



DEPARTMENT OF THE ARMY
PACIFIC OCEAN DIVISION, CORPS OF ENGINEERS
FT. SHAFTER, HAWAII 96858-5440

October 17, 1991

REPLY TO
ATTENTION OF

Military Division
Directorate of Engineering

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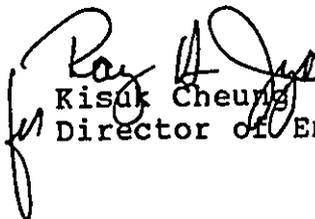
Gentlemen:

The U.S. Army Support Command, Hawaii, (USASCH) proposes to construct a Forensic Toxicology Drug Testing Laboratory at Tripler Army Medical Center. The proposed facility will house laboratory administration, training, and supply/receiving functions.

Acting as an agent for USASCH, we request that you publish a notice of availability for the enclosed (five copies each) Environmental Assessment and Finding of No Significant Impact in the next issue of your Office of Environmental Quality Control (OEQC) Bulletin. The form for Publication in the OEQC Bulletin is also enclosed.

If you have any questions, please contact Mr. Edward Yamada, Project Manager, at 438-5421/1776.

Sincerely,


Kisk Cheung
Director of Engineering

Enclosures

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1991-11-08-0A-PEA - Tripler Army Medical Center Forensic

Toxicology Drug Test Lab

FILE COPY

**Environmental Assessment
for a
FY94 Forensic Toxicology Drug Testing Laboratory
Tripler Army Medical Center, Oahu, Hawaii**

**Department of the Army
Headquarters, Tripler Army Medical Center
Tripler Army Medical Center, Oahu, Hawaii
Tripler AMC, Hawaii 96859-5000**

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Pacific Ocean Division,
Corps of Engineers
Ft. Shafter, Oahu, Hawaii 96858-5000**

DEPARTMENT OF THE ARMY
HEADQUARTERS, TRIPLER ARMY MEDICAL CENTER
TRIPLER AMC, HAWAII 96859-5000

ENVIRONMENTAL ASSESSMENT
AND FINDING OF NO SIGNIFICANT IMPACT
FOR A
FORENSIC TOXICOLOGY DRUG TESTING LABORATORY
TRIPLER ARMY MEDICAL CENTER, OAHU, HAWAII

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CHAPTER 1
PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 Introduction

1. This Environmental Assessment (EA) has been prepared in accordance with the National Environmental Policy Act of 1969 and Army Regulation (AR) 200-2 (effective 23 January 1989) which implements the Council of Environmental Quality (CEQ) Regulations (40 CFR 1500), Executive Order 12114, Department of Defense (DOD) Directive 6050.1, and DOD Directive 6050.7.

2. AR 200-2 and the CEQ Regulations require the systematic examination of possible and probable environmental consequences of implementing a proposed action. The purpose of the EA is to examine these potential environmental consequences and to determine whether they are significant. AR 200-2 also requires that the governmental agencies with responsibility for various areas of environmental concern be involved to the extent practicable in the preparation of an EA. Relevant documentation from Federal and State of Hawaii agencies consulted for this EA is shown in the Appendix.

1.2 Purpose

The Department of Defense (DOD) Biochemical Testing Program was established in 1971 by the Secretary of Defense. It is the Army's policy to use biochemical testing to preserve the health of soldiers by identifying drug abusers in order to provide appropriate counseling, rehabilitation, or other medical treatment. Currently there are three Forensic Toxicology Drug Testing Laboratories (FTDTL's) in operation--one located at Tripler Army Medical Center (TAMC) and the others

in Maryland and Germany. The purpose of the proposed project is to construct a new Forensic Toxicology Drug Testing Laboratory (FTDTL) at TAMC complete with administration, training, and supply/receiving facilities. The TAMC military installation has been assigned the mission of toxicology drug testing for the fifty-six Army and Air Force units located in the Pacific basin including Alaska and the West Coast. This is the largest geographical area covered by any FTDTL.

1.3 Need

1. The Tripler Army Medical Center's Forensic Toxicology Drug Testing Laboratory (FTDTL) currently occupies the third floor of Building 40, a 3-story building built in 1948. The FTDTL relocated into Building 40 in 1986 with an 8,000 specimen per month workload. It was anticipated that Building 40 could adequately test 15,000 specimens per month for two drugs. However, in FY90 the FTDTL mission changed dramatically. The FY90 monthly workload averaged over 21,000 specimens for three drugs and the facility is presently required to test 50,000 specimens per month for three drugs. This means that approximately 30,000 specimens per month must be processed using commercial laboratory facilities. The existing facility cannot accommodate the increased workload and the third floor facility cannot be feasibly expanded.

2. If this project is not implemented, the Army's biochemical testing objectives of early detection, deterrence of drug abuse, monitoring of rehabilitation progress, and the development of data on the prevalence of drug abuse within the Army may be compromised. The installation's biochemical testing mission will continue to operate in inadequate facilities, and will not be able to process its total workload economically. The unprocessed specimens will continue to be tested at commercial laboratories at higher cost and longer processing time.

CHAPTER 2
DESCRIPTION OF THE PROPOSED ACTION

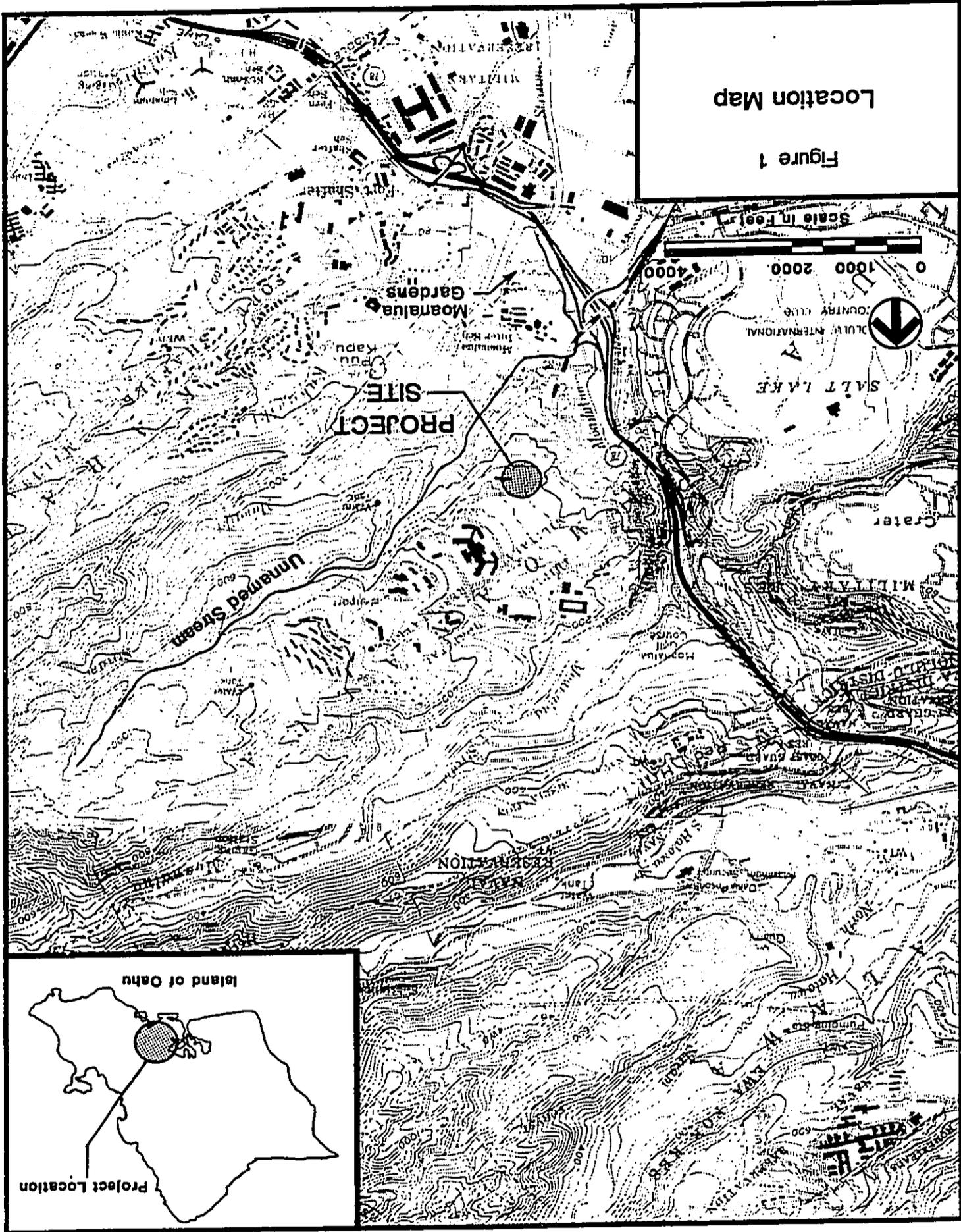
2.1 Project Location

1. The project is located at the U.S. Tripler Army Medical Center (TAMC) on the south side of the island of Oahu, some 4 miles west of downtown Honolulu and three miles due east of Pearl Harbor (see Figure 1). TAMC occupies a 367-acre site atop the lower portion of Moanalua Ridge, one of the many ridgelines that extend in a south-west direction from the crestline of the Ko'olau Mountain Range. Interstate Highway H-1, the Moanalua Freeway (State Highway 72), and Puuloa Road link TAMC to central and eastern Honolulu, Pearl Harbor and West Oahu, and the Honolulu International Airport/Hickam Air Force Base complex, respectively.

2. The proposed site of the new FTDTL is located in the southernmost portion of TAMC, just west of Building 40 (see Figure 2). The site is accessible by Jarrett White Road, a four-lane road which transitions to three lanes at the entrance to TAMC. After passing through the Main Gate, this road runs north of the project site on an incline up towards the main hospital. A hill on the right-hand side of Jarrett White Road obscures the project site and most of Building 40 from view.

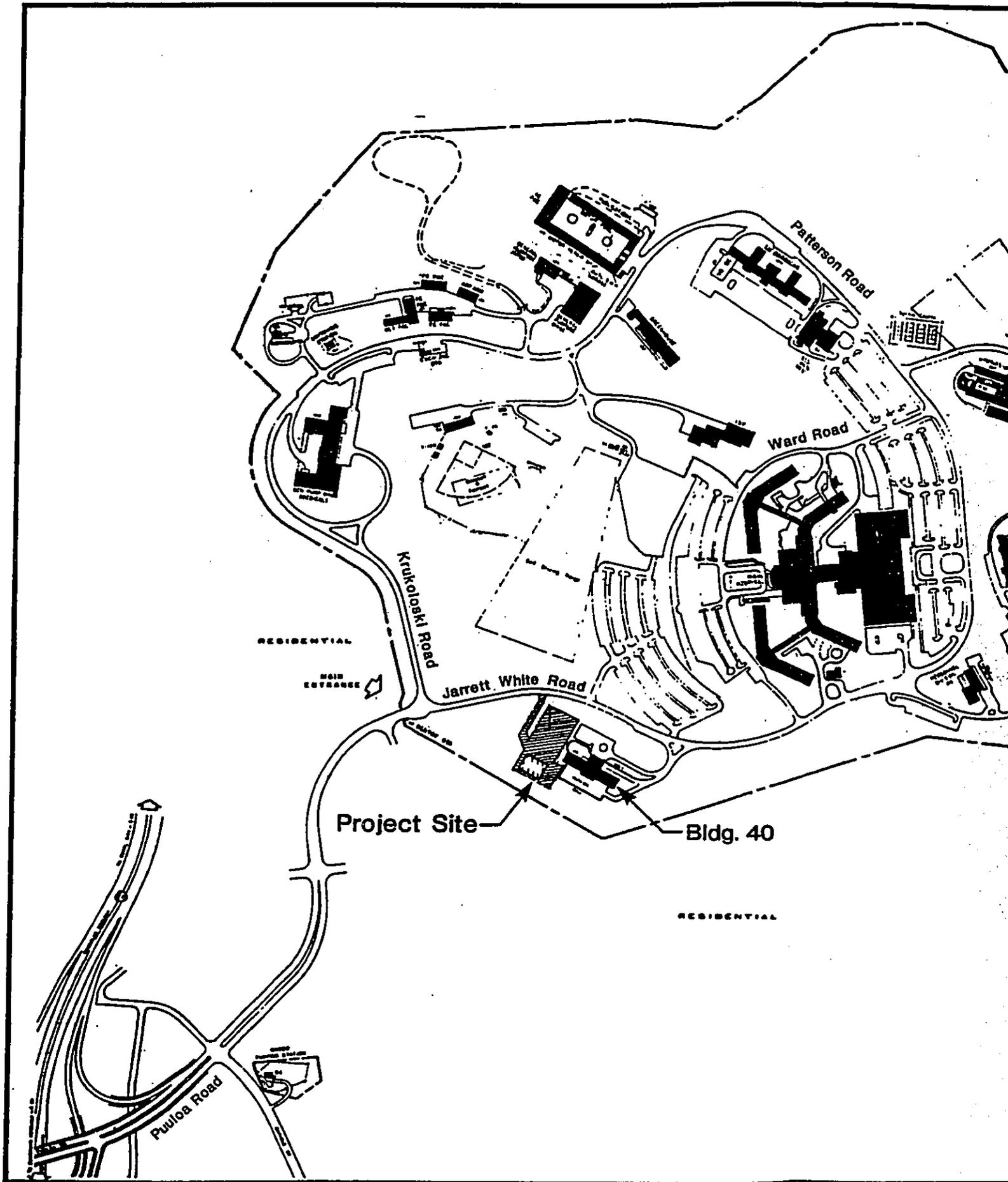
2.2 Project Features

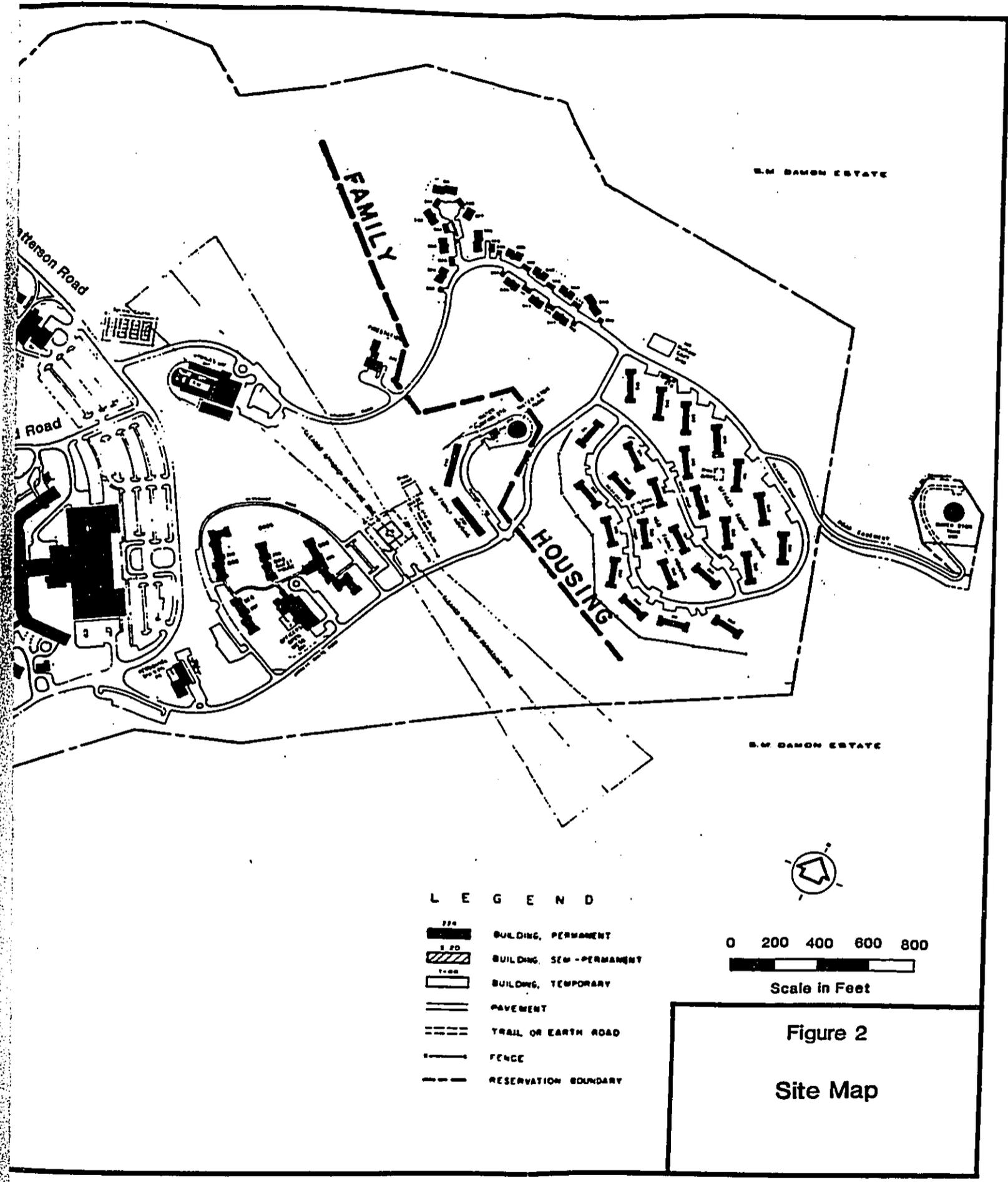
The proposed FTDTL will house laboratories, administration, training, and supply/receiving functions. The building will be two stories in height with approximately 26,000 square feet of space. Other features will include walk-in refrigerators, an elevator, a fire protection system and an intrusion detection system.



Location Map

Figure 1





L E G E N D

- BUILDING, PERMANENT
- BUILDING, SEMI-PERMANENT
- BUILDING, TEMPORARY
- PAVEMENT
- TRAIL OR EARTH ROAD
- FENCE
- RESERVATION BOUNDARY

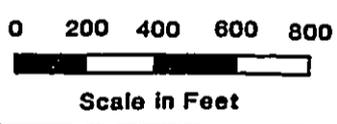


Figure 2
Site Map

Supporting facilities include information systems, paving, site improvements, and all required utilities including an emergency electrical generator.

2.3 Project Construction

The proposed FTDTL is a non-standard special design project and will be procured by the U.S. Army Corps of Engineers, Honolulu District. While this Environmental Assessment can evaluate only conceptual plans for the proposed facility, it is anticipated that the fully designed project will generally resemble the conceptual configuration (see Figure 3). The new building will accommodate physically handicapped users. Building 40 will remain standing and the third floor will likely be used by clinical labs which currently occupy the lower floors of the building. Construction of the FTDTL should take between 18 and 24 months to complete.

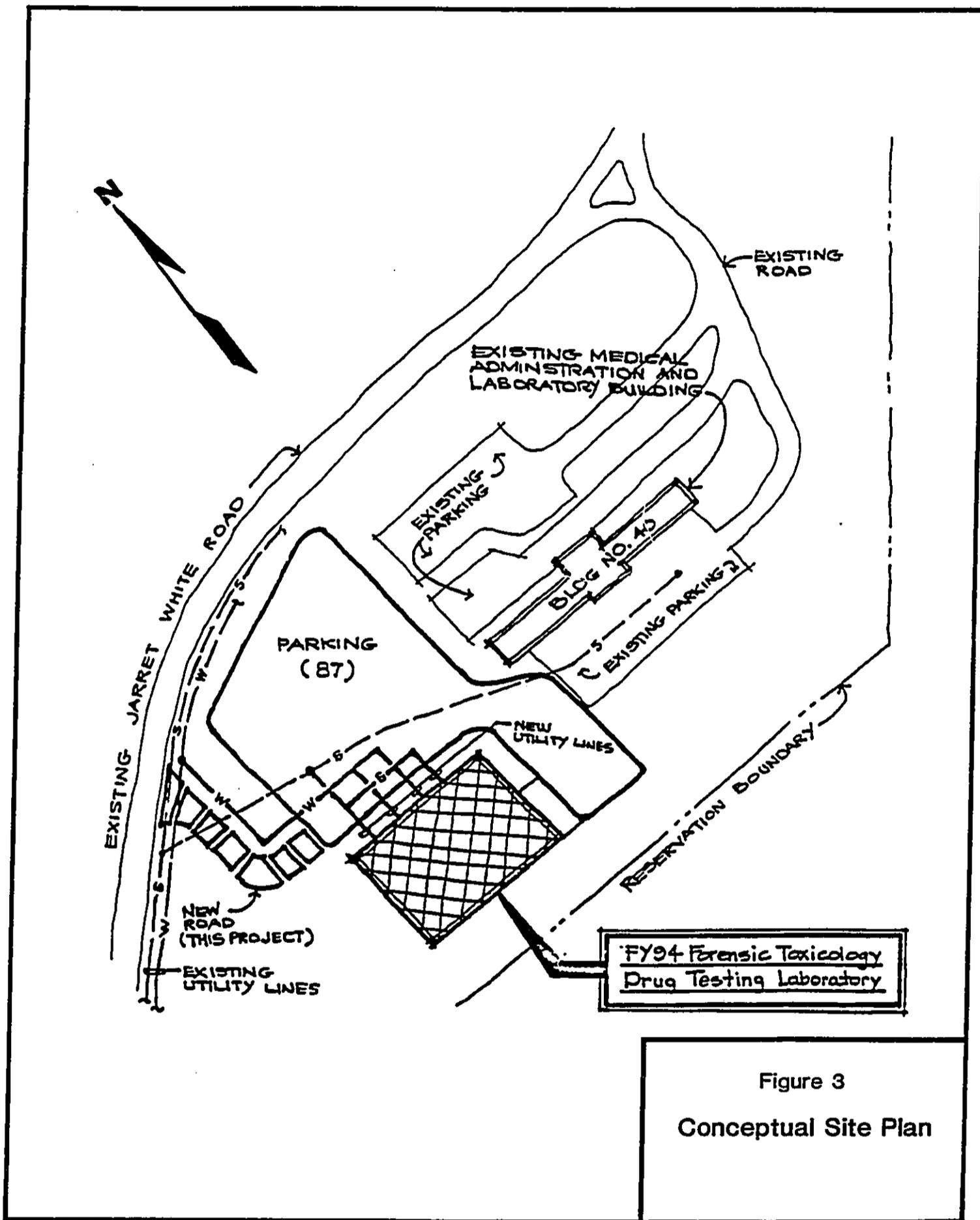


Figure 3
Conceptual Site Plan

CHAPTER 3
ALTERNATIVES TO THE PROPOSED ACTION

3.1 Alternate Site

There are no other similar facilities at Tripler Army Medical Center that could be renovated, expanded or converted to provide drug testing laboratory functions. The proposed site has been chosen as the most appropriate location for the new facility.

3.2 No Action

1. The existing facility at TAMC cannot accommodate the increased mission requirements without contracting commercial laboratories at considerable expense to the Government. The economic analysis of the No Action alternative shows that without the project, the entire drug testing program will cost about \$2.4 million more per year to operate. This is due primarily to the higher cost per specimen at commercial laboratory facilities. It is estimated that if the proposed project is constructed, at the end of 7.7 years the accumulated value of savings will equal the total value of construction costs.

2. Failure to provide the project will jeopardize the Army's use of biochemical testing to preserve the health of soldiers by identifying drug abusers in order to provide appropriate counseling, rehabilitation and other medical treatment.

CHAPTER 4
AFFECTED ENVIRONMENT

4.1 Geology

1. The island of Oahu was formed by two shield volcanoes which are now the Ko'olau Range on the east and the Waianae Range on the west. Lava from the younger Ko'olau Volcano banked against the already eroded flank of the Waianae Volcano to form the central area of Oahu. Due to erosion, both ranges have lost most of their original shield shape and now appear as long narrow ridges.

2. The TAMC reservation is situated on the lower portion of Moanalua Ridge, one of many leeward ridges which extend perpendicular to the lengthy crest of the Ko'olau Range. Moanalua Stream on the north and Manaiki Stream on the south have cut deep valleys on either side of this ridge where TAMC is located.

4.2 Topography

1. The TAMC military reservation dips from northwest to southeast with grades varying from 5 to 12 percent and an elevation ranging from 200 to 700 feet above mean sea level. The top of the ridge has a fairly regular slope of 8 to 12 percent, but slopes of as much as 150 percent are present on the sides of small gulches that drain the reservation.

2. As for the proposed project site, it is located at about 240 feet elevation on a moderate slope which angles down towards the southern boundary fence of TAMC.

4.3 Soils

1. Soils at TAMC are of two different types. The first is the Manana series and covers about 70 percent of the installation, including the proposed project site. The soil at the proposed project site is described as Manana silty clay, 8 to 15 percent slopes (MpC). The Manana series is formed from weathered volcanic material and, in profile, consists of an 8-inch layer of dark, reddish-brown silty clay loam over a 42-inch subsoil layer of silty clay. The soil is high in acidity, has a medium runoff potential, and a moderate erosion potential. The available water capacity of this soil is 1.2 inches per foot at the surface layer, and 1.3 inches per foot in the subsoil. The average root penetration for vegetation is between 15 and 30 inches, except where cracks in the sheet allow for four-foot penetration. The bearing characteristics are fair-to-good for low buildings, and it is a good source of fill for roads.

2. The remaining 30 percent of the reservation is classified by the U.S. Soil Conservation Service as "rock land". It is a land type rather than a soil series and is characterized by exposed basalt which covers 25 to 90 percent of the surface. The areas between the rock outcrops have a very shallow soil mantle that is very sticky and plastic, has a high shrink-swell potential, and is susceptible to sliding.

4.4 Hydrology

4.4.1 Surface Water

1. There are several streams which flow in the valleys flanking Moanalua Ridge. Moanalua and Manaiki Streams, which flow northeast and southwest of the Tripler Hospital Military Reservation, originate at the crest of the Ko'olau

Mountains at an elevation of approximately 2,800 feet and join about 1.0 mile from the mouth of Moanalua Stream which feeds into Keehi Lagoon. The headwaters of Kahauiki Stream, which flows south of Manaiki Stream, originate in a forest reserve area at an elevation of about 1,700 feet. Kahauiki Stream enters Moanalua Stream 0.4 miles from its mouth.

2. The closest stream to the proposed project site is an unnamed stream which serves as a drainage catchment for the southeastern portion of TAMC, including Building 40. This stream drains about 290 acres of land between Moanalua and Manaiki Valleys. It is located about 1,000 feet southeast of the project site.

4.4.2 Ground Water

1. Tripler Army Medical Center overlies the basal aquifer of southern Oahu which is composed primarily of very permeable basalt. This aquifer is bounded by the Ko'olau dike system, by the high-level groundwater impounded beneath the Schofield Plateau, by the southern end of the Waianae Range, and on its southern side by a relatively impermeable sedimentary caprock that separates the aquifer from the ocean. Although the aquifer is generally continuous, several different "isopiestic" areas exist and are separated from one another by less permeable sedimentary material that extends far below present sea level under valley floors.

2. TAMC and the two wells that supply its potable water (Well nos. 3-2153-07 and 08) are situated in the hydrologic area bounded by Kalihi Valley and Moanalua Valley. Pumping tests conducted in 1945, shortly after the wells were drilled, showed a drawdown of only 18 inches after 17 hours of continuous pumping at a rate of 2,460 gallons per minute (gpm). Drawdown was measured again in

1969 using a pumping rate 1,300 gpm. It reached only 8 inches before stabilizing. These results suggest that the wells are tapping the basal aquifer.

4.5 Climate and Air Quality

1. Northeasterly trade winds prevail during all months of the year on Oahu, except from November through March when the trades are sometimes interrupted by moderate to strong southerly Kona winds associated with cyclonic storm fronts. Normally, as moist tradewinds rise to pass over the Ko'olau Mountains, orographic precipitation occurs. As a result, completely cloudless skies are rare. Showers frequently drift off the mountains and sprinkle light, misty rain over leeward areas, including TAMC.

2. There is no rain-gauging station on the TAMC Reservation, but data is available from Station No. 766 that is reasonably representative of conditions at Tripler. Median annual rainfall during the 53 years for which data is available was 39.5 inches. The driest year saw only 15.5 inches of rain while the wettest had 67.1 inches. The rainfall in the three wettest months, November, December, and January, is more than 2.7 times as great as that in June, July, and August, the three driest ones.

3. The tradewinds, which average 12-15 knots during the summer, bring mildly warm temperatures and humidity characteristic of air masses that have traveled great distances across the water. These winds also contribute to the small annual temperature range. Estimated average monthly temperatures in February, the coldest month, are 71.1 degrees Fahrenheit and in August, the hottest month, are 79.5 degrees Fahrenheit.

4. Although there are no permanent air monitoring stations to measure air quality on or near TAMC, there are several factors which favor good air quality at the reservation. They include TAMC's location at a higher elevation, proximity to the Ko'olau Mountains, distance from the shoreline, and open spaces. With the possible exception of peak-hour traffic at certain intersections, there are no significant sources of air pollution at TAMC.

4.6 Flood Hazard

1. TAMC and the proposed project site are not within a flood zone, according to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM). However, alterations to the military installation grounds can affect flood conditions on lands at lower elevations. There are established flood zones below TAMC in areas along Moanalua Stream.

4.7 Flora and Fauna

1. Approximately forty percent of the entire TAMC Military Reservation is undeveloped. In those areas, the dominant species is haole koa (*Leucaena leucocephala*), a large exotic shrub or small tree which is common throughout drier lowland areas in Hawaii. At Tripler, it is mixed with such other exotics as Java Plum (*Eugenia cumini*), lantana (*Lantana camara*), and klu (*Acacia farnesiana*), to form dense thickets on the sides of gulches in and around the sites. Wild grasses growing beneath the shrubs and in open areas included panicum (*Panicum purpuracens*), coarse-leaved Bermuda grass (*Cyndon dactylon*), and Indian dropseed (*Sporobulus diander*).

2. The landscaped areas of TAMC contain a variety of exotic species commonly used in Hawaii. These include Bermuda grass, wedelia, Waipahu fig, Bougainvillea, purple allamanda and, within the housing, hospital, and administrative areas, many large trees such as eucalyptus, palm, Norfolk pine, monkeypod, royal poinciana, and African tulip. The State Department of Forestry has indicated that the TAMC site contains no more than a few remnant trees from the native Hawaiian ohia, (*Metrosideros collina*) and koa forests that once covered the Ko'olau Mountains. None of the species known to be present have been proposed for inclusion on the State or Federal lists of threatened or endangered species (see consultation letters, Appendix A).

3. The proposed project site is part of an open, grassy field. Beyond the southern boundary fence just south of the site and Building 40, haole koa predominates. Two mature shade trees along the west end of Building 40 are also part of the site.

4. Because the project site is part of a frequently mowed expanse of lawn, it is not an ideal habitat for most wildlife. However, the Pacific Golden Plover (*Pluvialis fulva*) extensively inhabits grassy areas at TAMC during the winter months before leaving the islands for the Arctic in May to breed. In urban environments, the Pacific Golden Plover is often observed on residential lawns, parks, cemeteries, roof tops, and roadways. The plovers are known to roost near the shoreline and on roof tops. They do not roost in trees and will generally avoid brushy areas. Although the plover is not listed as an endangered species by the U.S. Fish and Wildlife Service, it is protected by the Federal Migratory Bird Act.

4.8 Noise

With average exterior background noise levels ranging from less than 40 dB(A) to about 50 dB(A), the TAMC Reservation is a relatively quiet place. In general, total ambient noise levels are below 55 dB(A), but higher levels occur during overflights by helicopters and light aircraft, and as the result of vehicular traffic. Background sound levels in the civilian housing areas immediately adjacent to Jarrett White Road between the Puuloa Interchange and the entrance to the Tripler Reservation are approximately 55 dB(A) during the day.

4.9 Land Use

1. Tripler Army Medical Center is situated near the middle of the broad band of urbanization that lines Oahu's southern shore and comprises metropolitan Honolulu. The land bordering the Tripler reservation is used for residential and watershed purposes. A number of single-family subdivisions are adjacent to the north, south, and west boundaries of the site. State Conservation District land lies northeast and east. Slightly farther away are Fort Shafter Military Reservation to the south, Red Hill Naval Reservation to the north, Aliamanu Military Housing Project and Moanalua Gardens to the south.

2. There are a variety of different land uses on the Tripler Reservation including industrial (laundry, power plant, warehouse, and motor pool), residential (family housing, bachelor officers' quarters, and enlisted quarters), recreational (tennis courts, theater, gymnasium, playground, and athletic fields), and hospital-related facilities (the hospital, personnel offices, management information center, and clinical investigation and administration offices).

3. According to a map provided by Tripler's Engineer Liaison Officer, the proposed FTDTL is just one of many other construction projects planned at TAMC between FY92 and FY2000. Other projects include, but are not limited to, a new central logistics facility, child care center, computer center, command headquarters, parking structure, and various other renovations and improvements to existing hospital buildings.

4. Although State and City land use designations do not regulate land use on Federal property, they are mentioned here. The State Land Use designation for the site is Urban. On the City and County of Honolulu Development Plan Land Use map, the project site is designated as PF, "Public Facility". City and County Zoning is F-1, "Federal". The site is not within the City's Special Management Area designed to protect coastal resources.

5. Based on guidelines in the Hawaii Coastal Zone Management Program Federal Consistency Procedures Guide, consistency and compliance with the State of Hawaii Coastal Zone Management Program is not required since the proposed drug testing laboratory is situated entirely on Federally excluded lands and does not constitute an action directly affecting the State's coastal zone.

4.10 Archaeological/Historic Resources

1. The inland area that is now occupied by Moanalua Gardens Park was once used for cultivating taro, the staple food of the Hawaiians. These taro patches were irrigated with water from Kalou Stream, a tributary of Moanalua Stream. Southwest of Moanalua Stream and extending all the way to the sea were large taro plantations. Some terraces for wet taro farming are known to have existed above Kalou Stream, but most of the inland areas were not well suited for extensive

terracing. In addition to wet taro farming, the shore and flat inland areas were also used for fishponds. Six large fishponds, famous for their mullet and crabs, were known to have existed.

2. To what extent the TAMC Reservation was inhabited or cultivated in precontact times is not fully known. In general, Hawaiians preferred areas near the shore and flatlands where water for irrigation was available rather than the dry, upland hills and ridges that make up the TAMC site. However, topography and rainfall are such that the area could have been planted in sweet potatoes or bananas. During the years immediately before construction of the hospital in 1944, pineapple was grown on the site.

3. The historic value of TAMC's main building is discussed in the USASCH Historical Property Inventory and Evaluation Report prepared by the B.P. Bishop Museum and published in April, 1977. The study notes that the present hospital was built in 1948 as a replacement for the old Tripler General Hospital in Fort Shafter. The new hospital, like its predecessor, was named in honor of Brigadier General Charles Stuart Tripler (1806-1866), medical director of the Army of the Potomac during the Civil War and author of the Army's manual on recruit standards. When completed, the new hospital was the largest Army medical facility of the time and incorporated numerous architectural and structural innovations. Among the more noteworthy of these were structurally isolated units for protection against earthquakes, vertical rather than horizontal movement of interior traffic, and the first pneumatic tube system installed in an Army hospital. The hospital was designed as a group of open pavilions to take advantage of natural light and ventilation and was stepped down the slope to maximize the spectacular views.

4.11 Hazardous and Toxic Wastes

1. A pre-construction contamination survey was not conducted for this Environmental Assessment. Instead, the government has furnished the statement that, "The proposed project site has been evaluated for contamination and has been classified as a Category I site. This site is located in a traditional non-hazardous location. The installation has no reason to suspect contamination in this open grassed area."

2. Disposal of drug testing chemicals is a routine part of laboratory operations at Building 40. Small amounts of approximately 60 chemicals are generally used in quantities of less than 10 milliliters per day each (see Appendix B for inventory of chemicals). Most chemicals are combined with urine samples and disposed in the municipal sewer system. Certain unused or expired shelf-life hazardous chemicals are turned in as hazardous waste to Materiel Branch, Building 160. Materiel Branch turns in hazardous waste to the Defense Reutilization and Marketing Office, Hawaii. Chemicals turned in for disposal are transported in shatter proof, plastic-coated glass bottles.

4.12 Aesthetic Considerations

1. The main hospital building at TAMC is visible from many points in Leeward Oahu due to its massive size, its prominent location, and its striking pink color. The building is modernistic in style, as are several of the outbuildings. Views from the main hospital are also exceptional and have been specially preserved through installation-wide planning.

2. Most of the remaining structures, including Building 40, are neo-Mediterranean; smooth walled, with sloping hipped roofs, red barrel tile roofing, and ribbon windows. The top floors of Building 40 can be seen from certain makai vantage points in the Salt Lake area--appearing as the pink building just below the base of the main hospital--but the lower floor of the building is not generally visible due to the tall trees and plant growth outside the southern boundary fence of TAMC. The open, grassy field which is the project site is also visible from the Salt Lake area. When approaching the main hospital from Jarrett White Road, Building 40 is hidden from view by a steep bank along the right-hand road side.

4.13 Circulation and Traffic

1. All traffic to and from TAMC uses Jarrett White Road which originates at the Puuloa Interchange of Moanalua Freeway. Jarrett White is a four-lane divided road from the interchange up to its intersection with Ala Mahamoe Street. Above this intersection, traffic is almost exclusively associated with TAMC. The road transitions to three lanes through the Main Gate. From there, two major roads--Jarrett White and Krukowski--form a continuous loop which circuits most the Reservation's vehicular destination areas. A third primary artery, Patterson Road, bisects this loop near its midpoint.

2. According to traffic data from a study by Paul T. Taniguchi, Ltd. (1982), existing AM peak hour traffic volumes were 773 vehicles traveling up Jarrett White Road and 203 down. Existing PM peak hour traffic volumes were 272 vehicles up Jarrett White Road and 610 down. Traffic volumes passing through the Main Gate were slightly higher because of vehicles turning into and out of Krukowski Road. The study found that level of service was poorest for left turn and right turn movement from Krukowski Road during the afternoon peak due to the large

downhill traffic movement. Otherwise, traffic volumes on Jarrett White Road were sufficiently low to enable desirable traffic flow characteristics and waiting/delay times.

3. The current road network within TAMC handles traffic volumes efficiently, but parking on the installation is sometimes difficult. A vertical parking structure at the southern corner of Patterson Road and Ward Road is one of the potential construction projects being considered to deal with limited parking at TAMC. The proposed laboratory facility will be provided with adequate parking of its own.

4.14 Infrastructure and Utilities

4.14.1 Water System

As indicated in the discussion of the areas's groundwater conditions, Tripler's potable water is supplied by two wells that tap the islands's basal lens. Together, the wells can yield about 2.5 mgd. Pump house No. 1 supplies water for the lower distribution system which extends below the family housing area and feeds storage tank No. 1, a 500,000-gallon-capacity concrete reservoir. Pump house No. 2 houses two 640-gpm pumps that convey water to the high-level distribution system which includes the family housing area and the 500,000-gallon-capacity water storage tank No. 2. Diesel-driven stand-by pumps with capacities of 600 gpm and 580 gpm are located at pump houses No. 1 and No. 2, respectively.

4.14.2 Wastewater System

The existing sanitary sewer system at TAMC has two main branches. With the exception of the segment immediately below the hospital, they follow Jarrett

White and Krukowski Roads, respectively. Both depend on gravity flow. Average and peak flows from the entire TAMC Reservation are estimated at 0.31 and 1.65 mgd, respectively.

4.14.3 Drainage System

1. Approximately 75 percent of the TAMC reservation drains directly into Moanalua Stream through three large gulches. Water from the remainder of the site is collected by a number of inlets and channeled through a subsurface drain pipe system to the City and County storm drainage system in Moanalua Subdivision. The discharge from that system is into Moanalua Stream below Maha Place and ultimately into the ocean at Keehi Lagoon.

2. The large gulch which drains the area that includes the proposed project site originates below the family housing area. Runoff from this basin flows into the unnamed stream that drains about 290 acres of land between Moanalua and Manaiki Valleys. This is accomplished by sheet flows which run into the storm drain system located along Jarrett White Road, and which flow from there into a series of small culverts to outlets located on the sides of the gulch. Runoff follows natural courses from there to the stream. There is also sub-basin located immediately below Building 40 which also directs runoff from the building vicinity into the unnamed stream. The interior drain system for Building 40 runs into the municipal sewer and does not feed the storm drain.

4.14.4 Electrical and Telephone System

Power for TAMC is purchased from Hawaiian Electric Company and distributed through an Army-owned and maintained distribution system. Telephone service is provided by Hawaiian Telephone Company.

CHAPTER 5

ENVIRONMENTAL CONSEQUENCES OF THE PROPOSED ACTION

5.1 Geology/Topography

Construction of the laboratory facility will cover the open, grassy project site with a two-story building and a parking lot. Apart from utilities, no major below ground excavation will be necessary. Some cutting will be needed to level the area for the building, but the parking lot will follow the existing slope. The project will not involve major grading which would affect the geology or the topography of the area.

5.2 Soils

There will be no significant long-term generation of soil erosion from this project. The site will be graded and paved to provide parking and it will be appropriately landscaped. Short-term erosion during construction will be controlled in accordance with County grading ordinance.

5.3 Hydrology

The unnamed stream 1,000 feet southeast of the project site serves as a drainage catchment for about 290 acres of land between Moanalua and Manaiki Valleys. This stream will collect part of the runoff from the approximately 1 acre proposed laboratory facility (less than 0.3 percent of the total runoff into the stream). The rest of the runoff will be directed to Moanalua Stream which serves a watershed of 5.4 square miles. Neither of the streams will be significantly affected

by the project's runoff. Also, the potable water wells which supply TAMC and appear to tap the basal aquifer will not be affected.

5.4 Air Quality

1. In the short-term, construction of the laboratory facility will generate fugitive dust from grading activities and from emissions from construction vehicles and equipment. This may create a nuisance to the occupants of Building 40, who may need to keep windows tightly shut throughout construction. Because of the dense vegetation barrier along the southern TAMC boundary fence, dust impacts to the residential area at lower elevations should be minimal. To further mitigate the effects of construction activities, dust control measures such as water sprinkling will be implemented by the contractor to reduce dust levels, as necessary.

2. While there are no permanent air monitoring stations on or near TAMC to determine air quality, the long-term increase in auto emissions resulting from the proposed action is not expected to be significant. The approximately 87 spaces allotted for the proposed laboratory facility will represent about 5.2 percent of the total peak parking demand of 1,670 vehicles at TAMC. Factors which favor good air quality at TAMC include its location at a higher elevation, proximity to the Ko'olau Mountains, distance from the shoreline, and open spaces.

5.5 Flood Hazard

The project site is not within a flood zone. However, grading and paving of the sloped project site for building and parking space will increase runoff at lower elevations. Drainage control measures are proposed to direct surface flows to the unnamed stream via the existing drainage system below Building 40, and to the

existing drainage culverts northwest of Jarrett White Road which serve TAMC. The additional flow into Moanalua Stream and the unnamed stream, which together drain about 6 square miles, will be negligible in relation to the total runoff from the approximately 1 acre project site.

5.6 Flora and Fauna

1. Consultation with the State of Hawaii Department of Land and Natural Resources, Division of Forestry and Wildlife, and with the U.S. Fish and Wildlife Service indicates there are no threatened or endangered plant or animal species on the site (see Appendix). Construction of the laboratory facility will include appropriate landscaping of adjacent grassy areas. The two mature shade trees along the west end of Building 40 will be preserved, if possible.

2. While it is not an endangered or threatened species, the Pacific Golden Plover is protected by the Federal Migratory Bird Act. Although it is a flocking bird, the plover is 85% site faithful and returns to the same feeding area year after year. Construction of the new building will destroy some of its foraging ground for which it is site-specifically programmed to return to. Up to a third of the plover population, however, take advantage of any available foraging areas. Removal of dense vegetation for urban development generally creates more habitat for the Pacific Golden Plover. Therefore, while some feeding ground for individual birds which flock to TAMC will be lost by construction of the facility, the development of parks and golf courses associated with urban expansion elsewhere on Oahu should help to create an overall increase in habitat for these birds.

5.7 Noise

1. Noise levels in the immediate vicinity of the project site will increase as a result of operating heavy vehicles and other power equipment during construction. It shall be the contractor's responsibility to minimize noise by properly maintaining mufflers and other noise attenuating equipment.

2. Depending on its location, size, and enclosure, the compressor for the new facility's air conditioner could generate noise complaints if it is audible during late night and early morning hours. Adjacent Moanalua residents are very sensitive to changes in noise levels. If necessary, noise mufflers, sealed enclosures, or other design measures will be used to limit ambient noise to acceptable levels.

5.8 Land Use

As one of the projects planned for TAMC between FY92 and FY2000, the proposed laboratory facility is compatible with the TAMC reservation land use pattern. It will be situated next to the existing FTDTL--Building 40--in a relatively isolated and quiet corner of the installation.

5.9 Archaeological/Historic Resources

The construction of the proposed laboratory facility should have no effect on potentially significant cultural resources. Periodic construction monitoring by qualified archaeological personnel, in coordination with the Hawaii State Historic Preservation Office (SHPO), shall be performed in order to ensure the protection of any cultural resources discovered during construction.

5.10 Hazardous and Toxic Wastes

With the establishment of the new facility, the amount of chemicals presently used to analyze about 20,000 urine samples will increase proportionally to analyze approximately 50,000 samples. As is currently done, disposal of hazardous chemicals will be coordinated by TAMC's Materiel Branch. Apart from the increase in chemicals used, no other changes will be made to the disposal process. Disposal will be achieved in compliance with the Resource Conservation and Recovery Act--Hazardous Waste Regulations.

5.11 Aesthetic Considerations

1. Unlike most other installations on Oahu, TAMC has a consistent architectural vocabulary and style. This style is discussed in, "The Tripler Army Medical Center Installation Exterior Architectural Plan", which was prepared in 1986 to establish a framework for the design of new buildings and major renovations to existing buildings. The plan includes architectural recommendations for building siting, context, scale, exterior walls and fenestration, roofs, alterations and additions, and energy conservation.

2. The proposed project will conform to the TAMC Installation Exterior Architectural Plan. Conceptual site plans show the building situated at the lowest project site elevation in order to preserve views of Tripler Hospital from the ground up. The building itself will be narrower and one story shorter than Building 40. Little if any of the building will be visible from makai vantage points.

5.12 Circulation and Traffic

The proposed laboratory facility will have a driveway entrance on Jarrett White Road about 600 feet inside the Main Gate. Parking area is planned for 87 spaces. The project should not have a significant impact on morning traffic, but left turn movement out of the parking area during the afternoon peak may experience some delays. Some of the delay may be relieved by constructing a holding lane on Jarrett White Road for traffic exiting the site.

5.13 Utilities

1. Water system--The new facility will use approximately 5,000 gallons per day. The existing 10-inch distribution system along Jarrett White Road is adequate.
2. Wastewater system--The existing gravity collection system along Jarrett White Road en route to the Sand Island Treatment Plant is adequate.
3. Drainage--A storm drainage system will be necessary to serve the exterior of the building, the loading dock area, and the new parking area. Two catch basins at the southern corner of the site are proposed to collect and direct flow to the existing sub-basin which serves Building 40. This flow will be directed into the unnamed stream. Runoff from the new parking area may be directed overland to a swale west of the site and then directed beneath Jarrett White Road and into the existing drainage culverts which serve TAMC.
4. Electrical Power--The present power grid and distribution system can provide the required additional power for the project. Heat recovery will be considered during design to reduce energy usage to the maximum extent.

**CHAPTER 6
CONCLUSIONS**

1. This Environmental Assessment concludes that the proposed action to construct a Forensic Toxicology Drug Testing Laboratory at Tripler Army Medical Center in Fiscal Year 1994 does not constitute a major Federal action having significant effects on the quality of the human environment.

2. An Environmental Impact Statement (EIS), as defined by AR-200-2 and the Council on Environmental Quality (CEQ) Regulations CFR 1500, is not required.

3. It is recommended that a Finding of No Significant Impact (FNSI) be prepared and notice of the availability of the EA and FNSI be given to the public by making it available in the State of Hawaii Department of Health, Office of Environmental Quality Control (OEQC) Bulletin.

7. REFERENCES

1. Army Regulation 200-2 (32 CFR Part 651). Environmental Effects of Army Actions. Specifically Subpart E - Environmental Assessment (EA) (Paragraphs 651.20 thru 651.27).
2. Department of the Army, Headquarters, Tripler Army Medical Center. Final Environmental Impact Statement on the Proposed Hospital Addition/Alteration Project, Tripler Army Medical Center, Oahu, Hawaii. August 1980.
3. Department of Planning and Economic Development, State of Hawaii. Hawaii Coastal Zone Management Program Federal Consistency Procedures Guide. April 1985.
4. M&E Pacific, Inc. Traffic and Parking Study for Tripler Army Medical Center. Prepared for Corps of Engineers, Pacific Ocean Division. February 1984.
5. PBR Hawaii. Tripler Army Medical Center, Installation Exterior Architectural Plan. October 1986.
6. PBR Hawaii. U.S. Army Corps of Engineers, Pacific Ocean Division, Task II: Environmental Themes, Tripler Army Medical Center. December 1985.
7. Saito, Ralph; Enbring, John; Bruner Philip. January 1990 Telephone Memo by Earl Matsukawa, Wilson Okamoto & Associates, Inc., concerning Pacific Golden Plover.
8. U.S. Army Corps of Engineers, Honolulu Engineer District. DD Form 1391, Military Construction Project Data: FY94, Forensic Toxicology Drug Test Lab, Tripler Army Medical Center, Hawaii. Revised 31 August 1990.
9. U.S. Army Engineer Division - Pacific Ocean, Corps of Engineers. Analytical Environmental Assessment Report Master Plan Future Development Plans, Tripler Army Medical Center. November 1981.
10. U.S. Army Engineer Division - Pacific Ocean, Corps of Engineers. Project Development Brochure, Forensic Toxicology Drug Testing Laboratory, Tripler Army Medical Center, Hawaii. August 1990.

8. LIST OF PREPARERS

<u>Name/Title</u>	<u>Expertise</u>	<u>Experience</u>
Matsukawa, Earl EA preparer	Environmental and Land Use Analysis	BS, MURP; 14 yrs EIS studies; Wilson Okamoto & Associates, Inc.
Gorst, Bruce W. EA preparer	Environmental and Land Use Analysis	BA, English; Wilson Okamoto & Associates, Inc.

9. LIST OF INDIVIDUALS AND AGENCIES CONSULTED

FEDERAL AGENCIES

1. U.S. Department of the Interior
Fish and Wildlife Service
Honolulu, Hawaii

STATE AGENCIES

1. State of Hawaii
Department of Land and Natural Resources
Division of Forestry and Wildlife

INDIVIDUALS

1. Major G. Ah Yo, Engineer Liaison Officer, Tripler Army Medical Center
2. Captain Frank Cross, TAMC Forensic Toxicology Drug Testing Laboratory
3. Alvin Kam, Project Engineer, U.S. Army Corps of Engineers
4. Steve Kim, Preventive Medicine Service, TAMC
5. Beth Miura, Biologist, U.S. Army Corps of Engineers
6. Dan Nakamura, Technical Services Branch, USASCH
7. David Okada, Civil Engineer, U.S. Army Corps of Engineers
8. Lieutenant Colonel Charles V. Watson, Officer in Charge, TAMC Forensic Toxicology Drug Testing Laboratory
9. Ed Yamada, Contract Monitor, U.S. Army Corps of Engineers

APPENDIX A
Agency Response

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL STREET
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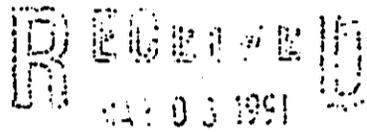
WILLIAM W. PATY, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES
KEITH W. AHUE
MANABU TAGOMORI
RUSSELL N. FUKUMOTO

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

6 March '91

Mr. Bruce Gorst, Planner
Wilson, Okamoto, & Assoc.
P.O. Box 3530
Honolulu, HI 96811



tripler.ca

Dear Mr. Gorst:

WILSON OKAMOTO & ASSOCIATES

Thank you for giving us the privilege to provide comments to your upcoming environmental assessment for the construction of a Forensic Toxicology Drug Testing Laboratory to be located at Tripler Army Medical Center. Since the location of the proposed laboratory is within the grounds of the Medical Center and adjacent to an existing building, I do not foresee any environmental concerns which would affect the construction of this laboratory.

Should you have any further questions, please feel free to call Wayne F. Ching of my staff at 548-8850.

Very truly yours,

Michael G. Buck
Administrator



United States Department of the Interior

FISH AND WILDLIFE SERVICE
PACIFIC ISLANDS OFFICE

P.O. BOX 50187
HONOLULU, HAWAII 96850

RECEIVED
MAR 05 1991

March 1, 1991

Mr. Bruce Gorst
Wilson Okamoto & Associates
P. O. Box 3530
Honolulu, Hawaii 96811

WILSON OKAMOTO & ASSOCIATES

Subject: Environmental Assessment for Construction of FY 94 Forensic
Toxicology Drug Testing Laboratory, Tripler Army Medical Center,
Oahu, Hawaii

Dear Mr. Gorst:

This responds to your February 25, 1991 letter of the same subject requesting information on plant and animal species within this Service's jurisdiction which may be affected by the proposal.

There are no endangered or threatened species of plants or animals or other resources within our jurisdiction which would be located in the area of, or would be affected by, the construction and operation of the facility.

Thank you for the opportunity to comment on the proposal.

Sincerely,

Robert P. Smith
Field Supervisor
Pacific Islands Office

APPENDIX B

Inventory of Laboratory Chemicals

