency access to the park becomes problematic, all available alternatives will be evaluated.

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

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Mr. Randall K. Fujiki
Manoa Valley District Park
July 27, 2000
Page 2

Thank you for participating in the environmental review process.

Sincerely,

PBR HAWAII

Tom Schnell, AICP
Planner

cc: Office of Environmental Quality Control
Department of Design and Construction

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU
PACIFIC PARK PLAZA • 711 KAPIOLANI BOULEVARD, SUITE 1200 • HONOLULU, HAWAII 96813
TELEPHONE: (808) 523-4529 • FAX: (808) 523-4730

JEREMY HARRIS
MAYOR

CHERYL D. SOON
DIRECTOR

JOSEPH M. MAGALDI, JR.
DEPUTY DIRECTOR

TP1/00-00024R

February 7, 2000

MEMORANDUM

TO: GARY Q. L. YEE, ACTING DIRECTOR
DEPARTMENT OF DESIGN AND CONSTRUCTION

ATTN: CURTIS KUSHIMAEJO

FROM: CHERYL D. SOON, DIRECTOR

SUBJECT: MANOA VALLEY DISTRICT PARK

In response to the January 3, 2000 letter from PBR Hawaii, the draft environmental assessment for the subject project was reviewed. The following comments are the result of this review:

1. The proposed project should be reviewed by the State of Hawaii Commission on Persons with Disabilities to help ensure conformance with the Americans with Disabilities Act Accessibility Guidelines.

2. Traffic calming projects are being proposed adjacent to or near the subject park. Therefore, continued close coordination with this department will be required.

Should you have any questions regarding these comments, please contact Faith Miyamoto of the Transportation Planning Division at Local 6976.

Cheryl D. Soon

CHERYL D. SOON

cc: Office of Environmental Quality Control
PBR Hawaii - Mr. Tom Schnell

FEB - 9

Fr...
F...

PBR HAWAII
LAND PLANNING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL STUDIES

July 27, 2000

Ms. Cheryl D. Soon, Director
Department of Transportation Services,
Pacific Park Plaza
711 Kapiolani Blvd., Suite 1200
Honolulu, Hawaii 96813

SUBJECT: RESPONSE TO COMMENTS ON THE MANOA VALLEY DISTRICT PARK DRAFT ENVIRONMENTAL ASSESSMENT TMK: 2-09-036: 03

Dear Ms. Soon:

We have reviewed your memorandum to Mr. Gary Yee dated February 7, 2000, regarding the Draft Environmental Assessment (DEA) for the Manoa Valley District Park and offer the following responses:

1) The Disability and Communication Access Board (formerly the State of Hawaii Commission on Persons with Disabilities) will be sent construction plans for review and comment.

2) We acknowledge that traffic calming projects are being proposed adjacent to or near the park, and the Department of Design and Construction will continue coordination of park improvements with the Department of Transportation Services.

Thank you for participating in the environmental review process.

Sincerely,

PBR HAWAII

Tom Schnell, AICP
Planner

cc: Office of Environmental Quality Control
Department of Design and Construction

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

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FIRE DEPARTMENT

CITY AND COUNTY OF HONOLULU

3375 KOAPAKA STREET, SUITE H429
HONOLULU, HAWAII 96819-1869

JEREMY HARRIS
MAYOR

FEB - 7.

ATTILIO K. LEONARDI
FIRE CHIEF

JOHN CLARK
DEPUTY FIRE CHIEF

February 2, 2000

TO: GARY Q. L. YEE, ACTING DIRECTOR
DEPARTMENT OF DESIGN AND CONSTRUCTION

ATTN: CURTIS KUSHIMAEJO, PROJECT MANAGER

FROM: ATTILIO K. LEONARDI, FIRE CHIEF

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (DEA)
MANOA VALLEY DISTRICT PARK
TAX MAP KEY: 2-9-036: 003 (PORTION)

We received the letter from PBR Hawaii dated January 3, 2000, regarding the Draft Environmental Assessment (DEA) for Manoa Valley District Park.

The Honolulu Fire Department (HFD) requests that the following be complied with:

1. Provide a private water system where all appurtenances, hydrant spacing, and fire flow requirements meet Board of Water Supply standards.

2. Provide a fire department access road to within 150 feet of the first floor of the most remote structure. Such access shall have a minimum vertical clearance of 13 feet 6 inches, be constructed of an all-weather driving surface complying with Department of Transportation Services (DTS) standards, capable of supporting the minimum 60,000 pound weight of our fire apparatus, and with a gradient not to exceed 20%. The unobstructed width of the fire apparatus access road shall meet the requirements of the appropriate county jurisdiction. All dead-end fire apparatus access roads in excess of 150 feet in length, shall be provided with an approved turnaround having a radius complying with DTS standards.

3. Submit construction plans to the HFD and the Department of Planning and Permitting.

Should you have any questions, please call Battalion Chief Kenneth Silva of our Fire Prevention Bureau at 831-7778.

ATTILIO K. LEONARDI
Fire Chief

AKL/KS:jo

cc: Office of Environmental Quality Control
Tom Schnell, PBR Hawaii

PBR HAWAII

LAND PLANNING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL STUDIES

July 27, 2000

Chief Attilio K. Leonardi, Fire Chief
City and County of Honolulu
3375 Koapaka Street, Suite H425
Honolulu, HI 96819

SUBJECT: RESPONSE TO COMMENTS ON THE MANOA VALLEY DISTRICT PARK DRAFT ENVIRONMENTAL ASSESSMENT TMK: 2-09-036: 03

Dear Chief Leonardi:

We have reviewed your memorandum to Mr. Gary Yee dated February 2, 2000, regarding the Draft Environmental Assessment (DEA) for the Manoa Valley District Park and offer the following responses:

1) The project will include a private water system where all appurtenances, hydrant spacing, and fire flow requirements meet Board of Water Supply standards.

2) The project will provide a Fire Department access road that meets all requirements specified in your letter.

3) Construction plans will be submitted to the Honolulu Fire Department and the Department of Planning and Permitting.

Thank you for participating in the environmental review process.

Sincerely,

PBR HAWAII

Tom Schnell, AICP
Planner

cc: Office of Environmental Quality Control
Department of Design and Construction

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

HONOLULU OFFICE
1001 BISHOP STREET, PACIFIC TOWER, SUITE 650, HONOLULU, HAWAII 96813-3429
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POLICE DEPARTMENT

CITY AND COUNTY OF HONOLULU

801 SOUTH BERETANIA STREET
HONOLULU, HAWAII 96813 - AREA CODE (808) 529-3111
http://www.honolulupd.org

JEREMY HARRIS
MAYOR

LEE D. DONOHUE
CHIEF

MICHAEL CARVALHO
DEPUTY CHIEFS

OUR REFERENCE CS-JD

February 2, 2000

TO: GARY Q.L. YEE, ACTING DIRECTOR
DEPARTMENT OF DESIGN AND CONSTRUCTION

ATTENTION: CURTIS KUSHIMAEJO, PROJECT MANAGER

FROM: LEE D. DONOHUE, CHIEF OF POLICE
HONOLULU POLICE DEPARTMENT

SUBJECT: MANOA VALLEY DISTRICT PARK

Thank you for the opportunity to review and comment on the subject document.

We believe that the proposed project will have an impact on our calls for service both during the construction phase and after it is completed. Construction dust, noise, and traffic concerns are inevitable with a project of this size. Officers in District 7 are willing to work with you in an effort to minimize any negative impacts.

If there are any questions, please call me at 529-3255 or Major Henry Robinson of District 7 at 529-3362.

FEB - 4
Project
Project No.

LEE D. DONOHUE
Chief of Police

By
EUGENE UEMURA
Assistant Chief
Support Services Bureau

cc: Office of Environmental
Quality Control

Mr. Tom Schnell
PBR Hawaii

PBR HAWAII
LAND PLANNING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL STUDIES

July 27, 2000

Chief Lee D. Donohue
Chief of Police
City & County of Honolulu
801 S. Beretania Street
Honolulu, Hawaii 96813

SUBJECT: RESPONSE TO COMMENTS ON THE MANOA VALLEY DISTRICT PARK DRAFT ENVIRONMENTAL ASSESSMENT TMK: 2-09-036: 03

Dear Chief Donohue:

We have reviewed your memorandum to Mr. Gary Yee dated February 2, 2000, regarding the Draft Environmental Assessment (DEA) for the Manoa Valley District Park and offer the following responses:

1) We acknowledge that the proposed project will have an impact on your calls for service both during the construction phase and after it is completed.

2) We appreciate your willingness to work with the Department of Design and Construction in an effort to minimize any negative impacts.

Thank you for participating in the environmental review process.

Sincerely,

PBR HAWAII

Tom Schnell, AICP
Planner

cc: Office of Environmental Quality Control
Department of Design and Construction

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

HONOLULU OFFICE
1001 BISHOP STREET, PACIFIC TOWER, SUITE 650, HONOLULU, HAWAII 96813-3429
TELEPHONE: (808) 521-5631 FAX: (808) 523-1402 E-MAIL: pbrhi@aloha.net

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TELEPHONE: (808) 961-3333 FAX: (808) 961-4997

PAREN, INC. Fax:8085365996 Jul 17 2000 9:24 P.03

To: Barry Yee
From: Gary Andersen
Date: 12 January 2000
RE: Manoa Valley District Park (MVDP)
Draft Environmental Assessment (DEA), December 1999

Dear Mr. Yee:

Thank you for the opportunity to comment on the DEA as follows:

2.1.6 Community Planning Process.
"In 1998, the Legislature passed Senate Concurrent Resolution No. 157, Senate Draft 1, calling for the establishment of a City, State and community task force to develop a master plan for improvements to Manoa Recreational Park and Manoa Elementary School."

COMMENT: This statement is erroneous, possibly duplicitous and if so, grounds for litigation if used as the basis for any proposed construction in Manoa Valley District Park. SCR No. 157 makes no mention of development of "a master plan for improvements to Manoa Recreation Park and Manoa Elementary School."

If I am in error, please contact me immediately by mail and reference the numbered line(s) wherein direct reference is made in SCR No. 157 to (MVDP?).

I close with my respect and look forward to your expeditious response.

Gary Andersen

Gary Andersen, Manoa Resident
POB 61691
Honolulu, Hawaii 96839

Cc: Jeremy Harris, Mayor, City & County of Honolulu
Genevieve Salmonson, Office of Environmental Quality Control, State of Hawaii

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00 JAN 18 A9:04
DEPT OF DESIGN & CONSTR
FACILITIES DESIGN & ENGR
DIV OF C OF HONOLULU

RECEIVED
00 JAN 14 AM 8:12
DEPT OF DESIGN & CONSTR
CITY & COUNTY OF HONOLULU

PAREN, INC. Fax:8085365996 Jul 17 2000 9:25 P.04

cc Gary Pollard

To: Gary Yee, Director, Dept. of Design & Construction
City and County of Honolulu, State of Hawaii
From: Gary Andersen
Date: 12 January 2000
RE: Manoa Valley District Park (MVDP)
Draft Environmental Assessment (DEA), December 1999

Dear Mr. Yee:

Please accept my apology for misspelling your name in my letter of 12 January 2000

Thank you for the opportunity to comment on the DEA as follows:

2.1.6 Community Planning Process.
"In 1998, the Legislature passed Senate Concurrent Resolution No. 157, Senate Draft 1, calling for the establishment of a City, State and community task force to develop a master plan for improvements to Manoa Recreational Park and Manoa Elementary School."

COMMENT: This statement is erroneous, possibly duplicitous and if so, grounds for litigation if used as the basis for any proposed construction in Manoa Valley District Park. SCR No. 157 makes no mention of development of "a master plan for improvements to Manoa Recreation Park and Manoa Elementary School."

If I am in error, please contact me immediately by mail and reference the numbered line(s) wherein direct reference is made in SCR No. 157 to (MVDP).

I close with my respect and look forward to your expeditious response.

Gary Andersen

Gary Andersen, Manoa Resident
POB 61691
Honolulu, Hawaii 96839

Cc: Jeremy Harris, Mayor, City & County of Honolulu
Genevieve Salmonson, Office of Environmental Quality Control, State of Hawaii

RECEIVED
00 JAN 20 AM 8:37
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CITY & COUNTY OF HONOLULU

DOCUMENT CAPTURED AS RECEIVED

PBR HAWAII

LAND PLANNING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL STUDIES

July 27, 2000

Mr. Gary Andersen
P.O. Box 61691
Honolulu, Hawaii 96839

SUBJECT: RESPONSE TO COMMENTS ON THE MANOA VALLEY DISTRICT PARK DRAFT ENVIRONMENTAL ASSESSMENT (DEA)

Dear Mr. Andersen:

We have reviewed your memorandums to Mr. Gary Yee dated January 12, 2000, and January 18, 2000, regarding the 1998 Senate Concurrent Resolution No. 157 Senate Draft 1 and its relationship to the Manoa Valley District Park Draft Environmental Assessment (DEA).

In the DEA it is stated that: "In 1998, the Legislature passed Senate Concurrent Resolution No. 157, Senate Draft 1, calling for the establishment of a City, State, and community task force to develop a master plan for improvements to Manoa Recreational Park and Manoa Elementary School."

Please note that the title of the 1998 Senate Concurrent Resolution No. 157, Senate Draft 1 is: "Establishing a City, State, and community task force to develop a master plan for improvements to Manoa Recreational Park and Manoa Elementary School." Attached for your review is a complete copy of the resolution.

Thank you for participating in the environmental review process.

Sincerely,

PBR HAWAII

Tom Schnell, AICP
Planner

cc: Office of Environmental Quality Control
Department of Design and Construction

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

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THE SENATE
NINETEENTH LEGISLATURE, 1998
STATE OF HAWAII

S.C.R. NO. 157 S.D. 1

SENATE CONCURRENT RESOLUTION

ESTABLISHING A CITY, STATE, AND COMMUNITY TASK FORCE TO DEVELOP A MASTER PLAN FOR IMPROVEMENTS TO MANOA RECREATIONAL PARK AND MANOA ELEMENTARY SCHOOL.

WHEREAS, the State and City and County of Honolulu are engaged in efforts to improve conditions in our community on an on-going basis; and

WHEREAS, improvements such as the Ala Wai Canal Watershed Improvement Project is intended to revitalize the health of the Ala Wai Canal Watershed; and

WHEREAS, the Project includes all of the area from the top of the Koolau Mountains above Tantalus, Manoa, Palolo, and St. Louis Heights makai to the ocean, and the restoration of water quality in the Ala Wai Canal Canal and its tributary streams in Makiki, Manoa, and Palolo, will greatly enhance the enjoyment of the Watershed and the streams by residents and visitors alike; and

WHEREAS, the Project includes a flood damage reduction investigation and creation of a landscaped stream bank by the Manoa Stream and the Manoa Recreation Park which, if left unattended, could affect flood flows reaching the Ala Wai Canal, and block necessary drainage in nearby areas, particularly the Manoa Recreation Park and Manoa Elementary School; and

WHERRAS, Manoa Recreational Park is in constant use by members of the Manoa community and those outside the community as well; and

WHERREAS, Manoa Recreational Park is heavily used by many different sports leagues, representing a variety of sports and levels of play; and

WHEREAS, the facilities at the park are rundown, out-of-date, and too small for the volume of activities that occur at the park; and

SCR157 SD1

WHEREAS, the gymnasium in particular is too small and the ceiling is literally falling down, presenting a health hazard; and

WHEREAS, the bathroom facilities are far too inadequate for the amount of use experienced by the park; and

WHEREAS, the parking lot is too small and is always crowded, and the lighting is insufficient, presenting safety concerns for those who use the facilities after dusk; and

WHEREAS, old and broken playground equipment that were removed because of safety concerns have never been replaced; and

WHEREAS, because the park facilities and Manoa Elementary School are in such close proximity, the boundaries are blurred, and users of the park facility spill over onto the school property, especially the school playground, outdoor basketball court, and other paved or asphalt areas where they can ride bikes or roller-blades; and

WHEREAS, because there is a temporary old wooden structure adjacent to the Manoa Park Gym and on the Manoa Elementary School grounds that is in need of demolition and reconstruction and, at the same time, because there is a possibility of expanding the gym, there is a need for a plan that will address the most efficient and effective use of the area; and

WHEREAS, users of both facilities would benefit immensely from improvements made to Manoa Recreational Park and Manoa Elementary School; now, therefore,

BE IT RESOLVED by the Senate of the Nineteenth Legislature of the State of Hawaii, Regular Session of 1998, the House of Representatives concurring, that the Mayor of the City and County of Honolulu and the Governor are requested to convene a joint state and county task force to develop a master plan for improvements to the Manoa Recreational Park and Manoa Elementary School; and

BE IT FURTHER RESOLVED that the task force is requested to include:

(1) Representatives of the Manoa Senatorial and House of Representatives Districts;

(2) The office of the City Council member representing Manoa;

(3) The Manoa District Park Director;

(4) The Principal of the Manoa Elementary School;

(5) Members of the Manoa Elementary School APT;

(6) Representatives from sports leagues that are authorized to use the Manoa Recreational Park;

(7) A member of the Manoa Neighborhood Board;

(8) The Comptroller or designee;

(9) The Assistant Superintendent of the Department of Education's Office of Business Services or designee; and

(10) The District Superintendent of the Honolulu District Office of the Department of Education or designee;

and

BE IT FURTHER RESOLVED that the task force is requested to include in its master plan an identification of areas in need of improvement, addressing specifically, the park gymnasium, the school gymnasium, the parking lots, lighting system for the entire area, playground equipment, and the possibility of enclosing the pavilion and an indication of the priority to be given to each area in need of improvement; and

BE IT FURTHER RESOLVED that the task force is requested to submit its findings and recommendations, including any proposed

S.C.R. NO. 157 S.D. 1

legislation, to the Legislature no later than twenty days before the convening of the Regular Session of 1999; and

BE IT FURTHER RESOLVED that certified copies of this Concurrent Resolution be transmitted to the Mayor and the Chairperson of the Council of the City and County of Honolulu, the Governor, the Department of Education, the Department of Accounting and General Services, the Manoa Neighborhood Board, the Manoa District Park Director, the Principal of the Manoa Elementary School, and the President of the Manoa Elementary School APT.

To: Genevieve Salmonson
From: Gary Andersen
Date: 28 January 2000
RE: Manoa Valley District Park (MVDP)
Draft Environmental Assessment (DEA), December 1999

RECEIVED
'00 JAN 31 P1:38

Dear Ms Salmonson:

Thank you for the opportunity to further comment on the DEA as follows:

1.6 Community Individuals and Organizations. (Page 3)
QUESTION: Are Nakamori, Harriet and Nakamura, Harriet the same individual?

2.1.6 Community Planning Process. The resulting task force included . . . Manoa Residents . . .
QUESTION: Other than elected or appointed State and City officials, Planners, Developers, and "Stakeholders," what percent and number of the task force participants were Manoa residents?

Fourth paragraph this section: The report identified the development of a multi-purpose building / covered playcourt area located between the existing park gymnasium and school blacktop as the highest priority park improvement.
REQUEST: Please define "playcourt."

Last paragraph this section: " . . . After reviewing several configurations and sites for the few facility, a consensus decision was reached."
QUESTION: Other than elected or appointed State and City officials, Planners, Developers, and "Stakeholders," what percent and number of Manoa residents were party to the alleged consensus decision?

2.3.3 Additional Parking and Passenger Drop-Off Area. Approximately 183 parking spaces will be provided . . .
QUESTIONS: How much "Green space" will be lost as a result of the proposed construction of additional parking and drop-off areas? To where will the water drain? What elements are expected to be found in this water? Will any trees be removed to accommodate additional parking spaces and drop-off areas?

2.3.6 Other Improvements. Other improvements include: 1) enclosing the pavilion near the Ka'alpu Avenue parking lot.
QUESTIONS: Will enclosing the pavilion require air conditioning? If so, to what degree will this effect the environment? What will be the cost?

2.4 Sustainable Building Design. (p. 10) The building (the proposed multi-purpose building / gymnasium) will be naturally cooled through the use of louvered ventilation openings (classroom areas will be designed for natural ventilation that may be converted to air conditioning.
QUESTIONS: Does this mean the gymnasium will not be air-conditioned? Or does this mean the gymnasium will be so designed to accommodate air conditioning in the future? If the gymnasium is air conditioned, to what degree will this effect the environment? What would be the costs of purchase, installation, maintenance, and operation (In terms of Watt-hours)?

2.5 Approximate Costs and Development Phases. "The Manoa community has identified construction of the multi-purpose building / gymnasium and the provision of additional parking as the highest priority improvements.
COMMENT: The "Manoa community" has made no such identification. Any representation thereto is erroneous, perhaps duplicitous and grounds for litigation. If I am wrong please be so kind as to provide me with documentation of this "identification" allegedly made by the Manoa community. Please do not submit "findings" of a task force, a charette or a very small group of interviewees.
REQUEST the names of the persons who represent themselves as the "Manoa Community."

3.2.1 General plan, Discussion, second paragraph (p. 13). The task force that defined the necessary improvements developed their recommendations based on first-hand knowledge of the wishes of the community.
QUESTION: What is "first-hand knowledge." How is this type of knowledge different from just plain knowledge? Was a survey of the Manoa residents undertaken by those in possession of "first hand knowledge?"
REQUEST: If so, I hereby request verifiable documentation as to the basis of this "first hand knowledge."

3.2.2.2 Discussion (p. 15) The Manoa Valley District Park and the proposed improvements are consistent with the plan's vision of a city of livable neighborhoods where parks, recreation, cultural centers and schools are in close proximity to the neighborhoods they serve.
QUESTION: How does this proposal, with its diminution of green space, increased traffic, noise, and pollution serve the neighborhood?

3.2.3 Land Use Ordinance. The purpose of the Residential zone is to allow for a range of residential densities, however, non-dwelling uses that support and complement residential neighborhood activities are also permitted.
QUESTION: Specifically, how does the proposed multi-purpose facility / gymnasium complement residential neighborhood activities?

3.2.3 (last paragraph on p. 16) The proposed multi-purpose building / gymnasium will be approximately 42 feet tall at the peak of the roofline. The LUO set maximum height levels of 25 feet in the P-2 zone and 25-30 feet in the R-7.5 zone; however, the LUO also allows the Director of the Department of Planning and Permitting to grant a waiver of the strict application of design standards for public use structures.
REQUEST N.B.:That the Director of the Department of Planning and Permitting NOT grant a waiver of design standards for public use structures as pertains to the proposed multi-purpose building / gymnasium in Manoa Valley District Park until the interests of the majority of the neighbors have been fully documented.

4.1.2. Climate. " . . . High and low annual average temperature in Manoa Valley range from 78 to 66 degrees Fahrenheit. Average annual rainfall is approximately 20 to 120 inches, which ranges seasonally.
QUESTION: From what reference sources were the temperature and rainfall ranges determined?
COMMENT: This data is in apparent conflict with that provided in Appendix B page 2,

4.1.2. Climate, Potential Impacts and Mitigative Measures. The proposed improvements will have no effect on climatic conditions and no mitigative measures are necessary.
QUESTIONS: Where is the proof that the proposed "improvements" will not have an effect on climatic conditions? Have any computer modeling been undertaken? If not, who are the consulting meteorologists that have advanced this opinion?

4.1.5 Drainage.
COMMENT: This section does not address the expected amount of fluids such as oil and coolants escaping to the surface of the parking / drop-off areas. Nor does this section address the amount of carbon particulates or asbestos fibers produced as a result of this "improvement."
QUESTION: What amount of the above mentioned elements are expected to enter the Manoa Valley District Park environs as a result of parking space construction?

4.2.4 Noise " . . . the Manoa Neighborhood Board has asked the City to close the park from 11 p.m. to 5 a.m."
QUESTION: When did the Manoa Neighborhood Board do this?

4.2.5 Visual Resources. Potential Impacts,
QUESTION: Why is there no "overlay" to show how much of the view the 42 foot high building will impact the view planes in Manoa Valley?
COMMENT: By omitting the overlay, the citizen is deprived of an opportunity to evaluate the scale of the project and thus may deprived of crucial information that would encourage comment.
REQUEST: The Director of the Department of Planning and Permitting City and County of Honolulu, cause to be published, photograph(s) with an "overlay" to indicate the impact of the proposed structure on the view planes of Manoa valley in the Honolulu Advertiser within 5 working days upon receipt of this letter.

4.2.6.3 Community Issues and Social Impacts, Adequacy of community review process. "Some residents, particularly park neighbors, felt there was inadequate notification an/or review by the Neighborhood Board. However, a majority of the interviewees disputed this viewpoint and praised the process for its inclusiveness.
QUESTIONS: How many interviewees were /are residents of Manoa Valley? Of this number how many of this number "disputed this viewpoint and praised the process for its inclusiveness?"
COMMENT: The matter of the Manoa Valley District Park multi-purpose facility/gymnasium has never, as of today's date, been voted upon by the Manoa Neighborhood Board. This would seem in violation of Article 7. Section 1-7.1 of the Revised Neighborhood Plan of the City and County of Honolulu 1986, 1998 Edition, whereby "The boards are responsible for actively participating in functions and processes of government by articulating, defining, and addressing neighborhood problems. Their actions should reflect the needs and wants of the neighborhood. Boards are expected to take the initiative in selecting their

activities and establishing priorities among them, and to provide means for effective citizen participation in government. The powers, duties, and functions of the board shall include, but not be limited to the following: (a) Review and make recommendations on any general plan, development plan, and other land use matters with its neighborhood . . ."

4.2.6.3 (p.30, second paragraph) "the Neighborhood Board has asked the City to close the park from 11 p.m. to 5 p.m."
QUESTION: When did the Manoa Neighborhood Board do this?

4.2.7.1 Water System, "The existing water system will need to be improved to accommodate the required fire protection . . ."
QUESTIONS: What will be the total cost of construction of the water system? How long will it take? How much more water will be required?

4.2.7.2 Wastewater Facilities, "However, the current downstream gravity sewer line servicing the park is currently identified as inadequate by the Sewer Rehabilitation and Infiltration and Inflow Minimization, (May 1999)"
QUESTIONS: Does this mean that the neighborhood can expect new sewer configuration and construction? If so, what are the expected costs? How long will the project take?

4.2.8 Solid Waste Disposal, Potential Impacts and Mitigative Measures. Vegetation removed from the property . . ."
QUESTION: How many, if any, trees will need to be removed?

6.1 SIGNIFICANCE CRITERIA (12) " . . . and parking lot expansion will have no affect on views."
COMMENT: The 99 new parking spaces in the Ka'aipu Avenue area will significantly impact the view of those living Mauka of Lowery Avenue. Where the residents once saw fields of green, they will see asphalt and chrome. This will affect the view and could depreciate property values.
QUESTIONS: How many residents on the Mauka side of Lowery Avenue, between Ka'aipu Avenue and East Manoa Road were contacted to assess their views on the proposed project? What effect will approximate 162 parking spaces have on the air temperature for those citizens living down wind?

6.1 SIGNIFICANCE CRITERIA (13) Once completed. The new building is expected to consume energy similar to other developments.
QUESTIONS: What is the cost of energy without air conditioning?
What is the cost of energy with air-conditioning?

MANOA VALLEY DISTRICT PARK SOCIO-ECONOMIC IMPACT ASSESSMENT.

IV, A - Community Input Process Independent of this Study. On April 28, 1988, the Nineteenth Legislature of the State of Hawaii passed a Senate Concurrent Resolution 157, requesting the formation of a Joint State and County task force . . ."
COMMENT: The year was 1998: The proper title is Senate Concurrent Resolution 157, Senate Draft 1.

In summation, the Manoa Valley District Park Draft Environmental Assessment is premature because the minutes of the Manoa Neighborhood Board, as of this date, do not reflect any discussion or vote regarding the Multi-purpose facility/gymnasium. The number of neighbors contacted is extraordinarily small considering the magnitude of this multi-million dollar project. The cost of ancillary support such as water, power, sewer, are not provided to the citizen. The citizen is unable to effectively weigh the merits and trade-off of the proposed construction project. Thus, the citizen is deprived of their right to participate in an open government. Adequate citizen input is needed before another tax dollar is spent on this project.

I close with my respect and look forward to your expeditious written response.

Gary Andersen

Gary Andersen, Manoa Resident
POB 61691, Honolulu, Hawaii 96839

c. Jermery Harris, Mayor, City & County of Honolulu

cc Sierra Club
Life of the Land
Common Cause

PBR HAWAII

LAND PLANNING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL STUDIES

July 27, 2000

Mr. Gary Andersen
P.O. Box 61691
Honolulu, Hawaii 96839

SUBJECT: RESPONSE TO COMMENTS ON THE MANOA VALLEY DISTRICT PARK DRAFT ENVIRONMENTAL ASSESSMENT (DEA)

Dear Mr. Andersen:

We have reviewed your memorandum to Ms. Genevieve Salmonson dated January 28, 2000, regarding the DEA for the Manoa Valley District Park and offer the following responses to your comments, questions, and requests (for clarity, your comments, questions, and requests, as typed in your letter, are presented in italics, our responses are in regular type):

1. *QUESTION: Are Nakamori, Harriet and Nakamura, Harriet the same individual?*

   No, they are not the same individual.

2. *QUESTION: Other than elected or appointed State and City officials, Planners, Developers, and "Stakeholders", what percent and number of the task force participants were Manoa Residents?*

   This question refers to section 2.1.6 Community Planning Process, of the DEA which lists the participants of the City, State, and community task force established in response to Senate Concurrent Resolution No. 157, Senate Draft 1. Information regarding the participants of the task force was taken from the task force's "Report to the Twentieth Legislature of the State of Hawaii Concerning the Development of a Master Plan for Improvements to the Manoa Valley District Park and Manoa Elementary School Complex, City and County of Honolulu, Island of Oahu".

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

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Item 4 of this report states that, "Approximately 45 persons cumulatively participated in the task force's meetings". The report then lists groups and individuals that participated. In addition to representatives of many Manoa groups, such as the Manoa Neighborhood Board, Malama o Manoa, Hui o Manoa, and the Manoa School Association of Parents and Teachers, the report also states that participants included "area residents". Furthermore, it is logical to assume that many of the Manoa group members are also Manoa residents. However, the report does not stratify "Manoa residents" from elected or appointed State and City officials, Planners, Developers, and "Stakeholders".

3. *QUESTION: Please define "playcourt".*

   This question refers to the fourth paragraph of section 2.1.6 Community Planning Process, of the DEA which reports the task force's desired prioritized improvements to the Manoa Valley District Park. According to the task force report, the number one priority is the "Development of a multi-purpose building/covered playcourt area...". The task force report does not define "playcourt". Since this is the term of the task force, it would be inappropriate to define "playcourt" on behalf of the task force. Please note that while the DEA includes plans for multi-purpose building/gymnasium and a connecting plaza between the new and existing gym, there are no plans for a "playcourt".

4. *Other than elected or appointed State and City officials, Planners, Developers, and "Stakeholders", what percent and number of Manoa residents were party to the alleged consensus decision?*

   This question refers to the fifth paragraph of section 2.1.6 Community Planning Process, of the DEA which discusses the community meetings held in September and October of 1999. Sign-in attendance sheets from these meetings are available for your review.

5. *QUESTIONS:*
   a. *How much "Green space" will be lost as a result of the proposed construction of additional parking and drop-off areas?*

      Within the park approximately 60,000 square feet will be used for additional parking and drop-off areas, or approximately five percent of the total park area of 29 acres.

   b. *To where will the water drain?*

      Runoff from parking areas will be directed toward landscaped areas in compliance with all State and City laws and rules pertaining to non-point source pollution.

c. *What elements are expected to be found in this water?*

Elements expected to be found include fluids associated with automobiles, such as gasoline, oil, and transmission fluid. Small concentrations of heavy metals may also be found.

d. *Will any trees be removed to accommodate additional parking spaces and drop-off areas?*

Final construction plans have not been completed, therefore the number of trees, if any, that will need to be removed is undetermined at this point. It should be noted that new trees will also be planted as part of the landscaping plans for the park.

6. *QUESTIONS:*
   a. *Will enclosing the pavilion require air conditioning?*

   Plans for enclosing the pavilion have not been finalized and therefore decisions regarding air conditioning have not been made at this time.

   b. *If so, to what degree will this effect the environment?*

   See the above response.

   c. *What will be the cost?*

   See the response to question 6a.

7. *QUESTIONS:*
   a. *Does this mean the gymnasium will not be air conditioned?*

   The gymnasium will not be air conditioned.

   b. *Or does this mean that gymnasium will be so designed to accommodate air conditioning in the future?*

   The gymnasium will not be air-conditioned, and will not be designed to accommodate air conditioning in the future. The classroom areas will be designed for natural ventilation that may be converted to air conditioning.

   c. *If the gymnasium is air conditioned, to what degree will this effect the environment?*

   The gymnasium will not be air-conditioned.

   d. *What would be the cost of purchase, installation, maintenance, and operation (In terms of Watt-hours).*

   Since the gymnasium will not be air-conditioned, no cost estimates have been conducted.

8. *COMMENT: The "Manoa Community" has made no such identification. Any representation thereto is erroneous, perhaps duplicitous and grounds for litigation. If I am wrong please be so kind as to provide me with documentation of this "identification" allegedly made by the Manoa Community. Please do not submit "findings" of a task force, a charette or a very small group of interviewees.*

   Your comments are noted. However, reference to the "Manoa Community" and the community's desire for a multi-purpose building/gymnasium was in fact gathered through public participation in the task force, community meetings, and interviews. Pages 3 and 4 of the DEA list over 70 individuals and groups who participated in the community planning process.

   REQUEST the names of the persons who represent themselves as the "Manoa Community".

   As listed in the DEA over 70 individuals and groups participated in the community planning process. Please note, however, that by participating in the process these individuals and groups are not necessarily "representing" or asserting themselves as the "Manoa Community".

9. *QUESTION:*
   a. *What is "first-hand knowledge".*

   First-hand knowledge is knowledge direct from the original source.

   b. *How is this type of knowledge different from just plain knowledge?*

   The two terms are not significantly different.

c. *Was a survey of the Manoa residents undertaken by those in possession of "first hand knowledge"?*

No survey was undertaken.

REQUEST: If so, I hereby request verifiable documentation as to the basis of this "first hand knowledge".

No survey was undertaken.

10. *How does this proposal, with its diminution of green space, increased traffic, noise, and pollution serve the neighborhood?*

While the proposed improvements will take green space from the park, the DEA concludes that the effect of traffic, noise, and pollution from the improvements will have little significant impact on the surrounding community. Furthermore, the improvements to Manoa Valley District Park serve the community by increasing recreational opportunities. Currently, recreational facilities at the park are well used. For example, the existing gym, which only has one full-size basketball court, requires the Manoa Boys Basketball League to hold games until 9:30 p.m. on school nights. The proposed improvements will allow the recreational needs of the community to be better served.

11. *Specifically, how does the proposed multi-purpose building/gymnasium complement residential neighborhood activities?*

The proposed multi-purpose building/gymnasium complements residential neighborhood activities by increasing recreational opportunities for residents. Providing recreation facilities in close proximity to the populations they are designed to serve provides convenience and value to residents. The proposed improvements are consistent with generally accepted planning principles where it is desirable to locate parks, recreation, cultural centers, and schools in close proximity to the neighborhoods they serve.

12. *REQUEST N.B.: That the Director of the Department of Planning and Permitting NOT grant a waiver of design standards for public use structures as pertains to the proposed multi-purpose building / gymnasium in Manoa Valley District Park until the interests of the majority of the neighbors have been fully documented.*

Your request is noted and has been relayed to the Director of the Department of Planning and Permitting.

13. *QUESTION: From what reference sources were the temperature and rainfall ranges determined?*

Temperature and rainfall ranges on page 17 of the DEA were obtained from the National Weather Service. Because the National Weather Service does not maintain a reporting station directly in Manoa Valley District Park, temperature and rainfall ranges were from the reporting station closest to the Park. This reporting station is located further within the valley than the park.

Temperature and rainfall ranges on page 2 of Appendix B are part of the report from the meteorology/air quality consultant. The consultant estimated the mean daily temperature for Manoa Valley based on temperature data from various locations on Oahu. The estimated annual rainfall of 55 inches is based on data collected in Manoa during the 1950's and earlier and reported in "Climatography of the United States No. 86-44, Decennial Census of the United States Climate, Climate Summary of the United States, Supplement for 1951 through 1960, Hawaii and Pacific", U.S. Department of Commerce, Washington, D.C., 1965. The rainfall station reference in this report was located at 21 degrees 19 minutes north latitude, 157 degrees 49 minutes west longitude at an elevation of approximately 200 feet. Although this data is somewhat dated, it should still be representative.

COMMENT: This data is in apparent conflict with that provided in Appendix B page 2.

Your comment is noted. This inconsistency will be corrected in the final EA.

14. QUESTIONS:
    a. *Where is the proof that the proposed "improvements" will not have an effect on climatic conditions?*

No detailed computer modeling or other scientific analysis on the effect of the proposed improvements on climatic conditions of Manoa Valley was undertaken in preparation of the DEA. The DEA will be revised to state that proposed improvements are not expected to have an effect on climatic conditions, rather than stating that the proposed improvements will have no effect on climatic conditions.

    b. *Have any computer modeling been undertaken?*

See the above response.

c. *If not, who are the consulting meteorologists that have advanced this opinion?*

See the response to question 14a.

COMMENT: *This section does not address the expected amount of fluids such as oil and coolants escaping to the surface of the parking/drop-off areas. Nor does this section address the amount of carbon particulates or asbestos fibers produced as a result of this "improvement".*

Parking facilities will be designed in compliance with all State and City laws and rules pertaining to non-point source pollution.

QUESTION: What amount of the above mentioned elements are expected to enter the Manoa Valley District Park environs as a result of parking space construction?

Please see the response to questions 5b and 5c.

15. *QUESTION: When did the Manoa Neighborhood Board do this?*

On Wednesday December 2, 1998, the Manoa Neighborhood Board voted to approve a motion to have "Park Closed" signs posted at the park for night-time public safety and law enforcement purposes. The closure hours requested were from 12:00 a.m. (midnight) to 5:00 a.m. for a trial of six months. The DEA states that the closure hours requested were from 11:00 p.m. to 5:00 a.m. A correction will be made in the final EA to reflect the accurate motion approved by the Board.

17. QUESTION: *Why is there no "overlay" to show how much of the view the 42 foot high building will impact the view planes in Manoa Valley?*

There is no overlay because final architectural drawings of the multipurpose building/gymnasium have not be completed. However, for comparison purposes, please note that the existing gymnasium is 42 feet high.

COMMENT: By omitting the overlay, the citizen is deprived of an opportunity to evaluate the scale of the project and thus may deprived of crucial information that would encourage comment.

Please see response to the question 17.

REQUEST: The Director of the Department of Design & Construction, City and County of Honolulu, cause to be published, photograph(s) with and "overlay" to indicated the impact of the proposed structure on the view planes of Manoa valley in the Honolulu Advertiser within 5 working days upon receipt of this letter.

Please see response to the question 17.

18. QUESTIONS:

a. *How many interviewees were /are residents of Manoa Valley?*

Interviews were conducted from November 10 through December 5, 1999. There were a total of 27 interview sessions with 32 individuals, plus a group discussion with 33 Manoa Elementary students. Of these 65 individuals, 16 are specifically listed on page IV-4 of Appendix D as Manoa residents. Furthermore, Senator Brian Taniguchi and Representative Ed Case were interviewed and are Manoa residents. Park and League Officials Kali Tarnay and Norman Touchi were also interviewed and are both Manoa residents. It is also safe to assume that the majority of the 33 Manoa Elementary students that participated in the group discussion are Manoa residents.

b. *Of this number how many of this number "disputed" this viewpoint and praised the process for its inclusiveness?*

According to the consultant who conducted to socio-economic impact assessment, out of the total number of people interviewed, five or six people "seemed basically unhappy" with the process as of November 1999.

COMMENT: The matter of the Manoa Valley District Park multi-purpose facility/gymnasium has never, as of this date, been voted upon by the Manoa Neighborhood Board. This would seem a violation of Article 7. Section 1-7.1 of the Revised Neighborhood Plan of the City and County of Honolulu 1986, 1998 Edition, whereby "The boards are responsible for actively participating in functions and processes of government by articulating, defining, and addressing neighborhood problems. Their actions should reflect the needs and wants of the neighborhood. Boards are expected to take the initiative in selecting their activities and priorities among them, and to provide means for effective citizen participation in government. The powers, duties, and functions of the board shall include, but not be limited to the following: (a) Review and make recommendations on any general plan, development plan, and other land use matters in its neighborhood. . ."

You are incorrect when you state "the matter of the Manoa Valley District Park multi-purpose facility/gymnasium has never, as of this date, been voted upon by the Manoa

Neighborhood Board." The minutes of the December 2, 1998, Manoa Neighborhood Board meeting reflect that at that meeting the Board unanimously voted to approve a motion to "direct Chair Brian Baron to prepare and transmit a letter to Mayor Jeremy Harris, Councilmember Andy Mirikitani, Senators Carol Fukunaga and Brian Taniguchi, and Representatives Ed Case and Brian Schatz summarizing the Board's discussion of proposed specific and general capital improvement projects and priorities, especially identifying the first priority as support for the planning and construction of a new multi-purpose building to serve both Manoa Elementary School and Manoa Valley District Park to be generally located between the "blacktop" and gymnasium and to replace the old wooden classroom structure at the same location".

Additionally, at the October 6, 1999 meeting of the Manoa Neighborhood Board, although no board action was taken, there was an extensive update and discussion concerning the proposed multi-purpose facility and master plan for the park.

19. *When did the Manoa Neighborhood Board do this?*

Please see the response to question number 16.

20. *QUESTIONS:*
    a. *What will be the cost of construction of the water system?*

While final plans have not been completed, the cost to improve the existing water system to accommodate the required fire protection is approximately $100,000.

b. *How long will it take?*

Final plans have not be completed, and therefore no construction schedule has been set.

c. *How much more water will be required?*

The existing three-inch and six-inch water lines feeding the park facilities will need to be upgraded to eight-inch or twelve-inch water lines. A corresponding increase in water flow related to the capacity of the new water lines can be expected.

21. QUESTIONS:
    a. *Does this mean that the neighborhood can expect new sewer configuration and construction?*

The inadequacy of the downstream gravity sewer line servicing the park was identified by the Sewer Rehabilitation and Infiltration and Inflow Minimization Plan from May of 1999. This is the pre-final version of plan, and as such it has not been adopted. Reference to this plan will be deleted in the final EA. A sewer connection permit for the multi-purpose building/gymnasium has been approved by the Department of Planning and Permitting. This permit was not dependent on improvements to the downstream gravity sewer line servicing the park. As such, new neighborhood sewer configurations and construction will not be required as a result of the multi-purpose building/gymnasium.

b. *If so, what are the expected costs?*

Please see the above response.

c. *How long will the project take?*

Please see the response to question 21a.

22. *QUESTION: How many, if any, trees will need to be removed?*

Final construction plans have not been completed, therefore the number of trees, if any, that will need to be removed is undetermined at this point. It should be noted that new trees will also be planted as part of the landscaping plans for the park.

23. *COMMENT: The 99 new parking spaces in the Ka`aipu Avenue area will significantly impact the view of those living Mauka of Lowery Avenue. Where the residents once saw fields of green, they will see asphalt and chrome. This will affect the view and could depreciate property values.*

Your comment is noted. The final EA will be revised as appropriate.

QUESTIONS:
a. *How many residents on the Mauka side of Lowery Avenue, between Ka`aipu Avenue and East Manoa Road were contacted to assess their views on the proposed project?*

Residents contacted to assess their views on the proposed project included residents of Lowery Avenue, Vista Place, Ka`aipu Avenue, and Loomis Street. All of these streets have residences that border the park. Additionally, sign-in sheets from the October 7, 1999 community meeting list five attendees of that meeting that have Lowery Avenue addresses. These sign-in attendance sheets are available for your review.

b. *What effect will approximate 162 parking spaces have on the air temperature for those citizens living down wind?*

On sunny days it is likely there will be a very small increase in temperature near the parking facilities, but it is unlikely that any measurable difference will occur outside of the park.

24. *QUESTIONS:*
a. *What is the cost of energy without air conditioning?*

As stated in the DEA, the building will be naturally cooled through the extensive use of louvered ventilation openings (classroom areas will be designed for natural ventilation that may be converted to air conditioning). Since the gymnasium will not be air-conditioned, no cost estimates for air conditioning have been conducted.

b. *What is the cost of energy with air-conditioning?*

See the above response.

25. *COMMENT: The year was 1998. The proper title is Senate Concurrent Resolution 157, Senate Draft 1.*

Your comment is noted. Corrections will be made in the final EA.

Thank you for participating in the environmental review process.

Sincerely,

PBR HAWAII

Tom Schnell, AICP
Planner

cc: Office of Environmental Quality Control
Department of Design and Construction

Randal Fujimoto, Landscape Architect

January 4, 2000

Mr. Curtis Kushimaejo
Department of Design and Construction
City and County of Honolulu
650 South King Street, 2nd Floor
Honolulu, Hawaii 96813

SUBJ: Manoa Valley District Park - Draft Environmental Assessment
Comments

As one of the original task force members, I was disappointed in some of the findings in the draft environmental assessment. I feel that there is enough significant errors in the report as well as findings based on false assumptions to render this Draft Environmental Assessment (DEA) deficient. The following is a list of our comments:

1. The DEA should have focused primarily on the multi-purpose building and should not have discussed the overall various park improvements.
   Reason: The numerous community meetings as well as the charettes were primarily for the multi-purpose building and not for the park master plan. Except for the multi-purpose building, there were no community review or comments on the proposed park improvement plan as indicated in Figure 3 of the DEA - for many, in fact, the DEA was the first time that they had seen this overall master park improvement plan.

2. The final proposed site plan was not presented to the community or the concerned individuals that were involved in the community planning process.The DEA, therefore, is in error when it claims that the final plan reflected the consensus of the community.

3. The last paragraph on page 7 is wrong.
   Reason: The location is accurate, however, the orientation of the building on the property does not reflect the final decision by the concerned participants. The architect presented a plan where the building was oriented parallel to the blacktop and it was that plan that reflected the agreement by the affected parties.

4. Section 6.1 (5)
   The proposed building orientation and siting would significantly effect the public's health and safety. Most importantly, the building would create potentially hazardous and unsafe conditions for the students of Manoa School. Based on my experience in designing outdoor spaces for all ages, the proposed building orientation would create safety and security problems for the school children. With a structure being so close to the school (especially the blacktop that is used for recess, etc.), there needs to be clear unobstructed sightlines to view the students as wells as other people (see attachment #1). This building creates too many blind corners that are within easy access to the students where a child can become missing instantly.

5. Section 6.1 (2)
   The proposed siting of the building does curtail the beneficial use of the school's grounds.
   Reason: The proposed building creates two separate distinct open spaces between the existing blacktop instead of allowing for one contiguous open space - it reduces one large open area into two smaller areas (see attachment #2) thereby curtailing the beneficial utilization of the open area by the school.

Landscape Architecture • 1820 Algaroba Street, #204 • Honolulu, Hawaii 96826 • (808) 942-5553 • FAX (808) 942-2228

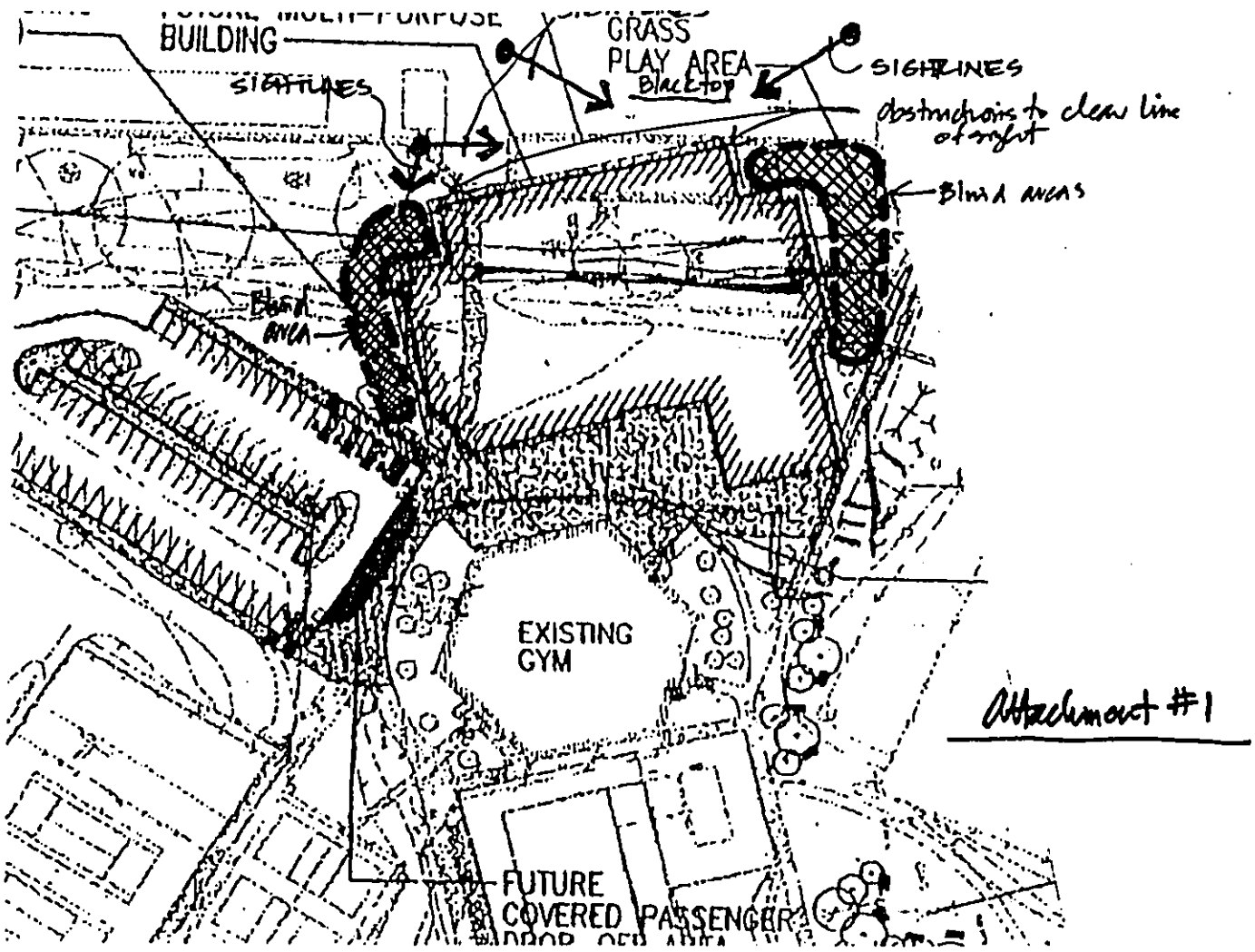
6. Section IV.D.3
   I disagree with this finding. It is my understanding that the final plan that is indicated as Figure 3 in the DEA was never presented to the community.

While I understand that it is not a legal requirement that the final site plan be presented to the community, it would have been beneficial to all parties if that was done. It would also have substantiated the findings in the Draft Environmental Assessment and made the document valid.

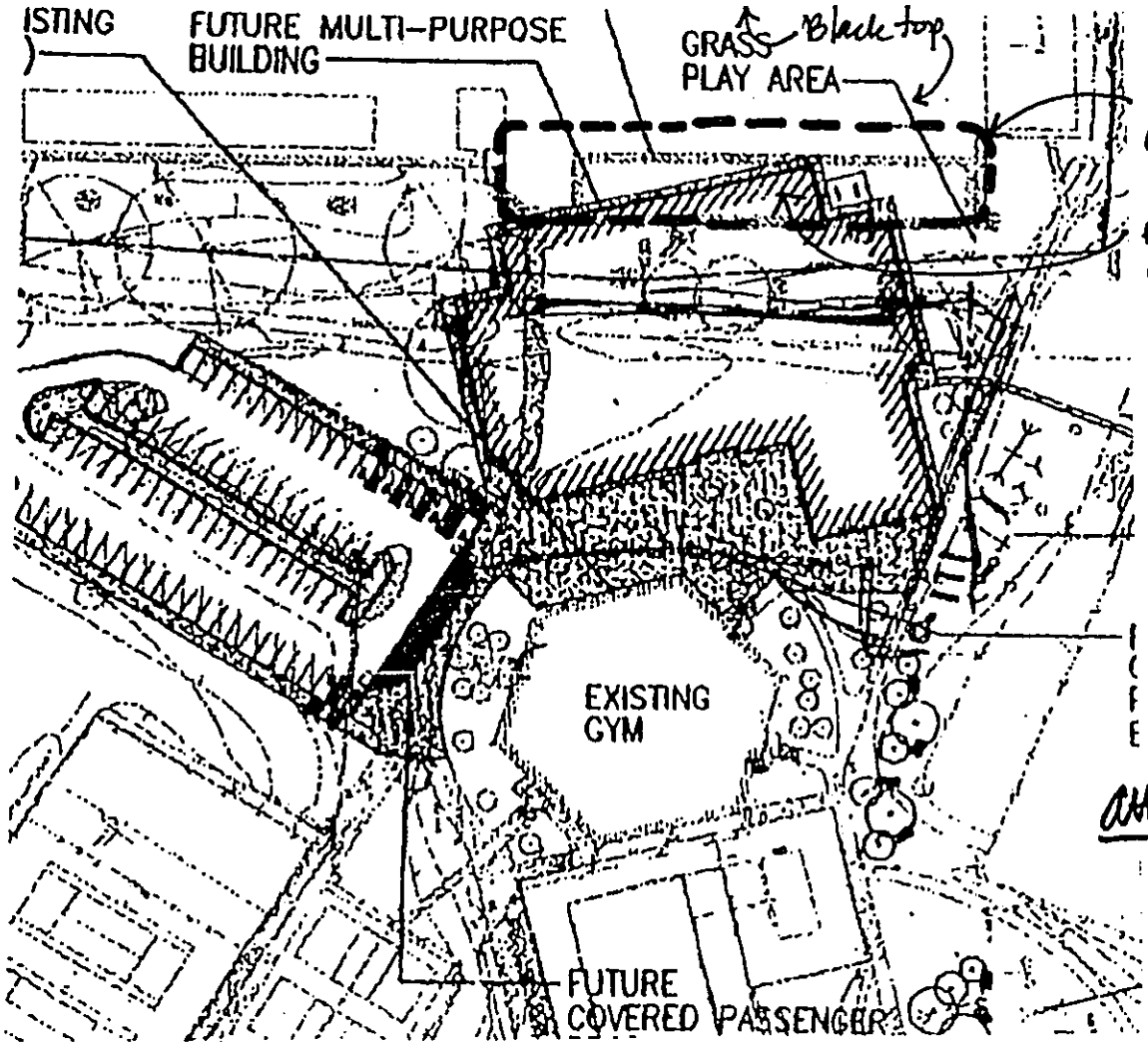
Sincerely,

Randal Fujimoto, ASLA

cc: OEQC
PBR Hawaii
Senator Taniguchi
Representative Case
Councilmember Mirikitani



Attachment #1



Attachment #2

PBR HAWAII

LAND PLANNING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL STUDIES

July 27, 2000

Mr. Randal Fujimoto, ASLA
1820 Algaroba Street #204
Honolulu, Hawaii 96826

SUBJECT: RESPONSE TO COMMENTS ON THE MANOA VALLEY DISTRICT PARK DRAFT ENVIRONMENTAL ASSESSMENT TMK: 2-09-036: 03

Dear Mr. Fujimoto:

We have reviewed your letter to Mr. Curtis Kushimaejo dated February 4, 2000, regarding the Draft Environmental Assessment (DEA) for the Manoa Valley District Park and offer the following responses to your comments:

1) As noted in your comments, the primary focus of community meetings and charettes was the location and design of the multipurpose building/gymnasium. However, other improvements were discussed with and by the community. Please note that in 1998 a task force was convened for the purpose of developing a conceptual master plan for the Manoa Valley District Park. The task force included community, City, and State representatives. The task force's final report included a prioritized list of desired improvements. Desired improvements included the multipurpose building, a perimeter "lei" pedestrian pathway, additional parking, realignment of athletic field configurations, and relocation of playground equipment. The improvement plan discussed in the draft environmental assessment incorporated many of these desired improvements.

   In addition to the task force's meetings (which were open to the public), minutes of the Community Design Charette from September 21, 1999 detail discussion on increased parking, the pedestrian walkway, landscaping, lighting, and the overall master plan for the park. Minutes from the October 7 and October 12 Community Design Charette also indicate that overall park improvements were discussed at these meetings.

   Focusing the DEA primarily on the multi-purpose building/gymnasium and not covering the various overall park improvements would have been in violation of the Environmental Impact Statement Law (Chapter 343, Hawaii Revised Statutes). Specifically, the law requires full disclosure of cumulative impacts on geographically related projects.

   Further, Hawaii Administrative Rules, section 11-200-5(a) state: "For all proposed actions which are not exempt . . . the agency shall assess at the earliest practicable time the significance of potential impacts of its action, including the overall, cumulative impact in light of related actions in the region and further actions contemplated." Section 11-200-2 defines cumulative impact as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant action taking place over a period of time."

   For the above reason, the environmental assessment discusses all proposed improvements to the park and school.

2) The alignment of the multi-purpose building/gymnasium has been returned to the alignment agreed upon by the community at meetings held in the fall of 1999.

   The revised site plan will be included in the final environmental assessment.

   Since the concerns detailed in items 2, 3, 4, and 5 of your letter center on the alignment of the multi-purpose building/gymnasium, we hope that these concerns have been addressed by the return of the alignment of the multi-purpose building/gymnasium to the alignment agreed upon by the community.

3) We acknowledge your comment in item 6 of your letter that you do not agree with Section IV D 3 of the Socio-Economic Impact Assessment (Appendix D of the draft environmental impact assessment).

Thank you for participating in the environmental review process.

Sincerely,

PBR HAWAII

Tom Schnell, AICP
Planner

cc: Office of Environmental Quality Control
Department of Design and Construction

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

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February 5, 2000

MAYOR'S OFFICE
CITY & COUNTY
HONOLULU

'00 FEB -8 P2:59

Mr. Gary Yee, Director
Dept. of Design and Construction
650 S. King St., 2nd floor
Honolulu, HI 96813

Dear Sir:

Thank you for the opportunity to respond to the draft of the Environmental Impact Assessment for the Manoa Valley District Park, dated December 1999.

We are disheartened by the new and different changes to our plan as shown throughout the assessment.

Our plan represents the results of eighteen (18) months of thoughtful community discussions involving input from many concerned people. The varied interests of the community are incorporated into our plan.

We respectfully urge that the community's plan be as fully implemented as possible.

Sincerely,

HUI O MANOA

By Harriet Nakamura
Harriet Nakamura
Member Representative

By Shirley Taniguchi
Shirley Taniguchi
Member Representative

cc: Mayor Jeremy Harris
Sen. Brian Taniguchi
Councilman Andy Mirikitani
Howard Yoshioka

C&C HON DDC TEL:808-523-4000 Jul 26'00 14:53 No.008 P.02

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
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WEB SITE ADDRESS: www.co.honolulu.hi.us

JEREMY HARRIS
MAYOR

GARY G. L. YEE, AIA
DIRECTOR

ROLAND D. LIBBY, JR., AIA
DEPUTY DIRECTOR

May 8, 2000

Ms. Harriet Nakamura
Ms. Shirley Taniguchi
Hui O Manoa
2721 Kaaipu Avenue
Honolulu, Hawaii 96822

Subject: Manoa Valley District Park
Draft Environmental Assessment

Dear Ms. Nakamura and Ms. Taniguchi:

Thank you for your letter dated February 5, 2000 regarding the Draft Environmental Assessment for the Manoa Valley District Park. I would like to commend you for your participation on this project.

We are currently working on an alternate site plan which we believe will improve upon the scheme depicted in the draft assessment. The alternate site plan will be included in an amended draft assessment which will be made available to your organization.

I would like to thank you again for your efforts and ask for your continued participation on this very important project.

Very truly yours,

GARY Q.L. YEE, AIA
Director

GQLY:li(1579)

Manoa Girls' Athletic Club

Department of Design and Construction
City and County of Honolulu
650 So. King Street, 2nd Floor
Honolulu, HI 96813

February 7, 2000

ATTN: Mr. Curtis Kushimaejo

Dear Sir:

Subject: Manoa Valley District Park, Draft Environmental Assessment

Upon review of the above mentioned assessment, the following comments are provided:

1. *Numerous meetings were held this past year to address concerns about the location of the new facility. One of the MAJOR concerns was from Manoa School who insisted on maintaining the blacktop as a recreational area for the children. As a result, there was a concurrence by the participants at the meetings that the new multi-purpose facility would be placed adjacent to the blacktop of Manoa Schoo, but not encroach on it. We hope that the final plans will not change with regard to this.*

2. *Parking planned for the makai side of the park will not be welcomed by the residents located in that area. That was another concern expressed at these meetings. Consideration should be given to their concerns since residents along Lowrey would be sandwiched between a large parking area and Lowrey which would decrease their privacy. Alternate locations should be considered.*

It is strongly recommended that if significant changes are made to the suggestions brought forth by the residents/individuals during the past year+, that disclosures be made prior to the preparation of any permanent plans.

Sincerely,

Kali Tarnay
Manoa Girls Athletic Club

cc: Office of Environmental Quality Control

PBR HAWAII
LAND PLANNING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL STUDIES

July 27, 2000

Ms. Kali Tarnay
Manoa Girls' Athletic Club
2961C Kalawao Place
Honolulu, Hawaii 96822

SUBJECT: RESPONSE TO COMMENTS ON THE MANOA VALLEY DISTRICT PARK DRAFT ENVIRONMENTAL ASSESSMENT TMK: 2-9-036: 03

Dear Ms. Tarnay:

We have reviewed your letter to the Department of Design and Construction dated February 7, 2000, regarding the Draft Environmental Assessment (DEA) for the Manoa Valley District Park and offer the following responses to your comments:

1) The alignment of the multi-purpose building/gymnasium has been returned to the alignment agreed upon by the community at meetings held in the fall of 1999.

   The revised site plan will be included in the final environmental assessment.

2) The task force convened in response to Senate Concurrent Resolution No. 157 SD1 (1998) (which included community members) expressed a desire for addition parking. In fact, additional parking was the third highest ranked desired improvement of the task force.

   In the site plan to be included in the final environmental assessment, the parking area at the makai side of the park (Kaaipu Street entrance) has been reduced from what was previously proposed: 73 new stalls are now proposed; the previous plan proposed 99 new stalls. This will reduce the size of the parking lot. Please note that parking is also being expanded in the area Ewa of the tennis courts near the Manoa Road lot.

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

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Thank you for participating in the environmental review process.

Sincerely,

PBR HAWAII

Tom Schnell, AICP
Planner

cc: Office of Environmental Quality Control
Department of Design and Construction

Manoa School Student Association
Manoa Elementary School
3155 Manoa Road
Honolulu, Hawaii 96822
Phone (808) 988-1868 ext 602

February 4, 2000

Mr. Gary Yee, Director
Department of Design and Construction
650 South King Street, 2nd Floor
Honolulu, Hawaii 96813

Re: Manoa Valley District Park: Draft Environmental Assessment

Dear Mr. Yee,

Manoa School Student Association (MSSA) would like to thank you for letting us look at and respond to the Manoa Valley District Park: Draft Environmental Assessment.

In school we are learning how to work together and create a better learning environment using cooperative learning. That is why we were so interested in this project that included us along with the Manoa community, Manoa School, Manoa Recreation Park, state and city and county legislative leaders, altogether to decide what the new Multipurpose Gym would be like and where it should stand. We learned that it is called consensus when we all agree, which we did, after a year and a half of discussions and input from all. We realize how important it is to be involved with what is happening and we are excited and thank you for giving us this opportunity.

Just recently, we learned that the placement had been changed, and we strongly object. As students, we like the combined size of two courts because it would be perfect for our May Celebration, assemblies, inter-school tournaments, PE activities and special speakers that come to our school. Our whole student body can comfortably fit and participate with our guests. The design that is situated parallel to our blacktop would be easily and safely accessible to all students from our classes. It's not far to walk. The design and placement we decided on together supports the multiple use by students and the community in harmony with its environment. It also positively affects our playground safety rules. We need it like how we decided with everyone else. Why are you changing it?

We hope to hear from you soon.

Sincerely,

Blayne Fuke
MSSA President

Melissa Ardo
MSSA V.President

Marcus Choy
MSSA Rec. Sec.

Erica Chun
MSSA Cor. Sec.

Adam Tamashiro
MSSA Sgt.-at-Arms

Blake Parado
MSSA 6th Gr. Historian

Marisa Murakami
MSSA 5th Gr. Historian

PBR HAWAII
LAND PLANNING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL STUDIES

July 27, 2000

Mr. Blayne Fuke, President
and MSSA Officers
Manoa School Student Association
Manoa Elementary School
3155 Manoa Road
Honolulu, Hawaii 96822

SUBJECT: RESPONSE TO COMMENTS ON THE MANOA VALLEY DISTRICT PARK DRAFT ENVIRONMENTAL ASSESSMENT TMK: 2-09-036: 03

Dear Mr. Fuke and MSSA Officers:

We have reviewed your letter to Mr. Gary Yee dated February 4, 2000, regarding the Draft Environmental Assessment (DEA) for the Manoa Valley District Park.

We appreciate your comments and wish to inform you that the alignment of the multi-purpose building/gymnasium has been returned to the alignment agreed upon by the community at meetings held in the fall of 1999.

The revised site plan will be included in the final environmental assessment.

Thank you for participating in the environmental review process.

Sincerely,

PBR HAWAII

Tom Schnell, AICP
Planner

cc: Office of Environmental Quality Control
Department of Design and Construction

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

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THE OUTDOOR CIRCLE
1314 South King St., Suite 306 • Honolulu, HI 96814
Phone: 808-593-0300 Fax: 808-593-0525

February 7, 2000

Mr. Curtis Kushimaejo
Department of Design & Construction
City & County of Honolulu
650 South King Street, 2nd Floor
Honolulu, HI 96813

RE: MANOA VALLEY DISTRICT PARK DRAFT ENVIRONMENTAL ASSESSMENT

Dear Mr. Kushimaejo:

Thank you for the opportunity to comment on the Manoa Valley District Park Draft Environmental Assessment (DEA). The Outdoor Circle has the following comments with regard to the request for a Finding Of No Significant Impact (FONSI):

Figure 3:

An Existing Site Plan should be included in the DEA in order to compare and determine the impacts of proposed plans for the park.

2.3.1 MULTI-PURPOSE BUILDING/GYMNASIUM

Will demolition of the existing site have any impacts on the trees? How is it possible to blend this enormous 42-foot structure in with the existing landscape? What visual mitigations are planned to detract from this blight? Will it be visible from Manoa Road?

2.3.2 CONNECTING PLAZA BETWEEN NEW & EXISTING GYM

Figure 3 states that the connecting plaza will include a new snack bar, but there is no mention of a snack bar in section 2.3.2, or any where else in the DEA. Are there plans to develop a snack bar and if so, who will operate it? Are there any permits required for such a development? Please provide details about the snack bar.

2.3.3 ADDITIONAL PARKING & PASSENGER DROP-OFF AREA

How many existing parking stalls are located in the park? Has a parking study been conducted in order to determine the needs and carrying capacity of the park? It is difficult to know the adequacy, or inadequacy, of the proposed amount of parking stalls when the number of existing stalls has not been provided.

A tally of future stalls based on Figure 3 indicates that 308 new stalls will be created, not 183 as stated in this section. Which number is accurate?

Will park users be able to use the proposed 147 DOE parking stalls when school is not in session? This would help with over-flow parking needs at night and on weekends, and could reduce the number of stalls to be developed.

2.3.3 ADDITIONAL PARKING & PASSENGER DROP-OFF AREA CONTINUED

What impacts will the proposed parking plans have on the existing landscape? What landscaping measures will be taken in order to camouflage the newly paved area? How much park land will be absorbed for new parking and is it *really* necessary? Nothing is specifically mentioned about tree relocation plans or tree planting plans in the DEA; there is only a blanket statement that landscaping will be provided. This is inadequate. Please state exactly what the landscaping plans are for the parking lots in order to ensure that tree preservation and new plantings are a priority.

2.3.4 PERIMETER "LEI" PEDESTRIAN PATHWAY

Figure 3 illustrates the proposed pathway through the park, and possible conflicts between the pathway and existing trees. The pathway must be designed around trees. Mitigation measures must also be taken during construction to ensure proper protection of the trees and their root systems. A protection zone of at least 20-feet from the trunk of the tree should be detailed in all specifications so roots are not damaged during excavation.

The pathway should be landscaped with new trees and shrubs to provide continuity, character and an overall landscape theme for the park.

2.4 SUSTAINABLE BUILDING DESIGN

The strategic placement of trees can naturally help cool buildings. This should also be considered for the cooling of the new gym.

Please give more detail regarding this statement, " Landscaping will serve to reduce the building's visual bulk." Shrubs alone will not mitigate a 42-foot high structure, the largest in the community. Please plant large trees to help screen the new structure.

2.5 APPROXIMATE COSTS AND DEVELOPMENT PHASES

How do the city and the state plan to share costs for this project? Who is acting as liaison between both government bodies to ensure integration of concepts, timing and project management?

Community members have stressed the need to preserve open space and protect the existing landscape. Designating funds for landscaping at the beginning of the project will help settle community unrest and provide assurances that trees are important.

Table 1 in this section is not clear. Sections marked: 1) additional picnic areas, 2) playground equipment, and 3) outdoor exercise stations, have costs associated with "landscaping only." Does this mean that items 1, 2 and 3 are already budgeted and paid for in phases I and II, and therefore these itemizations only require landscaping? Or do the cost estimates include both equipment and landscaping?

Does each phase of the project include funding for landscaping and it is not mentioned in Table 1? Typically landscaping is the last portion of a project to be completed and often times is forgotten all together because funding has been absorbed by the rest of construction. Please make sure landscape funding is a priority by making it a line item detail in each phase of the plan.

The pedestrian pathway around the perimeter of the park should be a priority and constructed in phases I and II, instead of phase IV. The pathway will be one of the most used features in the park by the widest range of people, and therefore should be developed in the beginning of the project, not the end.

3.2.3 LAND USE ORDINANCE

The proposed multi-purpose building/gymnasium will be approximately 42-feet high and exceed the maximum allowable height for Manoa. It is stated in the DEA that the "visual bulk" of the building will simply "be off-set by surrounding landscaping," yet no detailed landscaping measures have been described. Further, the DEA is written to lead us to believe that no permit or variance is required to build the gym at a height that exceeds the maximum limit. This is unacceptable. Please respond.

3.3 APPROVALS AND PERMITS

Table 2 expects the height limit zoning permit to be waived entirely, without even mention that under normal circumstances, a variance is required for such a request. The City & County of Honolulu must abide by their own laws and follow permitting procedures just like all other agencies. It is not appropriate to assume that a waiver from the Director of the Department of Planning & Permitting will suffice in this situation. As described on page 25, the "strict application of design standards for public use structures" have been established for a reason, and therefore the City is not exempt from their own regulations. A Height Limit Zoning Variance must be received for the construction of the multi-purpose building/gym.

4.1.6 FLORA AND FAUNA

Potential Impacts and Mitigation Measures

Again, much more detail must be given to tree and shrub plantings in order to ensure that preservation is a priority for this project, especially if the landscape is being relied upon to help visually mitigate newly constructed facilities, such as the gym and parking lots.

4.2.2 TRAFFIC AND CIRCULATION

Potential Impact and Mitigation Measures

According to the following statements, "Based on the traffic impact analysis, the proposed improvements are not expected to generate a substantial amount of new traffic," and "Because increases in parking are proposed to be distributed in a manner similar to the existing traffic pattern, the increases in traffic volume are projected to be minor," both traffic and parking impacts are expected to be "minor." Again, we wonder if there is such a need to increase parking as dramatically as stated in the DEA. Please provide your parking study.

4.2.5 VISUAL RESOURCES

Based on Figures 10a, 10b, and 10c, there are clearly going to be many tree/construction conflicts. Will existing, healthy trees that clash with construction plans be relocated within the park? Again, if the surrounding landscaping is being depended upon to visually screen the new gym, what will it look like? What will be planted? What is the existing landscaping comprised of? Will the newly planted trees be a large enough in size to truly mitigate anything?

The numbers provided in Figure 10b regarding parking do not equal the numbers provided in Figure 3. Which numbers are accurate?

4.2.6.3 COMMUNITY ISSUES AND SOCIAL IMPACTS

The Outdoor Circle is in agreement that open space should not be sacrificed for more parking.

The Land Use Ordinance requires parking lots be landscaped. It appears that no planting plans have been completed for the Manoa Valley District Park improvements. Please make sure that trees are planted in the parking lots in accordance with County ordinances.

Another community concern has been the emphasis of the need for dense landscaping, especially along the park perimeter. Has this concern been addressed? If so, how?

6.0 ANTICIPATED DETERMINATION, FINDINGS, AND REASONS FOR SUPPORTING DETERMINATIONS

Although a Finding Of No Significant Impact (FONSI) has been requested for this project, The Outdoor Circle feels that there are too many unknown variables at this time to grant a FONSI. The entire DEA relies heavily on a densely landscaped park, yet no where in the plan is there a quality description of existing trees in proximity to future structures, or future planting plans. Finally, the perimeter "lei" pedestrian pathway needs to be incorporated into the first phases of the project so as to benefit the entire community of Manoa early on in the implementation of the plan.

The City and County of Honolulu and community of Manoa have a rare opportunity to improve their park in many magnificent ways. It is The Outdoor Circle's hope that this potential is realized and every opportunity is taken to make Manoa District Park a stand-alone public facility that brings neighbors together for recreation and community events.

Thank you for the opportunity to comment. Feel free to contact The Outdoor Circle if you have any questions.

Sincerely,

Chris Snyder

Chris Snyder
Project Manager

cc Office of Environmental Quality Control
Tom Schnell, PBR Hawaii
Tom Heinrich, Manoa Neighborhood Board
Kozen Kaneshiro, Malama o Manoa

PBR HAWAII

LAND PLANNING, LANDSCAPE ARCHITECTURE, ENVIRONMENTAL STUDIES

July 27, 2000

Ms. Chris Snyder, Project Manager
The Outdoor Circle
1314 South King Street, Suite 306
Honolulu, Hawaii 96814

SUBJECT: RESPONSE TO COMMENTS ON THE MANOA VALLEY DISTRICT PARK DRAFT ENVIRONMENTAL ASSESSMENT TMK: 2-09-036: 03

Dear Ms. Snyder:

We have reviewed your letter to Mr. Curtis Kushimaejo dated February 7, 2000, regarding the Draft Environmental Assessment (DEA) for the Manoa Valley District Park and offer the following responses to your comments:

FIGURE 3
Please note that Figure 3 in the DEA includes existing uses within the park as well as proposed uses. We believe that showing existing and proposed uses within the same figure provides a better basis of comparison to determine the impacts of the proposed park plans than would two separate figures.

2.3.1 MULTI-PURPOSE BUILDING/GYMNASIUM
Final construction plans have not been completed, therefore the number of trees, if any, that will need to be removed is undetermined at this point. Significant trees will be preserved or relocated when feasible. It should be noted that new trees will also be planted as part of the landscaping plans for the park.

The multi-purpose building/gymnasium will blend in with the existing landscape by being designed in an aesthetically pleasing manner, using architectural styles and details appropriate for Manoa Valley. In addition, park improvements will include landscaping (including trees) to reduce the visual impact of the building as well as to improve the overall park environment. We disagree with your characterization of the new facility as a "blight". Yes, the new multi-purpose building/gymnasium will be visible from Manoa Road, as are a majority of the other buildings of the park and school.

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

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2.3.2 CONNECTING PLAZA BETWEEN THE NEW & EXISTING GYM
Figure 3 incorrectly identifies "snack bar facilities" as part of the connecting plaza between the new and existing gym. There will be no snack bar within the park. This will be corrected on the site plan included in the final EA. However, as stated in section 2.3.1, "limited kitchen facilities for use by community groups" will be included within the multi-purpose building/gymnasium.

2.3.3 ADDITIONAL PARKING & PASSENGER DROP-OFF AREA
There are currently 339 parking stalls located in the park. This does not include the 29 parking stalls at Manoa School. Combined, there are a total of 368 parking spaces at the park and school.

A "parking study" has been conducted. If the current facilities were required to adhere to the Land Use Ordinance requirements for private recreational facilities (because they are classified as "public use facilities" they are not subject to the same requirements), 403 parking stalls would be required for existing park uses. Under the requirements for private recreational facilities, a total of 135 stalls would be required for the new facilities.

Please note that the site plan included in the final EA will be revised from the site plan in the draft EA. Under the revised site plan a total of 296 new stalls are proposed at the park and the school. Combined with the existing stalls, a total of 664 parking spaces will be provided if all proposed stalls are built. Please note that parking at the school is part of a future phased State project for Manoa School, and will not be provided by the City and County of Honolulu.

Currently park users do use school parking lots during non-school hours. This practice is expected to continue after the proposed park improvements are completed.

Within the park approximately 60,000 square feet will be used for additional parking and drop-off areas, or approximately five percent of the total park area of 29 acres. Landscaping plans have not been finalized. When practical, any existing trees that must be removed for park improvements will be relocated within the park. New trees will also be planted as part of the landscaping plans for the park.

2.3.4 PERIMETER "LEI" PEDESTRIAN PATHWAY
Your comments are noted. The plans for the perimeter "lei" pedestrian pathway include plans for landscaping. The design of the pathway will be coordinated with the Department of Parks and Recreation Beautification Division.

2.4 SUSTAINABLE BUILDING DESIGN
Your comments are acknowledged. For more details regarding landscaping and the building's visual bulk, please see our response under the section headed "2.3.1 Multi-purpose Building/Gymnasium" in this letter.

2.5 APPROXIMATE COSTS AND DEVELOPMENT PHASES
The City has appropriated $2.5 million for park improvements for fiscal year 2000. The State has appropriated $4 million for fiscal years 1999-2000, and 2000-2001. These funds are for the multi-purpose building/gymnasium, and improvements to bring the parking lot near the existing gym into compliance with the requirements of the Americans with Disability Act (ADA). Part of the redesign of the parking lot near the existing gym includes additional parking. Additional funds to complete the project, beyond the $8 million that has already been appropriated, are expected to be appropriated by the City and County of Honolulu in accordance with project phasing.

The City has hired Park Engineering as the overall project manager.

Please note that above Table 1 on page 11 of the DEA, it is noted that this table contains approximate costs and phasing of the proposed improvements, which are subject to change. Table 1 is included in the DEA only as a preliminary outline of costs and phases. It is not meant to represent the final budget regarding these issues. Landscaping is included in all phases of proposed park improvements. Because Table 1 is only a preliminary outline of costs and phases, and not a final budget for the project, it is not possible to provide a separate line item for landscaping in each phase, because these costs are undetermined at this time.

We acknowledge your desire to have the perimeter "lei" pedestrian pathway constructed in phases I and II.

3.2.3 LAND USE ORDINANCE and 3.3 PERMITS AND APPROVALS
For responses regarding the "visual bulk" of the multi-purpose building/gymnasium please see our responses under the section headed "2.3.1 Multi-purpose Building/gymnasium" in this letter.

It is out understanding that a Height Limit Zoning Variance is not required for the construction of the multi-purpose building/gym. Section 21-2.1.130 of the Land Use Ordinance (LUO) provides, in part, that:

> A waiver of the strict application of the development or design standards of this chapter may be granted by the director for the following: (1) Public or public/private uses and structures, and utility installations.

Section 21-10.1 of the LUO defines "public uses and structures" as:

> . . . uses conducted by or structures owned or managed by the federal government, the State of Hawaii or the city to fulfill a governmental function, activity or service for public benefit and in accordance with public policy. . . Typical public uses and structures include: libraries, base yards, satellite city halls, public schools and post offices.

Thus, because Section 21-2.1.130 of the LUO allows the Director of the Department of Planning and Permitting to waive the strict application of standards for public use structures, and because the multi-purpose building/gym may be defined as a public use structure, a Height Limit Zoning Variance is not required for the building.

Please also see the attached letter from the Department of Planning and Permitting, dated December 3, 1999, regarding zoning permits required for the project.

In proceeding with this project the City and County of Honolulu will abide with all applicable Federal, State, and City laws.

4.1.6 FLORA AND FAUNA
Your comments are noted. Final landscaping plans for the park have not been finalized.

4.2.2 TRAFFIC AND CIRCULATION
For responses regarding parking please see our responses under the section headed "2.3.3 Additional Parking & Passenger Drop-off Area" in this letter.

4.2.5 VISUAL RESOURCES
When practical, existing trees that must be removed for park improvements will be relocated within the park. New trees will also be planted as part of the landscaping plans for the park. Landscaping plans have not been finalized. A description of the existing landscaping in the park can be found on page 20 of the DEA.

For responses regarding parking please see our responses under the section headed "2.3.3 Additional Parking & Passenger Drop-off Area" in this letter.

4.2.6.3 COMMUNITY ISSUES AND SOCIAL IMPACTS
We acknowledge that the Outdoor Circle is in agreement that open space should not be sacrificed for more parking.

Landscaping plans have not been finalized, however, City and County of Honolulu will abide with all applicable Federal, State, and City laws.

6.0 ANTICIPATED DETERMINATION, FINDINGS, AND REASONS FOR SUPPORTING DETERMINATIONS
Your comments are noted.

Thank you for participating in the environmental review process.

Sincerely,

PBR HAWAII

Tom Schnell, AICP
Planner

cc: Office of Environmental Quality Control
Department of Design and Construction

12/08 '99 09:15 NO.997 02/03

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET • HONOLULU, HAWAII 96813
TELEPHONE: (808) 523-4414 • FAX: (808) 527-6743

JEREMY HARRIS
MAYOR

JAN HAGE SULLIVAN
DIRECTOR

LORETTA K.C. CHEE
DEPUTY DIRECTOR

1999/CLOG-7665(RB)

December 3, 1999

RECEIVED
DEC 6 1999
MITSUNAGA & ASSOC., INC

Stephen D. Wong, A.I.A.
Mitsunaga & Associates, Inc.
747 Amana Street, Suite 216
Honolulu, Hawaii 96814

Dear Mr. Wong:

Zoning Permit Inquiry
Manoa Valley Park and Fieldhouse
2721 Kaaipu Avenue - Manoa
Tax Map Key 2-9-36: 1

This responds to your inquiry of November 23, regarding zoning permits required for the Manoa Valley District Park project.

The new basketball fieldhouse and multi-purpose building exceeds the height limit for both the R-7.5 Residential District and the P-2 General Preservation District. That would require a zoning waiver permit.

The park and school are public uses, which are permitted in both zoning districts, thus, the zoning district boundary can be ignored. However, if the building straddles a subdivision lot line, that would require a conditional use permit for joint development of two lots. Please note, however, that if there is an existing building that already straddles the subdivision lot line, that would constitute a "nonconforming joint development".

The project also requires compliance with the environmental impact regulations (EIS), Chapter 343, Hawaii Revised Statutes, since it involves public lands or funds. The applicant would have to indicate how that requirement was met when filing an application for a waiver or conditional use permit.

If you have any further questions, please contact Robert Bannister of our staff at 527-5025.

Very truly yours,

for JAN NAOE SULLIVAN
Director of Planning
and Permitting

JNS:nt
Doc. No. 17520

SAINT FRANCIS SCHOOLS

Mānoa Campus
A Catholic School for Young Women
2707 Pamoa Rd. Honolulu, HI 96822
Phone. 808-988-4111 Fax: 808-988-5497
Email: hass.mhpcc.edu/stfrancis

Kaua'i Campus
A Co-ed Catholic School
3343 Kanakolu St. Lihue, HI 96766
Phone: 808-246-3802 Fax: 808-245-3680
Email: saintfr@aloha.net

January 20, 2000

Mr. Tom Schnell
PBR Hawai'i
Pacific Tower, Suite 650
1001 Bishop Street
Honolulu, HI 96813

Dear Mr. Schnell,

Greetings and the blessings of our Lord during this Great Jubilee Year of 2000!

Thanking you very much for the copy of the *"Manoa Valley District Park~Draft Environmental Assessment."* I will review the document.

Wishing you God's choicest blessings and assuring you of my prayers, I am

Gratefully yours in Christ,

Sister M. Davilyn Ah Chick, OSF

Sister M. Davilyn Ah Chick, OSF
Director of Development of Saint Francis Schools
and 1st Vice Chair of the Manoa Neighborhood Board

PBR HAWAII
LAND PLANNING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL STUDIES

July 27, 2000

Sister M. Davilyn Ah Chick, OSF
Director of Development of Saint Francis Schools
and 1st Vice Chair of the Manoa Neighborhood Board
Saint Francis Schools
2707 Pamoa Road
Honolulu, Hawaii 96822

SUBJECT: RESPONSE TO COMMENTS ON THE MANOA VALLEY DISTRICT PARK DRAFT ENVIRONMENTAL ASSESSMENT TMK: 2-09-036: 03

Dear Sister Ah Chick:

Thank you for your letter dated January 20, 2000, regarding the Draft Environmental Assessment for the Manoa Valley District Park. We acknowledge that you have received the Draft Environmental Assessment. Since the deadline to submit comments was February 7, 2000, and we have not received your comments, we are assuming you have no comments.

Thank you for participating in the environmental review process.

Sincerely,

PBR HAWAII

Tom Schnell, AICP
Planner

cc: Office of Environmental Quality Control
Department of Design and Construction

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

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REGULAR MEETINGS
2ND & 4TH WEDNESDAY OF EACH MONTH

P.O. BOX 62086
HONOLULU, HAWAII 96839

WAIOLI LIONS CLUB

CHARTERED APRIL 7, 1961

February 4, 2000

00 FEB -8 AM 7:57

Mr. Cary Yee, Director
Department of Design and Construction
650 South King Street, 2nd Floor
Honolulu, Hawaii 96813

Dear Mr. Yee:

The Waioli Lions is appreciative of the opportunity to respond to the draft of the Environmental Assessment for the Manoa Valley District Park.

Waioli Lions are dedicated to making the Manoa community a better place to live. We do a number of projects in the community and support a number of government agencies and other organizations in this effort. It is our intent to support the community in their efforts to improve the Manoa Valley District Park.

Manoa Elementary School provided us with a copy of their input to the draft Environmental Assessment and we are in agreement with their comments as contained in the January 25, 2000 response to you.

Please seriously consider their input and the community in your assessment. Your efforts to meet the needs of the community are appreciated.

Sincerely,

Jerry D. Pinell
Waioli Lions Club

C: Senator Brian Taniguchi
Manoa Elementary School

PBR HAWAII

LAND PLANNING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL STUDIES

July 27, 2000

Mr. Jerry D. Pinell
Waioli Lions Club
P.O. Box 62086
Honolulu, Hawaii 96839

SUBJECT: RESPONSE TO COMMENTS ON THE MANOA VALLEY DISTRICT PARK DRAFT ENVIRONMENTAL ASSESSMENT TMK: 2-9-036: 03

Dear Mr. Pinell:

We have reviewed your letter to Mr. Gary Yee dated February 4, 2000, regarding the Draft Environmental Assessment (DEA) for the Manoa Valley District Park. Your letter noted that you are in agreement with the comments contained in Manoa Elementary School Principal Victoria Bannan's comment letter. In reply to Ms. Bannan's comments we offered the following responses:

1) The alignment of the multi-purpose building/gymnasium has been returned to the alignment agreed upon by the community at meetings held in the fall of 1999

   The revised site plan will be included in the final environmental assessment.

2) Ms. Bannan is correct in stating that the Boy Scout building will be demolished and not replaced. The revised site plan identifies a possible future location for a new building or portable structure, but current plans do not include replacing the building.

3) We acknowledge that the A+ Program does not use the current gym. It will be corrected in the final environmental assessment.

4) The labels for the two figures outlined in heavy line boxes in Figure 6 will be made more legible in the final environmental assessment.

Wm. Frank Brandt • Thomas S. Witten • R. Stan Duncan • Russell Y. J. Chung

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Thank you for participating in the environmental review process.

Sincerely,

PBR HAWAII

Tom Schnell, AICP
Planner

cc: Office of Environmental Quality Control
Department of Design and Construction

Appendix A

Traffic Impact Analysis

TRAFFIC IMPACT ANALYSIS

Manoa Valley District Park Improvement

MANOA, HAWAII

November 1999

PB PARSONS BRINCKERHOFF

Over a Century of Engineering Excellence

TRAFFIC IMPACT ANALYSIS

MANOA VALLEY DISTRICT PARK IMPROVEMENT

Manoa, Hawaii

November 1999

Prepared For:

PBR/Hawaii, Inc.
Pacific Tower, Suite 650
1001 Bishop Street
Honolulu, Hawaii 96813
(808) 521-5631

Prepared By:

Parsons Brinckerhoff Quade & Douglas, Inc.
Pacific Tower - Suite 3000
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(808) 531-7094

PBQD Reference Number:
16314A.01

TABLE OF CONTENTS

Figures

Tables

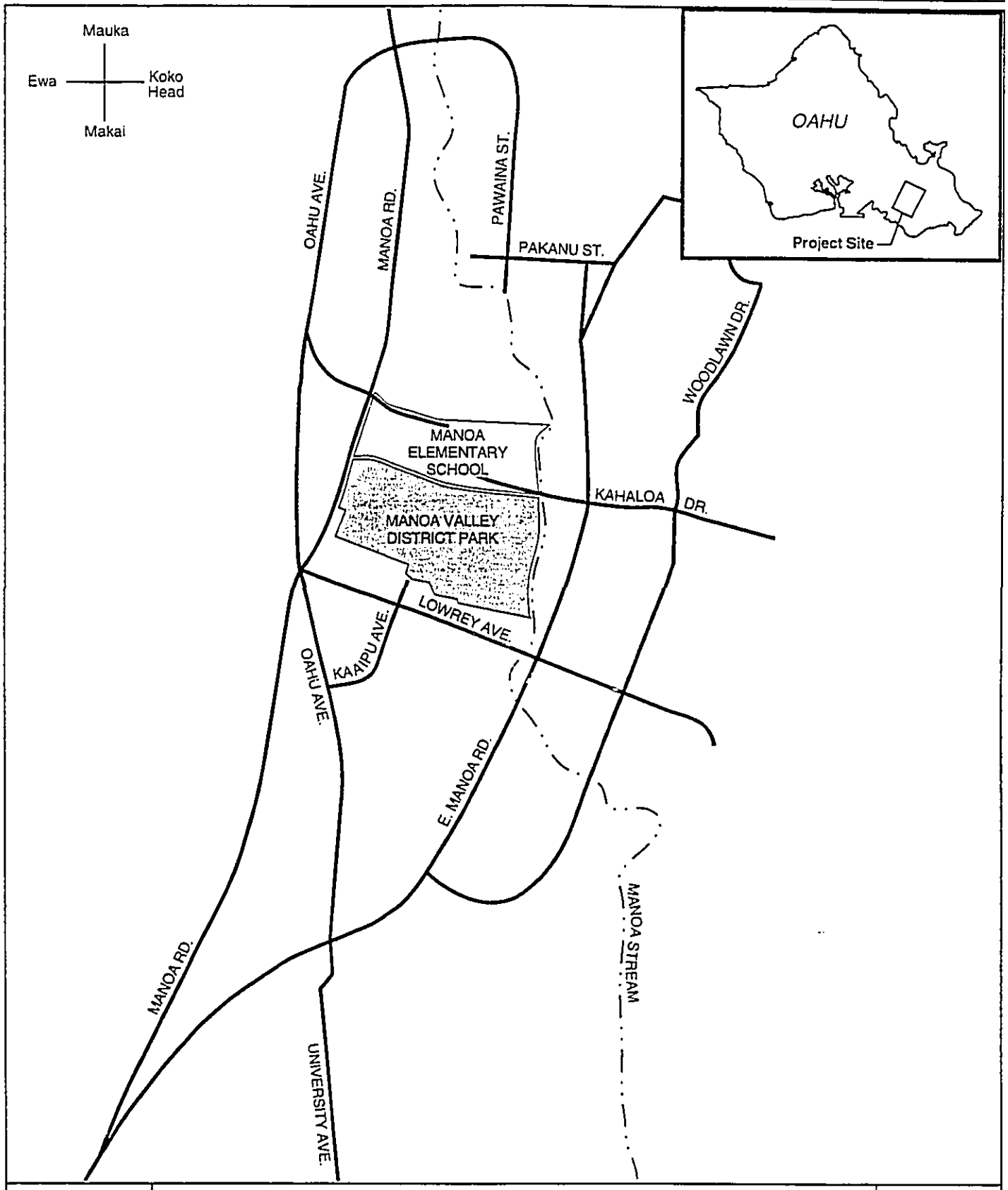
Appendices

I. INTRODUCTION

The City & County of Honolulu is proposing to improve the facilities at the existing Manoa Valley District Park. The improvements will consist of a new multi-purpose building, new play courts, new toddler play park and picnic area, swimming pool expansion, and a perimeter walk path. The new multi-purpose building will add two indoor basketball courts to the one indoor basketball court located in the existing gym. Additional parking will be installed. The improvements are meant to enhance the recreational experience at Manoa Valley District Park.

Figure 1 provides a vicinity map of the area, and Figure 2 provides a conceptual site plan for the improved park.

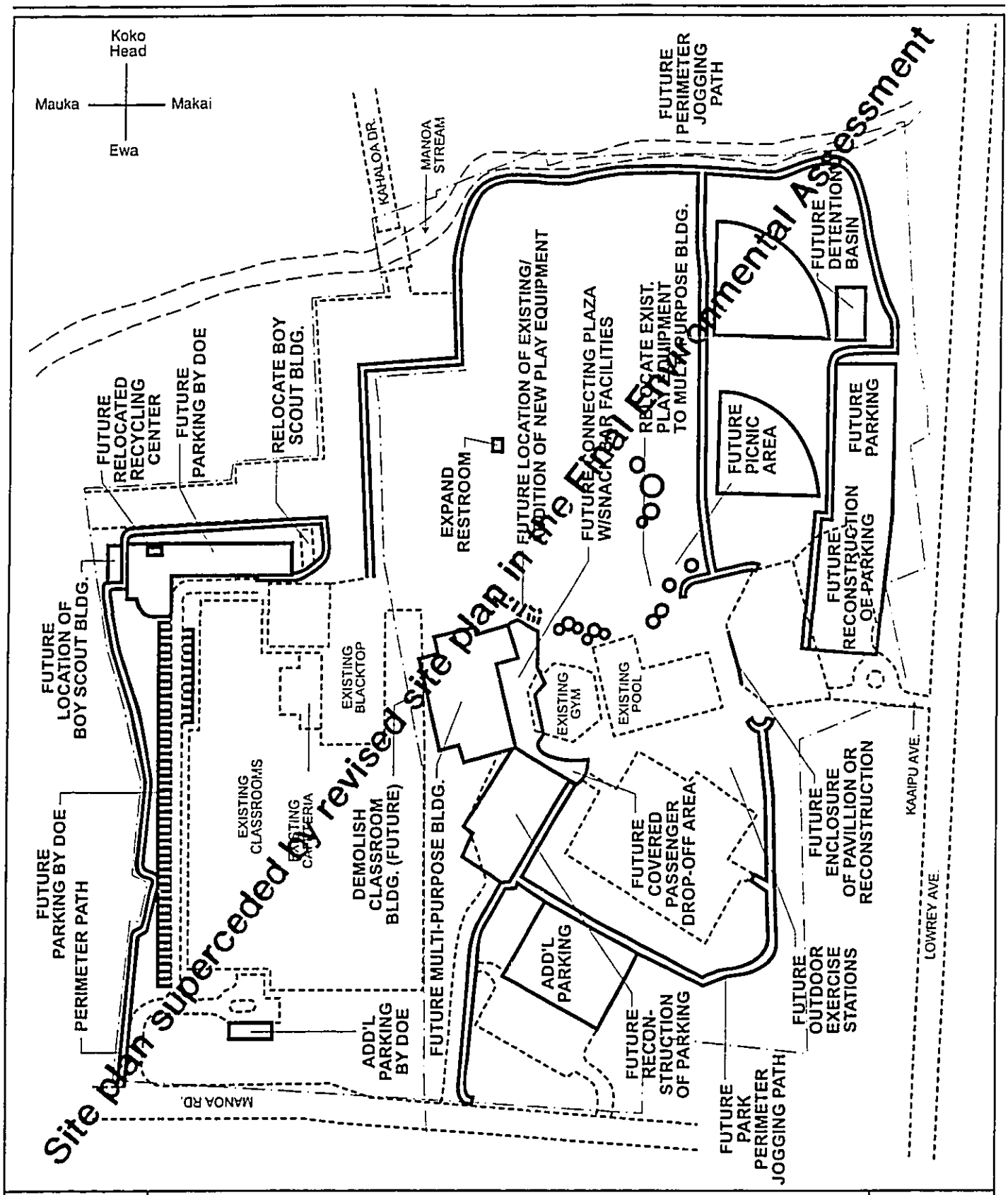
This study documents existing traffic conditions in the immediate vicinity of the Manoa Valley District Park, estimates the magnitude of traffic generated by the proposed improvement, and assesses the projected future traffic conditions with the additional traffic generated by the proposed improvements.



PB 100 YEARS

SITE LOCATION

Figure 1



PB 100 YEARS	SITE PLAN	Figure 2

II. EXISTING CONDITIONS

A. EXISTING LAND USE

The existing Manoa Valley District Park is located in the heart of Manoa Valley. It is bordered on its mauka side by Manoa Elementary School and on its Ewa, Koko Head, and makai sides by residential development. Manoa Stream forms the Koko Head boundary of the park.

B. EXISTING ROADWAY SYSTEM

Two major collector roadways provide primary access to and from the Manoa Valley District Park. Manoa Road is located on the Ewa side of the park, while East Manoa Road is located on the Koko Head side of the park. Lowrey Avenue provides an east-west connection between Manoa Road and East Manoa Road.

Manoa Road is a two-lane, undivided roadway. It is directly adjacent to the Ewa-end of the Manoa Valley District Park. The park has two access driveways on Manoa Road. These intersections are unsignalized with STOP-sign control on the access driveway approaches. Manoa Road also provides access to Manoa Elementary School. The school driveway is located opposite Olopua Street. Olopua Street is a one-way street in the Koko Head direction. The Manoa Road/Manoa Elementary School Driveway/Olopua Street intersection is unsignalized with STOP-sign control on the Olopua Street and Manoa Elementary School Driveway approaches. The Manoa Elementary School Driveway also provides access to parking areas of the Manoa Valley District Park.

East Manoa Road is a two-lane, undivided roadway. It provides access to the Manoa Valley District Park via Kahaloa Drive. The intersection of East Manoa Road and Kahaloa Drive is signalized. Further makai, East Manoa Road intersects Lowrey Avenue. This intersection is also signalized.

Lowrey Avenue is a two-lane, undivided roadway. There is significant on-street, parallel parking on Lowrey Avenue between East Manoa Road and Manoa Road. Access is provided to Manoa Valley District Park from Lowrey Avenue via Kaaipu Avenue. Kaaipu

Avenue intersects Lowrey Avenue at an unsignalized intersection with STOP-sign control on the Kaaipu Avenue approaches.

Another route into and out of Manoa Valley is Oahu Avenue. It is a two-lane, undivided roadway. It intersects both Manoa Road and Lowrey Avenue at a five-legged, unsignalized intersection with STOP-sign control on all approaches.

C. EXISTING TRAFFIC VOLUMES

Manual turning movement traffic counts were conducted during the weekend peak hour on Saturday, October 23, 1999, and during the afternoon peak hour on Wednesday, October 27, 1999, at the following intersections:

- Manoa Road/Olopua Street/Manoa Elementary School Driveway;
- Manoa Road/Manoa Valley District Park Mauka Driveway;
- Manoa Road/Manoa Valley District Park Makai Driveway;
- Manoa Road/Oahu Avenue/Lowrey Avenue;
- Lowrey Avenue/Kaaipu Avenue;
- East Manoa Road/Lowrey Avenue;
- East Manoa Road/Kahaloa Drive.

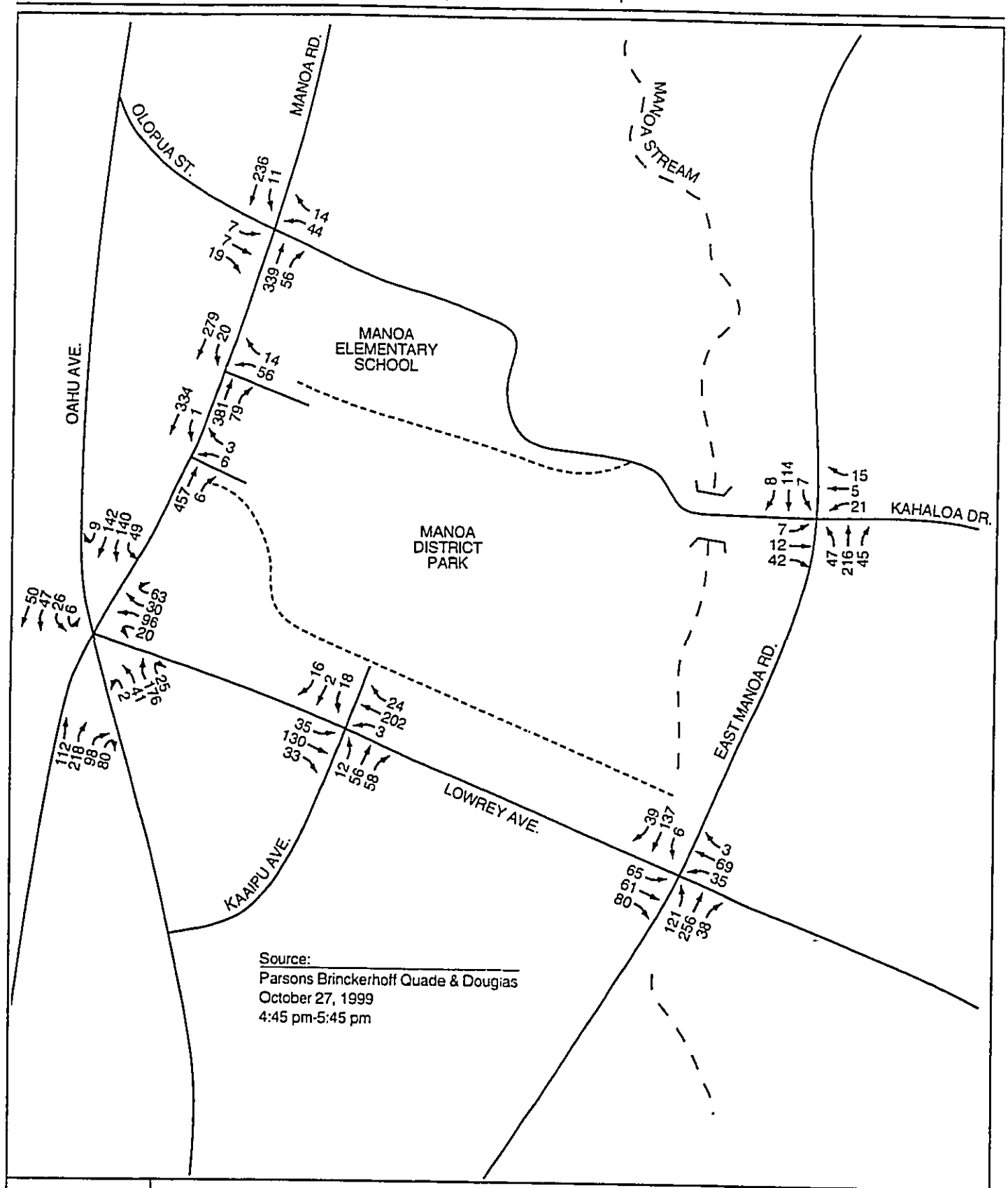
Figures 3 and 4 summarize the traffic volumes for the existing weekday PM peak hour and the weekend peak hour, respectively. The traffic data sheets are included in Appendix A of this report.

D. EXISTING INTERSECTION OPERATIONS

Intersection operations were evaluated at the locations for which traffic turning movement volumes were summarized in Figures 3 and 4. Methods documented in the 1994 Highway Capacity Manual were used. The resulting intersection level of service (LOS) are summarized in Table 1. LOS is represented by a letter designation ranging from A to F.

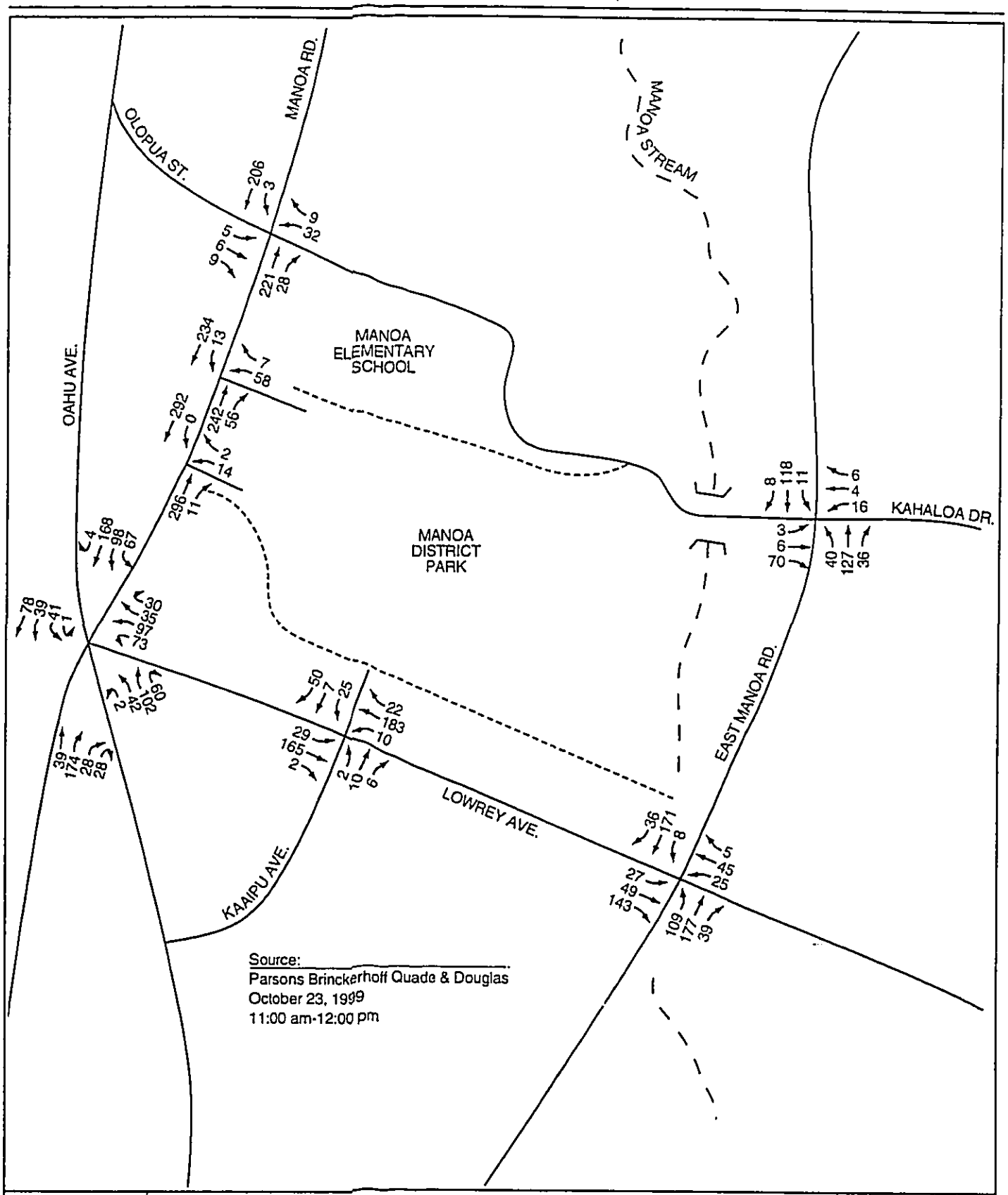
LOS A represents free-flow operating conditions, while LOS F represents congested conditions. More detailed Level-of-Service definitions are included in Appendix B.

As shown in Table 1, all intersection currently operate very well during the peak traffic hours.



EXISTING WEEKDAY PM PEAK HOUR VOLUMES

Figure 3



EXISTING WEEKEND PEAK HOUR VOLUMES

Figure 4

Table 1 Existing Intersection Operations

Intersection	Movement	Peak Hour Level of Service	
		Weekday PM Peak	Weekend
Manoa/Olopua/School	Ewa bound LT -Out	C	B
	Ewa bound RT- Out	C	B
	Makai bound LT In	A	A
	KKHD bound LT Out	C	B
	KKHD bound RT Out	B	A
	KKHD bound Thru	B	A
Manoa/Park Mauka Acc.	Ewa bound LT -Out	C	B
	Ewa bound RT- Out	C	B
	Makai bound LT In	A	A
Manoa/Park Makai Acc.	Ewa bound LT -Out	C	B
	Ewa bound RT- Out	C	B
	Makai bound LT In	A	A
Manoa/Oahu/Lowrey	All-Way STOP	D	B
Lowrey/Kaaipu	Makai bound LT Out	B	B
	Makai bound RT Out	B	B
	KKHD bound LT In	A	A
	Mauka bound LT Out	B	B
	Mauka bound RT Out	B	B
	Ewa bound LT In	A	A
East Manoa/Lowrey	Signalized	B	B
East Manoa/Kahaloa	Signalized	A	B

Note: LT=Left Turn, RT=Right Turn, KKHD=Koko Head, WB=Ewa Bound

III. FUTURE TRAFFIC CONDITIONS

It was assumed that there would not be significant growth in traffic on Manoa and East Manoa Roads. Manoa Valley is a mature area from a development perspective. There is not much new development proposed in this part of Manoa Valley. Therefore, background traffic was assumed to remain at existing levels into the future.

The weekday PM peak hour and the weekend peak hour were determined to be the busiest times at the Manoa Valley District Park and the analyses were, therefore, focused on these time periods.

A. TRIP GENERATION

The improvements to the Manoa Valley District Park are not expected to generate a substantial amount of new traffic. Most of the facilities remain as they are today. The only improvement expected to generate more traffic within a specific time period is the new multi-purpose building. The multi-purpose building is expected to allow more gym activities to occur simultaneously, thereby slightly increasing traffic per hour, but not necessarily increasing total traffic during the day. For the latter to occur, there would have to be a substantial increase in use projected. Based on conversations with park staff, this is probably not true. The restriction of one gym causes events to stretch out over the day rather than causing events not to take place. Based on this, it was assumed that the improvements would increase traffic generated in a peak hour by 10 percent. This translates into 61 vehicles per hour (vph) during the weekday PM peak hour and 52 vph during the weekend peak hour. Table 2 summarizes the traffic volume increases.

B. TRIP DISTRIBUTION AND ASSIGNMENT

The additional traffic generated by the Manoa Valley District Park improvements were assumed to be distributed and assigned to the roadway network in a manner similar to the existing traffic patterns.

Table 2 Generation and Distribution of Additional Vehicle Trips

Access	Movement	Weekday PM Peak Hour			Weekend Peak Hour		
		Existing	Additional	Total	Existing	Additional	Total
Outbound							
Kahaloa	Left	7	1	8	3	0	3
	Through	12	1	13	6	1	7
	Right	42	4	46	70	7	77
Manoa Elem.	Left	44	4	48	32	3	35
	Right	14	1	15	9	1	10
Main	Left	56	6	62	58	6	64
	Right	14	1	15	7	1	8
Secondary	Left	6	1	7	14	1	15
	Right	3	0	3	2	0	2
Kaaipu	Left	18	2	20	25	3	28
	Through	2	0	2	7	1	8
	Right	16	2	18	50	5	55
Total		234	23	257	283	29	312
Inbound							
Kahaloa	Left	47	5	52	40	4	44
	Through	5	1	6	4	0	4
	Right	8	1	9	8	1	9
Manoa Elem.	Left	11	1	12	3	0	3
	Through	7	1	8	6	1	7
	Right	56	6	62	28	3	31
Main	Left	20	2	22	13	1	14
	Right	79	8	87	56	6	62
Secondary	Left	1	0	1	0	0	0
	Right	6	1	7	11	1	12
Kaaipu	Left	35	4	39	29	3	32
	Through	56	6	62	10	1	11
	Right	24	2	26	22	2	24
Total		355	38	393	230	23	253

C. TOTAL TRAFFIC

The additional traffic assumed to be generated by the Manoa Valley District Park improvements were added to the existing traffic volumes to obtain the total future traffic volumes. Figures 5 and 6 present the future turning movement volumes for the weekday PM peak hour and the weekend peak hour, respectively.

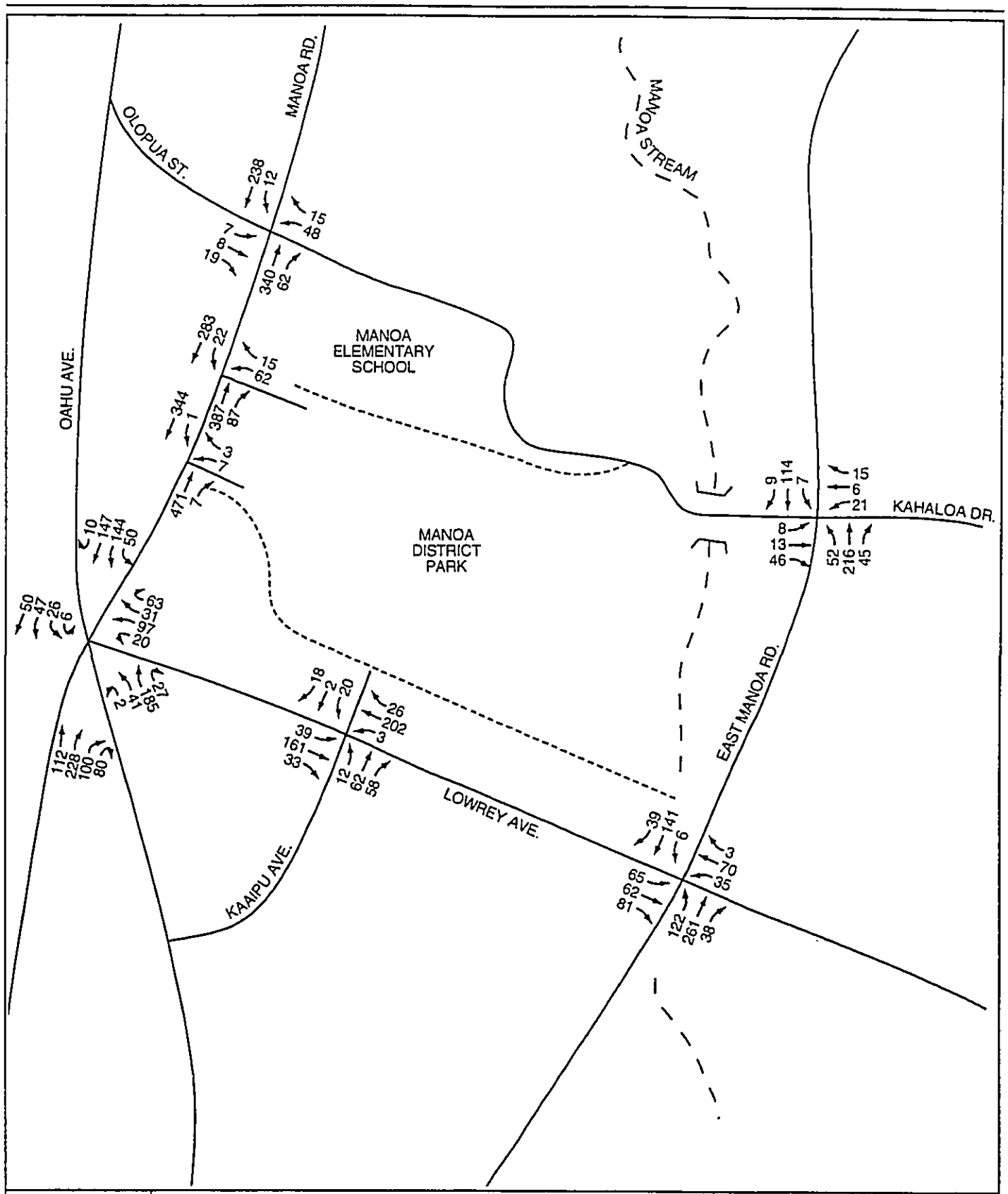
D. INTERSECTION OPERATIONS ANALYSIS RESULTS

Intersection operations were evaluated at the locations for which traffic turning movement volumes were summarized in Figures 3 and 4. Methods documented in the 1994 Highway Capacity Manual were used. The resulting intersection level of service (LOS) are summarized in Table 3. LOS is represented by a letter designation ranging from A to F. LOS A represents free-flow operating conditions, while LOS F represents congested conditions. More detailed Level-of-Service definitions are included in Appendix B.

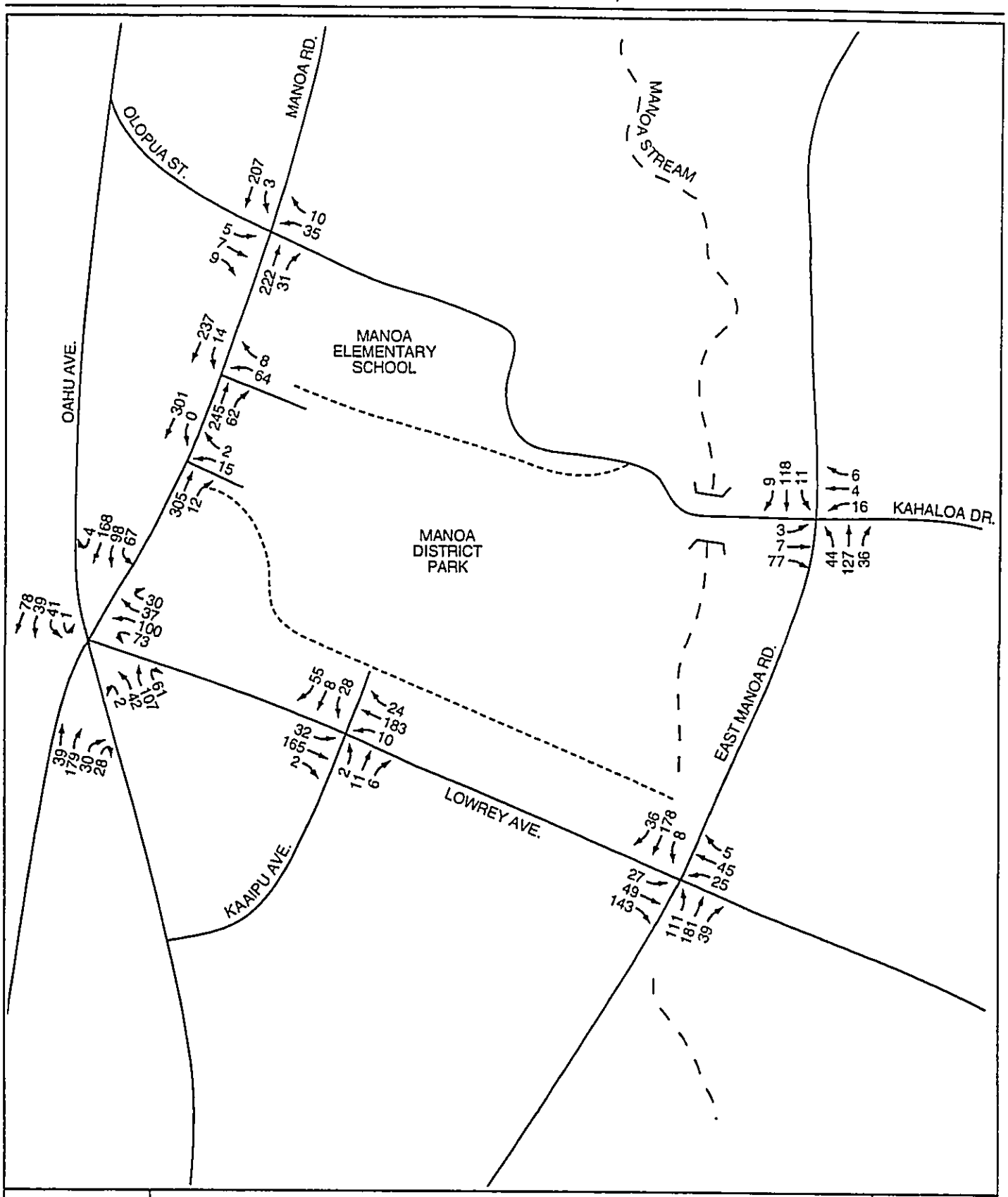
As shown in Table 3, the traffic added by the proposed park improvements are not projected to change intersection LOS at any of the intersections in the vicinity of the Manoa Valley District Park during weekday and weekend peak traffic hours.

E. CONCLUSION

The results of the traffic forecast and analysis indicate that traffic generated by the proposed Manoa Valley District Park improvements will have negligible impacts on traffic operations at the key intersections surrounding the park. Most intersections will operate well during the projected peak hours, without or with the proposed development.



PB 100 YEARS	FUTURE WEEKDAY PM PEAK HOUR VOLUMES	Figure 5



FUTURE WEEKEND PEAK HOUR VOLUMES

Figure 6

Table 3 Summary of Future Peak Hour Intersection Level of Service

Intersection	Movement	Peak Hour Level of Service			
		Weekday PM		Weekend	
		Without	With	Without	With
Manoa/Olopua/School	Ewa bound LT -Out	C	C	B	B
	Ewa bound RT- Out	C	C	B	B
	Makai bound LT In	A	A	A	A
	KKHD bound LT Out	C	C	B	B
	KKHD bound RT Out	B	B	A	A
	KKHD bound Thru	B	B	A	A
Manoa/Park Mauka Acc.	Ewa bound LT -Out	C	C	B	B
	Ewa bound RT- Out	C	C	B	B
	Makai bound LT In	A	A	A	A
Manoa/Park Makai Acc.	Ewa bound LT -Out	C	C	B	B
	Ewa bound RT- Out	C	C	B	B
	Makai bound LT In	A	A	A	A
Manoa/Oahu/Lowrey	All-Way STOP	D	D	B	B
Lowrey/Kaaipu	Makai bound LT Out	B	B	B	B
	Makai bound RT Out	B	B	B	B
	KKHD bound LT In	A	A	A	A
	Mauka bound LT Out	B	B	B	B
	Mauka bound RT Out	B	B	B	B
	Ewa bound LT In	A	A	A	A
East Manoa/Lowrey	Signalized	B	B	B	B
East Manoa/Kahaloa	Signalized	B	B	B	B

Note: LT=Left Turn, RT=Right Turn, KKHD=Koko Head, WB=Ewa Bound

IV. RECOMMENDATIONS AND CONCLUSION

A. RECOMMENDATIONS

The intersections surrounding the Manoa Valley District Park are projected to operate well during both the weekday and weekend peak hours without or with the proposed improvements. No changes to the existing intersection configurations are recommended.

Observations by Parsons Brinckerhoff staff during particularly busy days indicate that the Manoa Valley District Park would benefit from more parking supply. At peak events, especially field events, parking sometimes spills out to surrounding residential streets. Based on conversations with the planners and site engineers, it is understood that a significant number of new parking spaces will be provided as part of the Manoa Valley District Park improvements. This would be beneficial to both park users and the surrounding neighborhood.

B. CONCLUSION

It is concluded that additional traffic generated by the proposed improvements at the Manoa Valley District Park will be minimal and can be accommodated by the surrounding roadway system without changing the operations at key intersections.

Appendix A Traffic Count Data

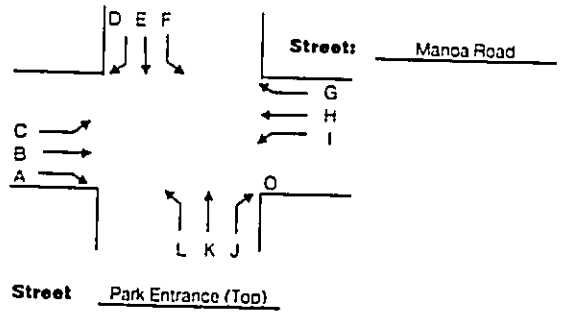
SATURDAY ~~AM~~ COUNT SHEET

Intersection: Manoa Rd/Park Entrance (Top)

Date: 10/23/99

By:

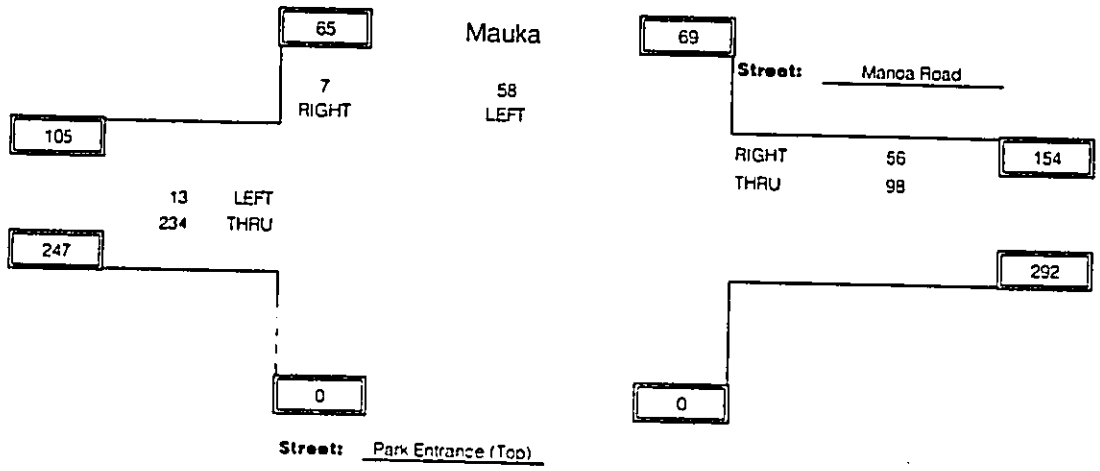
Weather:



TIME		B	C	D		F	G	H					Total Mvmt	Total Hour
10:30 - 10:45														
10:45 - 11:00														
11:00 - 11:15		56	2	1		17	22	28					126	466
11:15 - 11:30		41	4	1		18	8	17					89	444
11:30 - 11:45		73	3	1		12	17	27					133	463
11:45 - 12:00		64	4	4		11	9	26					118	448
12:00 - 12:15		41	1	1		21	15	25					104	465
12:15 - 12:30		58	1	2		12	12	23					108	466
12:30 - 12:45		67	3	3		11	10	24					118	491
12:45 - 1:00		59	3	6		15	18	34					135	
1:00 - 1:15		47	1	1		9	13	34					105	
1:15 - 1:30		75	2	3		8	11	34					133	
Phf		0.801	0.813	0.438		0.806	0.636	0.875					Peak	Phf
11:00 - 12:00		234	13	7		58	56	98					466	0.876

Peak Hour

11:00 - 12:00



PARSONS BRINCKERHOFF

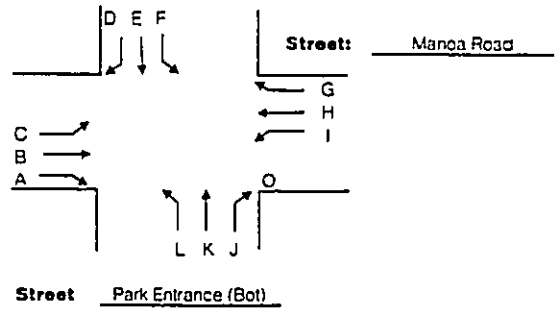
SATURDAY COUNT SHEET

Intersection: Manoa Rd/Park Entrance (Bottom)

Date: 10/23/99

By:

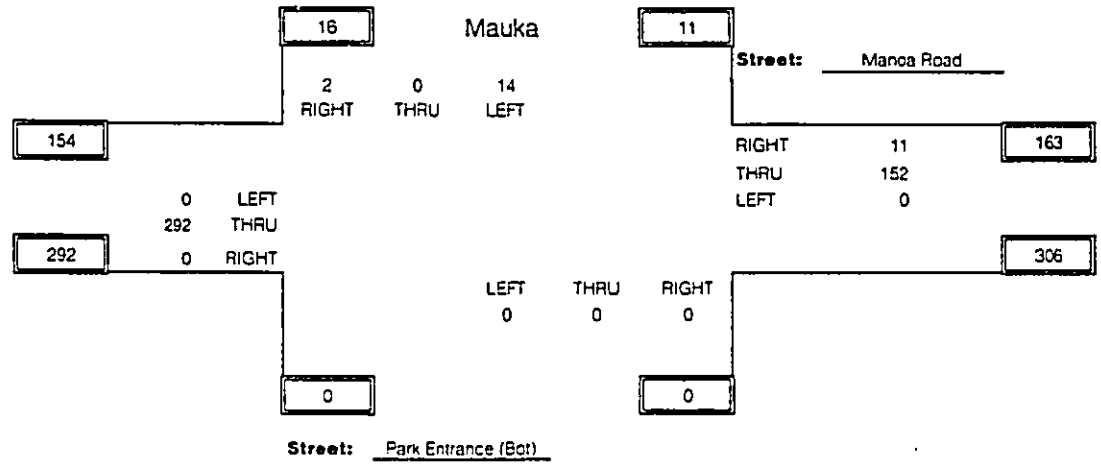
Weather:



TIME		B	C	D		F	G	H					Total Mvmt	Total Hour
10:30 - 10:45														
10:45 - 11:00														
11:00 - 11:15		73	0	0		2	2	50					127	471
11:15 - 11:30		59	0	0		1	4	25					89	449
11:30 - 11:45		85	0	2		6	1	42					136	470
11:45 - 12:00		75	0	0		5	4	35					119	452
12:00 - 12:15		62	0	0		1	2	40					105	464
12:15 - 12:30		68	2	2		3	2	33					110	464
12:30 - 12:45		78	0	1		5	1	33					118	488
12:45 - 1:00		74	0	0		4	1	52					131	
1:00 - 1:15		55	1	0		2	0	47					105	
1:15 - 1:30		83	0	0		4	2	45					134	
Phf		0.859	#DIV/0!	0.250		0.583	0.688	0.760					Peak	Phf
11:00 - 12:00		292	0	2		14	11	152					471	0.866

Peak Hour

11:00 - 12:00



PARSONS BRINCKERHOFF

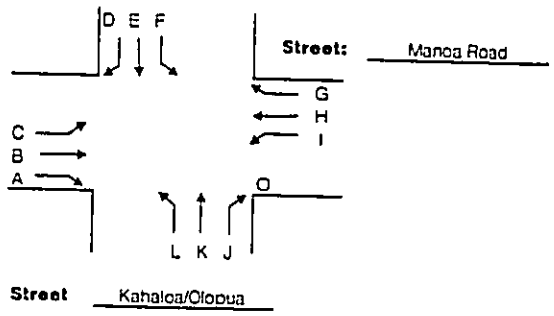
SATURDAY AM COUNT SHEET

Intersection: Manoa/Olopua/Kahaloa

Date: 10/23/99

By:

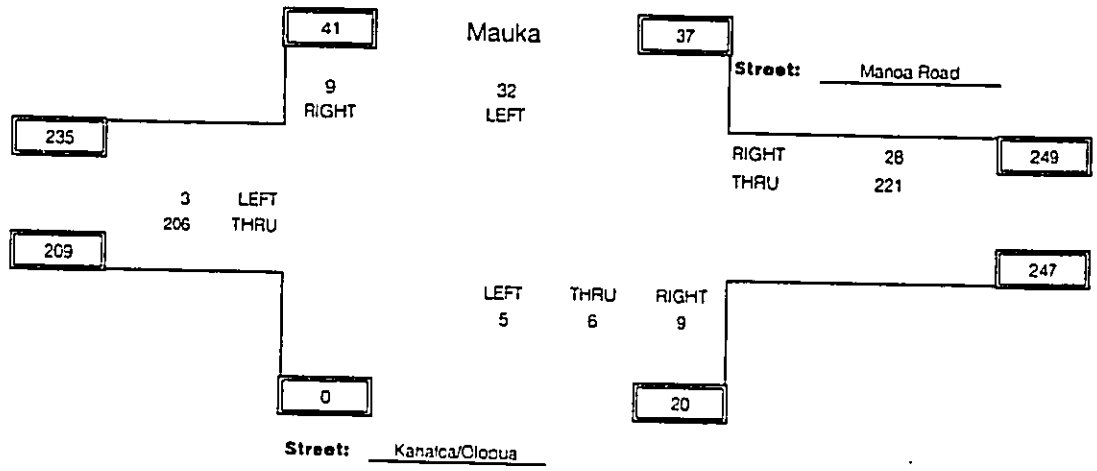
Weather:



TIME		B	C	D		F	G	H		J	K	L	Total Mvmt	Total Hour
10:30 - 10:45		74	5	2		13	14	49		3	3	5	168	536
10:45 - 11:00		70	2	5		4	6	62		2	1	2	154	536
11:00 - 11:15		46	2	1		11	11	52		1	1	1	126	519
11:15 - 11:30		43	0	0		2	3	37		0	1	2	88	484
11:30 - 11:45		59	0	7		10	7	75		7	2	1	168	521
11:45 - 12:00		58	1	1		9	7	57		1	2	1	137	486
12:00 - 12:15		38	2	3		4	2	42		0	0	0	91	464
12:15 - 12:30		55	1	4		3	5	56		1	0	0	125	488
12:30 - 12:45		64	0	0		5	2	60		1	0	1	133	511
12:45 - 1:00		53	0	0		9	6	47		0	0	0	115	
1:00 - 1:15		44	0	4		4	5	58		0	0	0	115	
1:15 - 1:30		71	0	1		6	3	65		0	1	1	148	
Phf		0.873	0.375	0.321		0.727	0.636	0.737		0.321	0.750	0.625	Peak	Phf
11:00 - 12:00		206	3	9		32	28	221		9	6	5	519	0.772

Peak Hour

11:00 - 12:00



PARSONS BRINCKERHOFF

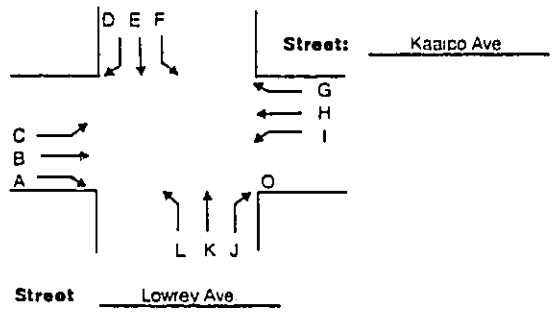
SATURDAY **AM COUNT SHEET**

Intersection: Lowrey Ave /Kaaipo Ave

Date: 10/23/99

By:

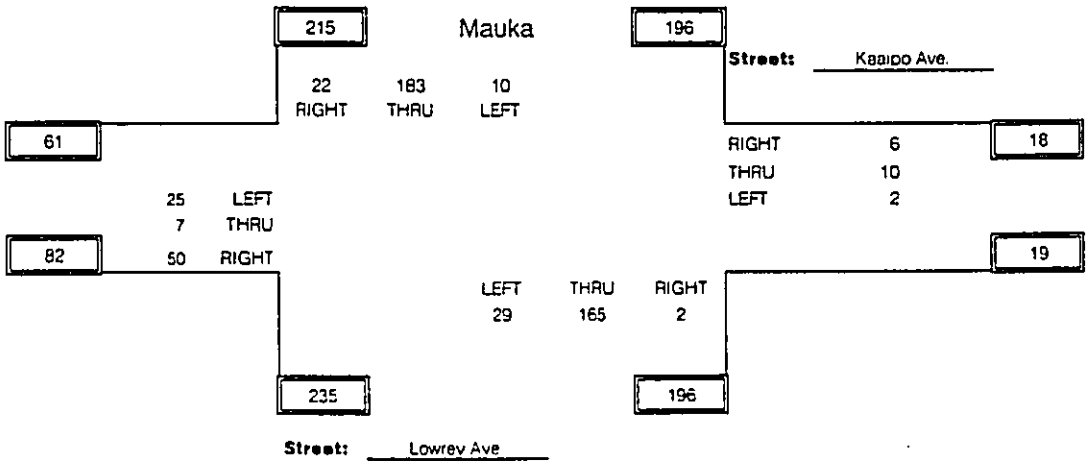
Weather:



TIME	A	B	C	D	E	F	G	H	I	J	K	L	Total Mvmt	Total Hour
10:30 - 10:45														
10:45 - 11:00														
11:00 - 11:15	12	0	9	6	46	2	3	3	0	0	33	9	123	511
11:15 - 11:30	6	4	4	9	35	2	1	2	1	1	43	7	115	542
11:30 - 11:45	17	0	8	3	51	1	1	4	0	1	42	8	136	540
11:45 - 12:00	15	3	4	4	51	5	1	1	1	0	47	5	137	503
12:00 - 12:15	15	4	12	3	61	0	4	1	1	1	46	6	154	469
12:15 - 12:30	16	3	8	4	44	0	1	1	0	3	27	6	113	416
12:30 - 12:45	3	1	3	7	37	0	2	1	0	0	38	7	99	381
12:45 - 1:00	6	2	2	5	44	1	0	1	1	1	27	13	103	
1:00 - 1:15	10	0	2	3	45	1	3	2	0	1	29	5	101	
1:15 - 1:30	3	1	3	3	38	0	0	0	0	0	28	2	78	
Phf	0.735	0.438	0.694	0.611	0.897	0.500	0.500	0.625	0.500	0.500	0.878	0.806	Peak	Phf
11:00 - 12.00	50	7	25	22	183	10	6	10	2	2	165	29	511	0.932

Peak Hour

11:00 - 12.00



PARSONS BRINCKERHOFF

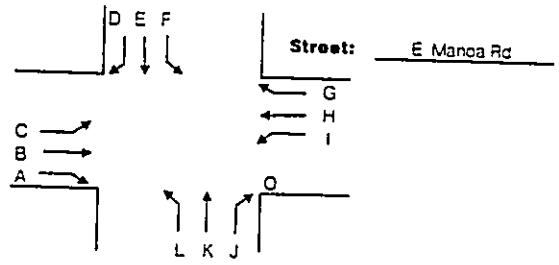
SATURDAY AM COUNT SHEET

Intersection: East Manoa Rd./Kahaloa St

Date: 10/23/99

By:

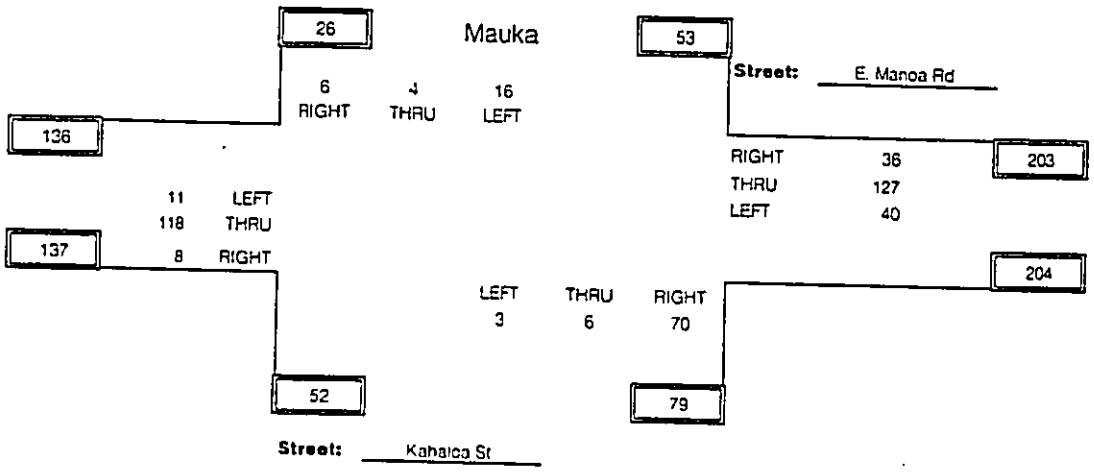
Weather:



TIME	A	B	C	D	E	F	G	H	I	J	K	L	Total Mvmt	Total Hour
10:30 - 10:45	3	22	2	4	3	4	7	10	8	18	4	0	85	431
10:45 - 11:00	1	35	3	3	1	4	8	30	13	13	3	2	116	471
11:00 - 11:15	3	34	2	1	1	4	10	24	14	13	2	1	109	445
11:15 - 11:30	4	34	2	2	0	5	11	35	6	19	2	1	121	438
11:30 - 11:45	1	26	6	1	2	3	10	36	11	27	2	0	125	441
11:45 - 12:00	0	24	1	2	1	4	5	32	9	11	0	1	90	434
12:00 - 12:15	0	32	2	2	1	2	6	33	10	12	1	1	102	449
12:15 - 12:30	2	28	2	4	0	3	9	46	9	20	0	1	124	431
12:30 - 12:45	0	32	4	6	3	5	7	36	11	13	0	1	118	405
12:45 - 1:00	1	38	6	7	0	3	4	23	10	12	1	0	105	
1:00 - 1:15	1	22	1	2	1	4	5	31	5	7	3	2	84	
1:15 - 1:30	1	15	4	3	1	2	8	41	8	11	3	1	98	
Phf	0.500	0.868	0.458	0.750	0.500	0.800	0.818	0.882	0.714	0.648	0.750	0.750	Peak	Phf
11:00 - 12:00	8	118	11	6	4	16	36	127	40	70	6	3	445	0.890

Peak Hour

11:00 - 12:00



PARSONS BRINCKERHOFF

SATURDAY

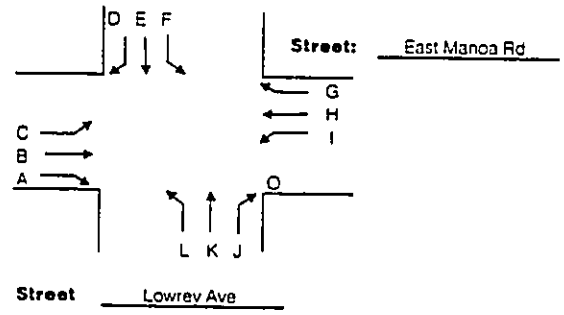
~~TMC~~ COUNT SHEET

Intersection: East Manoa Rd./Lowrey Ave

Date: 10/23/99

By:

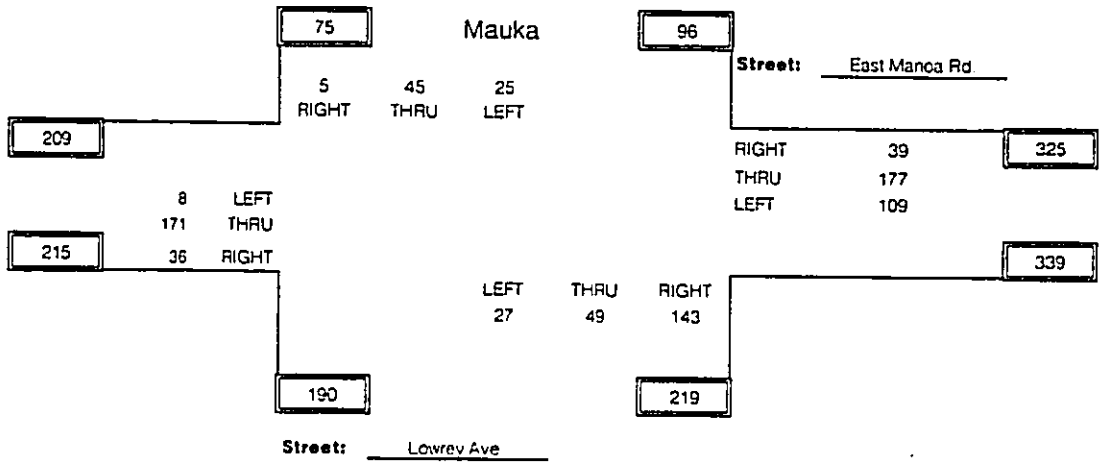
Weather:



TIME	A	B	C	D	E	F	G	H	I	J	K	L	Total Mvmt	Total Hour
10:30 - 10:45														
10:45 - 11:00														
11:00 - 11:15	7	41	0	0	14	6	7	46	23	23	8	7	182	834
11:15 - 11:30	7	54	2	1	10	5	9	52	15	44	11	10	220	871
11:30 - 11:45	14	40	3	3	9	8	9	38	42	42	16	3	227	841
11:45 - 12:00	8	36	3	1	12	6	14	41	29	34	14	7	205	788
12:00 - 12:15	7	44	1	0	16	8	11	42	36	32	12	10	219	764
12:15 - 12:30	5	44	1	3	8	7	3	43	33	22	9	12	190	709
12:30 - 12:45	2	16	6	9	27	17	12	22	13	20	27	3	174	688
12:45 - 1:00	0	14	7	7	37	28	27	11	3	7	40	0	181	
1:00 - 1:15	0	9	7	7	41	26	20	8	6	8	32	0	164	
1:15 - 1:30	2	9	8	8	47	33	18	9	6	4	25	0	169	
Phf	0.643	0.792	0.667	0.417	0.804	0.781	0.696	0.851	0.649	0.813	0.766	0.675	Peak	Phf
11:00 - 12.00	36	171	8	5	45	25	39	177	109	143	49	27	834	0.919

Peak Hour

11:00 - 12.00



PARSONS BRINCKERHOFF

SATURDAY AM COUNT SHEET

Intersection: Manoa/Lowrey/Oahu

Date: 10/23/99

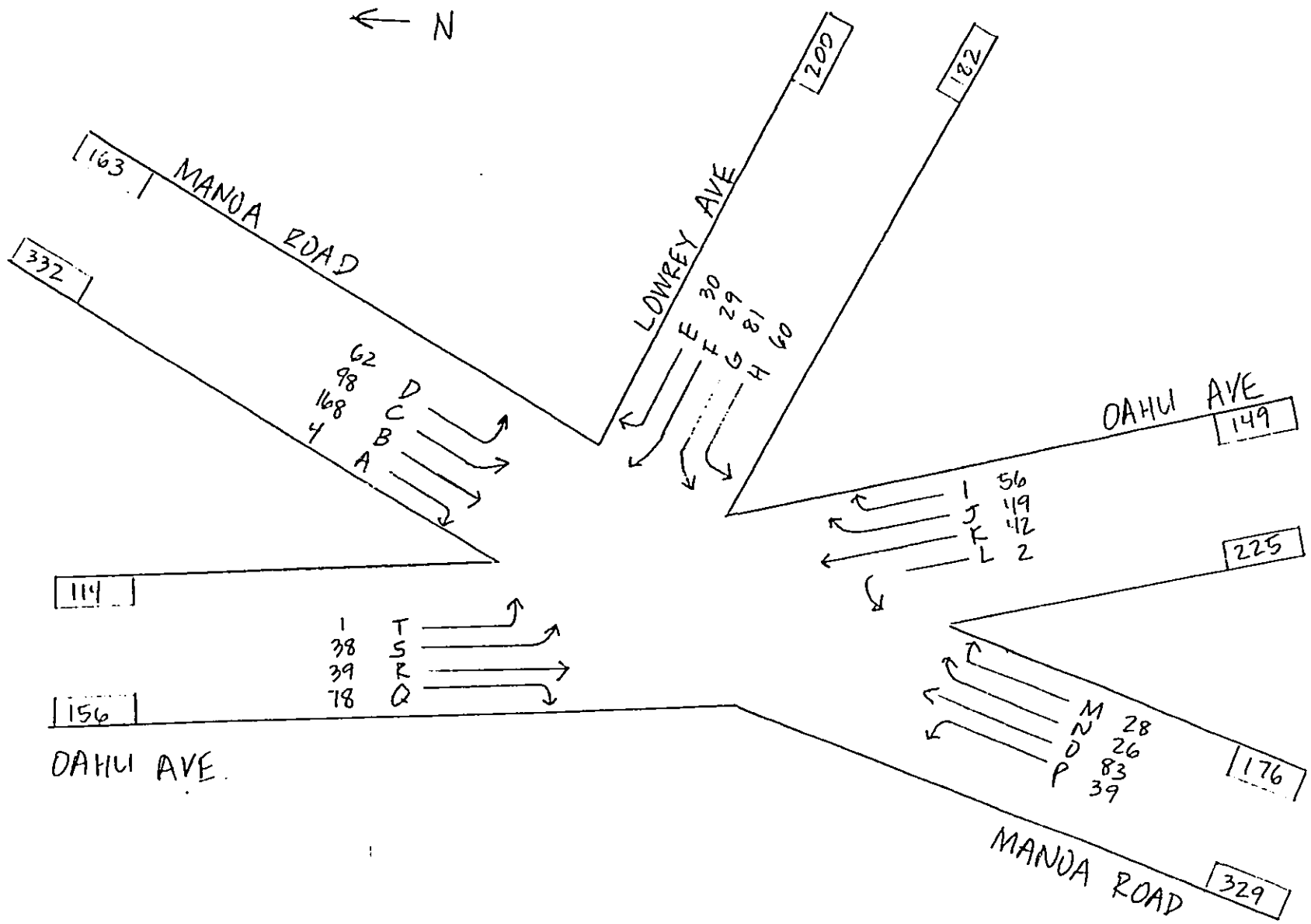
By:

Weather:

TIME	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	Total Mvmt	Total Hour
10:30 - 10:45																						
10:45 - 11:00																						
11:00 - 11:15	3	39	20	10	12	11	19	21	15	11	2	0	12	10	29	7	27	11	6	0	265	1013
11:15 - 11:30	0	41	32	24	5	7	12	8	10	10	12	0	4	5	14	3	16	12	6	0	221	984
11:30 - 11:45	1	30	13	11	7	7	33	16	18	12	8	0	6	9	23	17	17	5	12	1	246	928
11:45 - 12:00	0	58	33	17	6	4	17	15	13	16	20	2	6	2	17	12	18	11	14	0	281	865
12:00 - 12:15	0	34	23	18	5	10	22	13	6	16	12	1	11	7	21	15	10	8	4	0	236	850
12:15 - 12:30	0	20	15	10	4	4	10	12	10	9	4	0	6	11	22	11	7	9	1	0	165	834
12:30 - 12:45	0	38	24	11	5	2	19	4	7	10	8	1	1	8	19	6	12	2	6	0	183	892
12:45 - 1:00	2	45	23	16	9	6	20	9	7	5	11	1	13	3	39	17	26	9	5	0	266	
1:00 - 1:15	1	44	20	7	8	0	27	4	5	10	7	0	17	0	29	10	13	11	7	0	220	
1:15 - 1:30	1	41	31	9	7	5	13	4	3	5	12	0	12	5	34	14	13	7	6	1	223	
Phf	0.333	0.724	0.742	0.646	0.625	0.659	0.614	0.714	0.778	0.766	0.525	0.250	0.583	0.650	0.716	0.574	0.722	0.813	0.679	0.250	Peak	Phf
11:00 - 12:00	4	168	98	62	30	29	81	60	56	49	42	2	28	26	83	39	78	39	38	1	1013	0.901

PARSONS BRINCKERHOFF

SATURDAY 10/23/99
PEAK HOUR
11.00 - 12.00



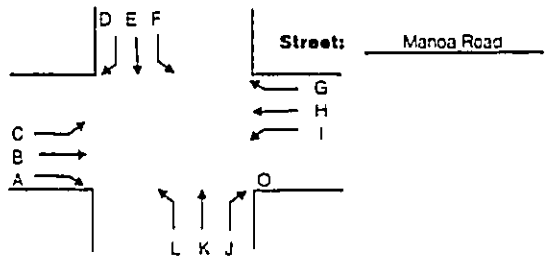
PM COUNT SHEET

Intersection: Manoa Rd/Park Entrance (Top)

Date: 10/27/99

By: 0

Weather: 0

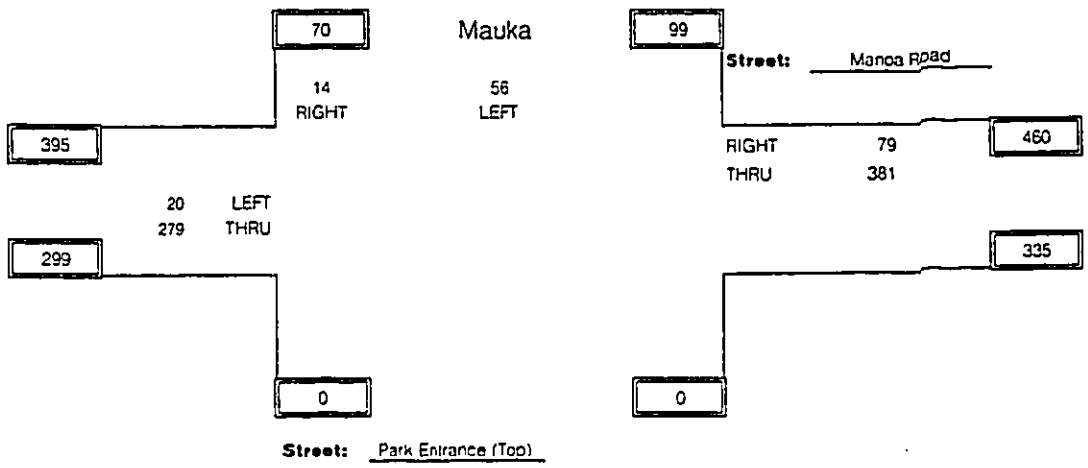


Street Park Entrance (Top)

TIME		B	C	D		F	G	H					Total Mvmt	Total Hour
3:00 - 3:15		58	2	3		19	5	9					78	513
3:15 - 3:30		37	3	2		6	4	83					135	583
3:30 - 3:45		35	3	2		11	2	85					138	654
3:45 - 4:00		60	1	3		4	3	91					162	707
4:00 - 4:15		47	6	4		8	4	79					148	764
4:15 - 4:30		71	2	1		7	11	114					206	814
4:30 - 4:45		52	4	3		13	10	109					191	798
4:45 - 5:00		89	3	4		32	33	58					219	829
5:00 - 5:15		42	6	3		8	25	114					198	818
5:15 - 5:30		66	0	1		7	4	112					190	
5:30 - 5:45		82	11	6		9	17	97					222	
5:45 - 6:00		77	5	2		9	9	106					208	
Phf		0.784	0.455	0.583		0.438	0.598	0.836					Peak	Phf
4:45 - 5:45		279	20	14		56	79	381					829	0.934

Peak Hour

4:45 - 5:45



PARSONS BRINCKERHOFF

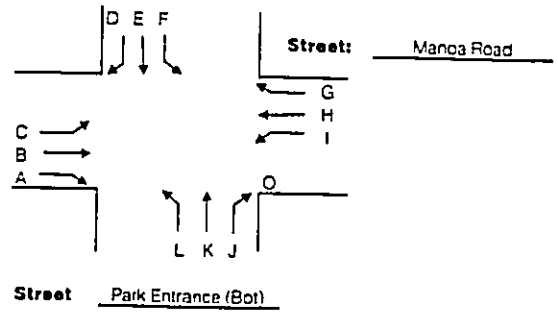
PM COUNT SHEET

Intersection: Manoa Rd/Park Entrance (Bottom)

Date: 10/27/99

By: 0

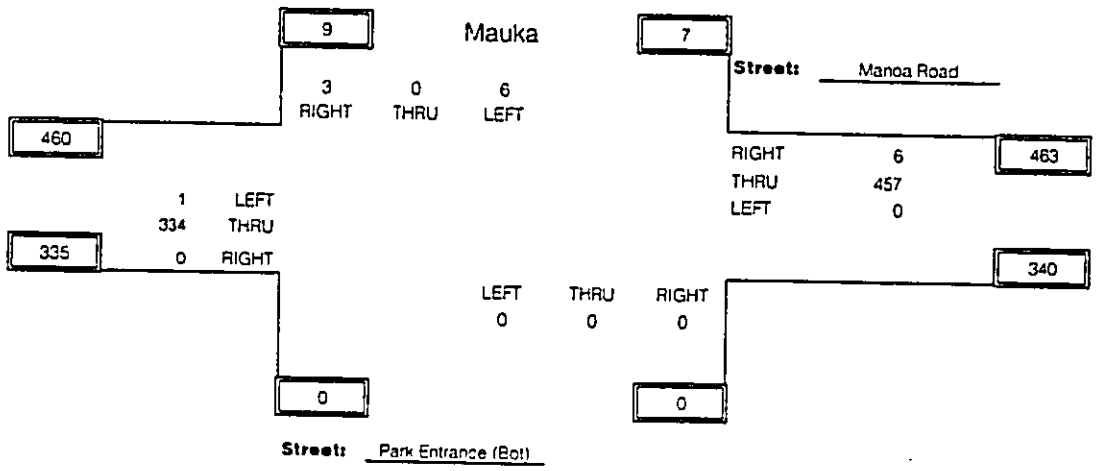
Weather: 0



TIME		B	C	D		F	G	H					Total Mvmt	Total Hour
3:00 - 3:15		77	0	0		2	4	-4					79	513
3:15 - 3:30		43	0	1		1	3	86					134	575
3:30 - 3:45		45	1	0		3	2	87					138	650
3:45 - 4:00		64	0	0		2	2	94					162	697
4:00 - 4:15		55	0	0		1	2	83					141	752
4:15 - 4:30		78	0	0		2	4	125					209	801
4:30 - 4:45		65	0	0		0	1	119					185	782
4:45 - 5:00		120	1	0		2	3	91					217	807
5:00 - 5:15		50	0	1		0	1	139					190	797
5:15 - 5:30		73	0	1		0	1	115					190	
5:30 - 5:45		91	0	1		4	1	113					210	
5:45 - 6:00		85	1	1		2	4	114					207	
Phf		0.696	0.250	0.750		0.375	0.500	0.828					Peak	Phf
4:45 - 5:45		334	1	3		6	6	457					807	0.930

Peak Hour

4:45 - 5:45



PARSONS BRINCKERHOFF

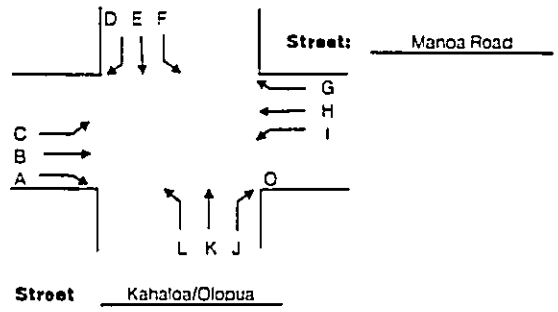
PM COUNT SHEET

Intersection: Manoa/Olopua/Kahaloa

Date: 10/27/99

By: 0

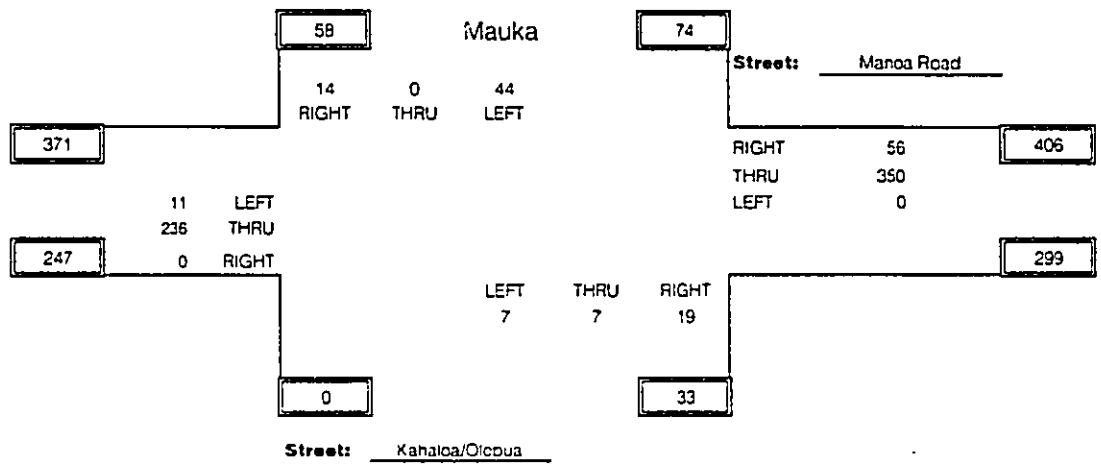
Weather: 0



TIME		B	C	D		F	G	H		J	K	L	Total Mvmt	Total Hour
3:00 - 3:15		53	0	2		6	4	55		1	3	1	125	430
3:15 - 3:30		35	0	3		2	3	40		3	0	1	87	415
3:30 - 3:45		32	0	1		6	2	44		0	1	0	86	506
3:45 - 4:00		54	2	0		4	7	61		3	1	0	132	533
4:00 - 4:15		46	0	2		4	1	51		3	1	2	110	639
4:15 - 4:30		60	4	4		8	11	84		5	1	1	178	657
4:30 - 4:45		52	1	1		3	9	46		1	0	0	113	653
4:45 - 5:00		74	0	3		12	15	127		6	0	1	238	744
5:00 - 5:15		38	2	1		8	8	67		2	1	1	128	713
5:15 - 5:30		55	2	3		7	14	85		4	1	3	174	
5:30 - 5:45		69	7	7		17	19	71		7	5	2	204	
5:45 - 6:00		66	6	3		11	16	99		5	1	0	207	
Phf		0.797	0.393	0.500		0.647	0.737	0.689		0.679	0.350	0.583	Peak	Phf
4:45 - 5:45		236	11	14		44	56	350		19	7	7	744	0.782

Peak Hour

4:45 - 5:45



PARSONS BRINCKERHOFF

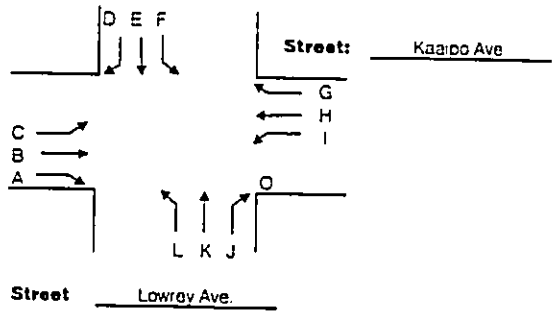
PM COUNT SHEET

Intersection: Lowrey Ave./Kaaipo Ave.

Date: 10/27/99

By: 0

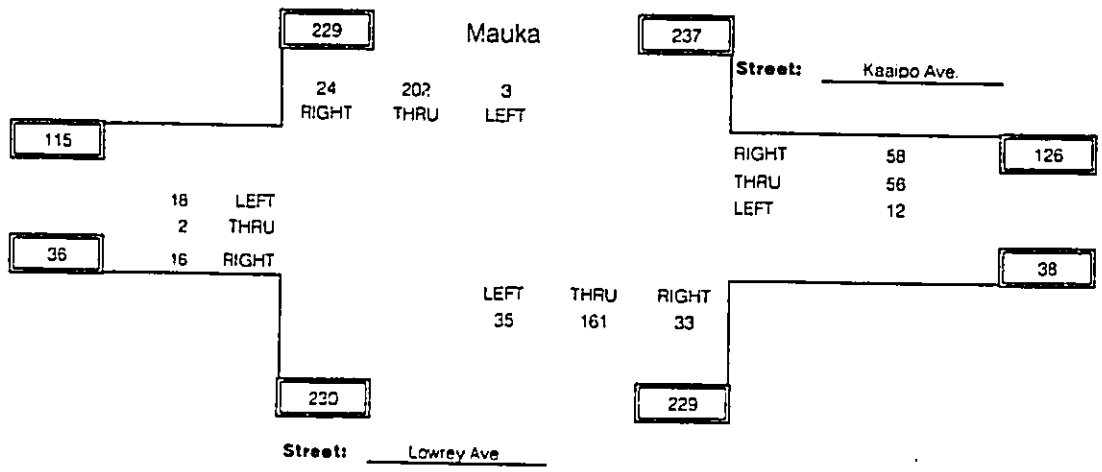
Weather: 0



TIME	A	B	C	D	E	F	G	H	I	J	K	L	Total Mvmt	Total Hour
3:00 - 3:15	1	0	2	2	40	2	0	0	0	3	36	1	87	362
3:15 - 3:30	1	2	0	8	38	1	0	2	0	3	25	1	81	372
3:30 - 3:45	7	0	5	2	42	2	1	2	0	4	27	3	95	409
3:45 - 4:00	6	2	0	3	39	3	2	3	1	4	31	5	99	435
4:00 - 4:15	4	0	0	3	44	1	3	3	1	4	29	5	97	490
4:15 - 4:30	1	1	2	8	48	1	5	4	2	4	37	5	118	556
4:30 - 4:45	3	2	6	8	44	0	7	6	2	5	32	6	121	586
4:45 - 5:00	6	0	10	7	45	1	9	10	2	6	47	11	154	620
5:00 - 5:15	4	2	2	6	59	0	16	14	3	8	39	10	163	641
5:15 - 5:30	1	0	5	7	43	2	16	14	3	9	39	9	148	
5:30 - 5:45	5	0	1	4	55	0	17	18	4	10	36	5	155	
5:45 - 6:00	5	2	6	7	52	0	18	19	5	10	43	8	175	
Phf	0.667	0.250	0.450	0.857	0.856	0.375	0.853	0.778	0.750	0.825	0.856	0.795	Peak	Phf
4:45 - 5:45	16	2	18	24	202	3	58	56	12	33	161	35	620	0.951

Peak Hour

4:45 - 5:45



PARSONS BRINCKERHOFF

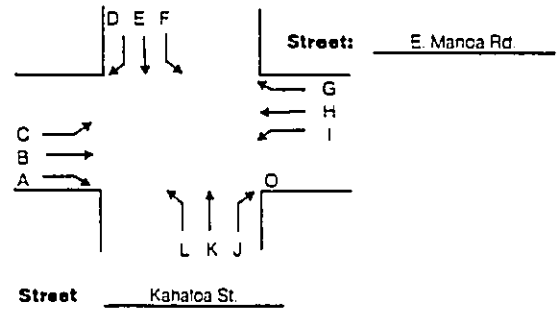
PM COUNT SHEET

Intersection: East Manoa Rd./Kahaloa St.

Date: 10/27/99

By: 0

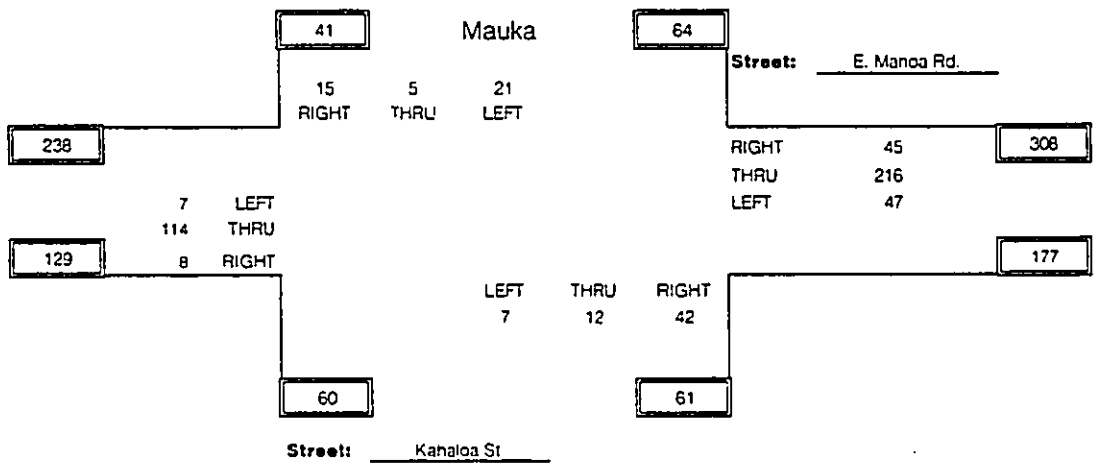
Weather: 0



TIME	A	B	C	D	E	F	G	H	I	J	K	L	Total Mvmt	Total Hour
3:00 - 3:15	0	22	1	2	3	8	10	31	6	2	0	1	86	401
3:15 - 3:30	1	22	1	3	3	3	4	32	9	16	3	0	97	423
3:30 - 3:45	1	26	1	5	1	8	8	34	5	11	5	1	106	427
3:45 - 4:00	2	18	3	5	2	5	9	43	17	6	1	1	112	416
4:00 - 4:15	2	23	2	5	3	2	11	36	8	10	5	1	108	428
4:15 - 4:30	2	20	3	4	1	7	10	40	4	8	1	1	101	475
4:30 - 4:45	0	32	2	0	4	4	14	28	5	4	1	1	95	503
4:45 - 5:00	2	26	2	3	2	3	11	54	9	6	5	1	124	539
5:00 - 5:15	1	33	1	3	1	6	13	65	10	17	3	2	155	547
5:15 - 5:30	1	23	2	8	0	9	14	45	16	8	3	0	129	
5:30 - 5:45	4	32	2	1	2	3	7	52	12	11	1	4	131	
5:45 - 6:00	3	19	2	5	6	6	15	46	15	9	4	2	132	
Phf	0.500	0.864	0.875	0.469	0.625	0.583	0.804	0.831	0.734	0.618	0.600	0.438	Peak	Phf
4:45 - 5:45	8	114	7	15	5	21	45	216	47	42	12	7	539	0.869

Peak Hour

4:45 - 5:45



PARSONS BRINCKERHOFF

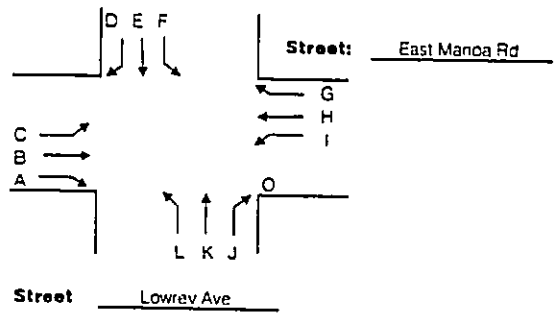
PM COUNT SHEET

Intersection: East Manoa Rd /Lowrey Ave

Date: 10/27/99

By: 0

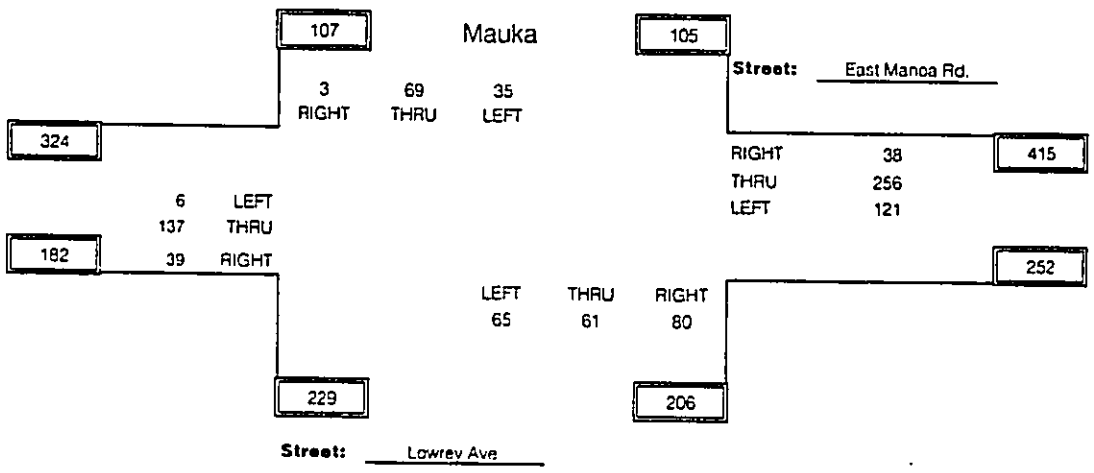
Weather: 0



TIME	A	B	C	D	E	F	G	H	I	J	K	L	Total Mvmt	Total Hour
3:00 - 3:15	7	27	0	0	16	14	10	48	15	17	6	4	164	676
3:15 - 3:30	12	26	2	1	15	3	12	34	22	21	8	6	162	689
3:30 - 3:45	9	38	2	2	13	8	7	52	22	20	9	5	187	711
3:45 - 4:00	5	23	1	2	14	10	7	49	20	19	7	6	163	717
4:00 - 4:15	10	28	4	1	10	13	6	47	25	19	10	4	177	779
4:15 - 4:30	11	30	0	0	14	7	10	45	25	16	9	17	184	839
4:30 - 4:45	7	35	1	1	18	7	13	41	22	25	17	6	193	881
4:45 - 5:00	9	32	1	1	17	8	7	64	26	25	19	16	225	
5:00 - 5:15	8	39	2	1	25	8	13	66	31	16	18	10	237	
5:15 - 5:30	12	33	2	0	14	7	8	62	31	20	14	23	226	
5:30 - 5:45	10	33	1	1	13	12	10	64	33	19	10	16		
5:45 - 6:00	9	40	0	0	16	9	8	59	35	19	13	17		
Phf	0.813	0.878	0.750	0.750	0.690	0.729	0.731	0.970	0.917	0.800	0.803	0.707	Peak	Phf
4:45 - 5:45	39	137	6	3	69	35	38	256	121	80	61	65	0	0.000

Peak Hour

4:45 - 5:45



PARSONS BRINCKERHOFF

PM COUNT SHEET

Intersection: Manoa/Lowrey/Oahu

Date: 10/27/99

By: 0

Weather: 0

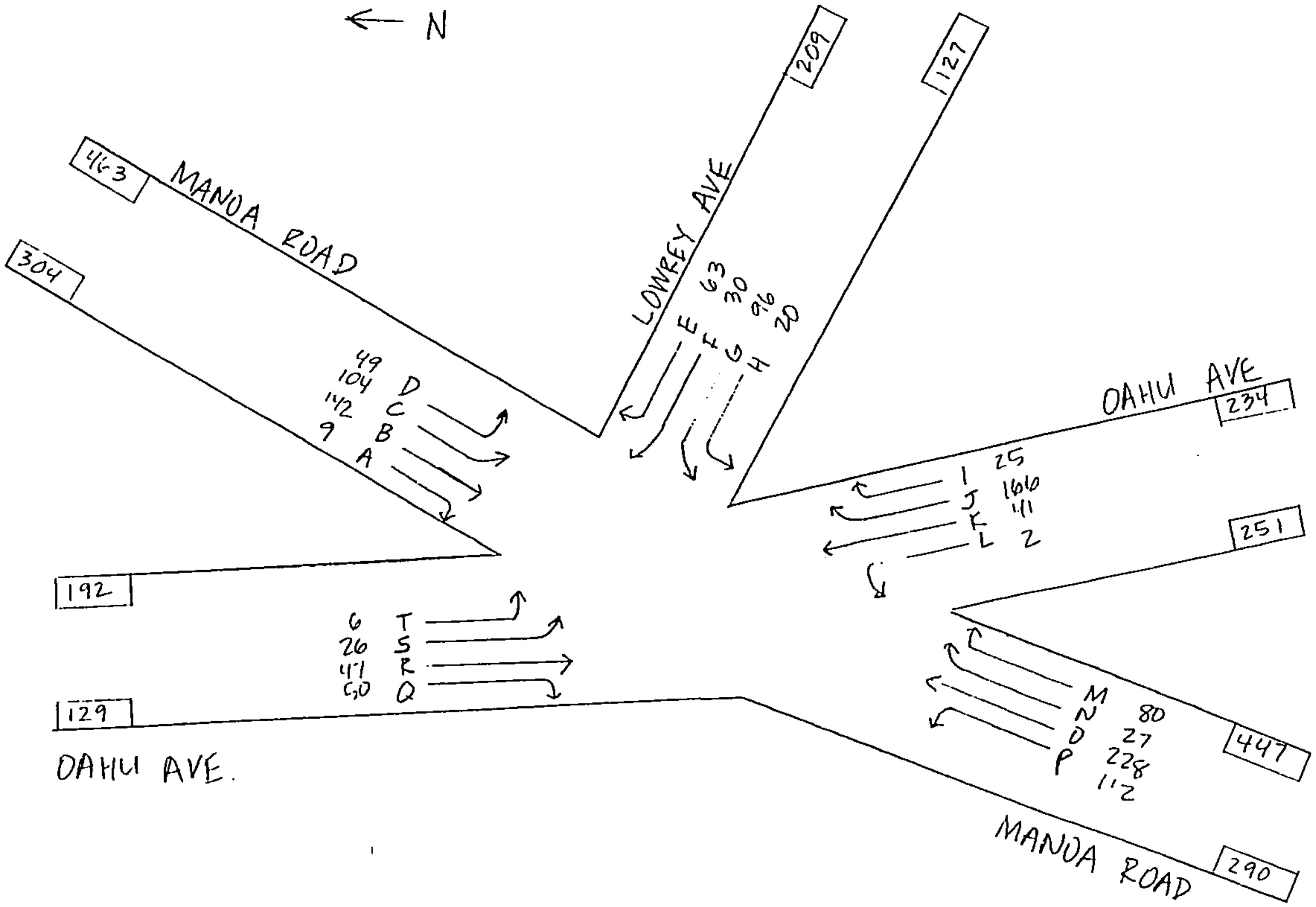
TIME	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	Total Mvmt	Total Hour
3 00 - 3 15																					0	833
3 15 - 3 30	2	39	27	14	12	7	27	1	3	32	9	2	9	6	44	19	18	7	2	1	281	1106
3 30 - 3 45	1	27	22	12	11	14	22	5	7	31	7	0	15	3	47	26	12	7	4	0	273	1150
3 45 - 4 00	1	33	14	16	8	13	16	3	5	31	10	0	12	3	57	29	15	9	4	0	279	1215
4 00 - 4 15	0	40	20	5	7	11	26	4	5	31	8	0	15	2	46	20	16	11	5	1	273	1226
4 15 - 4 30	1	43	23	10	13	8	22	0	8	44	10	0	23	0	72	24	13	7	4	0	325	1318
4 30 - 4 45	2	41	17	15	13	6	29	7	3	43	12	0	18	7	64	32	11	13	5	0	338	1341
4 45 - 5 00	2	31	27	15	9	10	16	5	8	40	9	0	16	3	44	20	15	10	9	1	290	1323
5 00 - 5 15	5	31	32	7	22	7	27	7	9	46	12	0	25	6	71	27	13	12	6	0	365	1380
5 15 - 5 30	1	49	25	18	15	4	22	5	5	41	9	0	19	11	58	24	16	17	7	2	348	
5 30 - 5 45	1	31	20	9	17	9	31	3	3	39	11	2	20	7	55	41	6	8	4	3	320	
5 45 - 6 00	1	26	25	14	23	9	25	2	8	39	17	1	33	0	56	28	13	16	11	0	347	
Phf	0 450	0 724	0 813	0 681	0.716	0 750	0 774	0 714	0 694	0 902	0 854	0 250	0 800	0 614	0 803	0 683	0 781	0 691	0 722	0 500	Peak	Phf
4 45 - 5 45	9	142	104	49	63	30	96	20	25	166	41	2	80	27	228	112	50	47	26	6	1323	0 906

PARSONS
BRINCKERHOFF

WEDNESDAY 10/27/99

PEAK HOUR

4:45 - 5:45



Appendix B Levels of Service Definitions

The *Highway Capacity Manual* defines six Levels of Service (LOS), labeled A through F, from best to worst conditions. Levels of Service for signalized and unsignalized intersections are defined in terms of average user delays. Delay is a measure of driver discomfort, frustration, fuel consumption, and lost travel time.

For unsignalized intersections, the *Highway Capacity Manual* evaluates gaps in the major street traffic flow and calculates available gaps for left-turns across oncoming traffic and for the left and right-turns onto the major roadway from the minor street.

LEVEL-OF-SERVICE A: Little or no delay.

LEVEL-OF-SERVICE B: Short traffic delays.

LEVEL-OF-SERVICE C: Average traffic delays.

LEVEL-OF-SERVICE D: Long traffic delays.

LEVEL-OF-SERVICE E: Very long traffic delays.

LEVEL-OF-SERVICE F: Demand volume exceeds capacity, resulting in extreme delays with queuing that may cause severe congestion and affect other movements at the intersection.

Appendix C Intersection Capacity Analysis Worksheets

Center For Microcomputers In Transportation
University of Florida
512 Weil Hall
Gainesville, FL 32611-6585
Ph: (352) 392-0378

Streets: (N-S) Manoa Road (E-W) Park Entrance (Top)
Major Street Direction.... NS
Length of Time Analyzed... 60 (min)
Analyst..... Kasamoto
Date of Analysis..... 10/27/99
Other Information..... Manoa Valley District Park - Existing C
ondition (PM Peak)
Two-way Stop-controlled Intersection

	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	1	0	0	0	0	0	> 0	< 0
Stop/Yield			N			N						
Volumes		381	79	20	279					56		14
PHF		.85	.6	.5	.8					.5		.5
Grade		0			0						0	
MC's (%)												
SU/RV's (%)												
CV's (%)												
PCE's				1.10						1.10		1.10

Adjustment Factors

Vehicle Maneuver	Critical Gap (tg)	Follow-up Time (tf)
Left Turn Major Road	5.00	2.10
Right Turn Minor Road	5.50	2.60
Through Traffic Minor Road	6.00	3.30
Left Turn Minor Road	6.50	3.40

Worksheet for TWSC Intersection

Step 1: RT from Minor Street	WB	EB
Conflicting Flows: (vph)	448	
Potential Capacity: (pcph)	821	
Movement Capacity: (pcph)	821	
Prob. of Queue-Free State:	0.96	

Step 2: LT from Major Street	SB	NB
Conflicting Flows: (vph)	580	
Potential Capacity: (pcph)	907	
Movement Capacity: (pcph)	907	
Prob. of Queue-Free State:	0.95	

Step 4: LT from Minor Street	WB	EB
Conflicting Flows: (vph)	837	
Potential Capacity: (pcph)	347	
Major LT, Minor TH Impedance Factor:	0.95	
Adjusted Impedance Factor:	0.95	
Capacity Adjustment Factor due to Impeding Movements	0.95	
Movement Capacity: (pcph)	330	

Intersection Performance Summary

Movement	Flow Rate (pcph)	Move Cap (pcph)	Shared Cap (pcph)	Avg. Total Delay (sec/veh)	95% Queue Length (veh)	LOS	Approach Delay (sec/veh)
WB L	123	330 >					
			375	16.2	2.3	C	16.2
WB R	31	821 >					
SB L	44	907		4.2	0.0	A	0.3

Intersection Delay = 1.5 sec/veh

Center For Microcomputers In Transportation
University of Florida
512 Weil Hall
Gainesville, FL 32611-6585
Ph: (352) 392-0378

Streets: (N-S) Manoa Road (E-W) Park Entrance (Bot.)
Major Street Direction.... NS
Length of Time Analyzed... 60 (min)
Analyst..... Kasamoto
Date of Analysis..... 10/27/99
Other Information..... Manoa Valley District Park - Existing C
ondition (PM Peak)
Two-way Stop-controlled Intersection

	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	1	0	0	0	0	0	> 0	< 0
Stop/Yield			N			N						
Volumes		457	6	1	334					6		3
PHF		.85	.5	.5	.7					.5		.75
Grade		0			0						0	
MC's (%)												
SU/RV's (%)												
CV's (%)												
PCE's				1.10						1.10		1.10

Adjustment Factors

Vehicle Maneuver	Critical Gap (tg)	Follow-up Time (tf)
Left Turn Major Road	5.00	2.10
Right Turn Minor Road	5.50	2.60
Through Traffic Minor Road	6.00	3.30
Left Turn Minor Road	6.50	3.40

Worksheet for TWSC Intersection

Step 1: RT from Minor Street	WB	EB
Conflicting Flows: (vph)	538	
Potential Capacity: (pcph)	739	
Movement Capacity: (pcph)	739	
Prob. of Queue-Free State:	0.99	

Step 2: LT from Major Street	SB	NB
Conflicting Flows: (vph)	550	
Potential Capacity: (pcph)	938	
Movement Capacity: (pcph)	938	
Prob. of Queue-Free State:	1.00	

Step 4: LT from Minor Street	WB	EB
Conflicting Flows: (vph)	1017	
Potential Capacity: (pcph)	273	
Major LT, Minor TH Impedance Factor:	1.00	
Adjusted Impedance Factor:	1.00	
Capacity Adjustment Factor due to Impeding Movements	1.00	
Movement Capacity: (pcph)	272	

Intersection Performance Summary

Movement	Flow Rate (pcph)	Move Cap (pcph)	Shared Cap (pcph)	Avg. Total Delay (sec/veh)	95% Queue Length (veh)	LOS	Approach Delay (sec/veh)
WB L	13	272 >	320	11.9	0.0	C	11.9
WB R	4	739 >					
SB L	2	938		3.8	0.0	A	0.0

Intersection Delay = 0.1 sec/veh

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Ph: (352) 392-0378

Streets: (N-S) Kaaipo Avenue (E-W) Lowrey Avenue
Major Street Direction.... EW
Length of Time Analyzed... 60 (min)
Analyst..... Kasamoto
Date of Analysis..... 10/27/99
Other Information..... Manoa Valley District Park - Existing Condition (PM Peak)

Two-way Stop-controlled Intersection

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	> 1	< 0	0	> 1	< 0	0	> 1	< 0	0	> 1	< 0
Stop/Yield			N			N						
Volumes	35	130	33	3	202	24	12	56	58	18	2	16
PHF	.8	.85	.85	.5	.85	.85	.75	.8	.85	.5	.5	.65
Grade		0			0			0			0	
MC's (%)												
SU/RV's (%)												
CV's (%)												
PCE's	1.10			1.10			1.10	1.10	1.10	1.10	1.10	1.10

Adjustment Factors

Vehicle Maneuver	Critical Gap (tg)	Follow-up Time (tf)
Left Turn Major Road	5.00	2.10
Right Turn Minor Road	5.50	2.60
Through Traffic Minor Road	6.00	3.30
Left Turn Minor Road	6.50	3.40

Worksheet for TWSC Intersection

Step 1: RT from Minor Street	NB	SB
Conflicting Flows: (vph)	172	252
Potential Capacity: (pcph)	1133	1032
Movement Capacity: (pcph)	1133	1032
Prob. of Queue-Free State:	0.93	0.97
Step 2: LT from Major Street	**WB**	**EB**
Conflicting Flows: (vph)	192	266
Potential Capacity: (pcph)	1389	1280
Movement Capacity: (pcph)	1389	1280
Prob. of Queue-Free State:	0.99	0.96
TH Saturation Flow Rate: (pcphpl)	1700	1700
RT Saturation Flow Rate: (pcphpl)	1700	1700
Major LT Shared Lane Prob. of Queue-Free State:	0.99	0.96
Step 3: TH from Minor Street	**NB**	**SB**
Conflicting Flows: (vph)	488	494
Potential Capacity: (pcph)	605	601
Capacity Adjustment Factor due to Impeding Movements	0.95	0.95
Movement Capacity: (pcph)	576	572
Prob. of Queue-Free State:	0.87	0.99
Step 4: LT from Minor Street	**NB**	**SB**
Conflicting Flows: (vph)	489	544
Potential Capacity: (pcph)	552	513
Major LT, Minor TH Impedance Factor:	0.95	0.82
Adjusted Impedance Factor:	0.96	0.87
Capacity Adjustment Factor due to Impeding Movements	0.93	0.81
Movement Capacity: (pcph)	515	415

Intersection Performance Summary

Movement		Flow Rate (pcph)	Move Cap (pcph)		Shared Cap (pcph)	Avg. Total Delay (sec/veh)	95% Queue Length (veh)	LOS	Approach Delay (sec/veh)
NB	L	18	515	>					
NB	T	77	576	>	724	6.5	1.0	B	6.5
NB	R	75	1133	>					
SB	L	40	415	>					
SB	T	4	572	>	552	7.5	0.5	B	7.5
SB	R	28	1032	>					
EB	L	48	1280			2.9	0.0	A	0.5
WB	L	7	1389			2.6	0.0	A	0.0

Intersection Delay = 2.0 sec/veh

HCM: SIGNALIZED INTERSECTION SUMMARY Version 2.4g 11-23-1999
Center For Microcomputers In Transportation

Streets: (E-W) Lowrey Avenue (N-S) East Manoa Road
Analyst: Kasamoto File Name: EMNLOWEP.HC9
Area Type: Other 10-27-99 PM Peak
Comment: Manoa Valley District Park - Existing Condition

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	> 1	< 0	0	> 1	< 0	0	> 1	< 0	0	> 1	< 0
Volumes	65	61	80	35	69	3	121	256	38	6	137	39
PHF or PK15	0.70	0.80	0.80	0.75	0.70	0.75	0.90	0.97	0.75	0.75	0.88	0.80
Lane W (ft)		22.0			20.5			17.5			19.0	
Grade		0			0			0			0	
% Heavy Veh	2	2	2	2	2	2	2	2	2	2	2	2
Parking	N	N		N	N		N	N		N	N	
Bus Stops			0			0			0			0
Con. Peds			0			0			0			0
Ped Button	(Y/N)	Y	10.9 s	(Y/N)	Y	10.8 s	(Y/N)	Y	12.1 s	(Y/N)	Y	11.9
Arr Type		3			3			3			3	
RTOR Vols			0			0			0			0
Lost Time	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Prop. Share												
Prop. Prot.												

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	*				NB Left	*			
Thru	*				Thru	*			
Right	*				Right	*			
Peds	*				Peds	*			
WB Left	*				SB Left	*			
Thru	*				Thru	*			
Right	*				Right	*			
Peds	*				Peds	*			
NB Right					EB Right				
SB Right					WB Right				
Green	17.0A				Green	35.0A			
Yellow/AR	4.0				Yellow/AR	4.0			

Cycle Length: 60 secs Phase combination order: #1 #5

Intersection Performance Summary

	Lane Mvmts	Group: Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	LOS
EB	LTR	534	1781	0.503	0.300	11.8	B	11.8	B
WB	LTR	522	1741	0.287	0.300	10.5	B	10.5	B
NB	LTR	927	1545	0.484	0.600	4.7	A	4.7	A
SB	LTR	1158	1930	0.184	0.600	3.5	A	3.5	A

Intersection Delay = 7.0 sec/veh Intersection LOS = B

Lost Time/Cycle, L = 6.0 sec Critical v/c(x) = 0.491

HCM: SIGNALIZED INTERSECTION SUMMARY Version 2.4g 11-23-1999
Center For Microcomputers In Transportation

Streets: (E-W) Kahaloa Street (N-S) East Manoa Road
Analyst: Kasamoto File Name: EMNKAHEP.HC9
Area Type: Other 10-27-99 PM Peak
Comment: Manoa Valley District Park - Existing Condition

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	> 1	< 0	0	> 1	< 0	0	> 1	< 0	0	> 1	< 0
Volumes	7	12	42	21	5	15	47	216	45	7	114	8
PHF or PK15	0.50	0.60	0.60	0.60	0.60	0.50	0.75	0.85	0.80	0.85	0.85	0.50
Lane W (ft)		13.0			13.5			19.0			19.5	
Grade		0			0			0			0	
% Heavy Veh	2	2	2	2	2	2	2	2	2	2	2	2
Parking	N	N		N	N		N	N		N	N	
Bus Stops			0			0			0			0
Con. Peds			0			0			0			0
Ped Button	(Y/N)	Y	11.3 s	(Y/N)	Y	11.2 s	(Y/N)	Y	8.9 s	(Y/N)	Y	9.0
Arr Type		3			3			3			3	
RTOR Vols			0			0			0			0
Lost Time	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Prop. Share												
Prop. Prot.												

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	*				NB Left	*			
Thru	*				Thru	*			
Right	*				Right	*			
Peds	*				Peds	*			
WB Left	*				SB Left	*			
Thru	*				Thru	*			
Right	*				Right	*			
Peds	*				Peds	*			
NB Right					EB Right				
SB Right					WB Right				
Green	15.0A				Green	37.0A			
Yellow/AR	4.0				Yellow/AR	4.0			

Cycle Length: 60 secs Phase combination order: #1 #5

Intersection Performance Summary

	Lane Mvmts	Group: Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	LOS
EB	LTR	404	1516	0.257	0.267	11.3	B	11.3	B
WB	LTR	379	1420	0.193	0.267	11.0	B	11.0	B
NB	LTR	1177	1858	0.317	0.633	3.3	A	3.3	A
SB	LTR	1267	2001	0.125	0.633	2.8	A	2.8	A

Intersection Delay = 5.2 sec/veh Intersection LOS = B

Lost Time/Cycle, L = 6.0 sec Critical v/c(x) = 0.299

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Streets: (N-S) Manoa Road (E-W) Olopua/Kahaloa
Major Street Direction.... NS
Length of Time Analyzed... 60 (min)
Analyst..... Kasamoto
Date of Analysis..... 10/27/99
Other Information..... Manoa Valley District Park - Existing C
ondition (PM Peak)
Two-way Stop-controlled Intersection

	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	> 1	0	1	1	< 0	0	> 0	< 0
Stop/Yield			Y			N						
Volumes		339	56	11	236		7	7	19	44		14
PHF		.7	.75	.5	.8		.6	.7	.7	.65		.5
Grade		0			0			0			0	
MC's (%)												
SU/RV's (%)												
CV's (%)												
PCE's				1.10			1.10	1.10	1.10	1.10		1.10

Adjustment Factors

Vehicle Maneuver	Critical Gap (tg)	Follow-up Time (tf)
Left Turn Major Road	5.00	2.10
Right Turn Minor Road	5.50	2.60
Through Traffic Minor Road	6.00	3.30
Left Turn Minor Road	6.50	3.40

Worksheet for TWSC Intersection

Step 1: RT from Minor Street	WB	EB
Conflicting Flows: (vph)	484	295
Potential Capacity: (pcph)	787	981
Movement Capacity: (pcph)	787	981
Prob. of Queue-Free State:	0.96	0.97

Step 2: LT from Major Street	SB	NB
Conflicting Flows: (vph)	484	
Potential Capacity: (pcph)	1008	
Movement Capacity: (pcph)	1008	
Prob. of Queue-Free State:	0.98	
TH Saturation Flow Rate: (pcphpl)	1700	
Major LT Shared Lane Prob. of Queue-Free State:	0.97	

Step 3: TH from Minor Street	WB	EB
Conflicting Flows: (vph)		801
Potential Capacity: (pcph)		414
Capacity Adjustment Factor due to Impeding Movements		0.97
Movement Capacity: (pcph)		402
Prob. of Queue-Free State:		0.97

Step 4: LT from Minor Street	WB	EB
Conflicting Flows: (vph)	820	814
Potential Capacity: (pcph)	355	358
Major LT, Minor TH Impedance Factor:	0.94	0.97
Adjusted Impedance Factor:	0.96	0.97
Capacity Adjustment Factor due to Impeding Movements	0.93	0.93
Movement Capacity: (pcph)	330	334

Intersection Performance Summary

Movement	Flow Rate (pcph)	Move Cap (pcph)	Shared Cap (pcph)	Avg. Total Delay (sec/veh)	95% Queue Length (veh)	LOS	Approach Delay (sec/veh)
EB L	13	334		11.2	0.0	C	
EB T	11	402 >					6.6
EB R	30	981 >	708	5.4	0.1	B	
WB L	75	330 >					
WB R	31	787 >	398	12.3	1.2	C	12.3
SB L	24	1008		3.7	0.0	A	0.2

Intersection Delay = 1.3 sec/veh

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Ph: (352) 392-0378

Streets: (N-S) Manoa Road (E-W) Park Entrance (Top)
Major Street Direction.... NS
Length of Time Analyzed... 60 (min)
Analyst..... Kasamoto
Date of Analysis..... 10/23/99
Other Information..... Manoa Valley District Park - Existing Condition (Weekend Peak)

Two-way Stop-controlled Intersection

	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	1	0	0	0	0	0	> 0	< 0
Stop/Yield			N			N						
Volumes		242	56	13	234					58		7
PHF		.88	.65	.8	.8					.8		.5
Grade		0			0						0	
MC's (%)												
SU/RV's (%)												
CV's (%)												
PCE's				1.10						1.10		1.10

Adjustment Factors

Vehicle Maneuver	Critical Gap (tg)	Follow-up Time (tf)
Left Turn Major Road	5.00	2.10
Right Turn Minor Road	5.50	2.60
Through Traffic Minor Road	6.00	3.30
Left Turn Minor Road	6.50	3.40

Worksheet for TWSC Intersection

Step 1: RT from Minor Street	WB	EB
Conflicting Flows: (vph)	275	
Potential Capacity: (pcph)	1005	
Movement Capacity: (pcph)	1005	
Prob. of Queue-Free State:	0.99	

Step 2: LT from Major Street	SB	NB
Conflicting Flows: (vph)	361	
Potential Capacity: (pcph)	1154	
Movement Capacity: (pcph)	1154	
Prob. of Queue-Free State:	0.98	

Step 4: LT from Minor Street	WB	EB
Conflicting Flows: (vph)	583	
Potential Capacity: (pcph)	487	
Major LT, Minor TH Impedance Factor:	0.98	
Adjusted Impedance Factor:	0.98	
Capacity Adjustment Factor due to Impeding Movements	0.98	
Movement Capacity: (pcph)	479	

Intersection Performance Summary

Movement	Flow Rate (pcph)	Move Cap (pcph)	Shared Cap (pcph)	Avg. Total Delay (sec/veh)	95% Queue Length (veh)	LOS	Approach Delay (sec/veh)
WB L	79	479 >	523	8.4	0.7	B	8.4
WB R	15	1005 >					
SB L	18	1154		3.2	0.0	A	0.2

Intersection Delay = 1.0 sec/veh

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Ph: (352) 392-0378

Streets: (N-S) Manoa Road (E-W) Park Entrance (Bot.)
Major Street Direction.... NS
Length of Time Analyzed... 60 (min)
Analyst..... Kasamoto
Date of Analysis..... 10/23/99
Other Information..... Manoa Valley District Park - Existing C
ondition (Weekend Peak)

Two-way Stop-controlled Intersection

	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	1	0	0	0	0	0	> 0	< 0
Stop/Yield			N			N						
Volumes		296	11	0	292					14		2
PHF		.75	.7	.95	.85					.6		.5
Grade		0			0						0	
MC's (%)												
SU/RV's (%)												
CV's (%)												
PCE's				1.10						1.10		1.10

Adjustment Factors

Vehicle Maneuver	Critical Gap (tg)	Follow-up Time (tf)
Left Turn Major Road	5.00	2.10
Right Turn Minor Road	5.50	2.60
Through Traffic Minor Road	6.00	3.30
Left Turn Minor Road	6.50	3.40

Worksheet for TWSC Intersection

Step 1: RT from Minor Street	WB	EB
Conflicting Flows: (vph)	395	
Potential Capacity: (pcph)	873	
Movement Capacity: (pcph)	873	
Prob. of Queue-Free State:	1.00	

Step 2: LT from Major Street	SB	NB
Conflicting Flows: (vph)	411	
Potential Capacity: (pcph)	1092	
Movement Capacity: (pcph)	1092	
Prob. of Queue-Free State:	1.00	

Step 4: LT from Minor Street	WB	EB
Conflicting Flows: (vph)	739	
Potential Capacity: (pcph)	395	
Major LT, Minor TH Impedance Factor:	1.00	
Adjusted Impedance Factor:	1.00	
Capacity Adjustment Factor due to Impeding Movements	1.00	
Movement Capacity: (pcph)	395	

Intersection Performance Summary

Movement	Flow Rate (pcph)	Move Cap (pcph)	Shared Cap (pcph)	Avg. Total Delay (sec/veh)	95% Queue Length (veh)	LOS	Approach Delay (sec/veh)
WB L	25	395 >	427	9.0	0.1	B	9.0
WB R	4	873 >					
SB L	0	1092		3.3	0.0	A	0.0

Intersection Delay = 0.2 sec/veh

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Streets: (N-S) Kaaipo Avenue (E-W) Lowrey Avenue
Major Street Direction.... EW
Length of Time Analyzed... 60 (min)
Analyst..... Kasamoto
Date of Analysis..... 10/23/99
Other Information..... Manoa Valley District Park - Existing C ondition (Weekend Peak)
Two-way Stop-controlled Intersection

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	> 1	< 0	0	> 1	< 0	0	> 1	< 0	0	> 1	< 0
Stop/Yield			N			N						
Volumes	29	165	2	10	183	22	2	10	6	25	7	50
PHF	.8	.88	.5	.5	.9	.6	.5	.6	.5	.7	.5	.75
Grade		0			0			0			0	
MC's (%)												
SU/RV's (%)												
CV's (%)												
PCE's	1.10			1.10			1.10	1.10	1.10	1.10	1.10	1.10

Adjustment Factors

Vehicle Maneuver	Critical Gap (tg)	Follow-up Time (tf)
Left Turn Major Road	5.00	2.10
Right Turn Minor Road	5.50	2.60
Through Traffic Minor Road	6.00	3.30
Left Turn Minor Road	6.50	3.40

Worksheet for TWSC Intersection

Step 1: RT from Minor Street	NB	SB
Conflicting Flows: (vph)	190	222
Potential Capacity: (pcph)	1109	1069
Movement Capacity: (pcph)	1109	1069
Prob. of Queue-Free State:	0.99	0.93
Step 2: LT from Major Street	**WB**	**EB**
Conflicting Flows: (vph)	192	240
Potential Capacity: (pcph)	1389	1317
Movement Capacity: (pcph)	1389	1317
Prob. of Queue-Free State:	0.98	0.97
TH Saturation Flow Rate: (pcphpl)	1700	1700
RT Saturation Flow Rate: (pcphpl)	1700	1700
Major LT Shared Lane Prob. of Queue-Free State:	0.98	0.97
Step 3: TH from Minor Street	**NB**	**SB**
Conflicting Flows: (vph)	486	470
Potential Capacity: (pcph)	606	618
Capacity Adjustment Factor due to Impeding Movements	0.95	0.95
Movement Capacity: (pcph)	574	586
Prob. of Queue-Free State:	0.97	0.97
Step 4: LT from Minor Street	**NB**	**SB**
Conflicting Flows: (vph)	508	482
Potential Capacity: (pcph)	538	557
Major LT, Minor TH Impedance Factor:	0.92	0.92
Adjusted Impedance Factor:	0.94	0.94
Capacity Adjustment Factor due to Impeding Movements	0.38	0.93
Movement Capacity: (pcph)	472	515

Intersection Performance Summary

Movement		Flow Rate (pcph)	Move Cap (pcph)		Shared Cap (pcph)	Avg. Total Delay (sec/veh)	95% Queue Length (veh)	LOS	Approach Delay (sec/veh)
NB	L	4	472	>					
NB	T	19	574	>	675	5.6	0.0	B	5.6
NB	R	13	1109	>					
SB	L	40	515	>					
SB	T	15	586	>	748	5.8	0.7	B	5.8
SB	R	74	1069	>					
EB	L	40	1317			2.8	0.0	A	0.4
WB	L	22	1389			2.6	0.0	A	0.1

Intersection Delay = 1.3 sec/veh

HCM: SIGNALIZED INTERSECTION SUMMARY Version 2.4g 11-23-1999
Center For Microcomputers In Transportation

Streets: (E-W) Lowrey Avenue (N-S) East Manoa Road
Analyst: Kasamoto File Name: EMNLOWEA.HC9
Area Type: Other 10-23-99 Weekend
Comment: Manoa Valley District Park - Existing Condition

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	> 1	< 0	0	> 1	< 0	0	> 1	< 0	0	> 1	< 0
Volumes	27	49	143	25	45	5	109	177	39	8	171	36
PHF or PK15	0.65	0.75	0.80	0.80	0.80	0.50	0.65	0.85	0.70	0.65	0.80	0.65
Lane W (ft)		22.0			20.5			17.5			19.0	
Grade		0			0			0			0	
% Heavy Veh	2	2	2	2	2	2	2	2	2	2	2	2
Parking	N	N		N	N		N	N		N	N	
Bus Stops			0			0			0			0
Con. Peds			0			0			0			0
Ped Button	(Y/N)	Y	10.9 s	(Y/N)	Y	10.8 s	(Y/N)	Y	12.1 s	(Y/N)	Y	11.9
Arr Type		3			3			3			3	
RTOR Vols			0			0			0			0
Lost Time	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Prop. Share												
Prop. Prot.												

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	*				NB Left	*			
Thru	*				Thru	*			
Right	*				Right	*			
Peds	*				Peds	*			
WB Left	*				SB Left	*			
Thru	*				Thru	*			
Right	*				Right	*			
Peds	*				Peds	*			
NB Right					EB Right				
SB Right					WB Right				
Green	21.0A				Green	31.0A			
Yellow/AR	4.0				Yellow/AR	4.0			

Cycle Length: 60 secs Phase combination order: #1 #5

Intersection Performance Summary

	Lane Group: Mvmts	Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	LOS
EB	LTR	709	1933	0.404	0.367	9.3	B	9.3	B
WB	LTR	623	1699	0.156	0.367	8.3	B	8.3	B
NB	LTR	708	1328	0.610	0.533	7.4	B	7.4	B
SB	LTR	1026	1924	0.274	0.533	5.0	A	5.0	A

Intersection Delay = 7.3 sec/veh Intersection LOS = B

Lost Time/Cycle, L = 6.0 sec Critical v/c(x) = 0.526

HCM: SIGNALIZED INTERSECTION SUMMARY Version 2.4g 11-23-1999

Center For Microcomputers In Transportation

Streets: (E-W) Kahaloa Street (N-S) East Manoa Road

Analyst: Kasamoto File Name: EMNKAHEA.HC9

Area Type: Other 10-23-99 Weekend

Comment: Manoa Valley District Park - Existing Condition

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	> 1	< 0	0	> 1	< 0	0	> 1	< 0	0	> 1	< 0
Volumes	3	6	70	16	4	6	40	127	36	11	118	8
PHF or PK15	0.75	0.75	0.65	0.80	0.50	0.75	0.70	0.88	0.80	0.50	0.85	0.50
Lane W (ft)		13.0			13.5			19.0			19.5	
Grade		0			0			0			0	
% Heavy Veh	2	2	2	2	2	2	2	2	2	2	2	2
Parking	N	N		N	N		N	N		N	N	
Bus Stops			0			0			0			0
Con. Peds			0			0			0			0
Ped Button	(Y/N)	Y	11.3 s	(Y/N)	Y	11.2 s	(Y/N)	Y	8.9 s	(Y/N)	Y	9.0
Arr Type		3			3			3			3	
RTOR Vols			0			0			0			0
Lost Time	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Prop. Share												
Prop. Prot.												

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	*				NB Left	*			
Thru	*				Thru	*			
Right	*				Right	*			
Peds	*				Peds	*			
WB Left	*				SB Left	*			
Thru	*				Thru	*			
Right	*				Right	*			
Peds	*				Peds	*			
NB Right					EB Right				
SB Right					WB Right				
Green	15.0A				Green	37.0A			
Yellow/AR	4.0				Yellow/AR	4.0			

Cycle Length: 60 secs Phase combination order: #1 #5

Intersection Performance Summary

	Lane Mvmts	Group: Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	LOS
EB	LTR	398	1494	0.301	0.267	11.5	B	11.5	B
WB	LTR	387	1450	0.093	0.267	10.7	B	10.7	B
NB	LTR	1130	1785	0.218	0.633	3.0	A	3.0	A
SB	LTR	1225	1934	0.145	0.633	2.9	A	2.9	A

Intersection Delay = 5.2 sec/veh Intersection LOS = B

Lost Time/Cycle, L = 6.0 sec Critical v/c(x) = 0.242

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Streets: (N-S) Manoa Road (E-W) Olopua/Kahaloa
Major Street Direction.... NS
Length of Time Analyzed... 60 (min)
Analyst..... Kasamoto
Date of Analysis..... 10/23/99
Other Information..... Manoa Valley District Park - Existing C
ondition (Weekend Peak)
Two-way Stop-controlled Intersection

	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	> 1	0	1	1	< 0	0	> 0	< 0
Stop/Yield			Y			N						
Volumes		221	28	3	206		5	6	9	32		9
PHF		.75	.65	.5	.88		.65	.75	.5	.75		.5
Grade		0			0			0			0	
MC's (%)												
SU/RV's (%)												
CV's (%)												
PCE's				1.10			1.10	1.10	1.10	1.10		1.10

Adjustment Factors

Vehicle Maneuver	Critical Gap (tg)	Follow-up Time (tf)
Left Turn Major Road	5.00	2.10
Right Turn Minor Road	5.50	2.60
Through Traffic Minor Road	6.00	3.30
Left Turn Minor Road	6.50	3.40

Worksheet for TWSC Intersection

Step 1: RT from Minor Street	WB	EB
Conflicting Flows: (vph)	295	234
Potential Capacity: (pcph)	981	1054
Movement Capacity: (pcph)	981	1054
Prob. of Queue-Free State:	0.98	0.98

Step 2: LT from Major Street	SB	NB
Conflicting Flows: (vph)	295	
Potential Capacity: (pcph)	1240	
Movement Capacity: (pcph)	1240	
Prob. of Queue-Free State:	0.99	
TH Saturation Flow Rate: (pcphpl)	1700	
Major LT Shared Lane Prob. of Queue-Free State:	0.99	

Step 3: TH from Minor Street	WB	EB
Conflicting Flows: (vph)		535
Potential Capacity: (pcph)		572
Capacity Adjustment Factor due to Impeding Movements		0.99
Movement Capacity: (pcph)		568
Prob. of Queue-Free State:		0.98

Step 4: LT from Minor Street	WB	EB
Conflicting Flows: (vph)	548	544
Potential Capacity: (pcph)	510	513
Major LT, Minor TH Impedance Factor:	0.98	0.99
Adjusted Impedance Factor:	0.98	0.99
Capacity Adjustment Factor due to Impeding Movements	0.96	0.97
Movement Capacity: (pcph)	492	499

Intersection Performance Summary

Movement		Flow Rate (pcph)	Move Cap (pcph)		Shared Cap (pcph)	Avg. Total Delay (sec/veh)	95% Queue Length (veh)	LOS	Approach Delay (sec/veh)
EB	L	9	499			7.3	0.0	B	
EB	T	9	568	>					5.2
EB	R	20	1054	>	833	4.5	0.0	A	
WB	L	47	492	>					
					578	7.0	0.4	B	7.0
WB	R	20	981	>					
SB	L	7	1240			2.9	0.0	A	0.0

Intersection Delay = 0.8 sec/veh

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Streets: (N-S) Manoa Road (E-W) Park Entrance (Top)
Major Street Direction.... NS
Length of Time Analyzed... 60 (min)
Analyst..... Kasamoto
Date of Analysis..... 10/27/99
Other Information..... Manoa Valley District Park - Future Projection (PM Peak)
Two-way Stop-controlled Intersection

	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	1	0	0	0	0	0	> 0	< 0
Stop/Yield			N			N						
Volumes		387	87	22	283					62		15
PHF		.85	.6	.5	.8					.5		.5
Grade		0			0						0	
MC's (%)												
SU/RV's (%)												
CV's (%)												
PCE's				1.10						1.10		1.10

Adjustment Factors

Vehicle Maneuver	Critical Gap (tg)	Follow-up Time (tf)
Left Turn Major Road	5.00	2.10
Right Turn Minor Road	5.50	2.60
Through Traffic Minor Road	6.00	3.30
Left Turn Minor Road	6.50	3.40

Worksheet for TWSC Intersection

Step 1: RT from Minor Street	WB	EB
Conflicting Flows: (vph)	455	
Potential Capacity: (pcph)	814	
Movement Capacity: (pcph)	814	
Prob. of Queue-Free State:	0.96	

Step 2: LT from Major Street	SB	NB
Conflicting Flows: (vph)	600	
Potential Capacity: (pcph)	888	
Movement Capacity: (pcph)	888	
Prob. of Queue-Free State:	0.95	

Step 4: LT from Minor Street	WB	EB
Conflicting Flows: (vph)	854	
Potential Capacity: (pcph)	339	
Major LT, Minor TH Impedance Factor:	0.95	
Adjusted Impedance Factor:	0.95	
Capacity Adjustment Factor due to Impeding Movements	0.95	
Movement Capacity: (pcph)	321	

Intersection Performance Summary

Movement	Flow Rate (pcph)	Move Cap (pcph)	Shared Cap (pcph)	Avg. Total Delay (sec/veh)	95% Queue Length (veh)	LOS	Approach Delay (sec/veh)
WB L	136	321 >	364	18.4	2.7	C	18.4
WB R	33	814 >					
SB L	48	888		4.3	0.0	A	0.3

Intersection Delay = 1.8 sec/veh

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Streets: (N-S) Manoa Road (E-W) Park Entrance (Bot.)
Major Street Direction.... NS
Length of Time Analyzed... 60 (min)
Analyst..... Kasamoto
Date of Analysis..... 10/27/99
Other Information..... Manoa Valley District Park - Future Projection (PM Peak)
Two-way Stop-controlled Intersection

	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	1	0	0	0	0	0 >	0 <	0
Stop/Yield			N			N						
Volumes		471	7	1	344					7		3
PHF		.85	.5	.5	.7					.5		.75
Grade		0			0						0	
MC's (%)												
SU/RV's (%)												
CV's (%)												
PCE's				1.10						1.10		1.10

Adjustment Factors

Vehicle Maneuver	Critical Gap (tg)	Follow-up Time (tf)
Left Turn Major Road	5.00	2.10
Right Turn Minor Road	5.50	2.60
Through Traffic Minor Road	6.00	3.30
Left Turn Minor Road	6.50	3.40

Worksheet for TWSC Intersection

Step 1: RT from Minor Street	WB	EB
Conflicting Flows: (vph)	554	
Potential Capacity: (pcph)	725	
Movement Capacity: (pcph)	725	
Prob. of Queue-Free State:	0.99	

Step 2: LT from Major Street	SB	NB
Conflicting Flows: (vph)	568	
Potential Capacity: (pcph)	919	
Movement Capacity: (pcph)	919	
Prob. of Queue-Free State:	1.00	

Step 4: LT from Minor Street	WB	EB
Conflicting Flows: (vph)	1047	
Potential Capacity: (pcph)	262	
Major LT, Minor TH Impedance Factor:	1.00	
Adjusted Impedance Factor:	1.00	
Capacity Adjustment Factor due to Impeding Movements	1.00	
Movement Capacity: (pcph)	261	

Intersection Performance Summary

Movement	Flow Rate (pcph)	Move Cap (pcph)	Shared Cap (pcph)	Avg. Total Delay (sec/veh)	95% Queue Length (veh)	LOS	Approach Delay (sec/veh)
WB L	15	261 >	302	12.7	0.1	C	12.7
WB R	4	725 >					
SB L	2	919		3.9	0.0	A	0.0

Intersection Delay = 0.2 sec/veh

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Streets: (N-S) Kaaipo Avenue (E-W) Lowrey Avenue
Major Street Direction.... EW
Length of Time Analyzed... 60 (min)
Analyst..... Kasamoto
Date of Analysis..... 10/27/99
Other Information..... Manoa Valley District Park - Future Projection (PM Peak)
Two-way Stop-controlled Intersection

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	> 1	< 0	0	> 1	< 0	0	> 1	< 0	0	> 1	< 0
Stop/Yield			N			N						
Volumes	39	161	33	3	202	26	12	62	58	20	2	18
PHF	.8	.85	.85	.5	.85	.85	.75	.8	.85	.5	.5	.65
Grade		0			0			0			0	
MC's (%)												
SU/RV's (%)												
CV's (%)												
PCE's	1.10			1.10			1.10	1.10	1.10	1.10	1.10	1.10

Adjustment Factors

Vehicle Maneuver	Critical Gap (tg)	Follow-up Time (tf)
Left Turn Major Road	5.00	2.10
Right Turn Minor Road	5.50	2.60
Through Traffic Minor Road	6.00	3.30
Left Turn Minor Road	6.50	3.40

Worksheet for TWSC Intersection

Step 1: RT from Minor Street	NB	SB
Conflicting Flows: (vph)	208	254
Potential Capacity: (pcph)	1086	1030
Movement Capacity: (pcph)	1086	1030
Prob. of Queue-Free State:	0.93	0.97
Step 2: LT from Major Street	**WB**	**EB**
Conflicting Flows: (vph)	228	269
Potential Capacity: (pcph)	1335	1276
Movement Capacity: (pcph)	1335	1276
Prob. of Queue-Free State:	0.99	0.96
TH Saturation Flow Rate: (pcphpl)	1700	1700
RT Saturation Flow Rate: (pcphpl)	1700	1700
Major LT Shared Lane Prob. of Queue-Free State:	0.99	0.95
Step 3: TH from Minor Street	**NB**	**SB**
Conflicting Flows: (vph)	532	536
Potential Capacity: (pcph)	574	571
Capacity Adjustment Factor due to Impeding Movements	0.95	0.95
Movement Capacity: (pcph)	543	540
Prob. of Queue-Free State:	0.84	0.99
Step 4: LT from Minor Street	**NB**	**SB**
Conflicting Flows: (vph)	533	590
Potential Capacity: (pcph)	520	482
Major LT, Minor TH Impedance Factor:	0.94	0.80
Adjusted Impedance Factor:	0.95	0.84
Capacity Adjustment Factor due to Impeding Movements	0.92	0.79
Movement Capacity: (pcph)	481	379

Intersection Performance Summary

Movement		Flow Rate (pcph)	Move Cap (pcph)		Shared Cap (pcph)	Avg. Total Delay (sec/veh)	95% Queue Length (veh)	LOS	Approach Delay (sec/veh)
NB	L	18	481	>					
NB	T	85	543	>	677	7.2	1.2	B	7.2
NB	R	75	1086	>					
SB	L	44	379	>					
SB	T	4	540	>	514	8.3	0.6	B	8.3
SB	R	31	1030	>					
EB	L	54	1276			2.9	0.0	A	0.5
WB	L	7	1335			2.7	0.0	A	0.0

Intersection Delay = 2.2 sec/veh

HCM: SIGNALIZED INTERSECTION SUMMARY Version 2.4g 11-23-1999
Center For Microcomputers In Transportation

Streets: (E-W) Lowrey Avenue (N-S) East Manoa Road
Analyst: Kasamoto File Name: EMNLOWFP.HC9
Area Type: Other 10-27-99 PM Peak
Comment: Manoa Valley District Park - Future Projection

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	> 1	< 0	0	> 1	< 0	0	> 1	< 0	0	> 1	< 0
Volumes	65	62	81	35	70	3	122	261	38	6	141	39
PHF or PK15	0.70	0.80	0.80	0.75	0.70	0.75	0.90	0.97	0.75	0.75	0.88	0.80
Lane W (ft)		22.0			20.5			17.5			19.0	
Grade		0			0			0			0	
% Heavy Veh	2	2	2	2	2	2	2	2	2	2	2	2
Parking	N	N		N	N		N	N		N	N	
Bus Stops			0			0			0			0
Con. Peds			0			0			0			0
Ped Button	(Y/N)	Y	10.9 s	(Y/N)	Y	10.8 s	(Y/N)	Y	12.1 s	(Y/N)	Y	11.9
Arr Type		3			3			3			3	
RTOR Vols			0			0			0			0
Lost Time	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Prop. Share												
Prop. Prot.												

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	*				NB Left	*			
Thru	*				Thru	*			
Right	*				Right	*			
Peds	*				Peds	*			
WB Left	*				SB Left	*			
Thru	*				Thru	*			
Right	*				Right	*			
Peds	*				Peds	*			
NB Right					EB Right				
SB Right					WB Right				
Green	17.0A				Green	35.0A			
Yellow/AR	4.0				Yellow/AR	4.0			

Cycle Length: 60 secs Phase combination order: #1 #5

Intersection Performance Summary

	Lane Mvmts	Group: Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	LOS
EB	LTR	534	1781	0.507	0.300	11.9	B	11.9	B
WB	LTR	522	1740	0.289	0.300	10.5	B	10.5	B
NB	LTR	922	1537	0.495	0.600	4.8	A	4.8	A
SB	LTR	1158	1930	0.187	0.600	3.5	A	3.5	A

Intersection Delay = 7.1 sec/veh Intersection LOS = B

Lost Time/Cycle, L = 6.0 sec Critical v/c(x) = 0.499

HCM: SIGNALIZED INTERSECTION SUMMARY Version 2.4g 11-23-1999
Center For Microcomputers In Transportation

Streets: (E-W) Kahaloa Street (N-S) East Manoa Road
Analyst: Kasamoto File Name: EMNKAHFP.HC9
Area Type: Other 10-27-99 PM Peak
Comment: Manoa Valley District Park - Future Projection

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	> 1	< 0	0	> 1	< 0	0	> 1	< 0	0	> 1	< 0
Volumes	8	13	46	21	6	15	52	216	45	7	114	9
PHF or PK15	0.50	0.60	0.60	0.60	0.60	0.50	0.75	0.85	0.80	0.85	0.85	0.50
Lane W (ft)		13.0			13.5			19.0			19.5	
Grade		0			0			0			0	
% Heavy Veh	2	2	2	2	2	2	2	2	2	2	2	2
Parking	N	N		N	N		N	N		N	N	
Bus Stops			0			0			0			0
Con. Peds			0			0			0			0
Ped Button	(Y/N)	Y	11.3 s	(Y/N)	Y	11.2 s	(Y/N)	Y	8.9 s	(Y/N)	Y	9.0
Arr Type		3			3			3			3	
RTOR Vols			0			0			0			0
Lost Time	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Prop. Share												
Prop. Prot.												

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	*				NB Left	*			
Thru	*				Thru	*			
Right	*				Right	*			
Peds	*				Peds	*			
WB Left	*				SB Left	*			
Thru	*				Thru	*			
Right	*				Right	*			
Peds	*				Peds	*			
NB Right					EB Right				
SB Right					WB Right				
Green	15.0A				Green	37.0A			
Yellow/AR	4.0				Yellow/AR	4.0			

Cycle Length: 60 secs Phase combination order: #1 #5

Intersection Performance Summary

	Lane Mvmts	Group: Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	LOS
EB	LTR	403	1513	0.285	0.267	11.4	B	11.4	B
WB	LTR	376	1410	0.199	0.267	11.0	B	11.0	B
NB	LTR	1166	1840	0.325	0.633	3.3	A	3.3	A
SB	LTR	1265	1997	0.127	0.633	2.8	A	2.8	A

Intersection Delay = 5.3 sec/veh Intersection LOS = B

Lost Time/Cycle, L = 6.0 sec Critical v/c(x) = 0.313

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Ph: (352) 392-0378

Streets: (N-S) Manoa Road (E-W) Olopua/Kahaloa
Major Street Direction.... NS
Length of Time Analyzed... 60 (min)
Analyst..... Kasamoto
Date of Analysis..... 10/27/99
Other Information..... Manoa Valley District Park - Future Projection (PM Peak)
Two-way Stop-controlled Intersection

	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	> 1	0	1	1	< 0	0	> 0	< 0
Stop/Yield			Y			N						
Volumes		340	62	12	238		7	8	19	48		15
PHF		.7	.75	.5	.8		.6	.7	.7	.65		.5
Grade		0			0			0			0	
MC's (%)												
SU/RV's (%)												
CV's (%)												
PCE's				1.10			1.10	1.10	1.10	1.10		1.10

Adjustment Factors

Vehicle Maneuver	Critical Gap (tg)	Follow-up Time (tf)
Left Turn Major Road	5.00	2.10
Right Turn Minor Road	5.50	2.60
Through Traffic Minor Road	6.00	3.30
Left Turn Minor Road	6.50	3.40

Worksheet for TWSC Intersection

Step 1: RT from Minor Street	WB	EB
Conflicting Flows: (vph)	486	297
Potential Capacity: (pcph)	785	979
Movement Capacity: (pcph)	785	979
Prob. of Queue-Free State:	0.96	0.97

Step 2: LT from Major Street	SB	NB
Conflicting Flows: (vph)	486	
Potential Capacity: (pcph)	1006	
Movement Capacity: (pcph)	1006	
Prob. of Queue-Free State:	0.97	
TH Saturation Flow Rate: (pcphpl)	1700	
Major LT Shared Lane Prob. of Queue-Free State:	0.97	

Step 3: TH from Minor Street	WB	EB
Conflicting Flows: (vph)		807
Potential Capacity: (pcph)		411
Capacity Adjustment Factor due to Impeding Movements		0.97
Movement Capacity: (pcph)		398
Prob. of Queue-Free State:		0.97

Step 4: LT from Minor Street	WB	EB
Conflicting Flows: (vph)	826	822
Potential Capacity: (pcph)	352	354
Major LT, Minor TH Impedance Factor:	0.94	0.97
Adjusted Impedance Factor:	0.95	0.97
Capacity Adjustment Factor due to Impeding Movements	0.92	0.93
Movement Capacity: (pcph)	325	328

Intersection Performance Summary

Movement		Flow Rate (pcph)	Move Cap (pcph)		Shared Cap (pcph)	Avg. Total Delay (sec/veh)	95% Queue Length (veh)	LOS	Approach Delay (sec/veh)
EB	L	13	328			11.4	0.0	C	
EB	T	12	398	>					6.8
EB	R	30	979	>	691	5.5	0.1	B	
WB	L	81	325	>					
					391	13.0	1.4	C	13.0
WB	R	33	785	>					
SB	L	26	1006			3.7	0.0	A	0.2

Intersection Delay = 1.5 sec/veh

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Ph: (352) 392-0378

Streets: (N-S) Manoa Road (E-W) Park Entrance (Top)
Major Street Direction.... NS
Length of Time Analyzed... 60 (min)
Analyst..... Kasamoto
Date of Analysis..... 10/23/99
Other Information..... Manoa Valley District Park - Future Condition (Weekend Peak)
Two-way Stop-controlled Intersection

	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	1	0	0	0	0	0	> 0	< 0
Stop/Yield			N			N						
Volumes		245	62	14	237					64		8
PHF		.88	.65	.8	.8					.8		.5
Grade		0			0						0	
MC's (%)												
SU/RV's (%)												
CV's (%)												
PCE's				1.10						1.10		1.10

Adjustment Factors

Vehicle Maneuver	Critical Gap (tg)	Follow-up Time (tf)
Left Turn Major Road	5.00	2.10
Right Turn Minor Road	5.50	2.60
Through Traffic Minor Road	6.00	3.30
Left Turn Minor Road	6.50	3.40

Worksheet for TWSC Intersection

Step 1: RT from Minor Street	WB	EB
Conflicting Flows: (vph)	278	
Potential Capacity: (pcph)	1001	
Movement Capacity: (pcph)	1001	
Prob. of Queue-Free State:	0.98	
Step 2: LT from Major Street	**SB**	**NB**
Conflicting Flows: (vph)	373	
Potential Capacity: (pcph)	1139	
Movement Capacity: (pcph)	1139	
Prob. of Queue-Free State:	0.98	
Step 4: LT from Minor Street	**WB**	**EB**
Conflicting Flows: (vph)	590	
Potential Capacity: (pcph)	482	
Major LT, Minor TH Impedance Factor:	0.98	
Adjusted Impedance Factor:	0.98	
Capacity Adjustment Factor due to Impeding Movements	0.98	
Movement Capacity: (pcph)	474	

Intersection Performance Summary

Movement	Flow Rate (pcph)	Move Cap (pcph)	Shared Cap (pcph)	Avg. Total Delay (sec/veh)	95% Queue Length (veh)	LOS	Approach Delay (sec/veh)
WB L	88	474 >					
			521	8.7	0.9	B	8.7
WB R	18	1001 >					
SB L	19	1139		3.2	0.0	A	0.2

Intersection Delay = 1.1 sec/veh

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512 Weil Hall
Gainesville, FL 32611-6585
Ph: (352) 392-0378

Streets: (N-S) Manoa Road (E-W) Park Entrance (Bot.)
Major Street Direction.... NS
Length of Time Analyzed... 60 (min)
Analyst..... Kasamoto
Date of Analysis..... 10/23/99
Other Information..... Manoa Valley District Park - Future Projection (Weekend Peak)
Two-way Stop-controlled Intersection

	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	1	0	0	0	0	0 > 0		< 0
Stop/Yield			N			N						
Volumes		305	12	0	301					15		2
PHF		.75	.7	.95	.85					.6		.5
Grade		0			0						0	
MC's (%)												
SU/RV's (%)												
CV's (%)												
PCE's				1.10						1.10		1.10

Adjustment Factors

Vehicle Maneuver	Critical Gap (tg)	Follow-up Time (tf)
Left Turn Major Road	5.00	2.10
Right Turn Minor Road	5.50	2.60
Through Traffic Minor Road	6.00	3.30
Left Turn Minor Road	6.50	3.40

Worksheet for TWSC Intersection

Step 1: RT from Minor Street	WB	EB
Conflicting Flows: (vph)	407	
Potential Capacity: (pcph)	861	
Movement Capacity: (pcph)	861	
Prob. of Queue-Free State:	1.00	

Step 2: LT from Major Street	SB	NB
Conflicting Flows: (vph)	424	
Potential Capacity: (pcph)	1077	
Movement Capacity: (pcph)	1077	
Prob. of Queue-Free State:	1.00	

Step 4: LT from Minor Street	WB	EB
Conflicting Flows: (vph)	762	
Potential Capacity: (pcph)	383	
Major LT, Minor TH Impedance Factor:	1.00	
Adjusted Impedance Factor:	1.00	
Capacity Adjustment Factor due to Impeding Movements	1.00	
Movement Capacity: (pcph)	383	

Intersection Performance Summary

Movement	Flow Rate (pcph)	Move Cap (pcph)	Shared Cap (pcph)	Avg. Total Delay (sec/veh)	95% Queue Length (veh)	LOS	Approach Delay (sec/veh)
WB L	28	383 >					
			412	9.5	0.2	B	9.5
WB R	4	861 >					
SB L	0	1077		3.3	0.0	A	0.0

Intersection Delay = 0.3 sec/veh

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University of Florida
512 Weil Hall
Gainesville, FL 32611-6585
Ph: (352) 392-0378

Streets: (N-S) Kaaipo Avenue (E-W) Lowrey Avenue
Major Street Direction.... EW
Length of Time Analyzed... 60 (min)
Analyst..... Kasamoto
Date of Analysis..... 10/23/99
Other Information..... Manoa Valley District Park - Future Projection (Weekend Peak)

Two-way Stop-controlled Intersection

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	> 1	< 0	0	> 1	< 0	0	> 1	< 0	0	> 1	< 0
Stop/Yield			N			N						
Volumes	32	165	2	10	183	24	2	11	6	28	8	55
PHF	.8	.88	.5	.5	.9	.6	.5	.6	.5	.7	.5	.75
Grade		0			0			0			0	
MC's (%)												
SU/RV's (%)												
CV's (%)												
PCE's	1.10			1.10			1.10	1.10	1.10	1.10	1.10	1.10

Adjustment Factors

Vehicle Maneuver	Critical Gap (tg)	Follow-up Time (tf)
Left Turn Major Road	5.00	2.10
Right Turn Minor Road	5.50	2.60
Through Traffic Minor Road	6.00	3.30
Left Turn Minor Road	6.50	3.40

Worksheet for TWSC Intersection

Step 1: RT from Minor Street	NB	SB
Conflicting Flows: (vph)	190	223
Potential Capacity: (pcph)	1109	1067
Movement Capacity: (pcph)	1109	1067
Prob. of Queue-Free State:	0.99	0.93
Step 2: LT from Major Street	**WB**	**EB**
Conflicting Flows: (vph)	192	243
Potential Capacity: (pcph)	1389	1313
Movement Capacity: (pcph)	1389	1313
Prob. of Queue-Free State:	0.98	0.97
TH Saturation Flow Rate: (pcphpl)	1700	1700
RT Saturation Flow Rate: (pcphpl)	1700	1700
Major LT Shared Lane Prob. of Queue-Free State:	0.98	0.96
Step 3: TH from Minor Street	**NB**	**SB**
Conflicting Flows: (vph)	493	475
Potential Capacity: (pcph)	601	614
Capacity Adjustment Factor due to Impeding Movements	0.94	0.94
Movement Capacity: (pcph)	568	580
Prob. of Queue-Free State:	0.96	0.97
Step 4: LT from Minor Street	**NB**	**SB**
Conflicting Flows: (vph)	518	488
Potential Capacity: (pcph)	531	552
Major LT, Minor TH Impedance Factor:	0.92	0.91
Adjusted Impedance Factor:	0.94	0.93
Capacity Adjustment Factor due to Impeding Movements	0.86	0.92
Movement Capacity: (pcph)	459	508

Intersection Performance Summary

Movement		Flow Rate (pcph)	Move Cap (pcph)		Shared Cap (pcph)	Avg. Total Delay (sec/veh)	95% Queue Length (veh)	LOS	Approach Delay (sec/veh)
NB	L	4	459	>					
NB	T	20	568	>	665	5.7	0.0	B	5.7
NB	R	13	1109	>					
SB	L	44	508	>					
SB	T	18	580	>	737	6.0	0.8	B	6.0
SB	R	80	1067	>					
EB	L	44	1313			2.8	0.0	A	0.5
WB	L	22	1389			2.6	0.0	A	0.1

Intersection Delay = 1.5 sec/veh

HCM: SIGNALIZED INTERSECTION SUMMARY Version 2.4g 11-23-1999
Center For Microcomputers In Transportation

Streets: (E-W) Lowrey Avenue (N-S) East Manoa Road
Analyst: Kasamoto File Name: EMNLOWFA.HC9
Area Type: Other 10-23-99 Weekend
Comment: Manoa Valley District Park - Future Projection

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	> 1	< 0	0	> 1	< 0	0	> 1	< 0	0	> 1	< 0
Volumes	27	49	143	25	45	5	111	181	39	8	178	36
PHF or PK15	0.68	0.77	0.81	0.78	0.80	0.42	0.65	0.85	0.70	0.67	0.79	0.64
Lane W (ft)		22.0			20.5			17.5			19.0	
Grade		0			0			0			0	
% Heavy Veh	2	2	2	2	2	2	2	2	2	2	2	2
Parking	N	N		N	N		N	N		N	N	
Bus Stops			0			0			0			0
Con. Peds			0			0			0			0
Ped Button	(Y/N)	Y	10.9 s	(Y/N)	Y	10.8 s	(Y/N)	Y	12.1 s	(Y/N)	Y	11.9
Arr Type		3			3			3			3	
RTOR Vols			0			0			0			0
Lost Time	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Prop. Share												
Prop. Prot.												

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	*				NB Left	*			
Thru	*				Thru	*			
Right	*				Right	*			
Peds	*				Peds	*			
WB Left	*				SB Left	*			
Thru	*				Thru	*			
Right	*				Right	*			
Peds	*				Peds	*			
NB Right					EB Right				
SB Right					WB Right				
Green	21.0A				Green	31.0A			
Yellow/AR	4.0				Yellow/AR	4.0			

Cycle Length: 60 secs Phase combination order: #1 #5

Intersection Performance Summary

	Lane Mvmts	Group: Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	LOS
EB	LTR	709	1933	0.395	0.367	9.3	B	9.3	B
WB	LTR	622	1697	0.161	0.367	8.3	B	8.3	B
NB	LTR	699	1310	0.630	0.533	7.7	B	7.7	B
SB	LTR	1027	1925	0.285	0.533	5.0	A	5.0	A

Intersection Delay = 7.4 sec/veh Intersection LOS = B

Lost Time/Cycle, L = 6.0 sec Critical v/c(x) = 0.534

HCM: SIGNALIZED INTERSECTION SUMMARY Version 2.4g 11-23-1999
Center For Microcomputers In Transportation

Streets: (E-W) Kahaloa Street (N-S) East Manoa Road
Analyst: Kasamoto File Name: EMNKAHFA.HC9
Area Type: Other 10-23-99 Weekend
Comment: Manoa Valley District Park - Future Projection

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	> 1	< 0	0	> 1	< 0	0	> 1	< 0	0	> 1	< 0
Volumes	3	7	77	16	4	6	44	127	36	11	118	9
PHF or PK15	0.75	0.75	0.65	0.80	0.50	0.75	0.70	0.88	0.80	0.50	0.85	0.50
Lane W (ft)		13.0			13.5			19.0			19.5	
Grade		0			0			0			0	
% Heavy Veh	2	2	2	2	2	2	2	2	2	2	2	2
Parking	N	N		N	N		N	N		N	N	
Bus Stops			0			0			0			0
Con. Peds			0			0			0			0
Ped Button	(Y/N)	Y	11.3 s	(Y/N)	Y	11.2 s	(Y/N)	Y	8.9 s	(Y/N)	Y	9.0
Arr Type		3			3			3			3	
RTOR Vols			0			0			0			0
Lost Time	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Prop. Share												
Prop. Prot.												

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	*				NB Left	*			
Thru	*				Thru	*			
Right	*				Right	*			
Peds	*				Peds	*			
WB Left	*				SB Left	*			
Thru	*				Thru	*			
Right	*				Peds	*			
NB Right					EB Right				
SB Right					WB Right				
Green	15.0A				Green	37.0A			
Yellow/AR	4.0				Yellow/AR	4.0			

Cycle Length: 60 secs Phase combination order: #1 #5

Intersection Performance Summary

	Lane Mvmts	Group: Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	LOS
EB	LTR	398	1494	0.329	0.267	11.6	B	11.6	B
WB	LTR	382	1434	0.094	0.267	10.7	B	10.7	B
NB	LTR	1116	1762	0.226	0.633	3.1	A	3.1	A
SB	LTR	1222	1929	0.147	0.633	2.9	A	2.9	A

Intersection Delay = 5.3 sec/veh Intersection LOS = B

Lost Time/Cycle, L = 6.0 sec Critical v/c(x) = 0.256

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University of Florida
512 Weil Hall
Gainesville, FL 32611-6585
Ph: (352) 392-0378

Streets: (N-S) Manoa Road (E-W) Olopua/Kahaloa
Major Street Direction.... NS
Length of Time Analyzed... 60 (min)
Analyst..... Kasamoto
Date of Analysis..... 10/23/99
Other Information..... Manoa Valley District Park - Future Projection (Weekend Peak)
Two-way Stop-controlled Intersection

	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	> 1	0	1	1	< 0	0	> 0	< 0
Stop/Yield			Y			N						
Volumes		222	31	3	207		5	7	9	35		10
PHF		.75	.65	.5	.88		.65	.75	.5	.75		.5
Grade		0			0			0			0	
MC's (%)												
SU/RV's (%)												
CV's (%)												
PCE's				1.10			1.10	1.10	1.10	1.10		1.10

Adjustment Factors

Vehicle Maneuver	Critical Gap (tg)	Follow-up Time (tf)
Left Turn Major Road	5.00	2.10
Right Turn Minor Road	5.50	2.60
Through Traffic Minor Road	6.00	3.30
Left Turn Minor Road	6.50	3.40

Worksheet for TWSC Intersection

Step 1: RT from Minor Street	WB	EB
Conflicting Flows: (vph)	296	235
Potential Capacity: (pcph)	980	1053
Movement Capacity: (pcph)	980	1053
Prob. of Queue-Free State:	0.98	0.98

Step 2: LT from Major Street	SB	NB
Conflicting Flows: (vph)	296	
Potential Capacity: (pcph)	1239	
Movement Capacity: (pcph)	1239	
Prob. of Queue-Free State:	0.99	
TH Saturation Flow Rate: (pcphpl)	1700	
Major LT Shared Lane Prob. of Queue-Free State:	0.99	

Step 3: TH from Minor Street	WB	EB
Conflicting Flows: (vph)		537
Potential Capacity: (pcph)		570
Capacity Adjustment Factor due to Impeding Movements		0.99
Movement Capacity: (pcph)		566
Prob. of Queue-Free State:		0.98

Step 4: LT from Minor Street	WB	EB
Conflicting Flows: (vph)	550	547
Potential Capacity: (pcph)	509	511
Major LT, Minor TH Impedance Factor:	0.98	0.99
Adjusted Impedance Factor:	0.98	0.99
Capacity Adjustment Factor due to Impeding Movements	0.96	0.97
Movement Capacity: (pcph)	490	496

Intersection Performance Summary

Movement		Flow Rate (pcph)	Move Cap (pcph)		Shared Cap (pcph)	Avg. Total Delay (sec/veh)	95% Queue Length (veh)	LOS	Approach Delay (sec/veh)
EB	L	9	496			7.4	0.0	B	
EB	T	10	566	>					5.2
EB	R	20	1053	>	818	4.6	0.0	A	
WB	L	52	490	>					
					576	7.2	0.5	B	7.2
WB	R	22	980	>					
SB	L	7	1239			2.9	0.0	A	0.0

Intersection Delay = 0.8 sec/veh

Appendix B

Air Quality
Impact Assessment

B.D. NEAL & ASSOCIATES
*Applied Meteorology * Air Quality * Computer Science*
P.O. BOX 1808 * KAILUA-KONA, HAWAII 96745 * TELEPHONE (808) 325-6869 * FAX (808) 325-6739
E-MAIL: bdneal@kona.net

December 2, 1999

Mr. Vincent Shigekuni
PBR Hawaii
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3429

Subject: Manoa Valley District Park Improvement Project
Air Quality Impact Assessment

Dear Mr. Shigekuni:

In response to your request, we have examined the potential air quality impacts related to the proposed improvements at Manoa Valley District Park. The results of this examination along with background information related to this issue and recommended mitigation measures are summarized below.

Project Description

The Manoa Valley District Park is located in Manoa Valley on the island of Oahu. The park is generally bounded by Manoa Road, Lowrey Avenue, Manoa Stream and Kahaloa Drive. The proposed improvements at the park consist of the development of a multi-purpose building/gymnasium, a connecting plaza between the new and existing gymnasium, additional parking and passenger drop-off area, a perimeter "lei" pedestrian pathway, and a super playground and exercise stations. Other improvements will include enclosing the pavilion near Kaaipu Avenue parking lot, expanding the restroom facilities near the Kahewai Place entrance, and adding a picnic area near the pool facility.

Ambient Air Quality Standards

Air quality standards have been established by both federal and state governments which limit ambient concentrations of particulate matter, sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone and lead. In addition, a state standard has been established for hydrogen sulfide. The Hawaii air quality standards (particularly the carbon monoxide standards) are

more stringent than the comparable national limits except for the standards for sulfur dioxide, particulate matter and lead, which are set at the same levels. The Hawaii air quality standards for carbon monoxide are set at 10 milligrams per cubic meter for a 1-hour average and 5 milligrams per cubic meter for an 8-hour average, whereas the federal standards are set at 40 and 10 milligrams per cubic meter, respectively.

Regional and Local Climatology

Regional and local climate together with the amount and type of human activity generally dictate the air quality of a given location. Like much of Hawaii, the climate of Manoa Valley is very moderate in most respects, although it has its own unique characteristics. Winds are predominantly light because the valley is sheltered from the trade winds by the surrounding high terrain. Temperatures in the area are generally very moderate with average daily minimum and maximum temperatures ranging from about 70°F to 85°F. Average annual rainfall at the elevation where the park is located is about 55 inches with summer months being the driest.

Existing Air Quality Conditions

Air quality in the vicinity of the proposed project is probably currently affected mostly by emissions from motor vehicle traffic on nearby roadways. The Hawaii Department of Health operates a network of air quality monitoring stations located at various sites around the state, although there are no stations located within Manoa Valley. Data that are available from other locations on Oahu suggest that both state and national ambient air quality standards are currently being met in the project area except possibly for the state standard for ozone. Ozone concentrations are generally found to be high throughout the state, partly because of the abundance of sunshine and partly because of Hawaii's island setting. Although recent Department of Health data suggest that carbon monoxide concentrations are within both state and federal standards, carbon monoxide concentrations along sidewalks near traffic-congested intersections may be higher than concentrations measured at the Department of Health monitoring stations. This is because the Department of Health monitoring stations cannot sample at sidewalk locations due to practical constraints.

Air Quality Impacts of Project

Short-term direct and indirect impacts on air quality could potentially occur during project construction. For a project of this nature, there are two potential types of air pollution emissions that could directly result in short-term air quality impacts during project construction: (1) fugitive dust from demolition work and from vehicle movement and soil excavation; and (2) exhaust emissions from on-site construction equipment. Indirectly, there also could be short-term impacts from slow-moving construction equipment traveling to and from the project site and from a temporary increase in local traffic caused by commuting construction workers.

Fugitive dust emissions may arise from the demolition and removal of existing structures on the site and from the grading and dirt-moving activities associated with site preparation once the area is cleared. The emission rate for fugitive dust emissions from construction activities is difficult to estimate accurately because of its elusive nature of emission and because the potential for its generation varies greatly depending upon the type of soil at the construction site, the amount and type of dirt-disturbing activity taking place, the moisture content of exposed soil in work areas, and the wind speed. The U.S. EPA has provided a rough estimate for uncontrolled fugitive dust emissions from construction activity of 1.2 tons per acre per month under conditions of "medium" activity, moderate soil silt content (30%), and precipitation/evaporation (P/E) index of 50. Uncontrolled fugitive dust emissions in the project area would likely be less than this due to the relatively wet climate and wind-sheltered situation in Manoa Valley. In any case, State of Hawaii Air Pollution Control Regulations prohibit visible emissions of fugitive dust from construction activities at the property line. Thus, an effective dust control plan for the project construction phase should be prepared.

Adequate fugitive dust control can usually be accomplished by the establishment of a frequent watering program to keep demolition areas and bare-dirt surfaces in active construction areas from becoming significant sources of dust. On days without rainfall, construction areas should be watered at least twice during the workday to help keep dust to a minimum. Control regulations

further stipulate that open-bodied trucks be covered at all times when in motion if they are transporting materials likely to give rise to airborne dust. Haul trucks tracking dirt onto paved streets from unpaved areas are oftentimes a significant source of dust in construction areas. Some means to alleviate this problem, such as tire washing, may be appropriate. Paving of parking areas and/or establishment of landscaping as early in the construction process as possible can also lower the potential for fugitive dust emissions.

On-site mobile and stationary construction equipment also will emit air pollutants from engine exhausts. The largest of this equipment is usually diesel-powered. Nitrogen oxides emissions from diesel engines can be relatively high compared to gasoline-powered equipment, but the standard for nitrogen dioxide is set on an annual basis and is not likely to be violated by short-term construction equipment emissions. Carbon monoxide emissions from diesel engines, on the other hand, are low and should be relatively insignificant compared to vehicular emissions on nearby roadways.

Indirectly, slow-moving construction vehicles on roadways leading to and from the project site could obstruct the normal flow of traffic to such an extent that overall vehicular emissions are increased, but this impact can be mitigated by moving heavy construction equipment during periods of low traffic volume. Likewise, the schedules of commuting construction workers can be adjusted to avoid peak hours in the project vicinity. Thus, most potential short-term air quality impacts from project construction can be mitigated.

After the period of construction, long-term impacts on air quality from motor vehicle exhausts can potentially occur at or near any project that attracts large volumes of motor vehicle traffic. Carbon monoxide emissions are usually the primary issue, and public areas near traffic-congested intersections are the main concern. Traffic associated with the proposed project will likely use several intersections in the vicinity of the park. These include: Manoa Road at Olopua Street, Manoa Road at the park mauka and makai access roads, Manoa Road at Lowrey Avenue/Oahu Avenue, Lowrey Avenue at Kaaipu Avenue, Lowrey Avenue at East Manoa Road,

and East Manoa Road at Kahaloa Drive. The project traffic study indicates that existing peak-hour traffic volumes at these intersections are relatively low. Existing peak-hour approach volumes are all less than 1000 vehicles per hour except at the intersection of Manoa Road with Lowrey Avenue/Oahu Avenue which has a weekday peak-hour approach volume of approximately 1400 vehicles per hour. After the proposed project is completed, traffic volumes are forecast to increase by only about 1 to 3 percent except at the intersection of Lowrey Avenue at Kaaipu Avenue where an increase of about 8 percent during the weekday peak-hour is forecast. Further, all intersections in the vicinity of the project were found to have adequate existing level-of-service conditions, and the traffic study indicates that level-of-service conditions will not be degraded by project traffic.

Based on extensive experience in assessing traffic-related air quality impacts, traffic volume increases of less than about 5 percent or about 100 vehicles per hour and traffic approach volumes of less than about 1000 vehicles per hour do not cause any significant impacts on air quality if adequate traffic level-of-service is provided. Although the Lowrey Avenue intersection with Kaaipu Avenue is forecast to experience an 8 percent increase in traffic during the weekday peak hour, the traffic approach volumes with the project will be less than 650 vehicles per hour. Thus, it is extremely unlikely that the added traffic associated with the proposed project will cause any significant detrimental impacts on air quality in the project area.

Please call me if you have any questions concerning the information presented herein or if you wish to discuss this matter further.

Very truly yours,

Barry D. Neal

Barry D. Neal
Certified Consulting
Meteorologist

Appendix C

Environmental
Noise Assessment

D. L. ADAMS ASSOCIATES, LTD.
dba
DARBY & ASSOCIATES
ACOUSTICAL CONSULTANTS

Project No. 99-56

ENVIRONMENTAL NOISE ASSESSMENT
MULTI-PURPOSE BUILDING/GYMNASIUM
AT THE MANOA VALLEY DISTRICT PARK
HONOLULU, OAHU, HAWAII

December 22, 1999

Prepared for
PBR HAWAII
Honolulu, Hawaii

PALI PALMS PLAZA • 970 NO. KALAHEO AVENUE • SUITE A-311
KAILUA, HAWAII 96734 • (808) 254-3318 • FAX (808) 254-5295

TABLE OF CONTENTS

1.0 SUMMARY

1.1 The proposed project site is currently exposed to daytime ambient noise levels of approximately 45 dBA to 59 dBA with the dominant noise sources being traffic on local roadways and occasional aircraft flybys.

1.2 Predicted traffic noise level increases along local roadways in the vicinity of the project were determined to be less than 1.0 dBA, which is below the threshold of change in noise level that is perceptible by most people and is not considered significant.

1.3 Noise associated with the park's parking lots, i.e., starting of vehicle engines and slamming of doors, are transient and are not expected to significantly impact adjacent residences. Closing the park between 11:00 p.m. and 5:00 a.m. would help reduce noise from potential late night rowdy behavior in the parking lots.

1.4 Sounds produced inside the new gymnasium (e.g., crowd noise and public address system) and noise from the air-conditioning equipment, if provided for the classroom and office spaces of the building, could impact the school and nearby residences. Noise mitigation is recommended to avoid future noise complaints.

1.5 The dominant noise sources during project construction will probably be earthmoving equipment such as bulldozers and diesel-powered trucks, assuming pile driving equipment will not be required. Noise from construction activities should be relatively short-term, occur only during daytime hours, and must comply with Hawaii Department of Health noise regulations.

1.6 The proposed multi-purpose building/gymnasium should not be impacted by vehicular traffic noise due to its distance of at least 600 feet from the local roadways.

1.7 If air-conditioning is provided for the classroom and office spaces of the new building, additional mitigation of noise from activities at the school and at the park is not required.

2.0 PROJECT DESCRIPTION

The project involves construction of the proposed multi-purpose building/gymnasium at the Manoa Valley District Park. The park is bordered by Manoa Elementary School to the northeast, Manoa Road to the northwest, Manoa Gardens Senior Housing Project to the east and private residences to the southwest and to the southeast across the Manoa Stream. As shown in the project site plan, Figure 1, the new multi-purpose building/gymnasium will be located between the existing gymnasium and black top area of the elementary school. The current design plan for the building includes two full-size basketball courts, classrooms, arts and crafts rooms, an office, storage space and restrooms. Design capacity for the new building is 500 people.

3.0 NOISE STANDARDS AND GUIDELINES

Various local and federal agencies have established noise standards and guidelines for assessing environmental noise impacts as a function of land use. Those that were used to determine the noise criteria for evaluating the noise impacts due to the project are summarized below. A brief description of common acoustical terminology used in these guidelines and standards is presented in Appendix A.

3.1 State of Hawaii Department of Health

3.1.1. Title 11, Administrative Rules Chapter 46, Community Noise Control - In this chapter, the State of Hawaii Department of Health (DOH) defines three classes of zoning districts and specifies corresponding maximum permissible sound levels due to stationary noise sources such as air-conditioning units, exhaust systems, generators, compressors, pumps, etc., and equipment related agricultural, construction, and industrial activities [Reference 7.1]. These levels are enforced for any location at or beyond the property line and are not to be exceeded for more than 10% of the time during any 20-minute period. The specified noise limits which apply are a function of the zoning and time of day as shown in Figure 2. DOH also specifies the following with respect to mixed zoning districts.

> "For mixed zoning districts, the primary land use designation shall be used to determine the applicable zoning district class and the maximum permissible sound level."

3.1.2. Title 11, Administrative Rules Chapter 42, Vehicular Noise Control Oahu - DOH's Chapter 42 specifies noise level limits for vehicles operated on trafficways on the island of Oahu [Reference 7.2]. For vehicles which have a manufacturer's gross vehicular weight rating of ten thousand pounds or greater, also defined as "heavy vehicles," the following limits in dBA are specified in the regulations:

Posted Speed Limit	Time Periods When Applicable	Measurement Distances 20 ft.	25ft.	50 ft.
35 mph or less	Daytime	92	90	84
	Evening	92	90	84
	Night	81	79	73
	Holiday			
	Sunday			
More than 35 mph	All	92	90	84
Truck routes	All	96	94	88

Vehicles that are not specifically identified as heavy vehicles are considered "light vehicles" and their noise level limits in dBA are as followed.

Posted Speed Limit	Measurement Distance 20 ft.	25 ft.	50 ft.
25 mph or less	77	75	69
30	79	77	71
35	81	79	73
40	83	81	75
45	85	83	77
50	87	85	79
55	89	87	81
60 mph or more	91	89	83

3.2 City and County of Honolulu Land Use Ordinance

The City and County of Honolulu's Land Use Ordinance (LUO) specifies maximum allowable levels at the property line [Reference 7.3]. The LUO criteria differ from those of the DOH in that they use octave band sound levels instead of A-weighted levels and no temporal factor is involved. However, because the City and County does not have noise measurement capability, noise complaints are usually handled by DOH.

3.3 U.S. Federal Highway Administration

The Federal Highway Administration (FHWA) has established design goals for traffic noise exposure [Reference 7.4]. The FHWA defines four land use categories and assigns corresponding maximum hourly equivalent sound levels, L_{eq}. For example, Category B, defined as picnic and recreation areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals, has a corresponding maximum exterior L_{eq} of 67 dBA and a maximum interior L_{eq} of 52 dBA. These limits are viewed as design goals, and all projects which are developed to meet these limits are deemed in conformance with the FHWA noise standards.

3.4 State of Hawaii Department of Transportation, Highways Division

The State of Hawaii Department of Transportation, Highways Division (HDOT) has adopted FHWA's design goals for traffic noise exposure (Section 3.3) in its noise analysis and abatement policy [Reference 7.5]. According to the policy, a traffic noise impact occurs when the predicted traffic noise levels "approach" or exceed FHWA's design goals or when the predicted traffic noise levels "substantially exceed the existing noise levels." The policy also states that "approach" means at least 1 dB less than FHWA's design goals and "substantially exceed the existing noise levels" means an

increase of at least 15 dB.

3.5 U.S. Department of Housing and Urban Development

The U.S. Department of Housing and Urban Development (HUD) has established site acceptability standards for interior and exterior noise for housing [Reference 7.6]. These standards are based on day-night equivalent sound levels, L_{dn}, and identify the need for noise abatement, either at the site property line or in the building construction. HUD site acceptability criteria rank sites as Acceptable, Normally Unacceptable, or Unacceptable. "Acceptable" sites are those where exterior noise levels do not exceed an L_{dn} of 65 dBA. Proposed housing projects on Acceptable sites do not require additional noise attenuation other than that provided by customary building techniques. "Normally Unacceptable" sites are those where the L_{dn} is above 65 dBA, but does not exceed 75 dBA. Housing on Normally Unacceptable sites requires some form of noise abatement to ensure the interior noise levels are acceptable. "Unacceptable" sites are those where the L_{dn} is 75 dBA or higher. The term "unacceptable" does not necessarily mean that housing cannot be built on these sites. It means that more sophisticated sound attenuation will likely be needed.

3.6 U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA) has identified a range of yearly day-night average sound levels, L_{dn}, sufficient to protect public health and welfare from the effects of environmental noise [Reference 7.7]. The EPA has established a goal to reduce exterior environmental noise to an L_{dn} not exceeding 65 dBA and a future goal to reduce exterior environmental noise to an L_{dn} not exceeding 55 dBA. Additionally, the EPA states that to protect against hearing damage, one's 24-hour equivalent sound level exposure, $L_{eq(24)}$, at the ear should not exceed 70 dBA. The EPA emphasizes that these goals are not intended as regulations as they have no authority to regulate noise levels, but rather these goals are intended to be viewed as levels below which the general population will not be at risk from any of the identified effects of noise.

4.0 EXISTING ACOUSTICAL ENVIRONMENT

Noise level measurements were conducted on the mornings of October 18, 1999 and November 23, 1999 to assess the existing acoustical environment at and in the vicinity of the project site. Using a Larson Davis Model 800 sound level meter, 5 to 10-minute noise level samples were obtained at seven locations shown in Figures 3A and 3B. At Locations 5 through 7, the sound level meter was set at 10 to 25 feet from the edge of the roadway and traffic volume and vehicle mix counts were also recorded during the noise measurements. The measurement results, expressed in terms of equivalent sound levels, L_{eq}, and in units of A-weighted decibels are presented below.

Measurement Location*	Measured L_{eq} (in dBA)
1	50.8
2	48.5
3	44.8
4	46.0
5	58.5
6	61.3
7	64.3

* See Figures 3A & 3B

Identifiable noise sources at Locations 1 through 4 during the measurements include chirping birds, distant traffic, occasional aircraft flybys, parking activities at the park's parking lots, and lawn mowing activities at the Senior Housing Project and at the park. For Locations 5 through 7, the dominant noise source was vehicular traffic.

5.0 POTENTIAL NOISE IMPACTS DUE TO THE PROJECT AND NOISE MITIGATION

5.1 Traffic Noise

Measured traffic noise levels with the traffic volume and vehicle mix counts obtained during the measurements (Section 4.0) were used to calibrate the FHWA Traffic Noise Model [Reference 7.8]. The noise model together with the traffic data [Reference 7.9] were then used to calculate the traffic noise level changes as a result of the project. The future traffic noise level increases due to the project were predicted along Kaaipu Avenue, Kahaloa Drive, Lowrey Avenue, Manoa Road, East Manoa Road, and Oahu Avenue. The predicted maximum traffic noise level increase along the assessed roadways due to additional traffic generated by the project was less than 1.0 dBA, which is below the threshold of change in noise level that is perceptible to most people with normal hearing. Thus, traffic noise impact is not considered significant and noise mitigation is not required.

5.2 Parking Lot Activities

The park's parking lots are located adjacent to the Manoa Gardens Senior Housing Project and residential homes along Manoa Road, Kahaloa Drive and Kaaipu Avenue. An increase in parking lot noise, i.e., starting of vehicle engines and slamming of doors, due to project-generated traffic may cause annoyance to some residents. However, since such noise sources are transient and with the peak traffic and park use hours occurring during the less noise sensitive hours, 4:30 p.m. to 6:00 p.m. on weekdays and 10:00 a.m.

to 2:00 p.m. on weekends, noise from these parking lot activities are not expected to significantly impact the residents. With respect to the potential noise due to occasional rowdy or criminal activities in the parking lots, which have been reported to occur at night and after park hours, when the lots are not being heavily used, closing access to the parking lots during the noise sensitive hours between 11:00 p.m. and 5:00 a.m., would help reduce the noise impact.

5.3 Crowd Noise and Public Address System

The basketball courts/gymnasium will be naturally ventilated through the use of louvers in the side walls of the building. This means sounds produced inside the new gym will propagate through the louvers and impact the school as well as nearby residences, if they are not properly controlled. These include crowd noise and the public address system. Measures for mitigating the noise impact include using acoustical louvers instead of standard aluminum louvers, installing sound absorptive materials on the ceiling and walls of the gym to reduce sound energy build-up and properly locating and orienting the loudspeakers of the public address system to minimize sound transmission through the louvers.

5.4 Mechanical Equipment Noise

While the basketball courts will be naturally-ventilated, air-conditioning may be provided for the classroom and office spaces of the new building. Depending on the type and location of the air-conditioning equipment, noise from these could impact the Manoa Gardens Senior Housing Project, especially during late evening and early morning hours when the ambient noise levels are low. If required, possible noise mitigation for such equipment includes properly installed acoustic enclosures, acoustical louvers, silencers, and/or noise barrier walls.

5.5 Construction Noise

Development of the project will involve demolition and removal of the existing wooden classroom building, then, excavation, grading and construction of the new building. The various construction phases of the project may generate significant amounts of noise, which may impact the Manoa Elementary School, Manoa Gardens Senior Housing Project and nearby residential areas. The actual noise levels produced will be a function of the methods employed during each stage of the construction process. Earthmoving equipment, e.g., bulldozers and diesel-powered trucks, will probably be the loudest equipment used during construction, assuming pile drivers, jack hammers and rock drills will not be required. Typical ranges of construction equipment noise are provided in Figure 4.

In cases where construction noise exceeds, or is expected to exceed the DOH's

"maximum permissible" property line noise levels [Reference 7.1], a permit must be obtained from the DOH to allow the operation of vehicles, construction equipment, power tools, etc., which emit noise levels in excess of "maximum permissible" levels. The terms and conditions of the construction noise permit must be complied with. Specific permit restrictions for construction activities may include:

> "No permit shall allow any construction activities which emit noise in excess of the maximum permissible sound levels...before 7:00 a.m. and after 6:00 p.m. of the same day, Monday through Friday."
>
> "No permit shall allow any construction activities which emit noise in excess of the maximum permissible sound levels...before 9:00 a.m. and after 6:00 p.m. on Saturday."
>
> "No permit shall allow any construction activities which emit noise in excess of the maximum permissible sound levels on Sundays and on holidays."

In addition, construction equipment and on-site vehicles or devices whose operations involve the exhausting of gas or air, excluding pneumatic hand tools weighing less than 15 pounds, must be equipped with mufflers, and construction vehicles using trafficway must satisfy the DOH's vehicular noise requirements [Reference 7.2].

6.0 POTENTIAL NOISE IMPACTS ON THE PROJECT AND NOISE MITIGATION

6.1 Traffic Noise

The proposed multi-purpose building/gymnasium should not be impacted by vehicular traffic noise due to its distance of at least 600 feet from the local roadways.

6.2 Activities at Manoa Elementary School and at the Park

Noise associated with activities at the school and at the park (e.g., children at playground and ground maintenance work) should not be objectionable to the occupants of the new gym. However, it may be problem for those in the classroom and office spaces as it may interfere with the hearing of speech in these rooms. If air-conditioning is provided for these spaces, allowing the closing of doors and windows, additional noise mitigation for these spaces would not be necessary.

7.0 REFERENCES

7.1 Chapter 46, *Community Noise Control*, Department of Health, State of Hawaii, Administrative Rules, Title 11, September 23, 1996.

7.2 Chapter 42, *Vehicular Noise Control for Oahu*, Department of Health, State of Hawaii, Administrative Rules, Title 11, September 24, 1981.

7.3 *Section 3.11 Noise Regulations*, Land Use Ordinance, City and County of Honolulu, Oahu, October 22, 1986.

7.4 *Department of Transportation, Federal Highway Administration Procedures for Abatement of Highway Traffic Noise*, Title 23, CFR, Chapter I, Subchapter J, Part 772, 38 FR 15953, June 19, 1973; Revised at 47 FR 29654, July 8, 1982.

7.5 *Noise Analysis and Abatement Policy*, Department of Transportation, Highways Division, State of Hawaii, June 1997.

7.6 *Department of Housing and Urban Development Environmental Criteria and Standards*, Title 24, CFR, Part 51, 44 FR 40860, July 12, 1979; Amended by 49 FR 880, January 6, 1984.

7.7 *Toward a National Strategy for Noise Control*, U.S. Environmental Protection Agency, April 1977.

7.8 *FHWA Highway Traffic Noise Prediction Model*, FHWA-RD-77-108; U.S. Department of Transportation, December 1978.

7.9 Facsimile Transmittals of Traffic Data from Parsons Brinckerhoff, November 23, 1999.

Site plan superceded by revised site plan in the Final Environmental Assessment

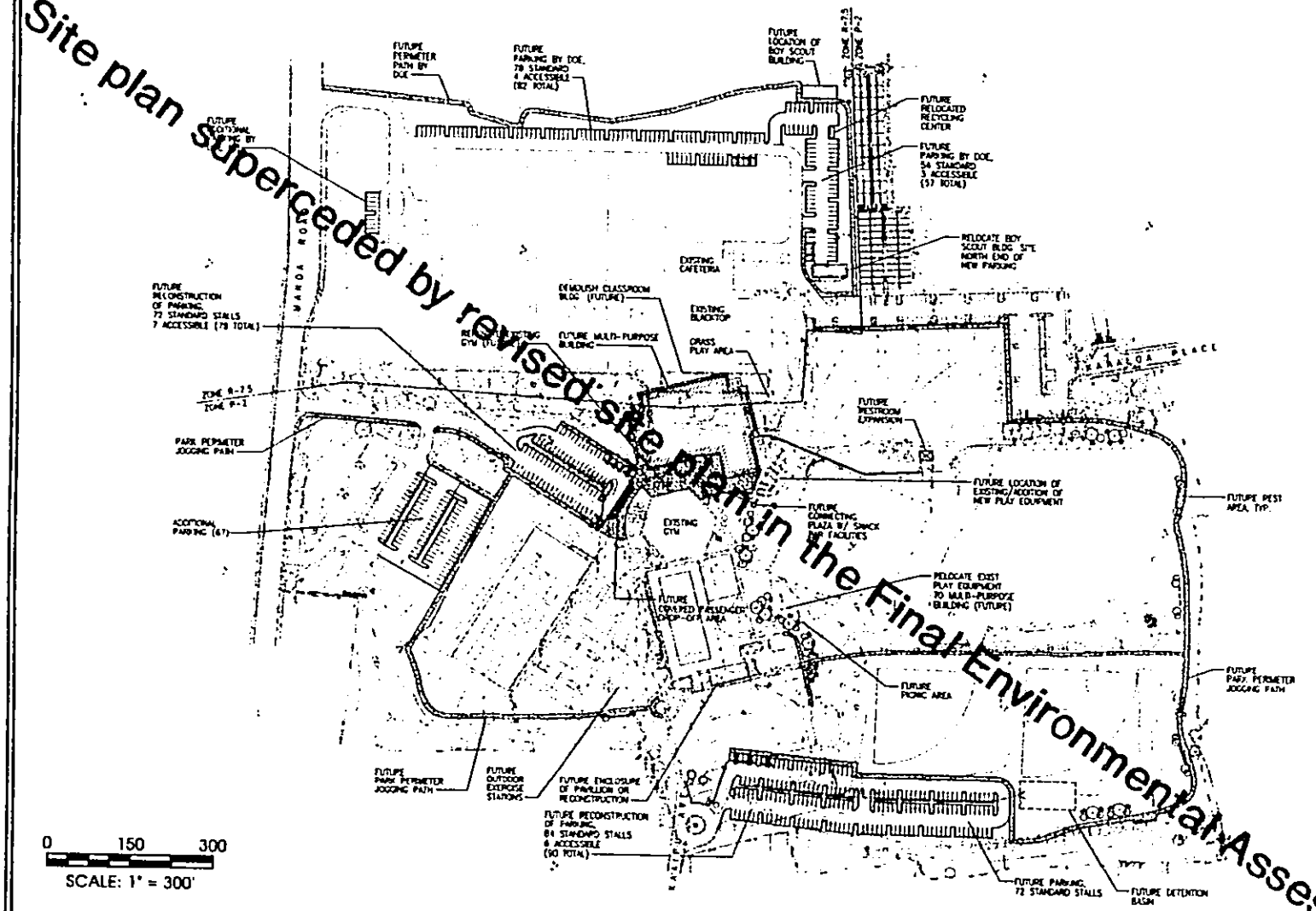

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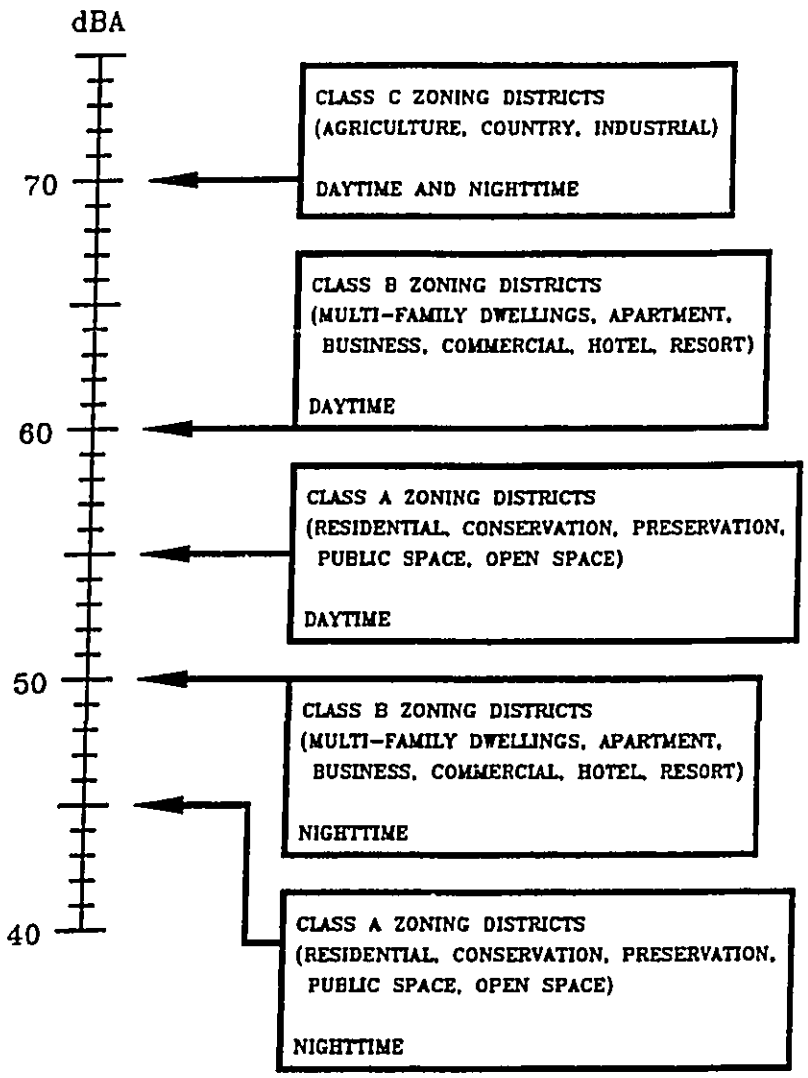
FIGURE 1 - PROJECT SITE PLAN



NOTE: SOUND LEVELS INDICATED BY ZONING DISTRICT ARE THE "MAXIMUM PERMISSIBLE" SOUND LEVELS DUE TO EXCESSIVE NOISE SOURCES SUCH AS STATIONARY MECHANICAL EQUIPMENT AND EQUIPMENT RELATED TO AGRICULTURAL, CONSTRUCTION AND INDUSTRIAL ACTIVITIES THAT SHALL NOT BE EXCEEDED FOR MORE THAN 10% OF THE TIME WITHIN ANY 20-MINUTE PERIOD DURING THE TIME PERIOD SHOWN (DAYTIME: 7:00 A.M. TO 10:00 P.M., NIGHTTIME: 10:00 P.M. TO 7:00 A.M.)

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FIGURE 2 - HAWAII DEPARTMENT OF HEALTH NOISE LIMITS FOR VARIOUS ZONING DISTRICTS

Site plan superceded by revised site plan in the Final Environmental Assessment

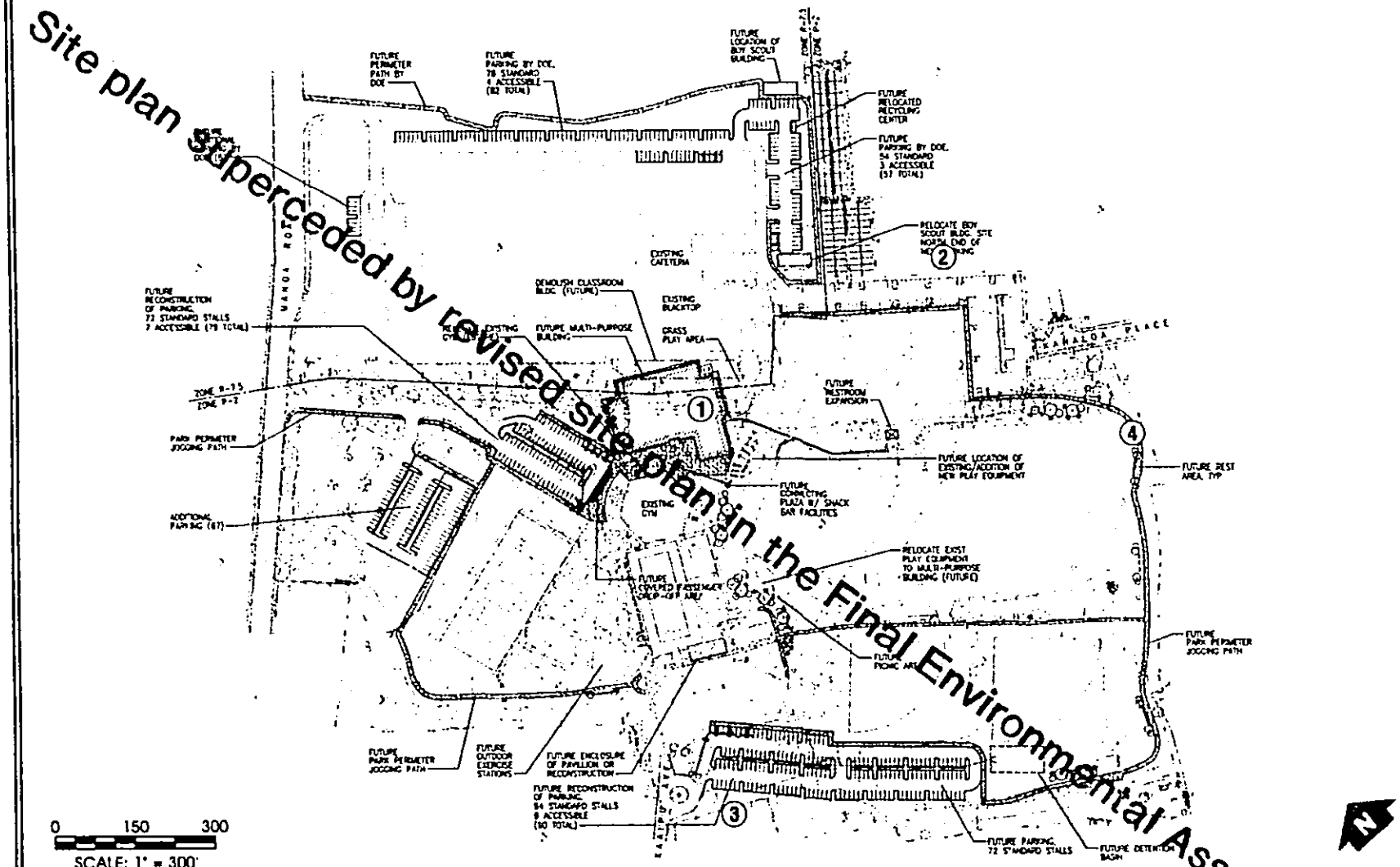

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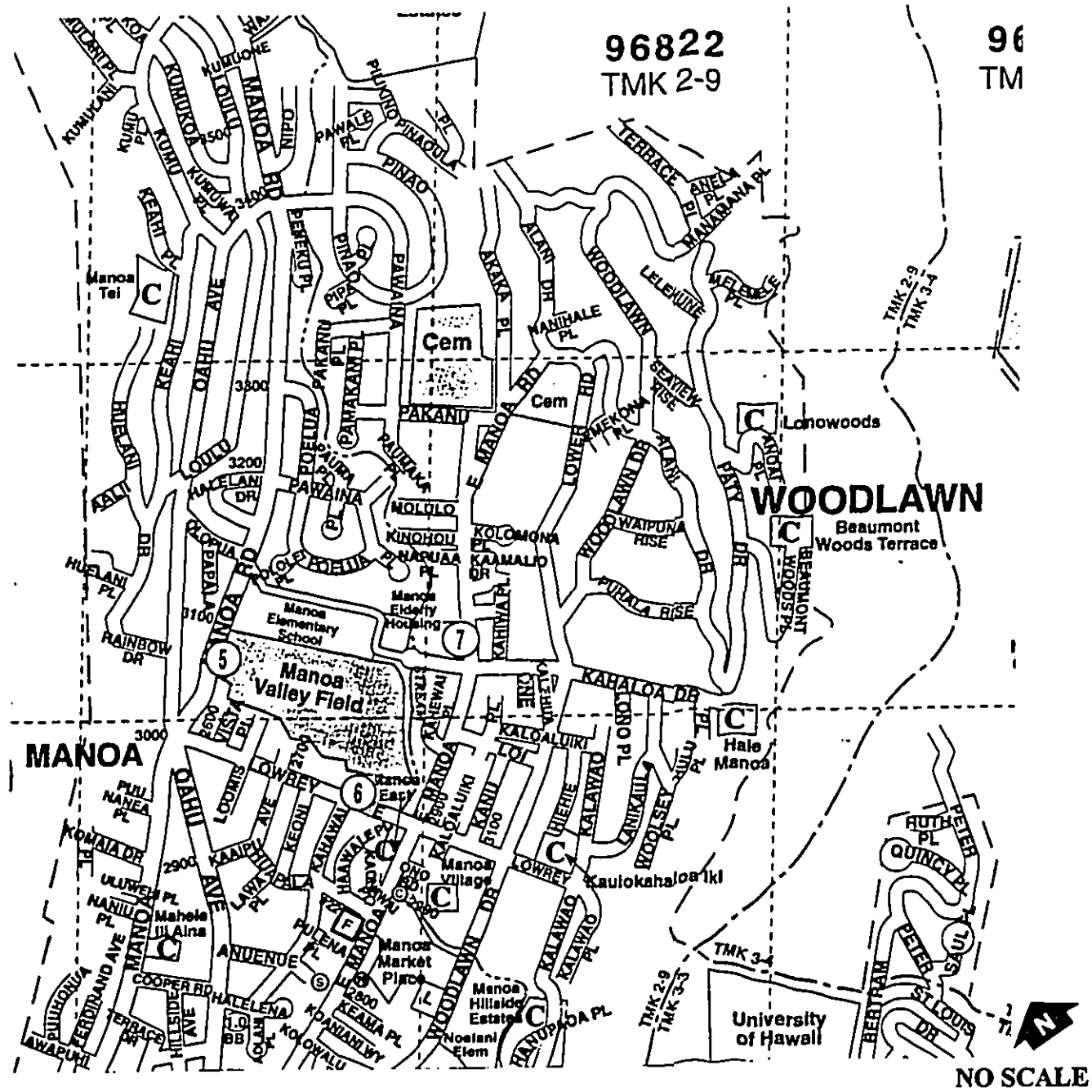
FIGURE 3A - NOISE MEASUREMENT LOCATIONS 1 THROUGH 4



NO SCALE

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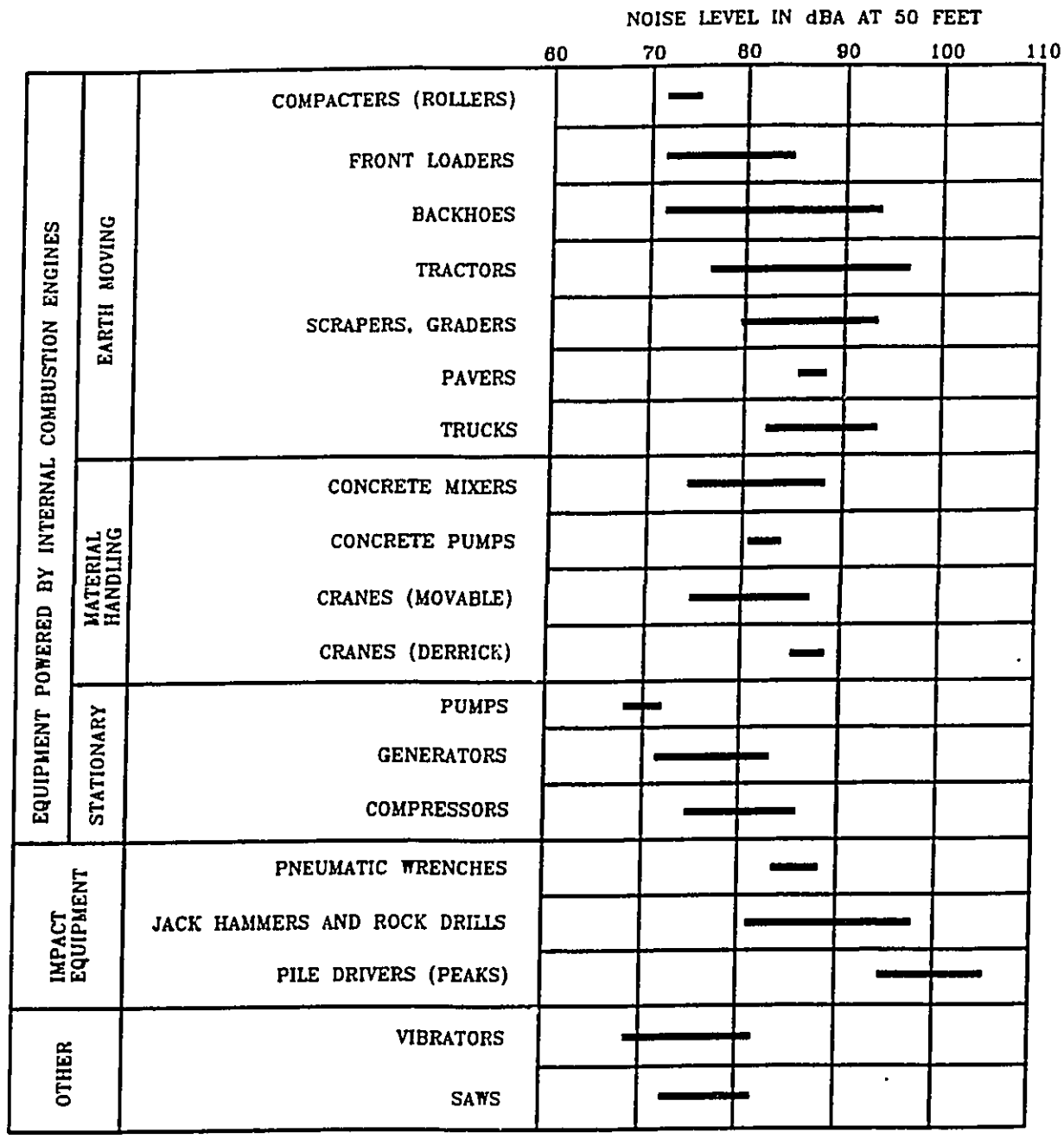
FIGURE 3B - NOISE MEASUREMENT LOCATIONS
5 THROUGH 7



NOTE: BASED ON LIMITED AVAILABLE DATA SAMPLES

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FIGURE 4 - TYPICAL SOUND PRESSURE LEVELS FROM CONSTRUCTION EQUIPMENT

Appendix D

Socio-Economic
Impact Assessment

MANOA VALLEY DISTRICT PARK
SOCIO-ECONOMIC
IMPACT ASSESSMENT

December 1999

Study Conducted by:

John M. Knox & Associates, Inc.

Study Prepared for:

PBR Hawaii, Inc.
Mitsunaga and Associates, Inc.
City and County of Honolulu, Parks Department

Report Authored by: John M. Knox, Ph.D. and K.C. Miller

CONTENTS

LIST OF EXHIBITS