DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
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KIRK CALDWELL
MAYOR

ROBERT J. KRONING, P.E.
DIRECTOR

ARK YONAMINE, P.E.
DEPUTY DIRECTOR

April 29, 2015

Virginia Pressler, M.D., Director
Office of Environmental Quality Control
State of Hawaii Department of Health
235 South Beretania Street, Room 702
Honolulu, Hawaii 96813

Dear Dr. Pressler:

Subject: Manana Corporation Yard Improvements

With this letter, the Department of Design and Construction hereby transmits the Draft Environmental Assessment and Anticipated Finding of No Significant Impact (DEA-AFONSI), for the Manana Corporation Yard Improvements situated at TMK: (1) 9-7-024:041 in the Manana District on the island of Oahu. Please submit this for publication in the next available edition of the Environmental Notice.

Enclosed is a completed Office of Environmental Quality Control Publication Form, two (2) copies of the DEA-AFONSI, and Adobe Acrobat file of the same, and an electronic copy of the publication form in MS Word. Simultaneous with this letter, we have submitted the summary of the action in a text file by electronic mail to your office.

Should there be any questions, please contact John Condrey at 768-8468.

Very truly yours,

Robert J. Kroning, P.E.
Director

RJK:ln

Enclosures

AGENCY ACTIONS
SECTION 343-5(B), HRS
PUBLICATION FORM (FEBRUARY 2013 REVISION)

Project Name Mānana Corporation Yard Improvements
Island: O'ahu
District: Mānana
TMK: (1) 9-7-024:041
Permits: Community Noise Permit
National Pollutant Discharge Elimination System (Stormwater Associated with Construction)
State Asbestos Rules
Lead Based Paint Regulations
Grubbing and Grading Permit
Building Permit

Proposing/Determination Agency:
City and County of Honolulu
Department of Design and Construction
Facilities Division
650 South King Street, 11th Floor
Honolulu, Hawai'i 96813
Contact: John Condrey
(808) 768-8468

Accepting Authority:
(for EIS submittals only)

Consultant:
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawai'i 96826
Contact: Milton Arakawa
(808) 946-2277

Status (check one only):

X DEA-AFNSI	Submit the proposing agency notice of determination/transmittal on agency letterhead, a hard copy of DEA, a completed OEQC publication form, along with an electronic word processing summary and a PDF copy (you may send both summary and PDF to oeqchawaii@doh.hawaii.gov); a 30-day comment period ensues upon publication in the periodic bulletin.
__FEA-FONSI	Submit the proposing agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and a PDF copy (send both summary and PDF to oeqchawaii@doh.hawaii.gov); no comment period ensues upon publication in the periodic bulletin.
__FEA-EISPN	Submit the proposing agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and PDF copy (you may send both summary and PDF to oeqchawaii@doh.hawaii.gov); a 30-day consultation period ensues upon publication in the periodic bulletin.
__Act 172-12 EISPN	Submit the proposing agency notice of determination on agency letterhead, an OEQC publication form, and an electronic word processing summary (you may send the summary to oeqchawaii@doh.hawaii.gov). NO environmental assessment is required and a 30-day consultation period upon publication in the periodic bulletin.
__DEIS	The proposing agency simultaneously transmits to both the OEQC and the accepting authority, a hard copy of the DEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the DEIS (you may send both the summary and PDF to oeqchawaii@doh.hawaii.gov); a 45-day comment period ensues upon publication in the periodic bulletin.

__FEIS	The proposing agency simultaneously transmits to both the OEQC and the accepting authority, a hard copy of the FEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the FEIS (you may send both the summary and PDF to oeqchawaii@doh.hawaii.gov); no comment period ensues upon publication in the periodic bulletin.
__ Section 11-200-23 Determination	The accepting authority simultaneously transmits its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS to both OEQC and the proposing agency. No comment period ensues upon publication in the periodic bulletin.
__Section 11-200-27 Determination	The accepting authority simultaneously transmits its notice to both the proposing agency and the OEQC that it has reviewed (pursuant to Section 11-200-27, HAR) the previously accepted FEIS and determines that a supplemental EIS is not required. No EA is required and no comment period ensues upon publication in the periodic bulletin.
__Withdrawal (explain)	

Summary (Provide proposed action and purpose/need in less than 200 words. Please keep the summary brief and on this one page)**:**

The proposed action is for the redevelopment of the existing 7.8 acre City baseyard in Mānana. The upper area of the project site is approximately 5 acres which contains two former U.S. Navy warehouses and other portable structures. The lower 2.8 acres is approximately 15 feet lower in elevation and is used for open storage and employee parking. The site currently houses portions of three City agencies. The structures are aging and the City departments are in need of additional and more efficient baseyard space. One of the agencies, the Department of Transportation Services, intends to move out of the site. The Department of Facility Maintenance, Traffic and Electrical Maintenance Services would occupy a new warehouse and administration building with a footprint of approximately 25,525 square feet, City vehicle and employee parking, open storage, and other improvements on the lower 2.8 acres of the site. The Department of Parks and Recreation, Maintenance Support Services would occupy a new warehouse of approximately 40,160 square feet plus an 11,400 square foot mezzanine, City vehicle and heavy equipment parking, open and bulk storage on a 4.4 acre portion of the upper area. An approximately 0.6 acre area within the upper area is reserved for future development.

Draft
Environmental Assessment

Mānana Corporation Yard Improvements

Mānana, Oʻahu, Hawaiʻi

Tax Map Keys: (1) 9-7-024: 041

Prepared For

CITY AND COUNTY OF HONOLULU
DEPARTMENT OF DESIGN AND CONSTRUCTION

Prepared By

WILSON OKAMOTO CORPORATION

May 2015

DRAFT ENVIRONMENTAL ASSESSMENT

MĀNANA CORPORATION YARD IMPROVEMENTS

Mānana, Oʻahu, Hawaiʻi

Tax Map Key: (1) 9-7-024: 041

Prepared For:

City and County of Honolulu
Department of Design and Construction
650 South King Street, 11th Floor
Honolulu, Hawaiʻi 96813

Prepared By:

Wilson Okamoto Corporation
Engineers and Planners
1907 South Beretania Street, Suite 400
Honolulu, Hawaiʻi 96826
WOC Job No. 7995-01

May 2015

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PREFACE

This Draft Environmental Assessment (EA) / Anticipated Finding of No Significant Impact (FONSI) has been prepared pursuant to Chapter 343, Hawai'i Revised Statutes (HRS), and Title 11, Chapter 200, Hawai'i Administrative Rules (HAR), Department of Health, State of Hawai'i. The City and County of Honolulu Department of Design and Construction is proposing Mānana Corporation Yard Improvements in Mānana, O'ahu, Hawai'i (TMK: 9-7-024:041). The City and County of Honolulu currently utilizes the 340,150 square feet (7.8 acres) site as a baseyard for portions of three City agencies. The existing warehouses on the property were part of the U.S Navy spare parts distribution and supply warehouses prior to, during and after the World War II era. The existing structures are aging and the City departments are in need of additional and more efficient baseyard space.

The proposed baseyard improvements project involves two phases. Phase 1 involves redevelopment of the lower approximately 2.8 acre area of the project site for the Department of Facility Maintenance, Public Building and Electrical Maintenance Division, Traffic Electrical Maintenance Service Branch. Phase 2 involves an approximately 4.4 acre upper portion of the project site intended for Department of Parks and Recreation, Maintenance Support Services. An additional approximately 0.6 acre on the upper portion of the site is reserved for future development for City-related functions.

It is anticipated that a Finding of No Significant Impact (FONSI) will be issued and filed with the State Office of Environmental Quality Control (OEQC) by the approving agency following public review of the Draft EA.

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SUMMARY

Proposing Agency:	City and County of Honolulu Department of Design and Construction
Approving Agency:	City and County of Honolulu Department of Design and Construction
Location:	Mānana, Oʻahu, Hawaiʻi
Tax Map Key (TMK):	(1) 9-7-024:041
Recorded Fee Owner:	City and County of Honolulu
Existing Use:	Industrial baseyard for portions of three City agencies
State Land Use Classification:	Urban
Development Plan Designation:	Industrial
County Zoning Designation:	Industrial-Commercial Mixed Use District (IMX-1)
Proposed Action:	The proposed action assessed herein is for the redevelopment of the existing 7.8 acre City baseyard in Mānana. The upper area of the project site is approximately 5 acres which contains two former U.S. Navy warehouses and other portable structures. The lower approximately 2.8 acres is approximately 15 feet lower in elevation and is used for open storage and employee parking. The site currently houses portions of three City agencies. The structures are aging and the City departments are in need of additional and more efficient baseyard space. One of the agencies, the Department of Transportation Services, intends to move out of the site. The Department of Facility Maintenance, Traffic and Electrical Maintenance Services would occupy a new warehouse and administration building footprint of approximately 25,525 square feet, City vehicle and employee parking, open storage, and other improvements on the lower 2.8 acres of the site. The Department of Parks and Recreation, Maintenance Support Services would occupy a new warehouse of approximately 40,160 square feet plus an 11,400 square foot mezzanine, City vehicle and heavy equipment parking, open and bulk storage on a 4.4 acre portion of the upper area. An approximately 0.6 acre area within the upper area is reserved for future development.

Impacts: Applicable construction and permanent best management practices and erosion control measures will be implemented to address soil erosion issues. No significant impacts to flora and fauna are anticipated as a result of construction or operation of the project. No archaeological or cultural sites are known to exist on the property due to extensive grading and other modifications conducted on the property associated with previous agricultural and military use. Air quality, noise and hazardous materials impacts will be mitigated in compliance with applicable Department of Health rules. No significant increase in traffic generation is anticipated as a result of the proposed project. No significant impacts regarding water, wastewater, drainage, electrical and communications systems are anticipated. However, further coordination with applicable agencies should occur prior to start of construction for each phase.

Anticipated Determination: Finding of No Significant Impact (FONSI)

Parties Consulted During Pre-Assessment:

Federal Agencies

National Marine Fisheries Office, Pacific Islands Regional Office
U.S. Army Corps of Engineers
U.S. Department of the Interior, Fish and Wildlife Service

State Agencies

Department of Accounting and General Services
Department of Education
Department of Business, Economic Development and Tourism
Department of Business, Economic Development and Tourism, Land Use Commission
Department of Business, Economic Development and Tourism, Office of Planning
Department of Health
Department of Health, Office of Environmental Quality Control
Department of Health, Clean Water Branch
Department of Health, Environmental Management Division
Department of Health, Environmental Planning Office
Department of Land and Natural Resources
Department of Land and Natural Resources, Historic Preservation Division
Department of Land and Natural Resources, Office of Conservation & Coastal Lands
Department of Land and Natural Resources, Land Division
Department of Transportation
Office of Hawaiian Affairs

City and County of Honolulu Legislative Branch

Mr. Ernest Martin, Chair, City Council
Mr. Breene Harimoto, Councilmember, City Council (succeeded by Brandon Elefante)

City and County of Honolulu Agencies

Board of Water Supply
Department of Community Services
Department of Design and Construction, Civil Division
Department of Design and Construction, Wastewater Division
Department of Environmental Services
Department of Facility Maintenance
Department of Parks and Recreation
Department of Planning and Permitting
Department of Transportation Services

Honolulu Authority for Rapid Transportation
Honolulu Fire Department
Honolulu Police Department

Other Interested Parties and Individuals
Pearl City Neighborhood Board No. 21

1. INTRODUCTION

1.1 Location

The City and County of Honolulu Department of Design and Construction is proposing Mānana Corporation Yard Improvements in Mānana, O'ahu, Hawai'i (TMK: 9-7-024:041). The City and County of Honolulu currently utilizes the 340,150 square feet (7.8 acres) site as a baseyard for portions of three City agencies. See Figure 1.

The Department of Parks and Recreation (DPR), Maintenance Support Services (MSS) contains five operating Sections and one Repair Unit located at the Mānana site. These include Trade Sections (Carpentry, Masonry, Painting, Plumbing and Welding), Chemical Section, Heavy Equipment Section, Utility Section, Fertilizer Section, and Mower Repair/Section as well as administrative staff. The Department of Facility Maintenance (DFM), Public Building and Electrical Maintenance Division (PBEM), Traffic Electrical Maintenance Service Branch (TEMS) has administrative offices, storage and field crews at the Mānana Baseyard. The Department of Transportation Services (DTS) Traffic Signal Maintenance Section also is currently located at the Mānana Baseyard. An open parking lot and open storage area are shared by DPR, DFM and DTS.

This Draft Environmental Assessment (EA) has been prepared to satisfy the requirements of Chapter 343, Hawaii Revised Statutes, and Title 11, Chapter 200, Hawai'i Administrative Rules (HAR), State Department of Health. This EA is required since County funds will be used for the design and construction of the proposed improvements. No Federal funds are involved in the design or construction of the project.

1.2 Background

The project site is a part of the larger 109 acre Mānana Naval Distribution Center. The subject Mānana site represents a portion of the significant military activity and related development which occurred on O'ahu prior to, during and after World War II. Mānana was the site of a spare parts distribution center and other supply depot warehouses. Built by the 117th Battalion, between March and September 1944, it contained 18 warehouses which provided 626,000 square feet of covered storage space. Portions of other battalions also assisted the 117th Battalion in developing 20 additional buildings for the supply depot.

In the 1970's and 1980's, the Mānana site was used to collect, stage, and transfer hazardous and non-hazardous materials recovered from Pacific Rim military facilities. After the Navy ceased operations on-site, the State of Hawai'i was granted purchasing rights for the property through a legal agreement between the City and County of Honolulu, Navy and the State of Hawai'i. This agreement allowed the property to be sold under the condition that the Navy

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WILSON OKAMOTO CORPORATION

MANANA CORPORATION YARD IMPROVEMENTS
MANANA, OAHU, HAWAII

LOCATION MAP

FIGURE
1

would conduct a site remediation in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act. Preliminary remediation surveys conducted by the Navy found the site's underlying soil to be contaminated with arsenic necessitating clean up. Purchasing rights then transferred to the City and County of Honolulu. In 1993, the property sold for $109 million for the 109 acre Mānana Storage Area and the nearby 14 acre Pearl City Junction property. See Figure 2.

In 1995, the City established a Pearl City Planning Task force to develop community–based land use recommendations for the property. The City Department of Housing and Community Development worked with the Task Force to develop a conceptual redevelopment plan for the properties. The resulting master plan for the Mānana Storage Area included commercial (retail and office) space, public facilities, a community park, a family entertainment center, medical facilities and light industrial sites. Space for a 21 acre Pearl City Bus Facility and a Board of Water Supply Corporation Yard were specifically included in the original conceptual plan. (City and County of Honolulu Department of Housing and Community Development, May 1996). See Figure 3. A subsequent revision which was done for the "Spine Road" (currently Kuala Street) which links Moanalua Road to Acacia Road, also includes space for the Department of Parks and Recreation and the Department of Transportation Services. (City and County of Honolulu Department of Design and Construction, February 1999). See Figure 4.

In the meantime, the Navy worked with the Environmental Protection Agency in the development of clean up goals and a Final Remedy. The removal action for contaminated soil occurred in 1996. City and County of Honolulu agencies have utilized the site for general warehouse and maintenance operations since then. In 2003, a comprehensive study of the groundwater was completed, and Wal-Mart purchased a portion of the site. In 2006, a decision that required no further remediation was issued. (NAVFAC Hawai'i, September 2006).

The City rezoned approximately 112 acres of the Mānana Storage Area from F-1 Military and Federal Preservation District and the R-5 Residential District to the IMX-1 Industrial-Commercial Mixed Use District, with a 60-foot height limit, and the P-2 General Preservation District with a 25-foot height limit. See Figure 5. Ordinance No. 02-13 took effect on May 3, 2002. A Unilateral Agreement and Declaration for Conditional Zoning (hereafter Unilateral Agreement) was incorporated by reference.

The Unilateral Agreement contains several notable provisions which affect the subject Mānana Corporation Yard property. A 20-foot landscaping buffer between existing apartment or residential uses and the IMX-1 District is required. Also, where a zoning lot in the IMX-1 District adjoins a residential or apartment district, no portion of a structure can exceed 15 feet in height along the buildable area boundary line on the adjoining side of the IMX-1 zoning lot. However,

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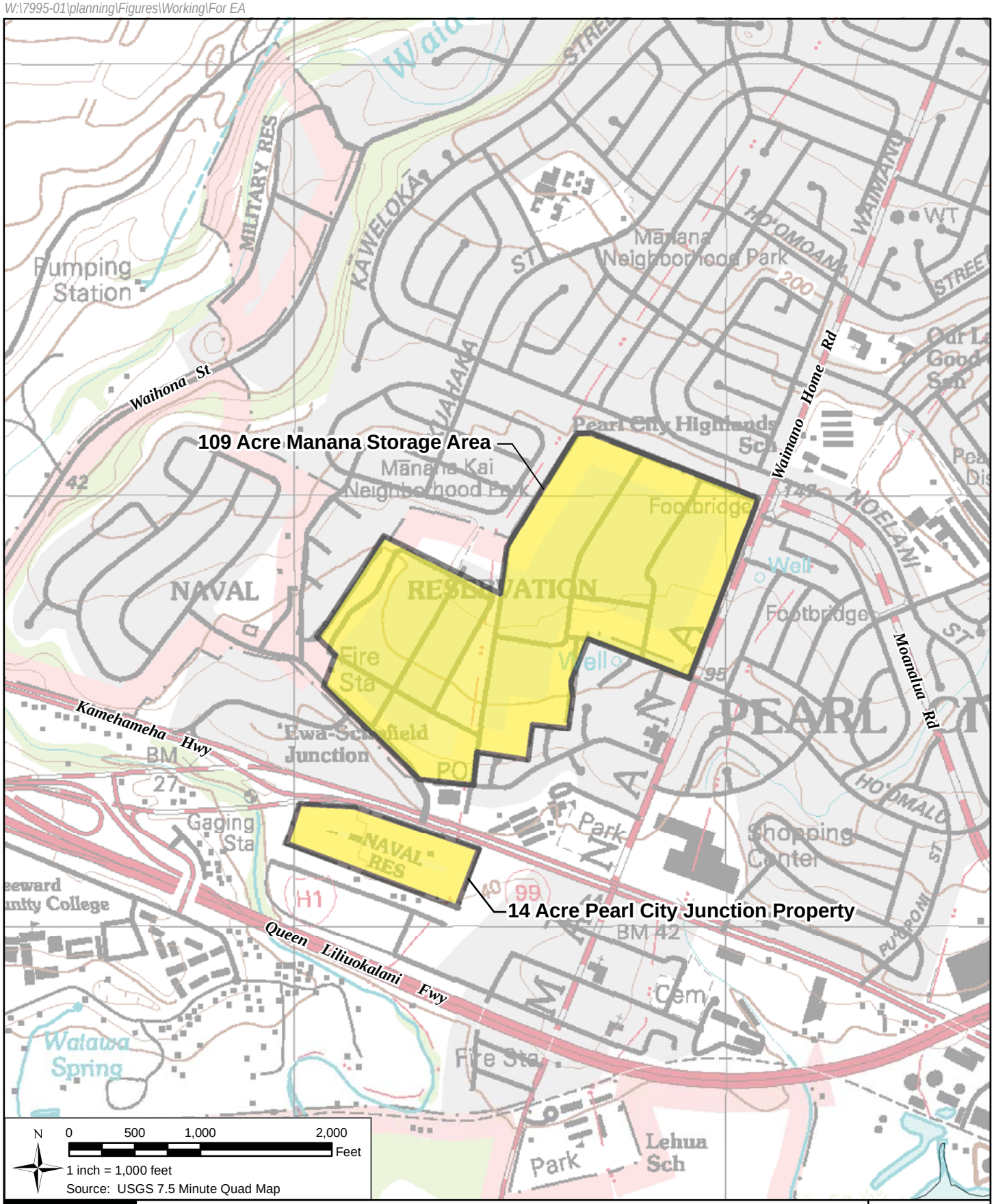

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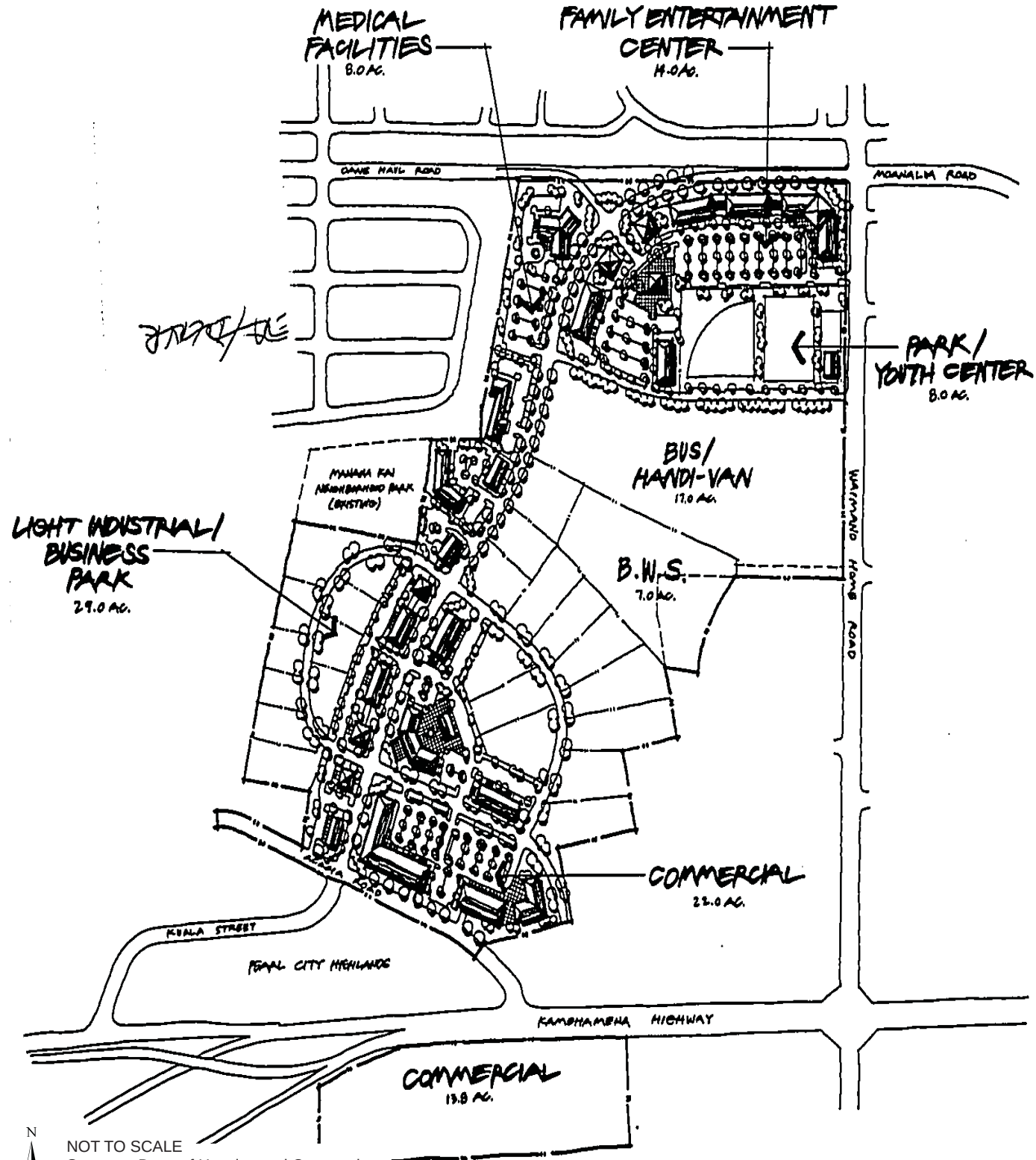
MANANA CORPORATION YARD IMPROVEMENTS
MANANA, OAHU, HAWAII

MANANA LANDS PURCHASED BY THE CITY AND COUNTY OF HONOLULU FROM THE FEDERAL GOVERNMENT IN 1993

FIGURE
2



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NOT TO SCALE

Source: Dept. of Housing and Community Development, May 1996

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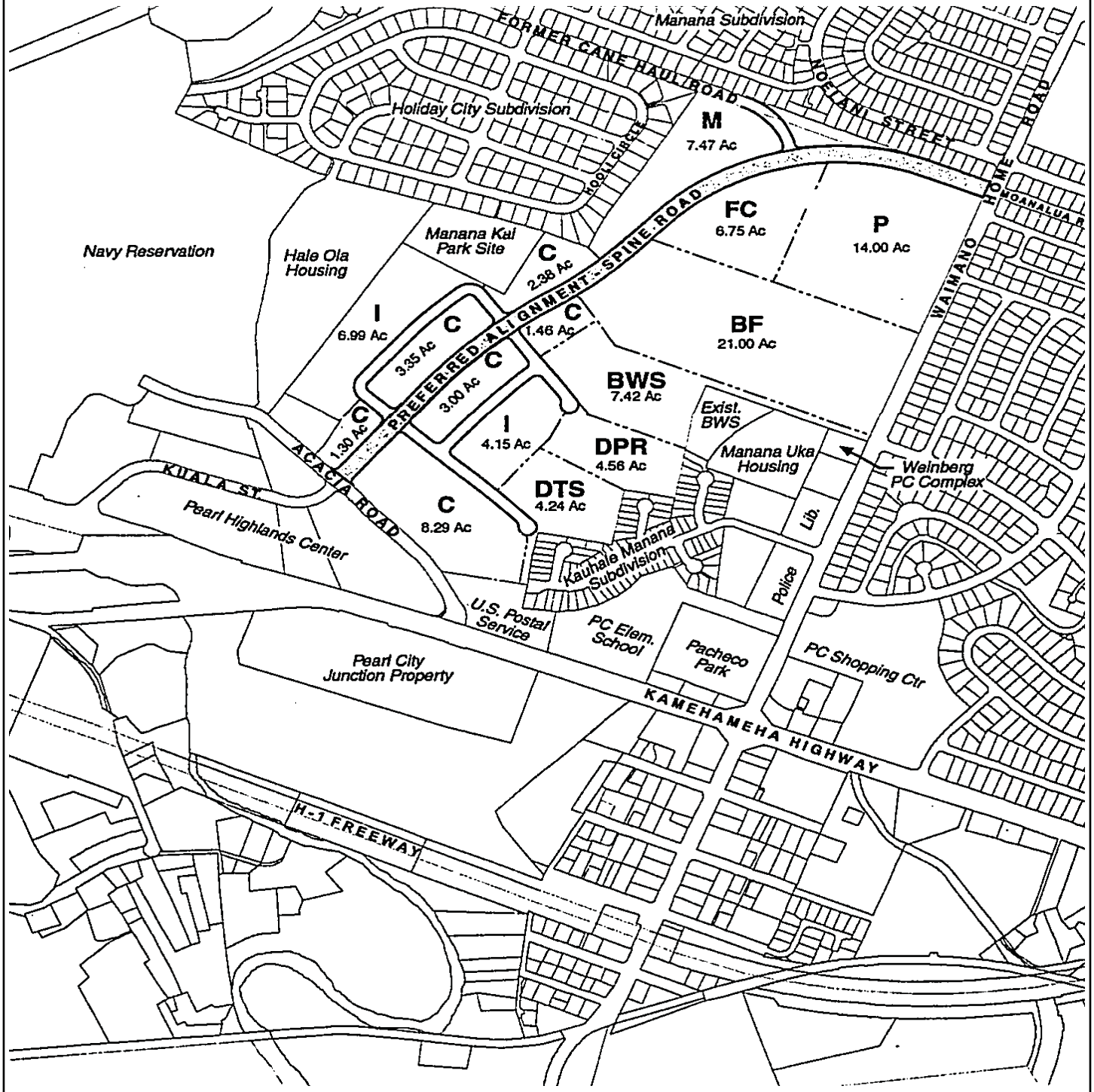
MANANA CORPORATION YARD IMPROVEMENTS
MANANA, OAHU, HAWAII

PEARL CITY PLANNING TASK FORCE CONCEPT REDEVELOPMENT PLAN, 1995

FIGURE 3



LEGEND

BF	Bus Facility	FC	Family Center
BWS	Board of Water Supply	I	Industrial
C	Commercial	M	Medical
DPR	Dept. of Parks & Recreation	P	Park
DTS	Dept. of Transportation Services		

0 750 1500 Feet

N

Source: Dept. of Design and Construction, February 1999

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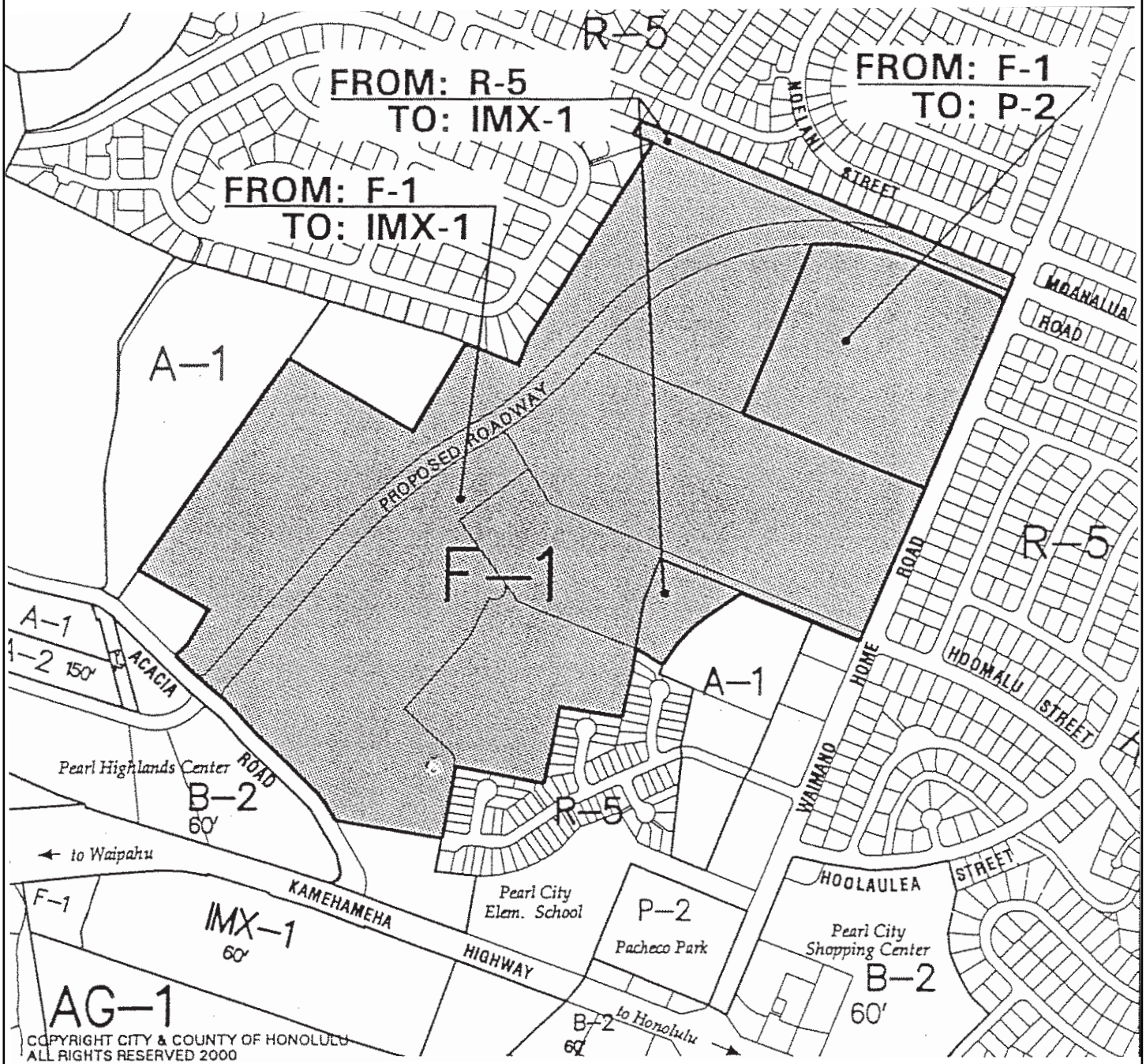
MANANA CORPORATION YARD IMPROVEMENTS
MANANA, OAHU, HAWAII

MANANA DEVELOPMENT SPINE ROAD

FIGURE 4



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MANANA CORPORATION YARD IMPROVEMENTS
MANANA, OAHU, HAWAII

REZONING OF MANANA PROPERTIES
(ORDINANCE NO. 02-13)

FIGURE
5

additional height may be permitted if the additional height is set back one foot from the buildable area boundary line for each 2 feet in height or fraction thereof. The Unilateral Agreement also requires the submittal of a landscape and landscape maintenance plan to the Department of Planning and Permitting.

2. Project Description

2.1 Purpose and Need

Since the existing warehouse structures were built around World War II, the structures are aging and in various states of deterioration. Although some repair and renovation of the project site and warehouse structures has been done over time, it is increasingly apparent that the site and structures have some inherent shortcomings and do not fully meet the needs of the City agencies.

The DFM PBEM Division, TEMS Branch currently occupies a part of the parking area and portion of a warehouse identified as Building 15 originally built by the U.S. Navy. See Figure 6. The TEMS Branch uses the warehouse space for material, supplies, and equipment storage and shop space. The administrative offices, lockers and showers are located in temporary structures east of the warehouse in another portion of the yard. TEMS shares a portion of the employee parking lot and utilizes a portion of the parking lot for exterior storage. In addition, exterior items are stored at the City's Corporation Yard near the Kapa'a Quarry. The Mānana and Kapa'a sites were the only two locations assigned to the Street Lighting Electrical Services Branch. However, the Kapa'a site has been closed. So, TEMS materials from Kapa'a have been moved to Mānana.

The existing warehouse lacks proper equipment and facilities for storage of material, supplies, and equipment used by the Electrical Services Branch. The separation of the warehouse and the administrative functions is not operationally efficient. Also, during heavy rain events, surface flows flood the warehouse floor.

It is noted that DTS also currently occupies a portion of Building 15, a portion of office space in temporary buildings and shares the use of the employee parking area. DTS functions are intended to be moved off-site to other existing DTS facilities. Thus, additional analysis on future DTS expansion space is not part of the scope of the EA.

The DPR MSS occupies an adjacent warehouse originally built by the U.S. Navy identified as Building 16 and shares a portion of the employee parking lot with DFM and DTS. MSS has undertaken repairs to the warehouse, including roof repairs. Interior spaces within the warehouse contain shops, storage, and administrative functions. MSS is able to park most of their assigned City-owned vehicles inside the warehouse at night.

It is noted that employee parking for the three agencies and exterior storage utilized by DFM occupy a semi-improved open area south of the two warehouses. Since the elevation of the approximately 2.8 acre area is about 15 feet lower than the area occupied by the warehouses and lacks a drainage system, ponding of water occurs during rain events.

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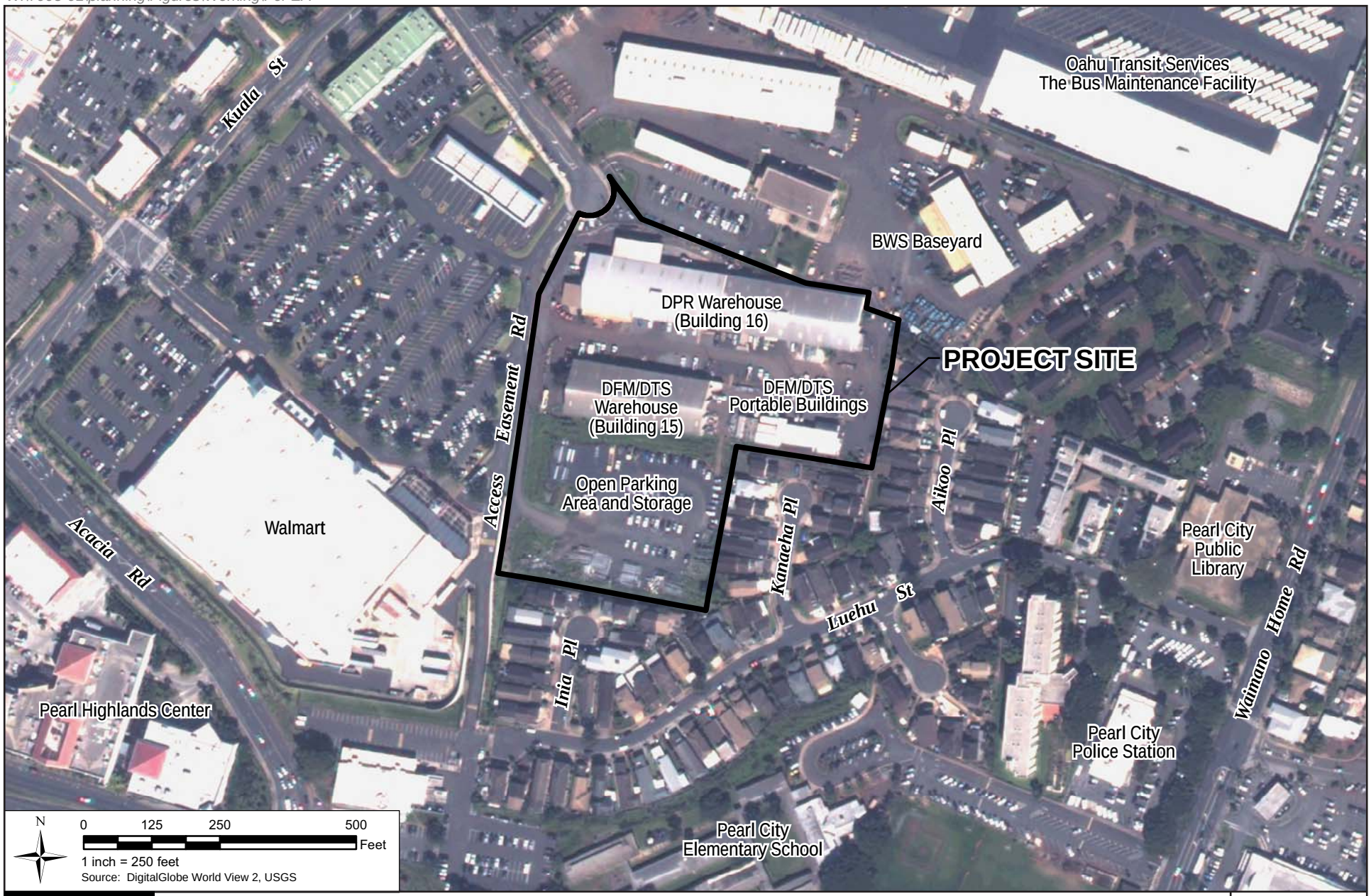

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MANANA CORPORATION YARD IMPROVEMENTS
MANANA, OAHU, HAWAII

AERIAL VIEW

FIGURE
6

2.2 Surrounding Uses

The project site is located in the residential community of Mānana-Pearl City. There are approximately 47,698 people living in this Leeward Oʻahu suburb according to 2010 U.S. Census figures. A number of other residential communities are located adjacent to and near Pearl City, including Waipahu, Crestview, Seaview, Waipiʻo Gentry, and Waikele to the northwest and Waimalu, Newtown and ʻAiea to the southeast.

A number of commercial and community facilities serve Mānana and Pearl City. Kamehameha Highway and Waimano Home Road are the two main roadways that provide access through the community. Kamehameha Highway is the primary thoroughfare through Pearl City, Waimalu and ʻAiea. Commercial strip development primarily fronts Kamehameha Highway through this area. Waimano Home Road is the predominant mauka-makai access through Pearl City.

In the immediate vicinity of the project site, Wal-Mart is located to the west, the Kauhale Mānana Subdivision is located to the east and south, and the Board of Water Supply's (BWS) baseyard to the north. A portion of the existing building utilized by DPR extends into the BWS Mānana yard parcel.

2.3 Existing Site Plan

The site is physically divided into two areas, an upper area and lower area, which are distinguished by an approximately 15 foot elevation difference. Approximately 5 acres in area, the upper area has two large warehouse buildings (Building 15 and 16) and portable field offices. Access to the upper area is provided through a gated driveway from an access easement road connected to Makolu Street. Within the upper area of the property, a paved driveway bisects the two buildings. Uncovered parking for large City trucks and miscellaneous storage are located next to the buildings. Each warehouse has multiple gated entrances with a central driveway within a warehouse allowing trucks to drive directly in and out into each storage space.

The approximately 2.8 acre lower area of the property is square-shaped with a grass berm to the north, Wal-Mart on the western end and residential homes from Inia Place on the southern end and residential homes off of Kanaeha Place to the east. Access to the lower section is through a second gated entrance from the easement road. The driveway leads into an unpaved parking area surrounded by DFM storage of street light pole materials. The parking lot is shared by DFM, DPR and DTS. There are no structures within the lower section. Lights and security cameras are located on utility poles. The cross slope across the lower area is approximately 1%. Approximately 80% of the lower area is a

paved/gravel parking lot surrounded by grass covered areas used for open storage. See Figure 7.

2.4 Operations

The DFM TEMS functions include the repair and maintenance of street light pole and light fixtures within City rights of way and parks. This also includes maintenance and replacement of street light bulbs and park light bulbs. The TEMS planned organization chart, as of March 21, 2011 shows 58 positions (46 field positions and 12 office positions).

DPR MSS functions involve the repair and maintenance of City parks. This includes operating sections for lawn mower repair/service, welding, masonry, plumbing, carpentry, paint, sign, electrical, chemical, and heavy equipment. The planned MSS organization chart as of April 5, 2011, includes 90 positions (70 field positions and 20 office positions).

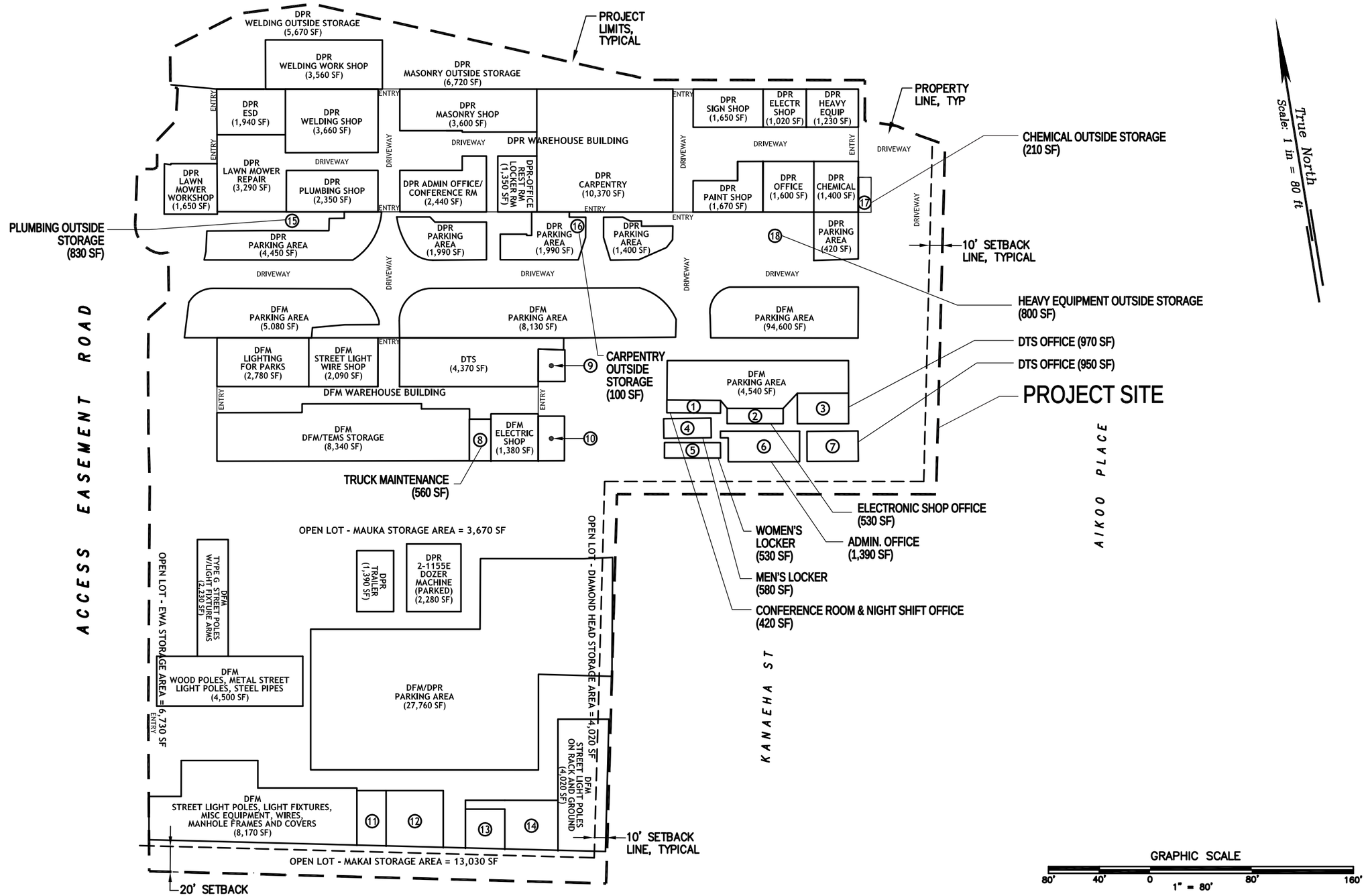
DTS currently has 10 Traffic Signal Maintenance staff which involves the maintenance and repair of City and County of Honolulu traffic signals.

Work hours for TEMS, MSS and DTS are primarily between 6:30 am to 3:30 pm. Personnel spend about 60 minutes each morning to get work assignments and mobilize for the day's field work. Crews return to the yard at approximately 2:30 pm to clean up and prepare necessary reports. Personnel depart starting at around 3:00 pm. There is a TEMS night crew shift which extends from 6:30 pm to 3:00 am. MSS and DTS also have emergency crews on stand by call out as needed. Yard lighting for night operations is required. See Figure 8.

2.5 Proposed Project

The proposed project is a two phase project. See Figure 9. DTS intends to move out of the site and will be accommodated at other existing DTS locations. This would provide space to move displaced functions temporarily within the site during the period of construction so that City services can still be provided.

Phase I involves redevelopment of the lower 2.8 acre area of the project site for the DFM. A new one-story administration building of approximately 4,320 square feet is proposed adjacent to the southwest corner of the site near the driveway terminus. Two accessible stalls are located adjacent to the administration building. A new warehouse structure is proposed to be attached to the administration building adjacent to the south property line and extend along the east property line of the lower area. The footprint of the warehouse is approximately 21,205 square feet. The structures are proposed to be constructed with concrete masonry unit (CMU) wall and insulated metal panel above. The roof is proposed to be standing seam metal. The warehouse is proposed with a sloping roof ranging in height from approximately 22 feet to 33



WILSON OKAMOTO CORPORATION

MANANA CORPORATION YARD IMPROVEMENTS
MANANA, OAHU, HAWAII

EXISTING SITE PLAN

FIGURE
7

Photo 1: View of Department of Parks and Recreation (DPR) Warehouse from Makolu Street.

Photo 2: View of DPR Lawn Mower Workshop Near Makolu Street Terminus.

Photo 3: Outside DPR Welding Workshop, Looking East. Board of Water Supply (BWS) Baseyard Located at Left of Photo.

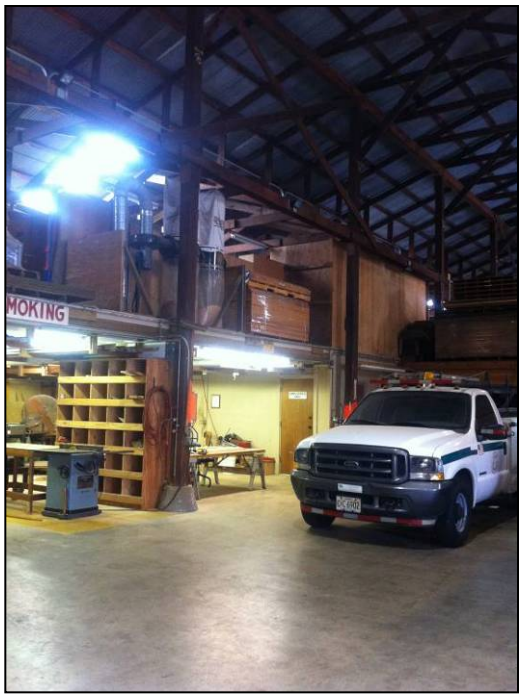


Photo 4: Inside DPR Carpentry Shop.

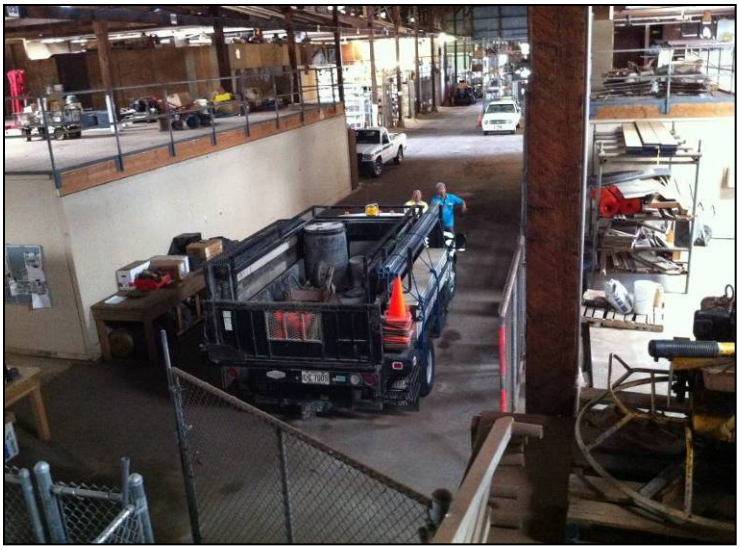


Photo 5: View of Interior of Maintenance Support Service (MSS) Warehouse.

Photo 6: Outside of DPR Chemical Section, Looking South. Adjacent Residential Area Located at Left of Photo.

Photo 7: Outside of DPR Chemical Section.

Photo 8: Driveway and City Vehicle Parking Located Between Warehouse Buildings, Looking East.

Photo 9: Inside Department of Facilities Management (DFM) Lighting for Parks.

Photo 10: View of DFM/Department of Transportation Services (DTS) Portable Buildings.

Photo 11: View of DFM/DTS Portable Buildings From Adjacent Residential Subdivision (Kanaeha Place).

Photo 12: Stairway Connecting Upper to Lower Area. Residential Area to Left.

Photo 13: View of Elevation Difference Between Upper and Lower Areas. DFM/DTS Warehouse on Right of Photo.

Photo 14: View of Open Employee Parking Area from Makai Driveway.

Photo 15: View from Makai Driveway Toward DFM Storage at Southwest Corner of Site.

Photo 16: Looking South on Access Easement Which Leads to Makai Portion of Baseyard. Walmart Located on Right Portion of Photo.

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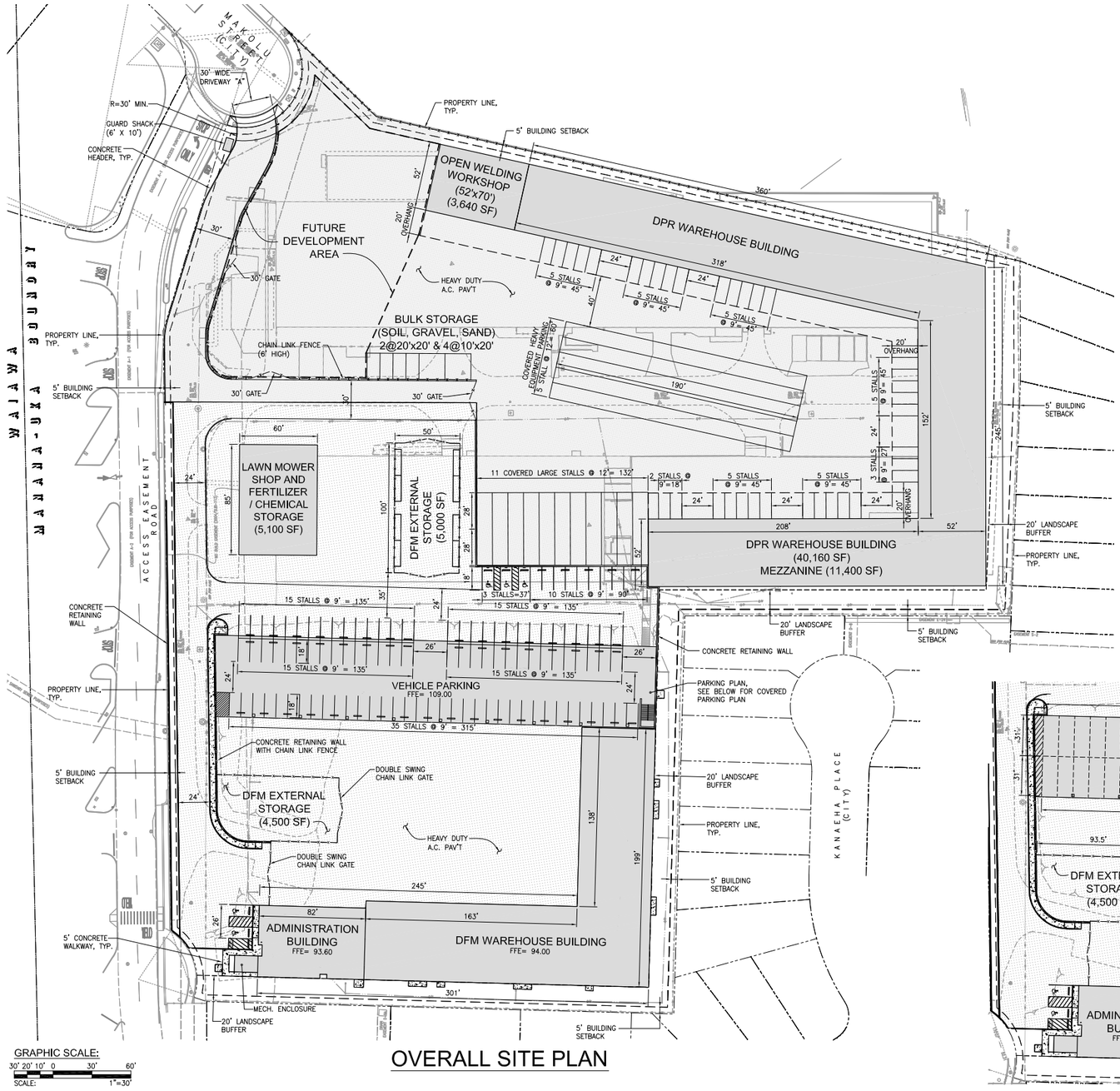


WILSON OKAMOTO CORPORATION

MANANA CORPORATION YARD IMPROVEMENTS
MANANA, OAHU, HAWAII

PROPOSED SITE PLAN

FIGURE
9

feet. The lower portion of the roof is oriented along the south and east property line. The warehouse structures are set back 20 feet from the property line. See Figure 10 and Figure 11.

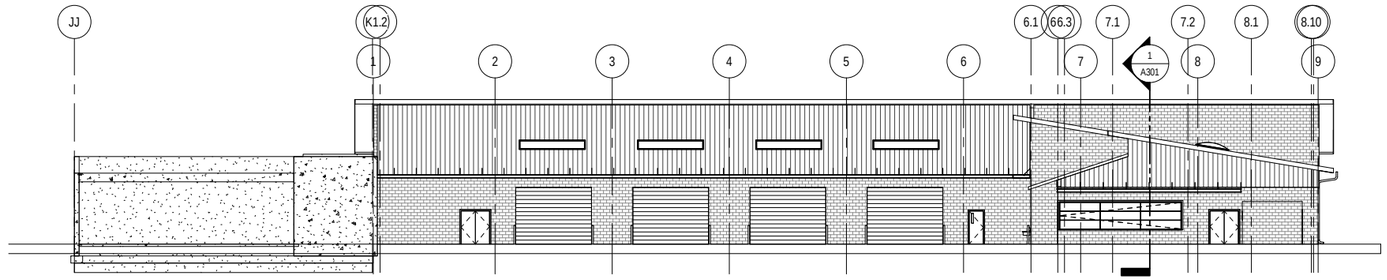
It is noted that the proposed development complies with applicable conditions of the Unilateral Agreement referenced in Ordinance No. 02-13. Proposed warehouse structures which abut residentially-zoned properties along the south and east property lines are set back 20 feet for the purpose of providing a landscape buffer. No portion of the warehouse structure abutting the south and east property lines will exceed 15 feet from finish floor along the buildable area boundary line (which is 15 feet from the property line). The warehouse roof is sloped higher away from the boundary so that it complies with the additional height setback of one foot from the buildable area boundary line for each 2 feet in height or fraction thereof.

A total of 44 City vehicle tandem parking stalls are proposed along the bottom level for TEMS assigned vehicles. The second level of the parking structure contains 95 parking stalls for employee parking. Ten additional employee parking stalls plus three accessible stalls are located on an adjacent portion of the upper area.

The Phase 1 driveway entrance is proposed near the driveway terminus extending from Makolu Street. The site would be secured with a chain link fence near the driveway entrance. The lower area parking would utilize the foregoing driveway entrance. Ingress and egress to the top parking level would be through the upper portion of the site.

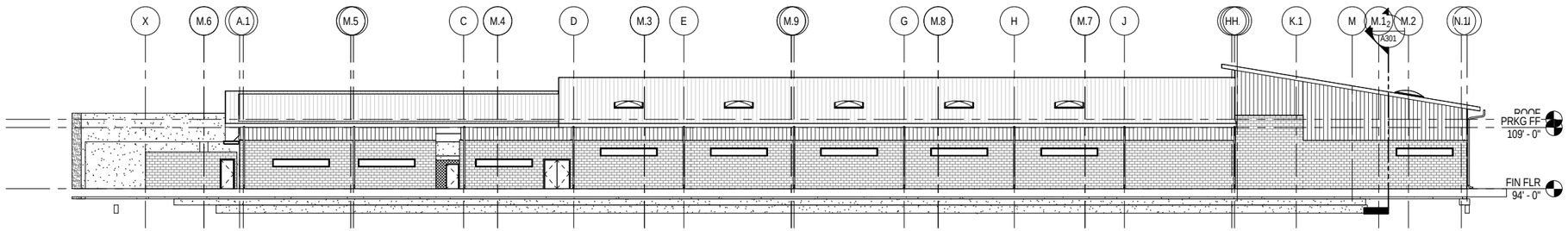
The central portion of the lower area of the site will be heavy duty asphalt concrete. This area between the warehouse and bottom level of City vehicle and equipment parking will function as access, staging and temporary parking areas. The lower area of the site also contains an approximately 4,500 square foot fenced external storage area for TEMS near the driveway entrance. The upper area of the site contains approximately 5,000 square feet of exterior fenced open storage area for TEMS. A portion of this area is currently occupied by the TEMS and DTS warehouse structure which would be demolished.

Phase II of the project involves construction of approximately 4.4 acres of the upper portion of the site for DPR. A new U-shaped warehouse building is located along the south, east and a portion of the north property lines of the upper portion of the site. A general building footprint occupies approximately 40,160 square feet of area plus an 11,400 square foot mezzanine. Along the frontages of the warehouse facing the interior of the site, there is an overhang extending approximately 20 feet from the structure which is intended for parking/loading purposes. There are 35 stalls designated for such purposes under the overhang. The structures are proposed to be constructed with concrete masonry unit (CMU) walls and insulated metal panel above. The roof is proposed to be standing



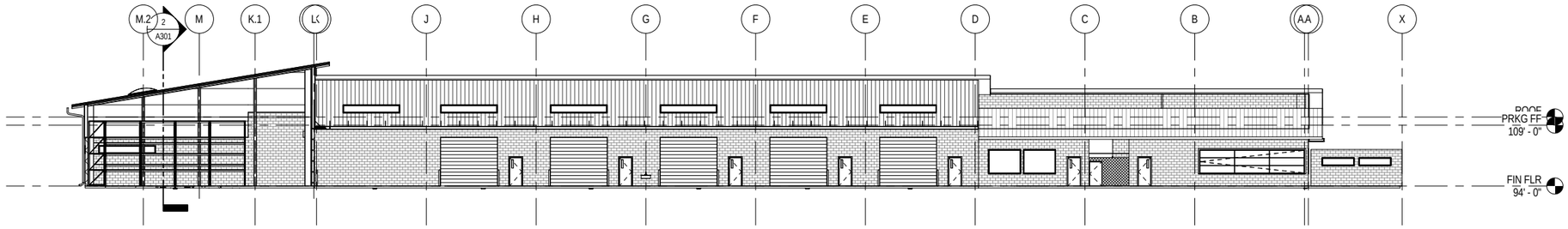
1 A201 ELEVATION 1

1/16" = 1'-0"



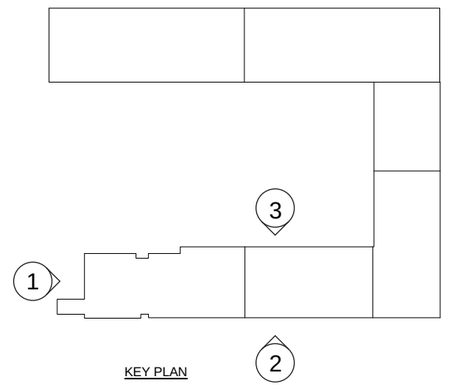
2 A201 ELEVATION 2

1/16" = 1'-0"



3 A201 ELEVATION 3 - OFFICES

1/16" = 1'-0"



KEY PLAN

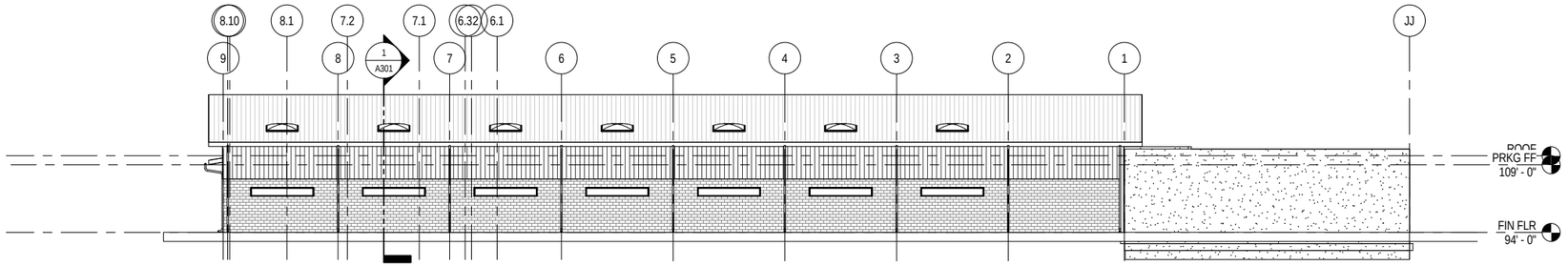
Source: Design Partners

WILSON OKAMOTO CORPORATION

MANANA CORPORATION YARD IMPROVEMENTS
MANANA, OAHU, HAWAII

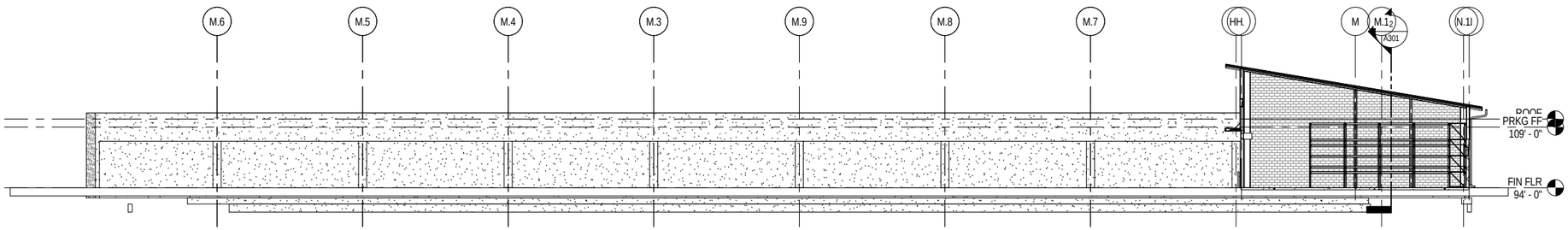
DEPARTMENT OF FACILITIES MAINTENANCE WAREHOUSE ELEVATIONS

FIGURE
10



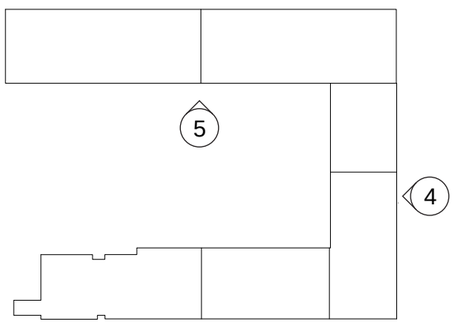
4 A202 ELEVATION 4

1/16" = 1'-0"



5 A202 ELEVATION 5 - PARKING

1/16" = 1'-0"



KEY PLAN

Source: Design Partners

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MANANA CORPORATION YARD IMPROVEMENTS
MANANA, OAHU, HAWAII

DEPARTMENT OF FACILITY MAINTENANCE WAREHOUSE ELEVATIONS

FIGURE
11

seam metal. The warehouse is proposed with a sloping roof ranging in height from approximately 22 feet to 33 feet from finish floor. The lower portion of the roof is oriented along the north, east and south property lines. The warehouse is set back 20 feet along the east and south property lines. Along the north property line which borders the Board of Water Supply baseyard, a 10 foot setback is observed. See Figure 12 and Figure 13.

Along the south and east property lines, the DPR warehouse complies with the conditions of the Unilateral Agreement referenced in Ordinance No. 01-13 in the same manner as the DFM warehouse.

Attached to the warehouse building adjacent to the north property line is an open welding workshop of approximately 3,640 square feet. A lawn mower shop of approximately 5,100 square feet is proposed closer to the southwest corner of the upper area of the site. Bulk storage of soil, gravel and sand is located near the western portion of the upper area.

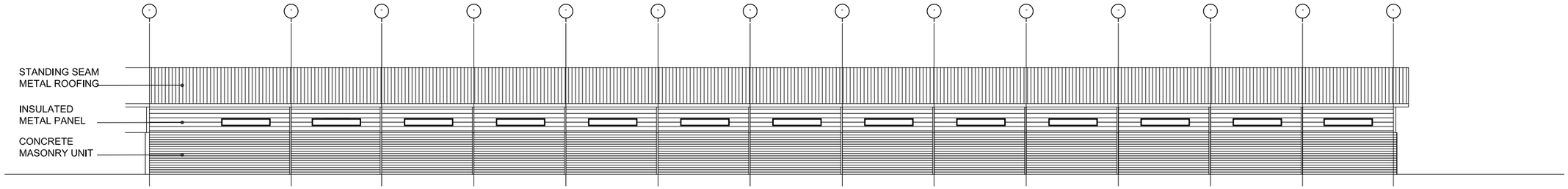
The central portion of the upper area is proposed to be paved with heavy duty asphalt concrete. An area for covered heavy equipment parking (60 feet x 190 feet) is located in the central portion of the upper area. A total of 22 tandem secured large covered stalls, each 12 feet by 28 feet in size, are located along the south portion of the upper area.

Access to the upper area would be through a driveway approximately 190 feet south of the Makolu Street terminus. A guard shack to provide security is planned at the driveway entrance.

Landscape treatment along the side and rear yards provide a buffer from adjacent residential development as well as the neighboring BWS yard. These include shrub screening hedges (such as Copper Leaf or Privet), street tree (such as Kou), shade tree (such as Harpulia), screening trees or palm (such as Podocarpus or Areca Palm), smaller trees (such as Bridal Veil Vertical Plumeria), ground covers (such as Wedelia). See Figure 14.

An approximately 0.6 acre area reserved for future development is set aside adjacent to the Makolu Street terminus. Details of development as well as the timing of development on this portion of the site are not known at this juncture. As City needs and demands for the space evolve over time, any development for this portion of the site will be subject to applicable development regulations at the time it is proposed.

Phase I of the project is anticipated to cost approximately $18 million. Construction is planned to extend from June 2016 to May 2017. No funding has been appropriated for Phase II of the project. Thus, the timing of Phase II of the project is subject to availability of funding. The timing of any construction for the



1 A101 ELEVATION 1
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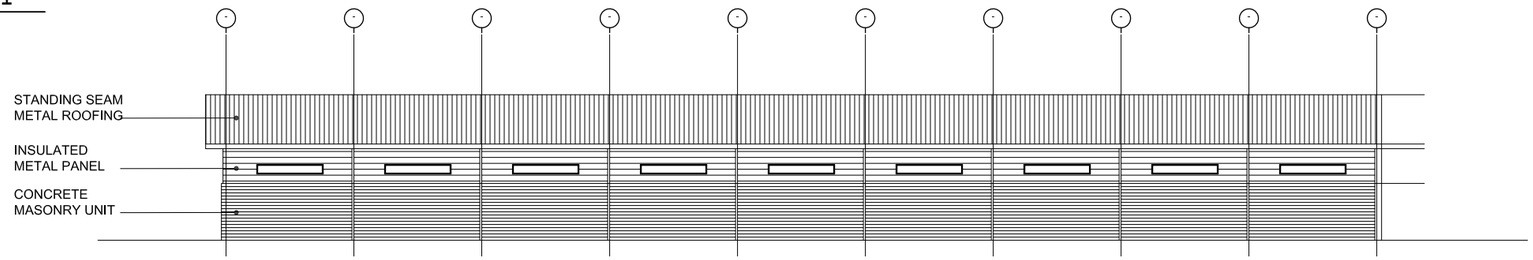
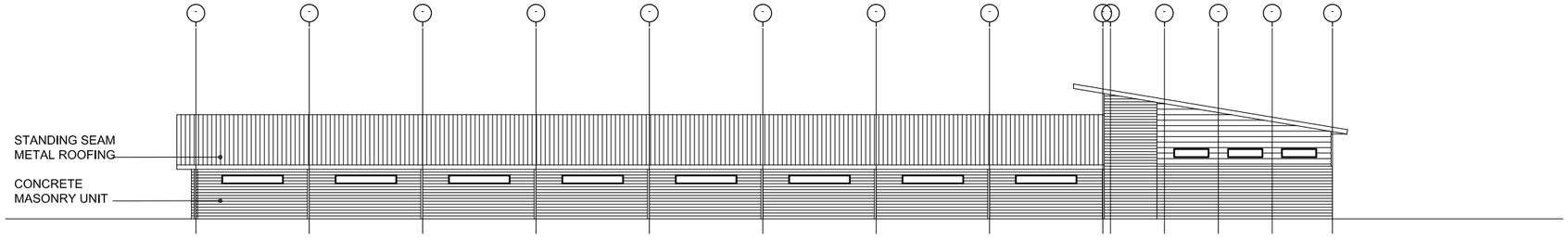


2 A101 ELEVATION 2
SCALE: 1/16" = 1' 0"



3 A101 ELEVATION 3
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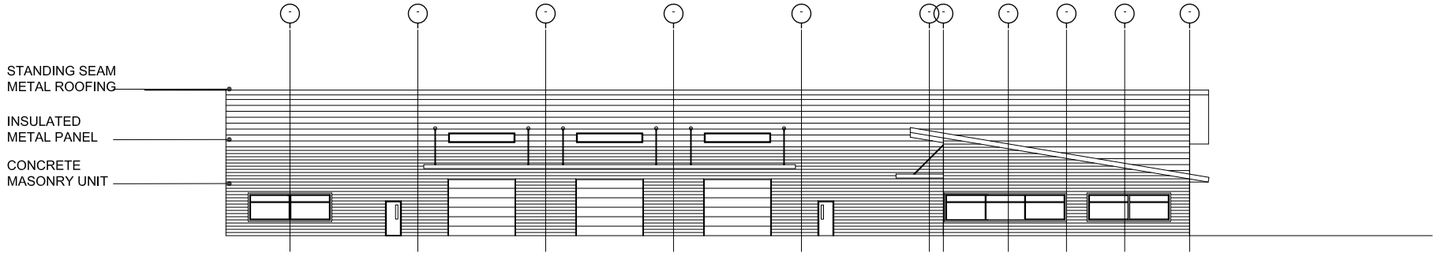

4 A101 ELEVATION 4
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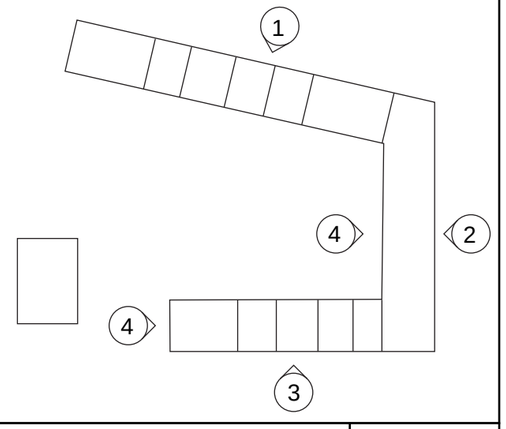


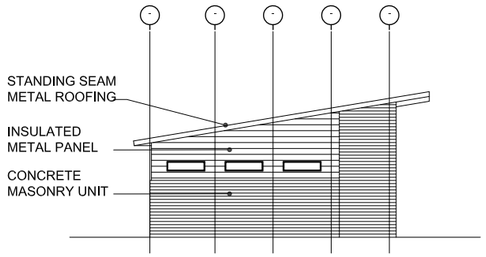
Source: Design Partners

WILSON OKAMOTO CORPORATION

MANANA CORPORATION YARD IMPROVEMENTS
MANANA, OAHU, HAWAII

DEPARTMENT OF PARKS AND RECREATION WAREHOUSE ELEVATIONS

FIGURE
12



7 A102 ELEVATION 7
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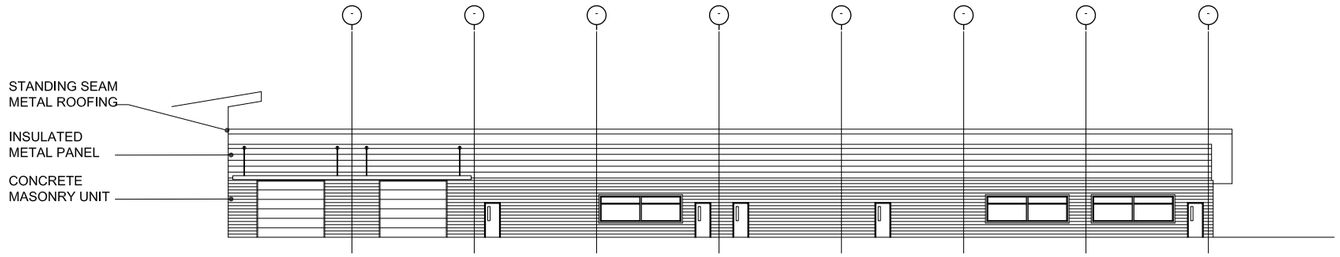

5 A102 ELEVATION 5
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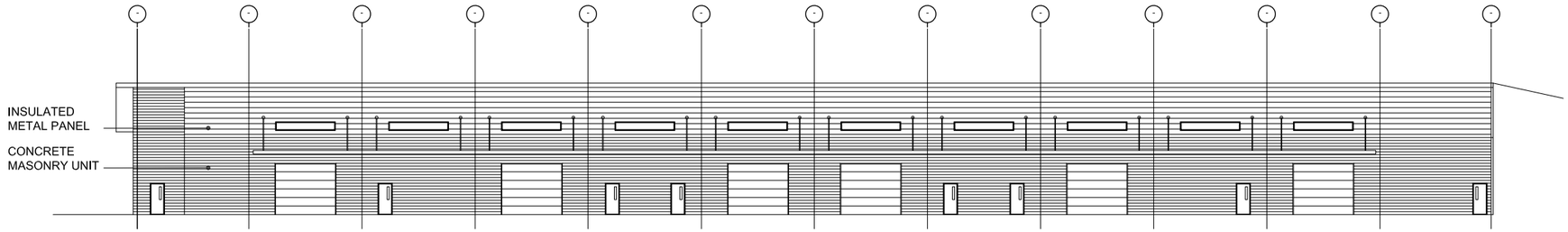

6 A102 ELEVATION 6
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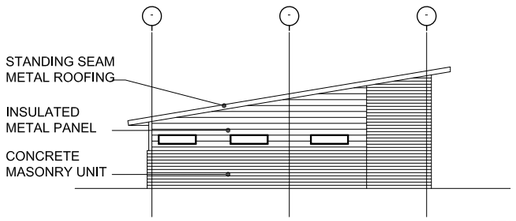

9 A102 ELEVATION 9
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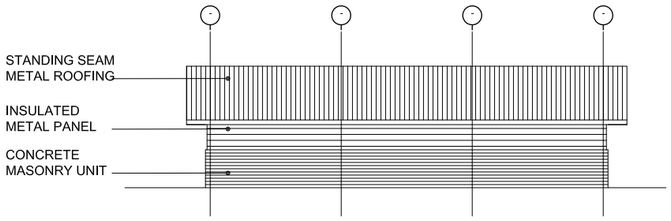

10 A102 ELEVATION 10
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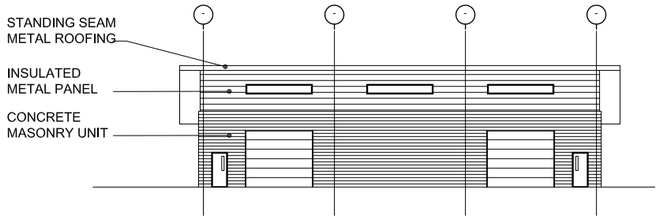

8 A102 ELEVATION 8
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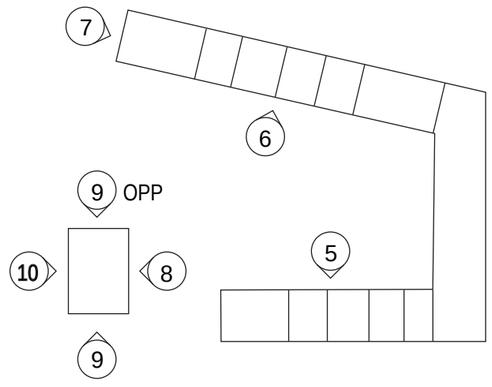

Source: Design Partners

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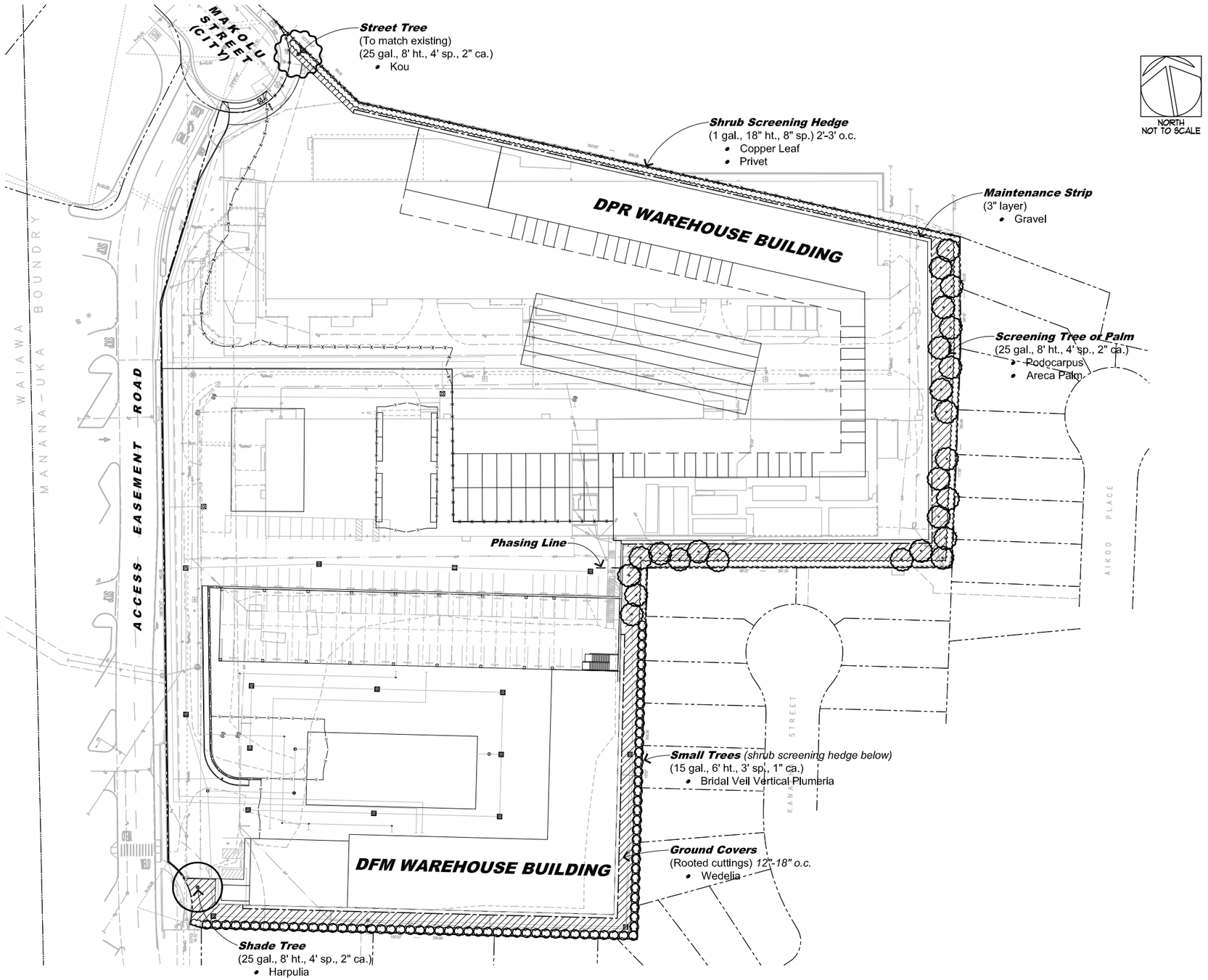
MANANA CORPORATION YARD IMPROVEMENTS
MANANA, OAHU, HAWAII

DEPARTMENT OF PARKS AND RECREATION WAREHOUSE ELEVATIONS

FIGURE
13



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MANANA, OAHU, HAWAII

LANDSCAPE PLAN

FIGURE
14

area set aside for future development may be better defined at the time of Phase II implementation.

3. DESCRIPTION OF THE EXISTING ENVIRONMENT, PROJECT IMPACTS AND MITIGATION MEASURES

The following is a description of the existing environment, assessment of potential impacts and proposed measures to mitigate potential adverse impacts resulting from the proposed project.

3.1 Climate

Honolulu's climate and that of the project area in Mānana are typical of the leeward coastal lowlands characterized by mild temperatures, abundant sunshine, infrequent severe storms, moderate humidity, and persistent northeasterly trade winds. For most of Hawai'i, there are two seasons. Summer extends from May to October while winter is from November to April. In the general Pearl City region, the warmest month is in August with an average high of 89° Fahrenheit (°F) and a low of 75°F, while the coldest month is February with a high of 81°F and a low of 65°F. Typically, most rainfall occurs between the months of November and April. However, this varies from year to year. The mean annual rainfall is around 30 inches. Relative humidity ranges between 56 to 72 percent. Typically, prevailing trade winds are from the northeast throughout most of the year. In general, trades are more persistent in the summer than in winter (frequencies average 90 percent and 50 percent, respectively) and stronger in the afternoon than at night.

Impacts and Mitigation Measures

No significant impacts on climate in the project area are anticipated. Construction and operation of the proposed project are not anticipated to affect temperatures, wind or rainfall events in the project area.

3.2 Geology, Topography and Soils

Geology: The geomorphology of O'ahu can be classified into four different parts, the Ko'olau Range, the Wai'anae Range, the Schofield Plateau and the Coastal Plain. The Ko'olau Range forms the eastern part of the island. The range is 37 miles long and is deeply eroded by streams. It consists entirely of thin, narrow, basaltic lava flows piled one upon the other like shingles, with minor amounts of volcanic ash and numerous dikes. The Wai'anae Range forms the western portion of the island and is 22 miles long. Huge valleys have been carved by erosion into the Wai'anae Range, most of which discharge to the southwest. The range is composed almost entirely of basaltic rock.

The Schofield Plateau was formed by the lavas from the Ko'olau banking against the older Wai'anae Range. The Coastal Plain lies mostly on the ponded lavas of the Ko'olau Volcano north and south of the Schofield Plateau. The plain is composed chiefly of marine sediments deposited on the lavas when the sea

stood higher in mid-Pleistocene time. The Mānana area is located near the edge of the Coastal Plain.

Topography: The Pearl City urban area is gently sloping with slopes in the 5 to 7% range. Slopes become more extreme in the higher elevation forest reserve areas. At lower elevations closer to Pearl Harbor, slopes are slight to flat. The Mānana project site ranges in elevation from 118 feet above sea level near the northwest boundary of the site to 90 feet above sea level near its southwest boundary. The average slope of the project site is approximately 3%.

Soils: According to the U.S Department of Agriculture Natural Resources Conservation Service, the soil at the project site is classified as Moloka'i silty clay loam, 3 to 7 percent slopes (MuB). This series consists of well-drained soils on uplands. The soils are formed in material weathered from basic igneous rock. MuB soil exhibits slow to medium runoff and a slight to moderate erosion hazard. Also included in mapping on O'ahu were small areas of dark-reddish brown clay loams that overlie fine textured, gravelly alluvium and small areas of dark reddish-brown silty clay soils that have a mottled subsoil. See Figure 15.

The University of Hawaii, Land Study Bureau (LSB) developed the Overall Productivity Rating, which classified soils according to five (5) levels, with "A" representing the class of highest productivity soils and "E" representing the lowest. The project site is noted as Urban "U".

The State Department of Agriculture's *Agricultural Lands of Importance in the State of Hawai'i* (ALISH) established a classification system for identification of agriculturally important lands. Three classes of lands were established for the State, primarily, but not exclusively, on the basis of soil characteristics. The three classes of ALISH lands are Prime Agricultural Land, Unique Agricultural Land, and Other Important Agricultural Land. Lands not included under this system are "unclassified". The project site is designated as "unclassified".

Impacts and Mitigation Measures

No significant impacts to the geology, topography, and soils are anticipated with the construction and operation of the project. Construction of the proposed Project improvements is compatible with the property's underlying soil characteristics. There are no undue geologic or soil hazard limitations associated with the project site. Significant changes to site contours are not proposed. Adverse impacts to topographic conditions are not anticipated as a result of the project.

The project site has been in urban usage from 1944. The proposed action is not anticipated to present adverse effects on agriculture.

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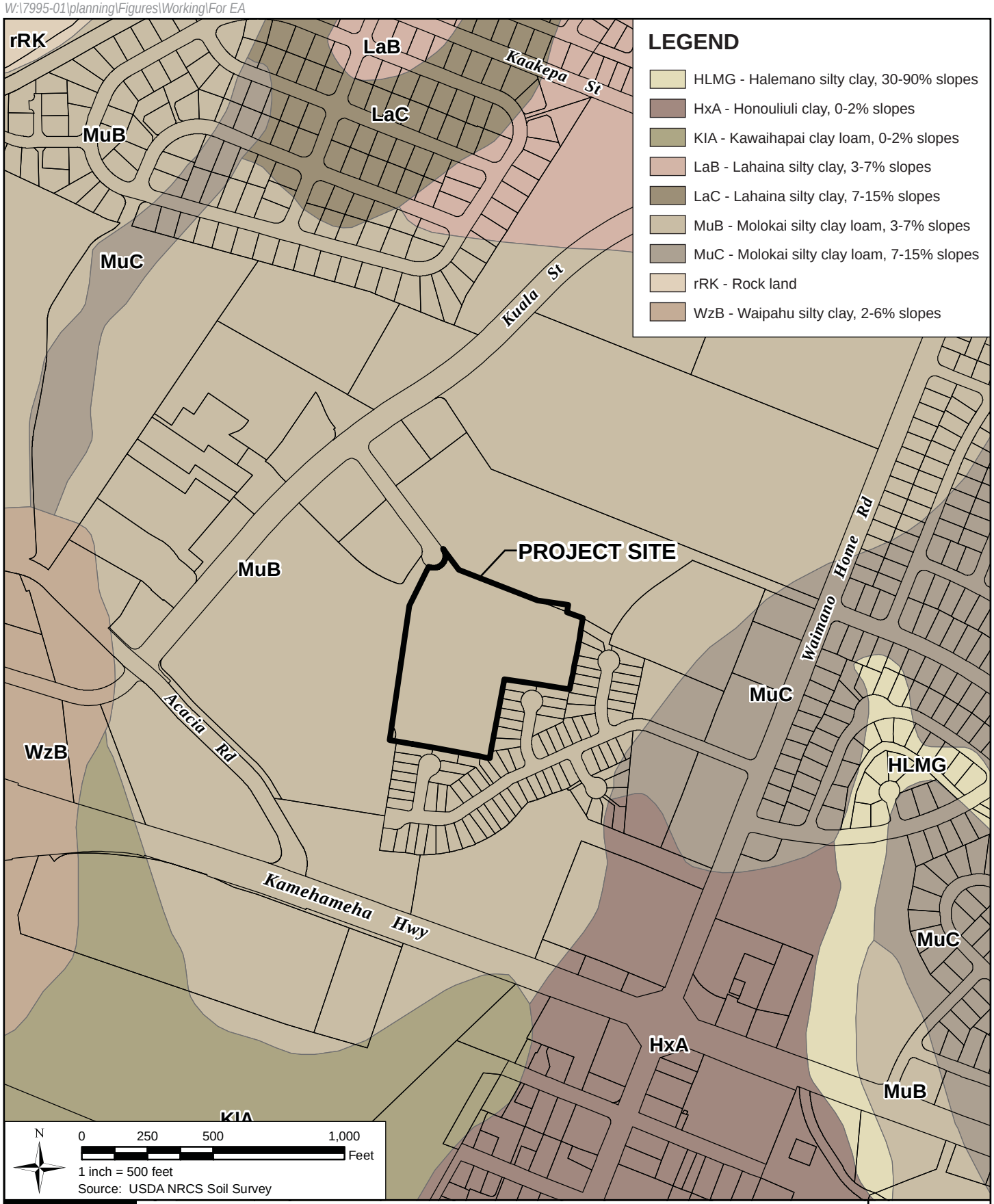

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MANANA, OAHU, HAWAII

SOILS MAP

FIGURE
15

3.3 Groundwater

The project site is located within the Waipahu-Waiawa Aquifer System, a major source of potable water with an estimated sustainable yield of 104 million gallons per day. (State of Hawai'i Commission on Water Resource Management, June 2008). The underground injection control (UIC) line, or the boundary between non-drinking water aquifers and underground sources of potable water, abuts the Pearl Harbor shoreline. The project site is located above the UIC line.

The project site is also located within the Southern O'ahu Basal Aquifer which is considered a sole source aquifer. The Sole Source Aquifer Program was established under Section 1424(e) of the Safe Drinking Water Act. Since 1977, it has been used by communities to help prevent contamination of groundwater from federally-funded projects. The Southern O'ahu Basal Aquifer extends from 'Ewa to Wahiawā to a portion of urban Honolulu.

Impacts and Mitigation Measures

The Safe Drinking Water Act (SDWA) is the principal Federal law that ensures the quality of drinking water. Under the SDWA, the Environmental Protection Agency (EPA) sets standards for drinking water quality and oversees the States, localities, and water suppliers who implement those standards. The SDWA also provides the impetus behind the development of regulatory protection of principal or sole source aquifers. Although the project site is located within the sole source aquifer, it is noted that the project does not involve the use of Federal funds.

The project is not expected to adversely affect drainage. All increases in storm water runoff resulting from the proposed project, based on 10-year 1-hour storm, will be stored on site.

In any project, uncontrolled excess sediment from soil erosion during and after excavation and construction has the potential to impact natural watercourses, water quality and flooding. Contaminants associated with heavy equipment and other sources during construction have the potential to impact surface water and groundwater if not mitigated effectively.

All earthwork and grading shall be in conformance with Article 13, Revised Ordinances of City and County of Honolulu, General Provisions for Grading, Soil Erosion and Sediment Control. The project will be regulated through review, revision and approval by the City and County of Honolulu's Site Development Division of the Department of Planning and Permitting to ensure compliance with standards related to storm runoff.

Because the project area is greater than one acre and presents a potential for storm runoff, a National Pollutant Discharge Elimination System (NPDES) permit must be obtained by the contractor before the project commences. The permit requires the completion of a Site Specific Best Management Practices Plan. These BMPs may include, but may not be limited to the following:

- Minimization of soil loss and erosion by revegetation and stabilization of slopes and disturbed areas of soil, possibly using hydromulch, geotextiles, or binding substances, as soon as possible after working;
- Minimization of sediment loss by emplacement of structural controls possibly including silt fences, gravel bags, sediment ponds, check dams, and other barriers in order to retard and prevent the loss of sediment from the site;
- Minimizing disturbance of soil during periods of heavy rain;
- Phasing of the project to disturb the minimum area of soil at a particular time;
- Application of protective covers to soil and material stockpiles;
- Construction and use of a stabilized construction vehicle entrance, with designated vehicle wash area that discharges to a sediment pond;
- Washing of vehicles in the designated wash area before they egress the project site;
- Use of drip pans beneath vehicles not in use in order to trap vehicle fluids;
- Routine maintenance of BMPs by adequately trained personnel;
- Significant leaks or spills, if they occur, shall be properly cleaned up and disposed of at an approved site.

With approved mitigation measures, no significant impacts to groundwater underlying the project site are anticipated during construction and operation of the proposed facility.

3.4 Coastal Waters

The coastal waters closest to the project site are classified as Class A waters by the State Department of Health. It is the objective of Class A waters that their use for recreational purposes and aesthetic enjoyment be protected. Any other use shall be permitted as long as it is compatible with the protection and propagation of fish, shellfish, and wildlife, and with recreation in and on these waters. These waters shall not act as receiving waters for any discharge which has not received the best degree of treatment or control compatible with the criteria established for this class. (State of Hawai‘i Department of Health, May 27, 2009).

Impacts and Mitigation Measures

It is anticipated that impacts to coastal waters resulting from the project should be negligible. Erosion control measures and Best Management Practices will be incorporated to prevent degradation of the quality of the water during construction.

3.5 Natural Hazards

3.5.1 Flood Hazard

According to the Flood Insurance Rate Map (FIRM) prepared by the Federal Emergency Management Agency (FEMA), the project site is located within Zones X and D. Zone X is an area determined to be outside of the 0.2 % annual chance floodplain. No base flood elevations or depths are shown in this zone. Zone D are areas where flood hazards are undetermined, but possible. See Figure 16.

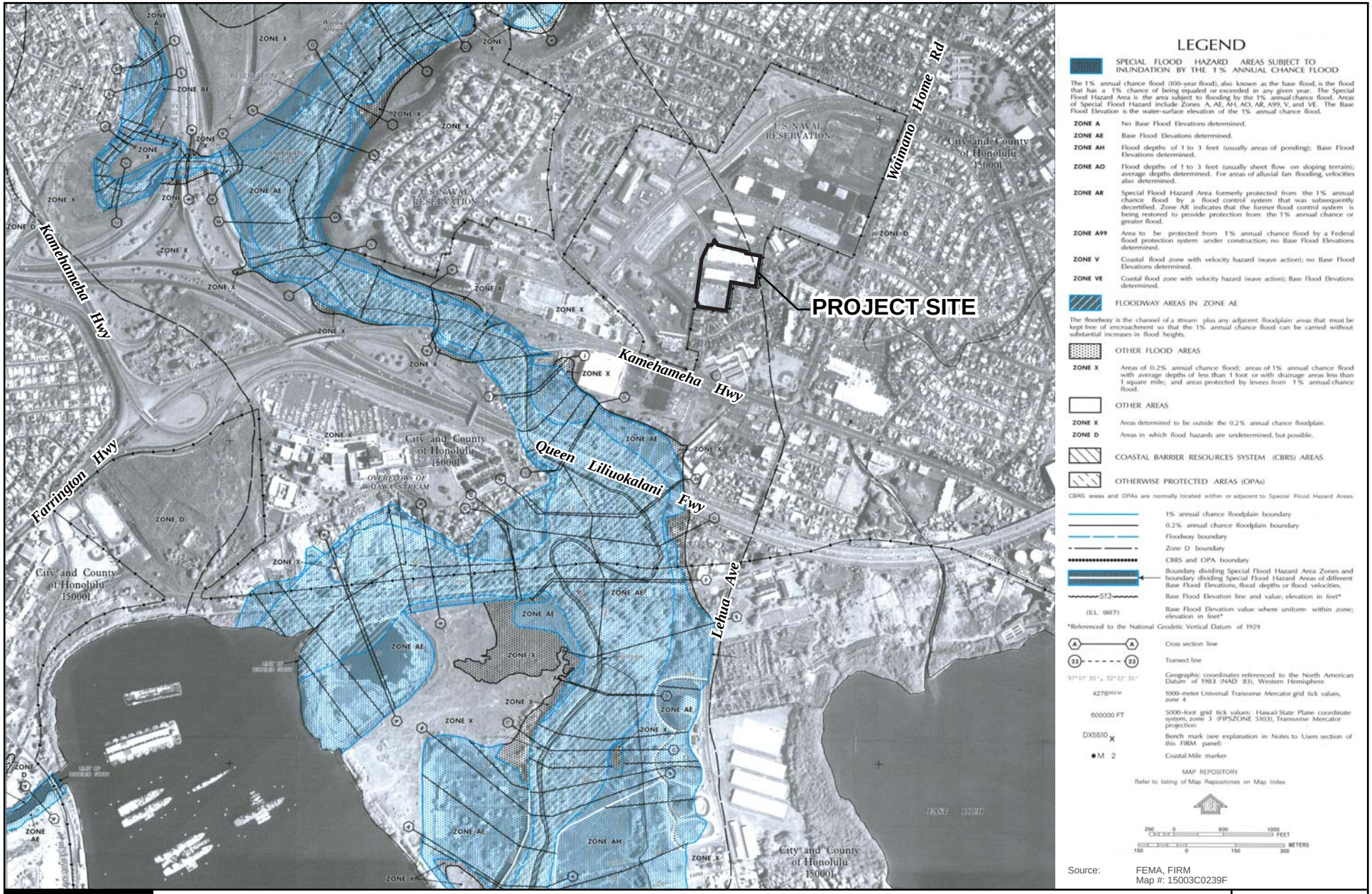
Impacts and Mitigation Measures

The proposed project will involve necessary on-site drainage improvements designed and constructed in full compliance with County drainage requirements and flood plain management requirements of the County. All increases in storm water runoff resulting from the proposed project, based on 10-year 1-hour storm, will be stored on site.

3.5.2 Seismic Activity

Earthquakes in the Hawaiian Islands are primarily associated with volcanic eruptions from the expansion or shrinkage of magma reservoirs. Available historical data indicates that the number of major earthquakes on the Big Island are more numerous and of higher intensity. The number and intensity generally decreases moving down the island chain with the island of Kauaʻi having generally fewer and of lower intensity events on a comparative basis.

The Uniform Building Code (UBC) provides minimum design criteria to address potential for damages due to seismic disturbances. The UBC has six seismic zones (0, 1, 2A, 2B, 3, 4). Zone 0 is the lowest level on the scale defined as no chance of severe ground shaking to Zone 4 which is the highest level with a 10% chance of severe shaking in a 50-year interval. The Big Island is Zone 4. The County of Maui is designated as Zone 2B. Oahu is Zone 2A and the County of Kauai is Zone 1.



Source: FEMA, FIRM
Map #: 15003C0239F

WILSON OKAMOTO CORPORATION

MANANA CORPORATION YARD IMPROVEMENTS
MANANA, OAHU, HAWAII

FLOOD INSURANCE RATE MAP

FIGURE
16

Impacts and Mitigation Measures

The proposed project will be designed and constructed to meet the requirements of the City and County of Honolulu's adopted UBC to ensure that new and renovated structures in the Mānana Baseyard are built to applicable seismic standards. The project will not result in indirect or cumulative impacts from potential seismic activities.

3.6 Hazardous Materials

Implementation of the two phase plan requires demolition of existing warehouses. Prior to construction on each phase, consultation shall be undertaken with appropriate agencies to determine possible applicable testing protocols for asbestos, lead paint analysis and other applicable materials.

Impacts and Mitigation Measures

The Department of Health Environmental Health Program regulates asbestos and lead paint. State asbestos rules are noted in Title 11, Chapters 501, 502, 503, and 504, HAR. Lead based paints are regulated in Title 11, Chapter 41, HAR. Buildings should also be inventoried for PCB containing light ballasts and mercury containing lamps. PCB containing light ballasts and mercury containing lamps are normally handled per Universal Waste Regulations. Any hazardous materials will be handled in accordance with all applicable Federal, State and local regulations.

3.7 Flora

A botanical assessment study was done for the Mānana and Pearl City Junction Development Environmental Impact Statement (EIS). The study noted that because the entire subject property has previously been extensively modified by the grading for construction of the warehouse storage facilities by the former landowner, the U.S. Navy, the original floral characteristics of the development parcels have been largely replaced with introduced weedy species and grassy lawn areas. At the time, the grassy areas of the Mānana parcel were composed primarily of pitted beardgrass (*Bothriochloa pertusa*), bermuda grass (*Cynodon dactylon*), and Guinea grass (*Panicum maximum*). A sampling of the few plantings of trees and shrubs found around the warehouses include mango (*Mangifera Indica*), African tulip (*Spathodea campanulata*), Plumeria, avocado (*Persea americana*), banana (*Musa*), and coconut (*Cocos nucifera*). Only one native species, the ʻuhaloa (*Waltheria indica*) was found on the site.

The study found that none of the plants found during the field study is a listed proposed, or candidate threatened and endangered species, nor is any plant

considered rare and vulnerable. The study noted that the site has been so greatly disturbed by past human activities, there are no remnants of any native-plant dominated vegetation types left at the site.

Impacts and Mitigation Measures

The subject property is a 7.8 acre portion of the larger 109 acre Mānana parcel studied in the EIS. The warehouse use initiated by the U.S. Navy has been continued by the current landowner, the City and County of Honolulu. Since the industrial warehousing use has continued to the present day, it is anticipated that there are no listed proposed, or candidate threatened and endangered species on the site.

3.8 Fauna

A faunal survey was conducted for the Mānana and Pearl City Junction Development Environmental Impact Statement (EIS). Generally, the survey found a typical assortment of feral mammals including cats, dogs, and mongoose often found in most urban areas of O‘ahu. No endemic land birds or waterbirds were identified. Similarly, the Hawaiian Hoary Bat was not found during the survey. It is also unlikely any would utilize these properties as habitat. The Pacific Golden Plover was identified on lawn habitats, although this species is not endangered or threatened. Most bird species observed were exotic birds previously introduced into Hawai‘i.

The study notes that because the entire subject property has previously been extensively modified by urban development, the native fauna habitats of the area have been replaced by the urban environment. As such, there were no endangered or threatened animal species or their habitats identified with the subject property.

Impacts and Mitigation Measures

The subject property is a 7.8 acre portion of the larger 109 acre Mānana parcel studied in the EIS. It is noted that the urban warehouse use of the project site has continued to the present day. Thus, it is not anticipated that there are any endangered or threatened animal species or their habitats identified with the subject property.

3.9 Air Quality

Air quality refers to the presence or absence of pollutants in the atmosphere. It is the combined result of the natural background and emissions from many pollution sources. The impact of land development activities on air quality in a proposed development’s locale differs by project phase (site preparation, construction, occupancy) and project type.

The DOH Clean Air Branch (CAB) maintains nine air quality monitoring stations on O'ahu that measure various types of pollutants. The air quality monitoring site nearest the project area is located in Pearl City at the Leeward Health Center (860 4th Street, Pearl City). The site is located approximately 0.3 mile southeast of the project area. This monitoring station measures particulate matter 10 microns or less in size (PM_{10}), particulate matter 2.5 microns or less ($PM_{2.5}$), and various air toxic chemicals.

Based on the 2010 annual summary of air quality measurements, criteria pollutant levels remain below state and federal ambient air quality standards at all state and local air monitoring stations. (State of Hawai'i Department of Health, 2011).

Impacts and Mitigation Measures

The proposed project will have short-term construction-related impacts in air quality, including the generation of dust and emissions from construction vehicles, equipment, and commuting construction workers. The construction contractor is responsible for complying with State DOH Administrative Rules, Title 11, Chapter 60-11.1 regarding "Air Pollution Control" specifically Section 11-60.1-33 regarding fugitive dust and the prohibition of visible dust emissions at property boundaries.

Mitigation measures to address short-term impacts include controlling the generation of fugitive dust through frequent watering of unpaved areas of exposed soil and planting landscaping as soon as possible on completed areas.

On-site structures will provide additional indoor work spaces to help in the control of dust. All weather surfaces will be provided for parking and on-site driveways which also assists in dust control.

The proposed project should not significantly increase the number of City vehicles on the site. It is not anticipated that operation of the project will adversely affect air quality, since no significant increase in traffic attributable to the project is expected. In the longer term future, it is anticipated that a greater proportion of City vehicles will transition to hybrid and electric vehicles which should lessen air quality impacts in general.

3.10 Noise

A Noise Impact Assessment Report was done for the project by D.L. Adams Associates dated September 2014. The following summarizes the findings of the study. The entire study is attached as Appendix A.

Ambient noise level measurements were conducted at two locations within the project site to assess the existing acoustical environment. The ambient sound levels at Mānana Corporation Yard fluctuated based on environmental and neighborhood noise sources as well as noises from the yard. Daytime noise levels measured at the project site range from 42 A-weighted decibels (dBA) to 69 dBA and nighttime levels range from 38 dBA to 68 dBA. The average day-night level, L_{dn}, on the project site is 57 to 66 dBA.

The demolition and construction of the proposed Mānana Corporation Yard Improvements project will involve several stages which utilize various types of construction equipment and will generate significant amounts of noise. The actual sound levels that will be experienced in the vicinity of the project site will vary greatly during the project and will be a function of the methods employed during each stage of the construction process, distance from the noise source, and the duration of the construction activities. Due to the proximity of the project site to the adjacent residences south and east of the project site, construction noise levels will significantly exceed existing ambient noise levels and intermittent construction noises will be clearly audible during all phases.

Once the Mānana Corporation Yard Improvements are complete and the site is in operation, the noise profile of the site will change. While it is expected that the same inventory of DFM and DPR vehicles and equipment will be in use, the operational characteristics are dependent on the proposed site layout for Phase 1 and Phase 2. A sound propagation model was developed to predict the likely operational noise effects to receptor locations surrounding the project site. Based on the results of the sound propagation model, the proposed Phase 1 and Phase 2 structures will block much of the operations noises to the neighboring residences south and east of the lower yard area and east of the upper yard. Therefore, noise levels at these residences due to yard activities are expected to decrease significantly after the build out of the Phase 1 and Phase 2 improvements.

Impacts and Mitigation Measures

Since construction noise levels will exceed maximum permissible noise limits specified in the State Department of Health's Community Noise Rule, a permit must be obtained from the DOH to allow the operation of construction equipment. The permit allows the operation of construction equipment but it is limited to daylight hours. Although construction noise disruptions would likely occur over the duration of the project, the impact of these durations are considered to be short term and within guidelines for construction noise. Noise mitigation for construction activities should be addressed using good management practices to control the noise source. Source control methods include scheduling, equipment selection, retrofitting equipment with mufflers and enclosures, and regular maintenance of equipment. Path control measures include temporary

noise barriers or the noise monitoring system during activities located close to the property line. The contractor will be responsible for obtaining the permit and compliance with applicable provisions.

The new warehouse structures are strategically located along the noise sensitive property lines and will be constructed of material such as CMU block and sheet metal which should result in a significant noise transmission loss. However, there is a gap in the area between the Phase 1 and Phase 2 warehouse improvements affecting a two story home at the top of Kanaeha Place. A CMU wall approximately 11 feet high is proposed in this location as mitigation. Since the timing of Phase 2 is uncertain, the need and solution for acoustic mitigation between the warehouse structures will be researched, defined and implemented as appropriate with Phase 2.

The warehouse buildings are planned to be naturally ventilated and openings would be provided on the backside of the buildings for that purpose. Roll up doors will be installed on the front side of the buildings to provide access to the warehouses. It is expected that the roll up doors will be open during daytime operations. If the ventilation openings are not treated, the building will be acoustically "transparent" to some extent. Noise from activities that take place within the yard (such as back up alarms and heavy equipment) may be audible at the residential property line if this noise path is not properly mitigated. Instead of providing jalousie windows or architectural louvers, acoustical louvers should be considered as they perform almost as well as sheet metal at the frequencies where back up alarm noise occurs (around 1000 Hz).

Source and path control methods should be considered to minimize noise from daily yard activities. Backup alarms on DFM and DPR equipment and trucks can be made adjustable during nighttime hours (using manual adjustable or self-adjusting alarms) or eliminated if an observer is used to back vehicles up. The design of external storage areas and the parking structure should give consideration to limiting the use of back up alarms and other noisy activities. This can be accomplished by configuring the traffic pattern around the storage areas and parking structure to minimize backing movements by forklifts, heavy diesel trucks and other equipment. Finally, the external storage areas can be assigned such that the activities that generate the most noise are located in the upper yard area since it is farther from the residential homes to the south.

3.11 Archaeological Resources

An archaeological assessment conducted by Scientific Consulting Services, Inc. dated July 1995 was done for the Mānana and Pearl City Junctions parcels Environmental Impact Statement. The land area of the assessment involved

108.68 acres which comprised the Mānana Naval Reservation site and 13.75 acres noted as the Pearl City Junction parcel. Thus, the assessment encompassed the subject 7.8 acre City maintenance yard parcel.

The assessment noted that the subject parcels were historically cultivated for crops such as rice during the mid-1800's and some house lots were also established. By 1899, sugar had become a profitable venture and portions of the Pearl City Junction site were cultivated by the Honolulu Plantation. During World War II, the parcels were converted to warehouse use by the U.S. Navy for military purposes.

Due to the extensive grading and other modifications conducted on the property associated with previous agricultural and military use, the Archaeological Assessment concludes that "there is little reason to believe significant historic sites remain in the project area." The Assessment also included a field inspection to determine if there were any areas not affected by post-contact activities. No archaeological or cultural sites were identified during the field check or are known to exist on the subject property.

The document concludes that the "findings of this assessment indicate no significant historic sites are present in the project area and it is recommended that no further archaeological work be required for this property."

Impacts and Mitigation Measures

During any development activity involving extensive modification of the land surface, there is always the possibility, however, remote, that previously unknown or unexpected subsurface cultural features, deposits or burials might be encountered. Should any archaeologically significant features, deposits or burials be uncovered, immediate archaeological consultation will be sought with the Department of Land and Natural Resources Historic Preservation Division in accordance with applicable regulations.

3.12 Cultural Resources

The archaeological assessment by Scientific Consulting Services, Inc. for the Mānana and Pearl City Junctions parcels indicated that those parcels are bisected by the boundary between the ahupua'a of Mānana and Waiawa. The assessment noted that there were few myths or legends relating specifically to the ahupua'a of Mānana or Waiawa. The only reference noted is in Sterling and Summers (1978), which contains an account of the legend of the Eel boy of Pilimo'o, a pool in Pearl City. Both Mānana and Waiawa are mentioned in a chant for Kuali'i recorded by Fornander (1917: Volume IV, Part II), but both references pertain to the shoreline of Pearl Harbor, an area well makai of the project site.

Pearl City which encompasses the project area, is associated with aquaculture and traditional agriculture, (taro terraces and patches, or *lo'i kalo*, and other subsistence crops such as sweet potatoes, yams and bananas) during the pre- and post-contact periods. These practices continued through the late nineteenth century, when cash cropping (sugar cane, rice) dominated the area. In the late 19th century, the northern coastline of Pearl Harbor became the site of population growth. Government and military acquisition of lands began at the turn of the century and much of the land became utilized as military zones.

Impacts and Mitigation Measures

There has been an extensive amount of disturbance on the property in the past and the presence of historic or archaeological resources is unlikely. No significant cultural resources, practices or beliefs have been identified within the project site or immediate surrounding area.

3.13 Views

As identified in the City and County of Honolulu Primary Urban Center Development Plan, the project site is part of a panoramic east-west view between lower Pearl City and Pearl Harbor. However, existing views of the property are dominated by an urban environment, mainly the low-rise warehouse structures, equipment storage and vehicular parking. The project site is located in a flat to gently sloping area within the interior of the Mānana Naval Reservation site away from major thoroughfares. To the west of the subject property is the low-rise Wal-Mart and Sam's Club commercial establishment. To the south and west are single family residential uses. The existing Board of Water Supply baseyard is located to the north.

Impacts and Mitigation Measures

The proposed project would maintain a low-rise presence within the interior of the Mānana area. The proposed project would have a negligible impact on panoramic views.

3.14 Traffic

The project site lies east of Easement A-1 and north of Inia Place and Kaneha Street within the Kauhale Mānana Subdivision. Easement A-1 is an access easement which provides access to Wal-Mart to the west and Mānana Corporation Yard to the east. Entrance to Easement A-1 is through Makolu Street, a dead end road owned and maintained by the City and County of Honolulu.

There are three existing entrances to the project site via Easement A-1. From the north, the first entrance leads to the DPR MSS Building. Further south, an asphalt concrete driveway provides access to both the DPR MSS Building and DFM TEMS and the Department of Transportation Services Traffic Control Branch Building. At the south end of the project, an asphalt concrete driveway provides access to a gravel lot which provides parking for DPR, DFM and DTS employees.

The proposed project includes two driveway entrances via Easement A-1. There is one driveway entrance to the upper portion of the site providing access for DPR MSS operations and employee parking for DPR and DFM. The second driveway provides access to the lower portion of the site providing access to DFM TEMS operations.

Impacts and Mitigation Measures

During construction, all construction related parking will be accommodated on-site.

In the long term, the proposed improvements are basically to replace outmoded facilities and not intended to accommodate significant increases in site function or staffing. It is not anticipated that a significant increase in traffic generation would occur as a result of the proposed project.

Based on the Preliminary Concept Plan, the roadway system serving the redeveloped Mānana Corporation Yard will be connected to Makolu Street via a new driveway apron. The project site will be paved with heavy duty asphalt concrete to accommodate heavy equipment and large vehicles being parked on-site.

Emergency and fire truck vehicles will also utilize the access road to access the project site. A new 30-foot wide, AC pavement access road is proposed along the western boundary of the project site to provide emergency access to the project site. The turnaround area shall be designed for a fire truck's outside turning radius of 40.5 feet. In general, the roadway and entrance driveways to the project site appear to have adequate capacity to accommodate normal traffic.

Regarding other modes of transportation, it is noted that the City's planned Pearl Highlands rail transit station is approximately a 0.6 mile walk from the project site. Once completed, rail would provide another transportation option for DPR and DFM employees. Bicycle routes and lanes are available in the general vicinity so this may provide another option. Racks can be provided on-site on an as-needed basis.

3.15 Socio-Economic Characteristics

The Pearl City area is located at the western edge of the Honolulu Primary Urban Center. The project site is located within the Pearl City Census Designated Place (CDP). The following is a comparison of the socio-economic characteristics of the Pearl City CDP and the City and County of Honolulu as shown in Table 1.

Table 1
Selected Socio-Economic Characteristics of the Pearl City CDP and City and County of Honolulu

	Pearl City CDP	**City and County of Honolulu**
POPULATION		
Population, 2010	47,698	953,207
Persons under 5 years, percent, 2010	5.8%	6.4%
Persons under 18 years, percent, 2010	19.3%	22.1%
Persons 65 years and over, percent, 2010	19.4%	14.5%
RACE		
White persons, percent, 2010	16.0%	20.8%
Black persons, percent, 2010	2.9%	2.0%
Asian persons, percent, 2010	53.2%	43.9%
Native Hawaiian and Other Pacific Islander, percent, 2010	5.5%	9.5%
Persons reporting two or more races, percent, 2010	21.0%	22.3%
Persons of Hispanic or Latino origin, percent, 2010	8.2%	8.1%
SOCIAL CHARACTERISTICS		
Living in same house 1 year and over, 2006-2010	87.7%	84.5%
Foreign born persons, percent, 2006-2010	13.0%	19.5%
Language other than English spoken at home, pct age 5+	20.3%	28.1%
High school graduates, percent of persons, age 25+, 2006-2010	92.8%	89.9%
Bachelor's degree or higher, pct of persons age 25+, 2006-2010	28.3%	31.1%
Homeownership rate, 2006-2010	70.7%	57.6%
Housing units in multi-unit structures,	22.6%	45.0%

percent, 2006-2010		
Median value of owner-occupied units, 2006-2010	$564,100	$537,400
Persons per household, 2006-2010	3.10	2.96
Per capita money income in past 12 months (2010 dollars) 2006-2010	$30,806	$29,516
Median household income, 2006-2010	$82,639	$70,093
Persons below poverty level, percent, 2006-2010	5.1%	8.8%

Source: U.S. Census, State and County Quick Facts.

Based on 2010 Census figures, the Pearl City CDP contains 47,698 persons or 5% of the population within the City and County of Honolulu.

In terms of age distribution, the Pearl City CDP has slightly smaller percentages of persons under 5 years of age and persons under 18 years of age than the City and County as a whole. However, there are greater percentages of persons 65 years and over in the Pearl City CDP (19.4%) than the City and County of Honolulu (14.5%) as a whole.

In terms of race characteristics, there are lower percentages of Whites in the Pearl City CDP (16.0%) than the City and County of Honolulu as a whole (20.8%). There are higher percentages of persons identified as Asian in the Pearl City CDP (53.2%) than the City and County as a whole (43.9%). Native Hawaiian and Other Pacific Islander categories as well as persons identified as Two or More Races show lower percentages in the Pearl City CDP than the City and County of Honolulu as a whole.

The Pearl City CDP has slightly greater percentages of people living in the same house 1 year and over. Percentages of foreign born persons are lower in the Pearl City CDP (13.0%) than the City and County as a whole (19.5%). The Pearl City CDP (20.3%) also has a lower percentage of homes where a language other than English is spoken than the City and County of Honolulu (28.1%). Educational attainment in terms of high school graduates and persons with bachelor's degrees or higher are fairly similar between the Pearl City CDP and the City and County as a whole.

Homeownership rates in the Pearl City CDP (70.7%) is higher than the City and County of Honolulu (57.6%). Percentages of multi-unit structures are lower in the Pearl City CDP (22.6%) than the City and County as a whole (45.0%). However, median value of owner-occupied units are very similar between the Pearl City CDP and City and County as a whole. Persons per household are slightly higher in the Pearl City CDP (3.10) than the City and County of Honolulu as a whole (2.96).

Per capita income is quite similar although median household income is higher in the Pearl City CDP ($82,639) than the City and County of Honolulu ($70,093). Persons below poverty level is lower in the Pearl City CDP (5.1%) than the County as a whole.

Impacts and Mitigation Measures

The data note that the Pearl City CDP is a predominantly single family residential area with relatively high homeownership rates. The majority of the population is Asian although only a small percentage are foreign born. The population tends to be older with a relatively high percentage of persons living in the same house 1 year and over.

In the short term, the project will confer positive economic benefits in the local area. Direct economic benefits will result from construction expenditures both through the purchase of material from local suppliers and through the employment of local labor, thereby stimulating that sector of the economy. Indirect economic benefits may include benefits to local retailing businesses resulting from construction activities.

Construction activities associated with the proposed project may create some short term impacts such as temporary disruption of traffic, unavoidable noise impacts, and air quality impacts from soil excavation and grading activities in the vicinity of the project.

No adverse long-term socio-economic impacts are anticipated with the proposed project. The location of the City baseyard within an already established urban area allows for convenient and quicker response for repairs under the jurisdiction of the applicable City agencies. The proposed project is not anticipated to induce growth in the Pearl City region nor spur significant increases or changes in travel behavior.

3.16 Schools

There are nine public schools in the Pearl City area. These include seven elementary schools from kindergarten to 6th grade. The public elementary schools are Lehua Elementary School, Mānana Elementary School, Momilani Elementary School, Palisades Elementary School, Pearl City Elementary School, Pearl City Highlands Elementary, and Waiau Elementary School. Highlands Intermediate School serves Grades 7-8. Pearl City High School provides Grades 9-12. Private schools in the area include the Children's House School which offers educational services from Grades K-6 and Our Lady of Good Counsel School which offers Grades K-8. In addition, Leeward Community College is located in the Pearl City area which provides post-secondary educational opportunities primarily for the larger Leeward Oʻahu area.

Impacts and Mitigation Measures

It is noted that the proposed project would continue to provide maintenance support to allow schools to fully utilize its capabilities and function in a smooth manner. City parks provide playground and field space for children of all ages for school functions and organized recreation. Continuous functioning of traffic signals and controls also help to ensure that parents, teachers and children can arrive and leave promptly and safely from school functions. The continuation of the City baseyard in Mānana provides a convenient base from which to promptly repair and maintain these City functions.

3.17 Civil Defense

There are ten designated shelters in the Pearl City area. These include Highlands Intermediate School, Lehua Elementary School, Mānana Elementary School, Momilani Elementary School, Palisades Elementary School, Pearl City District Park, Pearl City Elementary School, Pearl City High School, Pearl City Highlands Elementary School, and Waiau Elementary School,

Impacts and Mitigation Measures

The project would not affect operational capabilities of the shelters for their intended purposes.

3.18 Police, Fire and Medical Services

The District's police protection services are provided by officers from the Pearl City Police Station located at 1100 Waimano Home Road. The Pearl City District covers the area from Red Hill to Village Park and Waipahu. Due to the close proximity of the subject property to the Pearl City Police Station, response time is relatively prompt and will continue to be so after completion of the proposed project.

The Pearl City Fire Station located at 886 First Street, approximately 1.5 miles from the subject property, has primary responsibility for fire protection in the area. Other fire stations are located in Waipahu on Leonui Street (approximately 3 miles), a military fire station located adjacent to the subject property on Acacia Road, and the Waiau Fire Station located approximately 1 mile away on Komo Mai Drive.

Emergency ambulance services in the Pearl City area are provided by American Medical Response. A crew is stationed along 99-840 Iwaiwa Street slightly more than 4 miles from the project site.

The Pali Momi Medical Center is a 116 bed facility which offers a full range of medical services. It is located adjacent to Pearlridge Center approximately 2 miles from the project site.

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Impacts and Mitigation Measures

The proposed project should have a negligible effect on police, fire, ambulance and medical services in the Pearl City area.

3.19 Recreational Facilities

There are many varied recreational opportunities available in the Pearl City region. Public recreational facilities in relatively close proximity to the subject project include the Mānana Kai Neighborhood Park which is a 4.35 acre neighborhood park which includes basketball and playground facilities. Mānana Neighborhood Park is a 4.02 acre neighborhood park which includes basketball, playground, swimming and volleyball facilities. Pacheco Neighborhood Park is a 4.59 acre park which has baseball, basketball and volleyball facilities. Pearl City District Park comprises 9.95 acres and has basketball, gymnastics, indoor recreation, swimming, tennis, and volleyball facilities. Waiau Neighborhood Park is 4.57 acres and has basketball, playground and volleyball facilities. Waiau District Park encompasses 31.43 acres and has basketball, football, indoor recreation, picnicking, playground, and soccer facilities.

Impacts and Mitigation Measures

During the period of construction, services and maintenance to City parks should not be affected since alternate space arrangements within the project site will be made. In the long term, the proposed project would continue to provide convenient access to City park facilities in the Pearl City region. However, the project itself will not directly increase the population of the area or the demand for recreational opportunities.

3.20 Solid Waste Disposal

Refuse from the Mānana Corporation Yard is currently collected by the City and County of Honolulu Department of Environmental Services Refuse Collection and Disposal Division.

The H-POWER Plant in Campbell Industrial Park processes most residential and general commercial waste. Over 600,000 tons are processed annually producing 7% of O‘ahu’s electricity. Ash from the incineration process is taken to the Waimānalo Gulch Landfill, one of two landfills on O‘ahu. The other is a construction and demolition landfill located in Nānākuli. O‘ahu recycles approximately 500,000 tons annually.

Impacts and Mitigation Measures

No short- or long-term significant impacts to municipal solid waste collection and disposal facilities are anticipated as a result of the construction and operation of the proposed project. Construction of the proposed project will generate solid waste typical of building demolition and construction activities. The contractor will be required to remove all debris from the site, and properly dispose of it at the PVT Landfill in conformance with County regulations.

Following construction, various materials are recycled in accord with applicable City policies.

3.21 Water

A Preliminary Engineering Report was done for the project by Wilson Okamoto Corporation dated October 2014. The following summarizes the findings of the study pertaining to water. The entire study is attached as Appendix 2.

Potable water service for the project site is provided through the municipal water system of the City and County of Honolulu's Board of Water Supply. The BWS water system in the vicinity of the project site consists of a 12-inch water main extending along Makolu Street to the end of the cul-de-sac fronting the project site. The 12-inch water main along Makolu Street is connected to a looped 12-inch water main along Kuala Street. BWS records indicate an existing 1 inch domestic meter and 8 inch domestic check meter provide potable and fire protection water service respectively, to the project site.

The on-site potable water system consists of various smaller water lines extending from the 1-inch meter and 4-inch water lateral located at the Makolu Street cul-de-sac. Water service is provided to the two existing warehouse buildings and field offices from three separate water laterals. There is no existing water service to the lower area.

The on-site fire protection water system consists of a 12-inch water line running along the western boundary of the project site extending from the detector meter located at the Makolu Street cul-de-sac. A 12-inch branch line extends between the warehouses. There are four existing fire hydrants serving the project site. Three hydrants are located between the two warehouses and the fourth hydrant is near the top portion of the lower area.

Currently, there is no separate irrigation system on-site and there are no nonpotable water sources available for irrigation.

Existing BWS meter readings show a historical average potable water use of 4,103 gallons per day (gpd). One water meter services the existing project site as DFM, DPR and DTS water use is not separately metered.

Impacts and Mitigation Measures

Potable water demands were derived using the project's program requirements and generalized simulation of projected demands for similar developments. Line sizes will be determined during the design phase of the project.

No increase in water demand is anticipated given that the overall increase in building square footage is negligible and the usage of the facility will remain the same. An average daily demand of 8,087 gpd was determined for potable water for the Mānana Corporation Yard, based on the Department of Water Supply Water System Standards, dated 2002. This average daily demand represents a 0.2 percent increase compared to the existing demand of 8,070 gpd. The project will have a weather station module that will control the irrigation and reduce the amount of water used.

3.22 Wastewater

A Preliminary Engineering Report was done for the project by Wilson Okamoto Corporation dated October 2014. The following summarizes the findings of the study pertaining to wastewater. The entire study is attached as Appendix 2.

Sanitary sewer service for the project site is provided by the municipal system of the City and County of Honolulu's Department of Environmental Services. The City and County's sewer collection system transports sewage flows generated by the project site to the Pearl City pump station and eventually ending at the City and County's Honouliuli Wastewater Treatment Plant.

The existing on-site sanitary sewer system consists of smaller gravity lines servicing the existing warehouse and temporary trailers. The on-site system connects to the City's system on both the east and west boundaries of the project site. Existing 6-inch and 8-inch sewerlines servicing the west end of the warehouse facilities connect to a 10-inch sewerline that extends through a sewer easement over the adjacent Wal-Mart property. This system eventually connects to the City's sewer main in Kuala Street.

On the eastern half of the project site, the existing warehouse and temporary trailers connect to a 6-inch sewer lateral which conveys wastewater to an 8-inch sewerline running in the north to south direction along the eastern boundary of the project site. The 8-inch sewerline also appears to service portions of the BWS Mānana Corporation Yard located to the north. Both the 6- and 8-inch

sewerlines connect into the City's system located in 'Aiko'o Place to the east of the project site.

An average sanitary sewer volume for the existing site is calculated at 10,720 gpd, based on the Design Standards of the Department of Wastewater Management Volume 1 dated July 1993.

Impacts and Mitigation Measures

Sanitary sewer volumes for the project were derived using the project's program requirements and generalized simulation of projected demands for similar developments. Line sizes will be determined during the design phase of the project.

An average sanitary sewer volume of 11,840 gpd is projected for the Mānana Corporation Yard, based on City and County guidelines for wastewater contribution. This projected sewer volume is increased approximately 10 percent compared to the existing volume of 10,720 gpd.

The new on-site sanitary collection system will consist of gravity sewerlines, force main and lift station, clean out to grade, and sewer manholes. The on-site sewer collection will connect to the existing 10-inch sewerline extending through the Wal-Mart property to the west and the existing 6-and 8-inch sewer laterals extending from the 'Aiko'o Place system to the east.

3.23 Drainage

A Preliminary Engineering Report and a Preliminary Drainage Study were done for the project by Wilson Okamoto Corporation dated October 2014. The following summarizes the findings of the studies pertaining to drainage. The studies are attached as Appendix 2 and Appendix 3.

The project site slopes in the southerly direction with elevations ranging from approximately 118 feet above mean sea level near the northwest corner of the property at the end of the Makolu Street cul-de-sac, to approximately 90 feet above mean sea level at the southwest corner of the project site. The upper two-thirds of the project site, where all the existing warehouse and temporary trailers are located, is relatively flat. An approximately 5 feet high retaining wall along the northern boundary separates the project site from the higher BWS Mānana Yard to the north. The lower third of the project site is approximately 15 feet lower than the existing warehouse and temporary trailer area and is currently used for vehicle parking and material storage.

Storm drainage flows generated by the upper two-thirds of the project site is collected by a system of trench drains, drainlines and graded swales running in

the west to east direction between the existing warehouse and temporary trailer facilities. This system connects to an existing drainage system extending along the east end of the project site. Portions of the BWS Mānana Yard also drain into this system. An existing headwall and open ditch along the southeast boundary of the project site connects to an existing 30-inch drainline located in the Kanaeha Street cul-de-sac to the south of the project site. The remaining lower third of the project site sheet flows into an existing drainage structure at the south end of the project that is connected to an existing 18-inch drainline located in the Inia Place cul-de-sac.

Under existing conditions, the estimated drainage flow rates for a 10-year, 1 hour rainfall event is 27.44 cubic feet per second (cfs) for the project site.

Impacts and Mitigation Measures

Storm drainage volumes for the project site were derived using the Conceptual Layout Plans and generalized simulation of projected demands for similar developments. The proposed on-site storm drainage system is likely to consist of a combination of drain inlets, storm drain manholes, underground piping, and underground detention/retention. Line sizes, inlet locations and storm water treatment requirements will be determined during the design phase of the project.

The proposed project will increase the estimated 10-year 1 hour drainage peak flow from 27.44 cubic feet per second (cfs) for existing conditions to 36.92 cfs for proposed conditions. Additionally, runoff volume will increase by 21,238 cubic feet from existing to proposed conditions based on the 50-year 1-hour storm. The increase in peak discharge and runoff volume can be attributed to the increase in impervious area due to the addition of the new warehouse buildings and AC areas. Underground retention/detention basin(s) are proposed for this project to maximize the amount of usable open space on-site. Acceptable options for the treatment of the stormwater would include vegetated swales and sand filters.

3.24 Electricity and Telephone Services

A Preliminary Engineering Report was done for the project by Wilson Okamoto Corporation dated October 2014. The following summarizes the findings of the study pertaining to electrical, telephone, internet and cable TV service. The entire study is attached as Appendix 2.

Electrical service is provided to the project site by Hawaiian Electric Company (HECO). The service, located on Makolu Street, is single phase (120-240 volts) to the City-owned transformer on the project site. Telephone service for the project will be provided by Hawaiian Telcom. Internet and cable TV service will

be provided by Oceanic Time Warner Cable. The City also has its own fiber-optic data service provided to the site.

Impacts and Mitigation Measures

New underground infrastructure for electrical, telephone, internet and cable TV, and fiber-optic cable will be needed. The demand load will need to be calculated by the project's electrical engineer. Coordination will be undertaken with HECO, Verizon Hawai'i and Oceanic Time Warner Cable to ensure that functions of the utilities are not impacted or impeded.

4. RELATIONSHIP TO LAND USE PLANS, POLICIES AND CONTROLS

The project's consistency with relevant State and County land use plans, policies and controls is discussed below.

4.1 Hawaii State Plan

The Hawaii State Plan, embodied in Chapter 226, HRS, serves as a guide for goals, objectives, policies and priorities for the State. The State Plan provides a basis for determining priorities, allocating limited resources, and improving coordination of State and County plans, policies, programs, projects and regulatory activities. The proposed project is consistent with the following State Plan objectives and policies.

Section 226-6 Objectives and policies for the economy – in general.

> *(b)(6) Strive to achieve a level of construction activity responsive to, and consistent with, state growth objectives.*

Discussion: The Mānana Corporation Yard will involve construction of new facilities at an existing corporation yard site. The proposed project will increase the level of construction activity on O'ahu during the period of construction.

Section 226-11 Objectives and policies for the physical environment – land based, shoreline, and marine resources.

> *(b)(3) Take into account the physical attributes of areas when planning and designing activities and facilities.*

Discussion: The Corporation Yard improvements for portions of the Departments of Parks and Recreation and Facility Maintenance are basically a remedy for facilities that are in a state of deterioration. The proposed project involves formulation and implementation of a plan for the site which would efficiently accommodate existing uses within new and upgraded facilities in context with its neighboring uses. This would provide a maintenance baseyard conveniently located in close proximity to the facilities it is intended to service.

4.2 State Land Use District

Chapter 205, Hawaii Revised Statutes, relating to the Land Use Commission (LUC), establishes four (4) major land use districts in which all lands in the state are placed. These districts are designated as "Urban", "Rural", "Agricultural", and "Conservation". The project is located within the State "Urban" District. The proposed project is consistent with the Urban District classification since maintenance baseyards are a permissible use within this District.

4.3 Hawai‘i Coastal Zone Management Program

The National Coastal Zone Management (CZM) Program was created through passage of the Coastal Zone Management Act of 1972. Hawai‘i’s CZM Program, adopted as Chapter 205A, HRS, provides a basis for protecting, restoring and responsibly developing coastal communities and resources. The Hawai‘i CZM area includes all lands within the State and the areas seaward to the extent of the State’s management jurisdiction. Hence, the proposed project site is located in the CZM area. A discussion of the project’s consistency with the objectives and policies of the CZM Program is provided below.

(1) Recreational Resources

Objective:

Provide coastal recreational opportunities accessible to the public.

Policies:

(A) Improve coordination and funding of coastal recreational planning and management; and

(i) Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by: Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;

(ii) Requiring replacement of coastal resources having significant recreational value, including but not limited to surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the state for recreation when replacement is not feasible or desirable;

(iii) Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;

(iv) Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;

(v) Ensuring public recreational use of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources; Adopting water quality standards and regulating point and nonpoint sources of pollution to protect, and where feasible, restore the recreational value of coastal waters.

(vi) Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and

(vii) Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use

commission, board of land and natural resources, and county authorities; and crediting such dedication against the requirements of section 46-6.

The proposed project provides new structures in the Mānana baseyard which will allow continued convenient access to numerous City shoreline parks and facilities in the Pearl City region. The project site is located a significant distance away from the shoreline and does not displace or adversely impact any existing recreational resources. During construction, erosion and sediment control measures will be instituted in accordance with site specific assessments, incorporating appropriate structural and non-structural BMPs such as minimizing time of construction and landscaping, and implementing erosion control measures such as silt fences and filter berms. An increase in runoff volume will be mitigated by an underground retention/detention basin consisting of pipes and/or arched chambers.

(2) Historic Resources
Objective:
(A) Protect, preserve and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.

Policies:
(A) Identify and analyze significant archaeological resources;
(B) Maximize information retention through preservation of remains and artifacts or salvage operations; and
(C) Support state goals for protection, restoration, interpretation, and display of historic resources.

An archaeological assessment conducted by Scientific Consulting Services, Inc. dated July 1995 was done for the Mānana and Pearl City Junctions parcels Environmental Impact Statement. The land area of the assessment involved 108.68 acres which comprised the Mānana Naval Reservation site and 13.75 acres noted as the Pearl City Junction parcel. Thus, the assessment encompassed the subject 7.8 acre City maintenance yard parcel.

The assessment noted that the subject parcels were historically cultivated for crops such as rice during the mid-1800's and some house lots were also established. By 1899, sugar had become a profitable venture and portions of the Pearl City Junction site were cultivated by the Honolulu Plantation. During World War II, the parcels were converted to warehouse use by the U.S. Navy for military purposes.

Due to the extensive grading and other modifications conducted on the property associated with previous agricultural and military use, the Archaeological

Assessment concludes that "there is little reason to believe significant historic sites remain in the project area." The Assessment also included a field inspection to determine if there were any areas not affected by post-contact activities. No archaeological or cultural sites were identified during the field check or are known to exist on the subject property.

The document concludes that the "findings of this assessment indicate no significant historic sites are present in the project area and it is recommended that no further archaeological work be required for this property."

During any development activity involving extensive modification of the land surface, there is always the possibility, however, remote, that previously unknown or unexpected subsurface cultural features, deposits or burials might be encountered. Should any archaeologically significant features, deposits or burials be uncovered, immediate archaeological consultation will be sought with the Department of Land and Natural Resources Historic Preservation Division in accordance with applicable regulations.

(3) Scenic and Open Space Resources

Objective:

(A) Protect, preserve, and where desirable, restore or improve the quality of coastal scenic and open space resources.

Policies:

(A) Identify valued scenic resources in the coastal zone management area;

(B) Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;

(C) Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and

(D) Encourage those developments which are not coastal dependent to locate in inland areas.

As noted in the City and County of Honolulu Primary Urban Center Development Plan, the project site is part of a panoramic east-west view between lower Pearl City and Pearl Harbor. However, existing views of the property are dominated by an urban environment, mainly the low-rise warehouse structures, equipment storage and vehicular parking. The project site is located in a flat to gently sloping area within the interior of the Mānana Naval Reservation site away from major thoroughfares. To the west of the subject property is the low-rise Wal-Mart and Sam's Club commercial establishment. To the south and west are single family residential uses. The existing Board of Water Supply baseyard is located to the north.

The proposed project would maintain a low-rise presence within the interior of the Mānana area. The proposed project would have a negligible impact on panoramic views.

(4) Coastal Ecosystems

Objective:

(A) Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.

Policies:

(i) Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;

(ii) Improve the technical basis for natural resource management;

(iii) Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;

(iv) Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and

(v) Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.

Anticipated runoff increase can be mitigated on-site with the use of an underground retention/detention basin which will allow runoff to percolate on-site over time.

All earthwork and grading shall be in conformance with Article 13, Revised Ordinances of City and County of Honolulu, General Provisions for Grading, Soil Erosion and Sediment Control. The project will be regulated through review, revision and approval by the City and County of Honolulu's Site Development Division of the Department of Planning and Permitting to ensure compliance with standards related to storm runoff.

Because the project area is greater than one acre and presents a potential for storm runoff, a National Pollutant Discharge Elimination System (NPDES) permit must be obtained by the contractor before the project commences. The permit requires the completion of a Site Specific Best Management Practices Plan. These BMPs may include, but may not be limited to the following:

- Minimization of soil loss and erosion by revegetation and stabilization of slopes and disturbed areas of soil, possibly using hydromulch, geotextiles, or binding substances, as soon as possible after working;

- Minimization of sediment loss by emplacement of structural controls possibly including silt fences, gravel bags, sediment ponds, check dams, and other barriers in order to retard and prevent the loss of sediment from the site;
- Minimizing disturbance of soil during periods of heavy rain;
- Phasing of the project to disturb the minimum area of soil at a particular time;
- Application of protective covers to soil and material stockpiles;
- Construction and use of a stabilized construction vehicle entrance, with designated vehicle wash area that discharges to a sediment pond;
- Washing of vehicles in the designated wash area before they egress the project site;
- Use of drip pans beneath vehicles not in use in order to trap vehicle fluids;
- Routine maintenance of BMPs by adequately trained personnel;
- Significant leaks or spills, if they occur, shall be properly cleaned up and disposed of at an approved site.

With approved mitigation measures, no significant impacts to coastal ecosystems are anticipated during construction and operation of the proposed facility.

(5) Economic Uses

Objective:

(A) Provide public or private facilities and improvements important to the State's economy in suitable locations.

Policies:

(A) Concentrate coastal dependent development in appropriate areas;

(B) Ensure that coastal dependent developments such as harbors and ports, and coastal related development such as visitor facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and

(C) Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:

(A) Use of presently designated locations is not feasible;

(B) Adverse environmental effects are minimized; and

(C) The development is important to the State's economy.

The proposed project provides the necessary upgrades to the City's baseyard to allow for the continued efficient repair and maintenance of City parks and

facilities in the Central O'ahu region. The project helps to facilitate upkeep of coastal parks and promote the safe and efficient movement of people, goods and services important to the State's economy. The project will provide direct construction and operational jobs and will also have beneficial secondary economic benefits by promoting the procurement of materials and supplies from local vendors.

(6) Coastal Hazards

Objectives:

(A) Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.

Policies:

(A) Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;

(B) Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint pollution hazards;

(B) Ensure that developments comply with requirements of the Federal Flood Insurance Program;

(C) Prevent coastal flooding from inland projects.

According to the Flood Insurance Rate Map (FIRM) prepared by the Federal Emergency Management Agency (FEMA), the project site is located within Zones X and D. Zone X is an area determined to be outside of the 0.2 % annual chance floodplain. No base flood elevations or depths are shown in this zone. Zone D are areas where flood hazards are undetermined, but possible.

Since portions of the site do not have drainage improvements which meet current standards, surface flooding occurs during heavy storm events. The proposed project will involve necessary on-site drainage improvements designed and constructed in full compliance with County drainage requirements and flood plain management requirements of the County.

(7) Managing Development

Objective:

(A) Improve the development review process, communication, and public participation in the management of coastal resource and hazards.

Policies:

(A) Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;

(B) Facilitate timely processing of applications for development permits and resolve overlapping or conflicting permit requirements; and

(C) Communicate the potential short- and long-term impacts of proposed significant coastal developments early in their life cycle and in terms understandable to the public to facilitate public participation in the planning and review process.

The Hawai'i State environmental review process, HRS 343, requires project review by government agencies and affords the public the opportunity to provide comments on the proposed project. Applicable State and County requirements will be adhered to in the design and construction phases of the proposed improvements.

(8) Public Participation

Objective:

(A) Stimulate public awareness, education, and participation in coastal management.

Policies:

(A) Promote public involvement in coastal zone management processes;

(B) Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities; and

(C) Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.

The Hawai'i State environmental review process, Chapter 343, HRS, requires project review by government agencies and affords organizations and the general public the opportunity to provide comments on the proposed project.

(9) Beach Protection

Objective:

(A) Protect beaches for public use and recreation.

Policies:

(A) Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion;

(B) Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and

(C) Minimize the construction of public erosion-protection structures seaward of the shoreline.

The proposed project is located approximately .75 mile from the closest shoreline at East Loch in Pearl Harbor and has been in warehouse use since around World War II. It is noted that all earthwork and grading for the project shall be in conformance with Article 13, Revised Ordinances of City and County of Honolulu, General Provisions for Grading, Soil Erosion and Sediment Control. The project will be regulated through review, revision and approval by the City and County of Honolulu's Site Development Division of the Department of Planning and Permitting to ensure compliance with standards related to storm runoff.

(10) Marine Resources

Objective:

(A) Promote the protection, use, and development of marine and coastal resources to assure their sustainability.

Policies:

(D) Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;

(E) Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;

(F) Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone;

(G) Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and

(H) Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.

The proposed project is not anticipated to have any significant adverse impacts on marine and coastal resources. Potential water quality impacts to nearshore coastal waters during construction of the improvements will be mitigated by adherence to State water quality regulations governing grading, excavation and stockpiling.

The proposed project is not anticipated to have any significant long-term impacts on marine resources. Following construction, exposed soils at the project site will have been built over, paved over, or re-vegetated to control erosion.

4.4 City and County of Honolulu General Plan

The City and County of Honolulu General Plan (adopted in 1977) was amended by the City Council in 1992. The plan is a statement of long range social, economic, environmental and design objectives for the general welfare and prosperity of the people of O‘ahu. The plan contains broad policies which facilitate the attainment of the objectives of the plan. Eleven subject areas provide the framework for the City’s expression of public policy concerning the needs of the people and the functions of government. These areas include population; economic activity; the natural environment; housing; transportation and utilities; energy; physical development and urban design; public safety; health and education; culture and recreation; and government operations and fiscal management. The relationship of the proposed project to the relevant objectives and policies of the General Plan are as follows:

VII. Physical Development and Urban Design

Objective A To coordinate changes in the physical environment of O‘ahu to ensure that all new development are timely, well-designed, and appropriate for the areas in which they will be located.

Policy 6 Encourage the clustering of developments to reduce the cost of providing utilities and other public services.

The proposed project is located within the existing Mānana Corporation Yard which has been in warehouse/storage/baseyard use since World War II. The existing baseyard is located adjacent to the existing Board of Water Supply baseyard as well as the Department of Transportation Services bus facility. The proposed continuation of maintenance baseyard use by the Departments of Parks and Recreation and Facility Maintenance is intended to upgrade the space, utilize space more efficiently and minimize possible impacts on the neighboring uses. In addition, additional space has been set aside for possible future expansion.

XI. Government Operations and Fiscal Management

Objective A To promote increased efficiency, effectiveness, and responsiveness in the provision of government services by the City and County of Honolulu.

Policy 2 Promote consolidation of State and City and County functions whenever efficient and effective delivery of government programs and services can be achieved.

The Mānana Corporation Yard will consolidate the common facilities and functions needed to support the functions of the Department of Parks and

Recreation and the Department of Facility Maintenance at a site reasonably close to the numerous County facilities within the Pearl City area. The convenience should result in optimum response times and efficiency in the delivery of services.

4.5 Primary Urban Center Development Plan

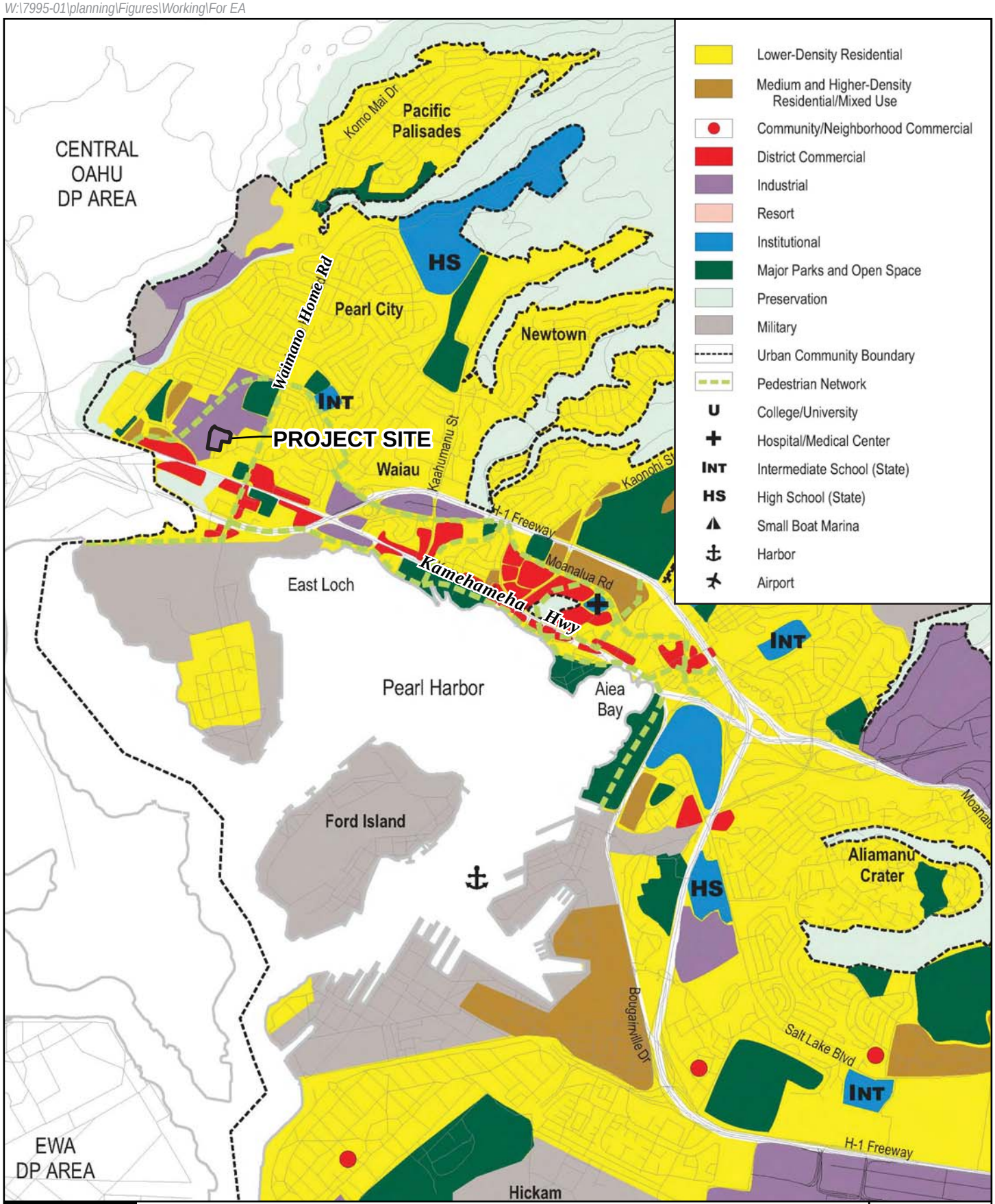
Section 6-1509 of the Revised Charter of the City and County of Honolulu 1973 as amended, reads "Development plans shall consist of conceptual schemes for implementing and accomplishing the development objectives and policies of the general plan within the city … The development plan and maps (which shall be detailed in the manner of zoning maps) shall describe the desired urban character and the significant natural, scenic and cultural resources for the several parts of the city to a degree sufficient to serve as a policy guide for more detailed zoning maps and regulations and public and private sector investment decisions."

The City and County of Honolulu Primary Urban Center Development Plan encompasses the area from Pearl City to Kāhala across the valleys and coastal areas. The project site is located within this development plan region.

In terms of a general land use history, urban development in the Primary Urban Center began with Honolulu Harbor and the surrounding Downtown area and gradually spread across the coastal plain, into the valleys and atop the broad faces of the coastal ridges. The smaller communities of ʻAiea and Pearl City grew up around plantation agriculture and the military bases near Pearl Harbor. Growth in the decades following Statehood brought the development of apartments and greater density to Honolulu neighborhoods from Kāhala to Kalihi, and the creation of many new communities to the west, including Salt Lake, Moanalua, ʻAiea Heights, Waimalu and Pearl City Heights. Shopping and industrial districts grew, as did Waikīkī and the Civic Center.

The development plan notes that the Pearl City Town Center contains a mix of neighborhood-oriented (Pearl City Shopping Center) and regional (Pearl Highlands Center) commercial uses, apartment buildings, a residential subdivision, and civic and community facilities. The Navy's former storage area is adjacent and planned for redevelopment and conversion to industrial-commercial mixed use. The project site is located within the Pearl City Town Center. According to the Primary Urban Center Land Use Map, the project site is designated "Industrial". See Figure 17.

Discussion: The continued use of the project site as a City and County Corporation Yard conforms to the "Industrial" designation in the Primary Urban Center Development Plan.



WILSON OKAMOTO CORPORATION

MANANA CORPORATION YARD IMPROVEMENTS
MANANA, OAHU, HAWAII

PRIMARY URBAN CENTER LAND USE PLAN

FIGURE
17

4.6 Zoning

The zoning designation for the project site is IMX-1 Industrial-commercial mixed use district. The purpose of the industrial-commercial mixed use district is to allow mixing of some industrial use with some other uses. The intent of this district is to provide for areas of diversified businesses and employment opportunities by permitting a broad range of uses, without exposing nonindustrial uses to unsafe and unhealthy environments. To a limited extent, some residential uses shall be permitted. The district is intended to promote and maintain a viable mix of light industrial and commercial uses. See Figure 18.

Discussion: The warehouse use of the site predates the existing zoning. Continued use of the project site as a City and County Corporation Yard conforms to the IMX-1 zoning.

4.7 County Special Management Area

The Hawaii Coastal Zone Management (CZM) Act (Chapter 205, HRS) is the basis of the Hawaii CZM Program. The Act establishes objectives, policies and guidelines upon which all counties within the State have structured specific legislation which designated Special Management Areas (SMA). Any development located within the SMA requires a County-issued SMA permit. The project site is located outside of the SMA.

4.8 Permits and Approvals

The following is a list of permits and approvals which may be required prior to construction of the proposed project:

State of Hawaii
Department of Health

- Community Noise Permit
- National Pollutant Discharge Elimination System (Stormwater Associated with Construction)
- State Asbestos Rules (Title 11, Chapters 501, 502, 503, and 504, HAR)
- Lead Based Paint Regulations (Title 11, Chapter 41, HAR)

City and County of Honolulu

- Grubbing and Grading Permits
- Building Permits

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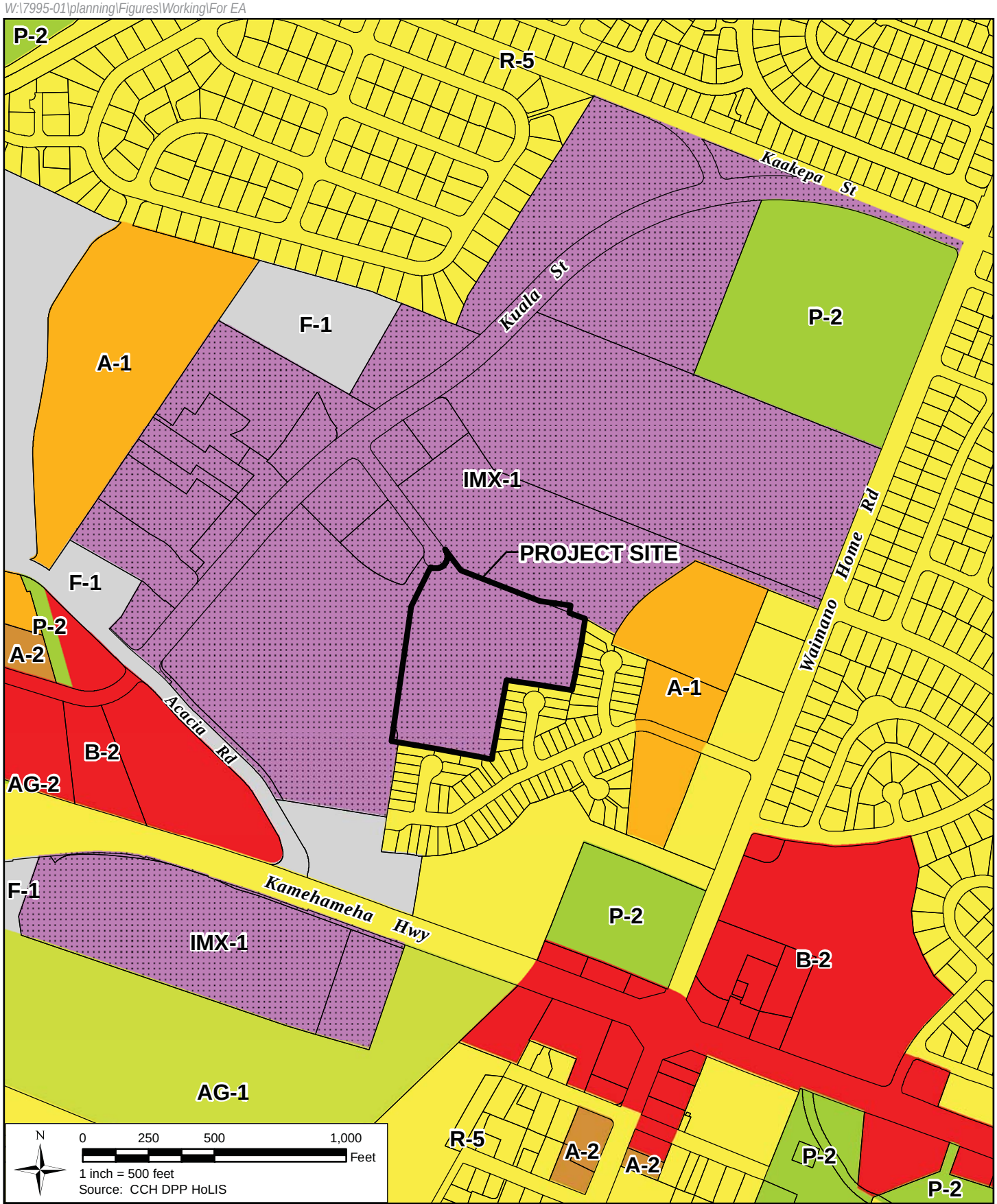

WILSON OKAMOTO CORPORATION

MANANA CORPORATION YARD IMPROVEMENTS
MANANA, OAHU, HAWAII

ZONING MAP

FIGURE
18

5. ALTERNATIVES TO THE PROPOSED ACTION

5.1 No Action Alternative

The No Action alternative would continue the operation of the 7.8 acre Mānana Corporation Yard for the Department of Parks and Recreation and Department of Facility Maintenance in its current state. City functions would continue to use facilities that lack adequate space for their assigned functions. Portions of City equipment, parts and tools would continue to be stored in the open areas without cover resulting in reduced useful product life. This results in an inefficient use of City resources. City employees would have to continue to use facilities with poor functional layouts which results in inefficient working conditions and adds to the time and effort required for City employees to perform assigned tasks.

The No Action Alternative leads to decreased work efficiencies at the Corporation Yard over time as well as increased maintenance and replacement costs for vehicles, parts and equipment. The No Action Alternative is not a viable and reasonable alternative.

5.2 Renovation of Existing Buildings and Site

An alternative involves renovating and refurbishing the existing warehouse buildings and site. The warehouse buildings have been in existence since around World War II. City agencies have already utilized the buildings and site for almost 20 years and have long established working operational protocols.

However, the warehouse structures are quite old and deteriorated. The structures do not meet current Building, Electrical and Plumbing Code standards. Bringing these buildings up to standard will be quite time consuming and costly. Since City agency responsibilities would continue during the period of construction, alternate arrangements need to be made for those portions of buildings under construction. With current space at a premium, relocation of work areas, parking and storage will be difficult. The site also has aging infrastructure in terms of drainage, sewer and water facilities. The on-site upgrades needed would disrupt existing operations.

Over time, layouts and floor plans have been established without extended thought as to a master plan for the entire site. Moreover, although the site is conveniently located in the Pearl City region which allows quick access to City parks and facilities, it is also located in a very valuable portion of the Pearl City industrial and commercial area. Overall City needs for maintenance and upkeep of facilities will continue to grow in the future. Thus, efficient and more dense utilization of the site is a prime consideration.

It is noted that the northeast portion of the mauka warehouse also encroaches onto the abutting Board of Water Supply parcel. If the existing warehouse is proposed to be retained, the encroachment needs to be addressed.

While renovating and refurbishing the existing facilities is an option, it is not the best long term solution to the City's need for adequate baseyard facilities.

5.3 Sequential Redevelopment of Project Site

This alternative involves a sequential redevelopment of the project site and is the preferred alternative. The Department of Transportation Services (DTS) currently utilizes warehouse storage and office space within the upper area of the project site. It is anticipated that DTS will vacate the site and move to the adjacent DTS facility on Kuala Street. While it is uncertain whether the timing of the move will coincide with the development of Phase 1, it is noted that DTS also does not occupy a significant portion of the upper area to allow relocation of all of the lower area open storage, equipment and employee parking into its vacated space during construction of the lower area. Some storage and parking functions can be accommodated in the space vacated by DTS should they vacate the site before the start of Phase 1 construction. However, the bulk of open storage and parking functions will likely need to be accommodated off-site. Once the lower area existing uses can be relocated, construction of the permanent improvements on the lower area can begin.

After the new DFM facility is completed, DFM moves all its materials and staff into their new facility. Then the old DFM and DTS warehouse in the central portion of the site is demolished.

Development of Phase 2 also faces space limitations regarding relocation. It is noted that covered storage, office use, and open equipment parking as well as open storage will need to be relocated. Accommodations will likely need to be found off-site for at least a portion of the MSS operations.

In order to limit the amount of off-site relocation needed, construction of the new DPR warehouse could be phased. A portion of the new DPR warehouse including the mezzanine along the south and east property line can then be constructed. After this portion is done, applicable DPR staff move in to the new warehouse. The remainder of DPR operations utilize the western portion of the existing warehouse temporarily. The eastern portion of the DPR warehouse is then demolished and new warehouse constructed. DPR moves the remainder of its operations from the western portion of the existing warehouse to the new warehouse. The western portion of the existing warehouse is demolished and a new warehouse built. The remainder of operations move into the new warehouse. The intent is to limit operational disruptions due to construction.

This would provide that all new construction will comply with applicable Codes. Although space within the site will be at a premium during the construction stage, this alternative does provide for a logical phasing of construction while attempting to continue to provide County employees the capability to perform needed repair and maintenance on County parks and facilities.

This alternative does provide a master plan for the site. It also provides additional flexibility to the City in allocating future space for baseyard use. This makes for more efficient use of this valuable centrally located land.

6. ANTICIPATED DETERMINATION

Based on the significance criteria set forth in Chapter 200, Title 11, State of Hawaii Department of Health Administrative Rules, it is anticipated that the proposed Project will not have a significant effect on the environment, and that a Finding of No Significant Impact (FONSI) will be filed with the State Office of Environmental Quality Control following the public consultation period. The reasons supporting this anticipated determination are described below according to these significance criteria.

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

Development of the proposed Project will require an irrevocable commitment of energy, labor, capital, and materials for construction. Land has been utilized for a City corporation yard and will continue to be used for those purposes for an indefinite period of time.

The Corporation Yard does not provide habitat for Federal or State of Hawai‘i listed or candidate threatened or endangered species of flora or fauna. The 7.8 acre project site has been fully developed and used for maintenance, storage and warehousing for over 60 years. Thus, the Corporation Yard does not involve loss or destruction of natural resources.

Due to the extensive grading and other modifications conducted on the property associated with previous agricultural and military use, the Archaeological Assessment done for the Mānana and Pearl City Junction Development (which includes the project area) concludes that “there is little reason to believe significant historic sites remain in the project area.” No significant cultural resources, practices or beliefs have been identified within the project site or immediate surrounding area. If archaeological or cultural materials are found during project excavation, work will cease in the immediate vicinity of the find and the Department of Land and Natural Resources Historic Preservation Division will be notified to determine appropriate mitigation.

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

The intention of the proposed Project is to commit the Project Site to the proposed use over the long-term. Beneficial uses of the Project Site and environment would not be curtailed since the site had been utilized for baseyard and warehousing uses for over 60 years.

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 project does not conflict with long-term environmental policies, goals, and guidelines of the State of Hawai‘i. As presented in this EA, the project’s potential adverse impacts are associated only with short-term construction-related activities and can be mitigated through adherence to standard construction mitigation practices.

4) Substantially affects the economic, social welfare, or cultural practices of the community or State;

In the short term, the Project will confer positive benefits in the local area. Direct economic benefits will result from construction expenditures both through the purchase of material from local suppliers and through the employment of local labor, thereby stimulating that sector of the economy. Indirect economic benefits may include benefits to local retailing businesses resulting from construction activities.

There are no significant adverse long term socio-economic impacts anticipated with the proposed Project. The proposed Project is not expected to increase traffic or induce growth in the Pearl City region.

The project site has been in urban industrial use since World War II. There are no reported ongoing traditional gathering or hunting practices occurring within the project area. The proposed Project is not anticipated to have an adverse impact on traditional cultural properties or practices, gathering rights, or access.

5) Substantially affects public health;

The proposed project involves an upgrade to an existing industrial warehousing and storage facility. In the short term, possible construction related impacts will be mitigated through implementation of applicable best management practices. In the long term, standard construction and permanent best management practices will be followed to mitigate substantial impacts on public health.

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

No secondary effects are anticipated with the construction and operation of the proposed project. The proposed project is not anticipated to induce growth beyond that which is anticipated for the region and should not have a major influence on future population and land use patterns in Pearl City. Rather, the facility is proposed to fulfill a community need to provide efficient and prompt services provided by the Departments of Facility Maintenance and Parks and Recreation.

7) Involves a substantial degradation of environmental quality

The proposed Project is not anticipated to involve a substantial degradation of environmental quality.

There are potential short-term construction-related impacts to noise, air quality and traffic in the immediate project vicinity. However, possible impacts would be mitigated through the implementation of applicable mitigation measures during the construction period. In the long term, the project will upgrade the buildings and improvements to the area. In particular, drainage improvements will aid in lessening the incidence of minor on-site flooding. The project will not result in a substantial degradation to environmental quality.

8) Is individually limited but cumulatively has a considerable effect upon the environment or involves a commitment for larger actions.

No cumulative effects are anticipated, inasmuch as the proposed project involves upgrades and improvements to the existing warehouse buildings and grounds. There is no commitment to any larger action and there is no further cumulative environmental effect.

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

The project site has been in urban industrial use for almost 70 years. The site has been cleared and graded. Vegetation on the project site consists of mostly introduced weedy species. The project is not anticipated to adversely affect any rare, threatened or endangered species, or its habitat.

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

Operation of construction equipment may temporarily elevate ambient noise and concentrations of exhaust emissions in the immediate vicinity of the project site. Construction on the project will be limited to weekday daylight hours. Dust will be addressed through watering of unpaved areas of exposed soil and planting landscaping as soon as possible on completed areas.

Operation of the proposed project will have no significant long-term impact on air quality or ambient noise levels in the vicinity.

Applicable best management practices will be followed during the construction phase of the project. On-site drainage improvements will be installed pursuant to City regulations. There will be no detrimental effects to water quality resulting from the proposed project.

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, fresh water, or coastal waters;

According to the FIRM prepared by FEMA, the Project Site is located within Zone X and D. Zone X is an area determined to be outside of the 0.2% annual chance floodplain. No base flood elevations or depths are shown in this zone. Zone D are areas where flood hazards are undetermined, but possible.

The project site is not located within a tsunami zone, beach, erosion-prone area, or geologically hazardous land. The project site is not located within or in close proximity to an estuary or fresh water. It is located approximately .75 mile from the East Loch of Pearl Harbor.

12) Substantially affects scenic vistas and viewplanes identified in county or state plans or studies;

The project site is part of a panoramic east-west view plane of the Pearl Harbor and lower Pearl City area identified in the City and County of Honolulu Primary Urban Center Development Plan. However, the existing project site will continue the low-rise industrial warehouse use of the property. The property is located on a generally flat low lying area away from major thoroughfares. The proposed project will not substantially affect scenic vistas and view planes identified in county or state plans or studies.

13) Requires substantial energy consumption;

Construction and operation of the proposed Project will not require substantial increases in energy consumption.

7. CONSULTATION AND COORDINATION

7.1 Pre-Assessment Consultation

The following agencies and organizations were consulted during the preparation of the Draft EA. Letters soliciting comments pursuant to the requirements of Chapter 343, Hawai‘i Revised Statutes, and Title 11, Chapter 200, Hawai‘i Administrative Rules, were sent on August 4, 2014, and comments were requested by September 4, 2014. A total of 15 written comments were received. Those who formally replied are indicated by an asterisk (*). The listing of agencies consulted and comments received are noted below. All written comments and responses are included in Appendix 4.

Federal

- National Marine Fisheries Service, Pacific Islands Regional Office
- U.S. Army Corps of Engineers
- U.S. Department of the Interior, Fish and Wildlife Service

State of Hawai‘i

- * Department of Accounting and General Services
- Department of Education
- Department of Business, Economic Development and Tourism
- Department of Business, Economic Development and Tourism, Land Use Commission
- * Department of Business, Economic Development and Tourism, Office of Planning
- Department of Health
- Department of Health, Office of Environmental Quality Control
- * Department of Health, Clean Water Branch
- Department of Health, Environmental Management Division
- * Department of Health, Environmental Planning Office
- Department of Land and Natural Resources
- Department of Land and Natural Resources, Historic Preservation Division
- Department of Land and Natural Resources, Office of Conservation and Coastal Lands
- * Department of Land and Natural Resources, Land Division
- * Department of Transportation
- * Office of Hawaiian Affairs

City and County of Honolulu Legislative Branch

- Council Chair Ernest Martin
- Councilmember Breene Harimoto (succeeded by Brandon Elefante)

City and County of Honolulu

- * Board of Water Supply
- Department of Community Services

* Department of Design and Construction
  Department of Design and Construction, Civil Division
  Department of Design and Construction, Wastewater Division
* Department of Environmental Services
* Department of Facility Maintenance
* Department of Parks and Recreation
* Department of Planning and Permitting
* Department of Transportation Services
  Honolulu Authority for Rapid Transportation
* Honolulu Fire Department
* Honolulu Police Department

Other Interested Parties and Individuals

Pearl City Neighborhood Board No. 21

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APPENDIX A

Noise Impact Assessment Report

Mānana Corporation Yard Improvements

D. L. Adams Associates, Ltd.

September 2014

D. L. ADAMS ASSOCIATES
acoustics | performing arts | technology

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Noise Impact Assessment Report
Manana Corporation Yard Improvements
Pearl City, Island of Oahu, Hawaii

September 2014

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1.0 EXECUTIVE SUMMARY

1.1 The Manana Corporation Yard project is located in Pearl City, Oahu. The project site consists of approximately eight acres bordered residential and light industrial. The purpose of the project is to replace the existing facilities with new offices and warehouse buildings, parking structure, and open storage areas for several City and County of Honolulu Departments. This assessment focuses on evaluating noise impacts due to demolition construction and construction activities, as well as future operation noises after the proposed improvements project is implemented.

1.2 Ambient noise level measurements were conducted at two locations within the project site to assess the existing acoustical environment. The ambient sound levels at Manana Corporation Yare fluctuated based on environmental and neighborhood noise sources as well as noises from the yard. Daytime noise levels measured at the project site range from 42 A-weighted decibels (dBA) to 69 dBA and nighttime levels range from 38 dBA to 68 dBA. The average day-night level, L_{dn}, on the project site is 57 to 66 dBA.

1.3 The demolition and construction of the proposed Manana Corporation Yard Improvements project will involve several stages which utilize various types of construction equipment and will generate significant amounts of noise. The actual sound levels that will be experienced in the vicinity of the project site will vary greatly during the project and will be a function of the methods employed during each stage of the construction process, distance from the noise source, and the duration of the construction activities. Due to the proximity of the project site to the adjacent residences south and east of the project site, construction noise levels will significantly exceed existing ambient noise levels and intermittent construction noises will be clearly audible during all phases.

1.4 Since construction noise levels will exceed maximum permissible noise limits specified in the HDOH Community Noise Rule, a permit must be obtained from the HDOH to allow the operation of construction equipment. The permit allows the operation of construction equipment but it is limited to daylight hours. Although noise disruptions would likely occur over the duration of the project, the impact of these disruptions are considered to be short term and within guidelines for construction noise. Noise mitigation for construction activities should be addressed using good management practices to control the noise source. Source control methods include scheduling, equipment selection, retrofitting equipment with mufflers or enclosures, and regular maintenance of equipment. Path control measures include temporary noise barriers or the noise monitoring system during activities located close to the property line.

1.5 Once the proposed Manana Corporation Yard Improvements are complete and the site is in operation, the noise profile of the site will change. While it is expected that the same inventory of DFM and DPR vehicles and equipment will be in use, the operational characteristics are dependent on the proposed site layout for Phase 1 and Phase 2. A sound propagation model was developed to predict the likely operational noise effects to receptor locations surrounding the project site. Based on the results of the sound propagation model, the proposed Phase 1 and Phase 2 structures will block much of the operations noises to the neighboring residences south and east of the lower yard area and east of the upper yard. Therefore, noise levels at these residences due to yard activities are expected to decrease significantly after the build out of the Phase 1 and Phase 2 improvements.

1.6 Some noise sensitive receivers will have a line of sight to the external storage areas and a noise barrier wall is recommended between the future DPR and DFM warehouse buildings. In addition, the design of the new warehouse buildings should take into consideration acoustical louvers to limit the transmission of noise from the inner yard to the adjacent residences. Other source and path noise control methods should be considered during the design of the project to limit the occurrence of noisy activates such as backup alarms.

2.0 PROJECT DESCRIPTION

The proposed project is to redevelop the existing Manana Corporation Yard in two phases. The 8 acre project site is located in Pearl City on the Island of Oahu and is bordered by residential areas to the south and east and commercial/light industrial uses to the north and west. The site is fairly flat with the exception of an approximate 15 feet grade difference between the north and south (lower yard) portions of the site.

Manana Corporation Yard is currently being occupied by City and County of Honolulu's Department of Transportation Services (DTS), Department of Facility Maintenance (DFM) and Department of Parks and Recreation (DPR). The existing site includes two existing single story warehouse structures, portable trailers, portable structures, open storage areas, and includes on-grade parking for personal owned vehicles and City and County owned vehicles and heavy equipment. The existing warehouse buildings house Department offices, conference rooms, shops, storage, machineries and equipment.

The proposed Phase 1 improvements project includes the demolition of the existing DFM warehouse building and redevelopment of the lower area of the project site for new DFM facilities. This will include a new administration building and warehouse structure, a new two level parking structure, and an external storage area for DFM materials near the entrance to the lower yard. In addition, an exterior storage area to the north (mauka) of the new parking structure will be provided for DFM and DPR materials and equipment. The existing DPR facility is to remain in operation and the existing portable trailers vacated by this project will remain on site as is. The existing DTS and all its functions will be relocated to another facility off-site.

Proposed Phase 2 improvements include the demolition of the existing DPR warehouse building and DFM portable trailers to make way for the construction of a new U-shaped warehouse building for DPR, an open welding workshop, and a lawn mower shop. Storage bins for DPR materials and a covered heavy equipment parking area will also be provided between the parking structure and the new DPR warehouse building.

3.0 NOISE STANDARDS

Various local and federal agencies have established guidelines and standards for assessing environmental noise impacts and set noise limits as a function of land use. A brief description of common acoustic terminology used in these guidelines and standards is presented in Appendix A.

3.1 State of Hawaii, Community Noise Control (DOH)

The State of Hawaii Community Noise Control Rule [Reference 1] 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. The Community Noise Control Rule does not address most *moving* sources, such as vehicular traffic noise, aircraft noise, or rail transit noise. However, the Community Noise Control Rule does regulate noise related to agricultural, construction, and industrial activities, which may not be stationary.

The maximum permissible noise levels for stationary mechanical equipment are enforced by the State DOH for any location at or beyond the property line and shall not be exceeded for more than 10 percent (%) 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 1. Manana Corporation Yard is zoned as Industrial Mixed Use, although it is surrounded by both residential and industrial zoned properties. With respect to mixed zoning districts, the rule specifies that the primary land use designation shall be used to determine the applicable zoning district class and the maximum permissible sound level. In determining the maximum permissible sound level, the background noise level is taken into account by DOH.

The criteria for *impulse* or impact noise is separate from stationary noise due to the nature of the sound. DOH defines impulse noise as " any sound with a rapid rise and decay of sound pressure level, lasting less than one second, caused by sudden contact between two or more surfaces…". Noise from pile driving is considered impulse noise and the maximum permissible noise level is 10 dB above the specified noise limits for stationary sources, as shown in Figure 1.

3.2 Federal Transit Administration (FTA)

Although the demolition of the existing facilities and construction of the future facilities at Manana Corporation Yard are not associated with mass transit, the criteria developed by the FTA is presented here as a relevant guideline for assessing construction noise. In general, the DOH Community Noise Rule only assesses the impact of a construction project as it relates to nuisance and hours of allowed activity. Project construction noise criteria should take into account the existing noise environment, the equivalent sound levels, L_{eq}, during the construction activities, the duration of the construction activities, and the adjacent land use. While it is not the intention of the FTA to specify standardized criteria for construction noise impact, it has defined guidelines for assessment [Reference 2]. According to the FTA, if the criteria shown in Table 1 are exceeded, there may be adverse community reaction.

Table 1. Federal Transit Administration Construction Noise Impact Threshold

	1-Hour L_{eq} (dBA)	
Land Use	Day (7 AM – 10 PM)	Night (10 PM – 7 AM)
Residential	90	80
Commercial	100	100
Industrial	100	100

3.3 Community Response to Change in Noise Level

Human sensitivity to changes in sound pressure level is highly individualized. Sensitivity to sound depends on frequency content, time of occurrence, duration, and psychological factors such as emotions and expectations. However, the average ability of an individual to perceive changes in noise levels is well documented and has been summarized in Table 2 [Reference 3, 4]. These guidelines permit direct estimation of an individual's probable perception of changes in noise levels.

Table 2. Average Ability to Perceive Changes in Noise Level

Sound Level Change (dB)	**Human Perception of Sound**
0	Imperceptible
3	Just barely perceptible
6	Clearly noticeable
10	Two times (or 1/2) as loud
20	Four times (or 1/4) as loud

A commonly applied criterion for estimating a community's response to changes in noise level is the 'community response scale' proposed by the International Standards Organization (ISO) of the United Nations [Reference 5]. The scale shown in Table 3 relates changes in noise level to the degree of community response and allows for direct estimation of the probable response of a community to a predicted change in noise level.

Table 3. Community Response to Increases in Noise Levels

Sound Level Change (dB)	Category	Response Description
0	None	No observed reaction
5	Little	Sporadic Complaints
10	Medium	Widespread Complaints
15	Strong	Threats of Community Action
20	Very Strong	Vigorous Community Action

The values stated in Tables 2 and 3 should not be considered regulatory requirements because they are not associated with a specific governing document for this project. However, these tables are very useful in assessing the human perception to changes in sound levels and they are considered to be supplemental information to the governing State of Hawaii Community Noise Control Rule, which does not discuss community response to changes in noise levels.

4.0 EXISTING ACOUSTICAL ENVIRONMENT

Continuous long-term ambient noise level measurements were conducted at Manana Corporation Yard to assess the existing acoustical environment in the vicinity of the project site. Long-term measurements (taken continuously over the course of multiple days) offer a baseline for establishing existing ambient noise levels in the area.

The methodology, location, and results for each of the measurements are described below and the measurement locations are illustrated in Figure 2. Photographs of the measurement locations can be viewed in Appendix B.

4.1 Long Term Noise Measurements

4.1.1 Long-Term Noise Measurement Procedure

Ambient noise level measurements were conducted in two different locations to assess the existing acoustical environment on the project site and near the property line. Continuous, hourly equivalent sound levels, L_{eq}, were recorded for approximately 7 days at each location from June 3, 2014 to June 10, 2014. The measurements were taken using a Larson-Davis, Model 831, Type 1 Sound Level Meter together with a Larson-Davis, Model 377B20 Type 1 Microphone. Calibration was checked before and after the measurements with a Larson-Davis Model CAL200 calibrator. Both the sound level meter and the calibrator have been certified by the manufacturer within the recommended 2-year calibration period. The microphone was mounted on a tripod, at least 6 feet above grade. A windscreen covered the microphone during the entire measurement period. The sound level meter was secured in a weather-resistant case.

4.1.2 Long-Term Noise Measurement Locations

Location L1: The sound level meter was located along the property/fence line between the existing DFM warehouse building and portable buildings.

Location L2: The sound level meter was located in the lower yard open storage area at the base of the slope attached to a utility pole.

4.1.3 Long-Term Noise Measurement Results

The ambient sound levels at Manana Corporation Yare fluctuated based on environmental and neighborhood noise sources as well as noises from the yard. The measured L_{eq}, and the 90 percent exceedance level, L_{90}, in dBA are graphically presented in Figures 3 and 4 for each location. The range of L_{eq} during the day (7:00 AM to 10:00 PM) and during the night (10:00 PM to 7:00 AM) and average calculated day-night level, L_{dn}, are summarized for each location below.

Table 4. Summary of Noise Measurement Results (dBA)

Measurement Location	7 AM-10 PM L_{eq} Range	10 PM-7 AM L_{eq} Range	Average L_{dn}
L1 – Near DFM Warehouse	42 - 69	38 - 51	57
L2 – Lower Yard Storage Area	47 - 62	43 - 68	66

Noise sources at both measurement locations included intermittent yard activities (heavy equipment, and backup alarms), chickens, aircraft flyovers, birds, wind, dogs, and other neighborhood noises. The nightly noise peak that occurs at location L1 between 7:00 PM and 8:00 PM is an unknown noise source (probably electrical in nature due to the high frequency content). Unless otherwise indicated, most of the peaks on the L2 graph are due to chickens, especially between 3:00 AM and 6:00 AM.

5.0 POTENTIAL NOISE IMPACTS

5.1 Construction Noise for Phase 1 and Phase 2 Improvements

The demolition of the existing DFM warehouse building and construction of a new parking structure and DFM warehouse/office building for the Phase 1 proposed improvements will involve several stages which utilize various types of construction equipment. The same is true for the Phase 2 demolition of the existing DPR warehouse building and construction of the new DPR facilities. The various stages of construction and equipment that are expected are described in Table 5 below. Although a construction schedule and the equipment roster for this project have not been finalized, the information described below represents a reasonable assumption for each phase of construction. Typical ranges of construction equipment noise are also shown in Figure 5.

Table 5. Phase 1 & 2 General Construction Stages and Equipment

Construction Stage	Expected Equipment	L_{max} (dBA) at 50 feet[N1]	Impact Device[N2]
Building Demolition	Crane	85	No
	Excavator	85	No
	Front Loader	80	No
	Dump Truck	84	No
	Concrete Saw	90	No
	Hoe Ram “Breaker”	92	Yes
	Jack Hammer	85	Yes
Site Preparation/Demolition	Excavator	85	No
	Front Loader	80	No
	Dump Truck	84	No
	Grader	85	No
	Dozer	85	No

Construction Stage	Expected Equipment	L_{max} (dBA) at 50 feet[N1]	Impact Device[N2]
Building Construction	Earthmoving Equipment: - Loader - Dozer - Compactor	82-85	No
	Construction Vehicles: - Truck - Trailer	85-88	No
	Material Handling Equipment: - Crane - Forklift	82-85	No
	Construction Equipment: - Concrete Mixer - Paver - Pump	77-85	No

Notes:

N1. L_{max} is the maximum A-weighted sound pressure level measured at a distance of 50 feet from the equipment [Reference 7]

N2. Impact equipment is equipment that generates an impulsive noise produced by the periodic impact of a mass on a surface which is of short duration and high intensity, characterized by abrupt onset and rapid decay, and often rapidly changing spectral composition.

As evidenced by the noise levels in the table above, the various construction phases of the project will generate significant amounts of noise. The actual sound levels that will be experienced in the vicinity of the project site will vary greatly during the project and will be a function of the methods employed during each stage of the construction process, distance from the noise source, and the duration of the construction activities. Site preparation is expected to be the loudest phase, especially when the equipment is operated close to the property line.

Due to the proximity of the project site to the adjacent residences south and east of the project site, construction noise levels will significantly exceed existing ambient noise levels and intermittent construction noises will be clearly audible during all phases. The ability to control construction noise levels relates primarily to the duration and time of construction activity in any one day. Since construction noise levels will exceed maximum permissible noise limits specified in the HDOH Community Noise Rule, a permit must be obtained from the HDOH to allow the operation of construction equipment. The permit allows the operation of construction equipment but it is limited to daylight hours, as described in Section 6.1 below. Although noise disruptions would likely occur over the duration of the project, the impact of these disruptions are considered to be short term and within the FTA's guidelines for construction noise.

5.2 Site Operation Noise

Once the proposed Manana Corporation Yard Improvements are complete and the site is in operation, the noise profile of the site will change. While it is expected that the same inventory of DFM and DPR vehicles and equipment will be in use, the operational characteristics are dependent on the site layout for the existing, Phase 1, and Phase 2 conditions. The CadnaA noise prediction software by Datakustik GMBH [Reference 6] was used to predict the likely operational noise effects to receptor locations surrounding the project site for each condition. The software is based on the international standard ISO 9613, Part 2, which is a standard for calculating outdoor noise propagation. The input parameters for the sound propagation model are summarized in Table 6. Typical Manana Corporation Yard operations and equipment are summarized in Table 7 and described in

more detail in the sections below. Since the site activities are short-term in duration, maximum sound pressure levels were used to develop the model. Worst-case conditions were assumed, i.e., two of the noisiest sources were modeled simultaneously. The analysis also took into account the topography of the project site, and shielding from buildings.

Table 6. Sound Propagation Model Calculation Parameters

Input Parameter	Source
Calculation Standard	ISO-9613
Site Topography	Topographic contours provided by Wilson Okamoto
Buildings	Existing and future building locations provided by DPI Large warehouse buildings are reflective
Ground Absorption	Roads, gravel and parking area – reflective Grassy area - absorptive
Meteorological Conditions	Assumes downwind
Receiver Height	5 feet
Bitmap	Google Earth
Sound Sources	Summary of site operations provided by Wilson Okamoto, L_{max} sound pressure levels, Refer to Table 7

Table 7. Typical Site Operations and Equipment

Typical Operations	Expected Equipment	L_{max} (dBA) at 50 feet [N1]
DFM:		
- Move and load materials to/from TEM trucks	Fork Lift, Diesel Truck	86, 86
- Night shift	Diesel Truck	80
DPR:		
- Drop and store materials	Diesel dump truck	80
- Move materials on site	Dozer	75
- Load heavy equipment	Diesel flatbed truck or trailer	79
Backup Alarm	All Equipment	69

Notes:
N1. L_{max} is the maximum A-weighted sound pressure level measured at a distance of 50 feet from the equipment [Reference 7]

The sound propagation model was developed to model DFM and DPR operations under the Existing, Phase 1, and Phase 2 conditions described below. Based on these operations and the parameters described above, maximum noise levels were calculated in the area surrounding the project site and are illustrated as sound level contours in Figures 6 to 12. It is important to note that the noise level predictions are maximum sound levels which represent the intermittent nature of the noise events.

5.2.1 Existing Operations

A majority of the noisy site operations occur during the day at the lower yard open storage area on the southern portion of the project site. The area is used for storage of the Traffic Electrical Maintenance Branch (TEMS) materials, debris, and equipment. Forklifts and crane trucks are used to move and load material from this area onto TEMS flatbed trucks. The area is also used as a storage lot for DPR heavy equipment, materials, and debris. Diesel trucks and backup alarms are the primary source of noise in the lower yard area.

TEMS also operates a night shift crew with hours of operation occurring between 6:30 PM and 3:00 AM. Operations are limited to two diesel trucks which deploy once a night. The trucks are parked outside the eastern corner of the existing DFM warehouse building. Backup alarms are used when the trucks move out of the parking spot.

Figures 6, 7, and 8 show the projected maximum sound level contours in the area surrounding the project site based on the existing project conditions and the typical DFM, DPR, and DFM nighttime operations described above. The sound propagation model and on-site noise measurements show that the intermittent activities in the lower yard generate instantaneous noise levels up to 20 dB higher than the ambient noise levels in the area.

5.2.2 Phase 1 Operations

The proposed Phase 1 Improvements include a new U-shaped office/warehouse building and parking structure for DFM. The same noisy DFM operations will be relocated to the designated external storage area in the lower yard as well as an external storage area in the upper yard north of the new DFM parking structure. DPR heavy equipment, materials, and debris will also temporarily be relocated to this upper yard area. TEMS night shift operations will still take place, however, the TEMS vehicles will be parked inside the parking structure.

Figures 9 and 10 show the projected maximum sound level contours in the area surrounding the future project site based on the Phase 1 DFM and DPR operations described above. Based on the results of the sound propagation model, the new U-shaped DFM office/warehouse building will block much of the operations noises to the neighboring residences south and east of the lower yard area. For these homes, it is expected that the intermittent noises from Manana Corporation Yard activities will not be significantly louder than the ambient noise environment. However, there will be minimal noise reduction for the home located at the top of Kanaeha Place, just south of the DFM portable buildings. This two-story home has a direct line of sight to the proposed external storage area and will not benefit from any shielding from the new warehouse and parking structure.

5.2.3 Phase 2 Operations

The proposed Phase 2 Improvements include a new U-shaped warehouse and external storage areas for DPR. Site operations will be the same as Phase 1, described above.

Figures 11 and 12 show the projected maximum sound level contours in the area surrounding the future project site based on the expected Phase 2 DFM and DPR operations described above. As shown in the graphics, the new U-shaped DPR will block much of the operations noise to the neighboring residences east of the upper yard. The home located at the top of Kanaeha Place, just south of the existing DFM portable buildings, will experience some shielding from the proposed DPR warehouse building. However, it will still have a direct line of sight to the proposed external storage area and yard activities may still be audible.

6.0 NOISE IMPACT MITIGATION

6.1 DOH Noise Permit

In cases where construction noise exceeds, or is expected to exceed the State's "maximum permissible" property line noise levels [Reference 1], a permit must be obtained from DOH to allow the operation of vehicles, cranes, construction equipment, power tools, etc., which emit noise levels in excess of the "maximum permissible" levels.

In order for DOH to issue a construction noise permit, the contractor must submit a noise permit application to DOH, which describes the construction activities for the project. Prior to issuing the noise permit, DOH may require action by the contractor to incorporate noise mitigation into the construction plan. DOH may also require the contractor to conduct noise monitoring or community meetings inviting the neighboring residents and business owners to discuss construction noise. The contractor should use reasonable and standard practices to mitigate noise, such as using mufflers on diesel and gasoline engines, using properly tuned and balanced machines, etc. However, DOH may require additional noise mitigation, such as temporary noise barriers, or time of day usage limits for certain kinds of construction activities.

Specific permit restrictions for construction activities [Reference 1] are:

> "No permit shall allow any construction activities which emit noise in excess of the maximum permissible sound levels ... before 7:00 AM and after 6:00 PM 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 AM and after 6:00 PM 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."

The use of pile drivers, hoe rams and jack hammers 25 pounds (lbs.) or larger, high pressure sprayers, and chain saws are restricted to 9:00 AM to 5:30 PM, Monday through Friday. In addition, construction equipment and on-site vehicles or devices whose operations involve the exhausting of gas or air, excluding pile hammers and pneumatic hand tools weighing less than 15 pounds (lbs.), must be equipped with mufflers [Reference 1].

The DOH noise permit does not limit the noise level generated at the construction site, but rather the times at which noisy construction can take place. However, when considering a noise permit application, consideration is also given to any proposed noise mitigation for the project. Therefore, noise mitigation for construction activities should be addressed using project management and the source and path noise control measures discussed in Section 6.3 below.

6.2 DOH Noise Variance

In cases where nighttime construction is expected, a variance must be obtained from the State DOH to allow the operation of a noise source which emits noise levels in excess of the maximum permissible levels and which operation does not conform to the requirements of the noise permit (i.e., nighttime construction activities which occur between 6:00 p.m. and 7:00 a.m., Monday through Friday). However, nighttime construction is not anticipated for this project so a variance will not be required.

6.3 Mitigation of Construction Noise

6.3.1 Mitigation of Noise Source

Mitigating construction noise at the source is the most effective form of noise control. The source control methods listed in Table 8 below can be applied to most construction equipment.

Table 8. Construction Noise Source Control Methods

Scheduling	Limit activities that generate the most noise to less sensitive time periods (e.g. daytime hours).
Substitution	Use quieter methods/equipment when possible (e.g. low noise generators, smaller excavators, etc.).
Exhaust Mufflers	Install quality mufflers on equipment.
Reduced Power Options	Use smallest size and/or lowest power as required.
Quieter Backup Alarms	Install manual adjustable or ambient sensitive alarms. Do not use backup alarms during night work.
Motors	Insulate or enclose motors
Equipment Selection	Electric equipment is quieter than pneumatic equipment
Equipment Retrofit	Rubber chucks in jackhammers
Equipment Maintenance	Sharpen and balance tools, repair silencing equipment, replace worn parts and open airways
Staging Area	Maximize the distance between the construction staging areas and nearby receptors to the greatest extent possible

In general, a majority of the construction noise mitigation is in the form of scheduling, specifically, limiting the construction hours to the time frame specified by the State DOH. The jackhammer is expected to be the most disruptive piece of equipment used during the construction process so the allowable hours of operation are even more restrictive, as described in Section 6.1.

6.3.2 Mitigation of Noise Path

When source control measures are not sufficient to avoid a noise impact, path control measures must be considered. Non-permanent noise barriers or curtains and equipment enclosures could be installed at the construction site to reduce construction noise in noise sensitive locations. The general contractor could also conduct noise monitoring of construction during noisy or extensive activities at locations close to residential properties.

6.4 Mitigation of Operations Noise

The U-shaped warehouse buildings proposed for the Phase 1 and Phase 2 improvements project will effectively reduce yard operations noise to the residences adjacent to Manana Corporation Yard. The new structures are strategically located along the noise sensitive property lines and will be constructed of material such as CMU block and sheet metal which have a high transmission loss. However, there are several weak points in the proposed design that require additional acoustical consideration:

First, there is a “gap” between the proposed Phase 1 DFM and Phase 2 DPR warehouse buildings. The adjacent two story home at the top of Kanaeha Place will have a direct line-of-sight to the outdoor storage areas and will be exposed to noisy activities in this area. A sound barrier wall should be constructed between the two warehouse buildings, as indicated in Figures 11 and 12. The wall should be at least 10 feet high where it adjoins the DPR warehouse building and should be constructed of CMU block.

The warehouse buildings are planned to be naturally ventilated and openings will be provided on the backside of the buildings for that purpose. Roll up doors will be installed on the front side of the buildings to provide access to the warehouses. It is expected that the roll up doors will be open during daytime operations. If the ventilation openings are not treated, the building will be acoustically "transparent" to some extent. Noise from activities that take place within the yard (such as backup alarms and heavy equipment) may be audible at the residential property line if this noise path is not properly mitigated. Instead of providing jalousie windows or architectural louvers, acoustical louvers should be considered as they perform almost as well as sheet metal at the frequencies where back-up alarm noise occurs (around 1000 Hz).

Finally, source and path control methods summarized in Section 6.3 should be considered to minimize noise from daily yard activities. Backup alarms on DFM and DPR equipment and truck can be made adjustable during nighttime hours (using manual adjustable or self-adjusting alarms) or eliminated if an observer is used to back vehicles up. The design of the external storage areas and parking structure should give consideration to limiting the use of back-up alarms and other noisy activities. This can be accomplished by configuring the traffic pattern around the storage areas and parking structure to minimize backing movement by forklifts, heavy diesel trucks and other equipment. Finally, the external storage areas can be assigned such that the activities that generate the most noise are located in the upper yard area since it is farther from the residential homes to the south.

REFERENCES

1. Chapter 46, *Community Noise Control*, Department of Health, State of Hawaii, Administrative Rules, Title 11, September 23, 1996.

2. U.S. Department of Transportation - Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006.

3. *Highway Noise Policy and Abatement Guidelines*, Department of Transportation, Highways Division, State of Hawaii, April 25, 2011.

4. M. David Egan, *Architectural Acoustics*, McGraw-Hill Book Company, 1998

5. International Standards Organization ISO/TC 43, *Noise Assessment with Respect to Community Responses*, New York: United Nations, November 1969.

6. *DataKustik CadnaA software program*, Version 4.4; DataKustik GmbH, 2013.

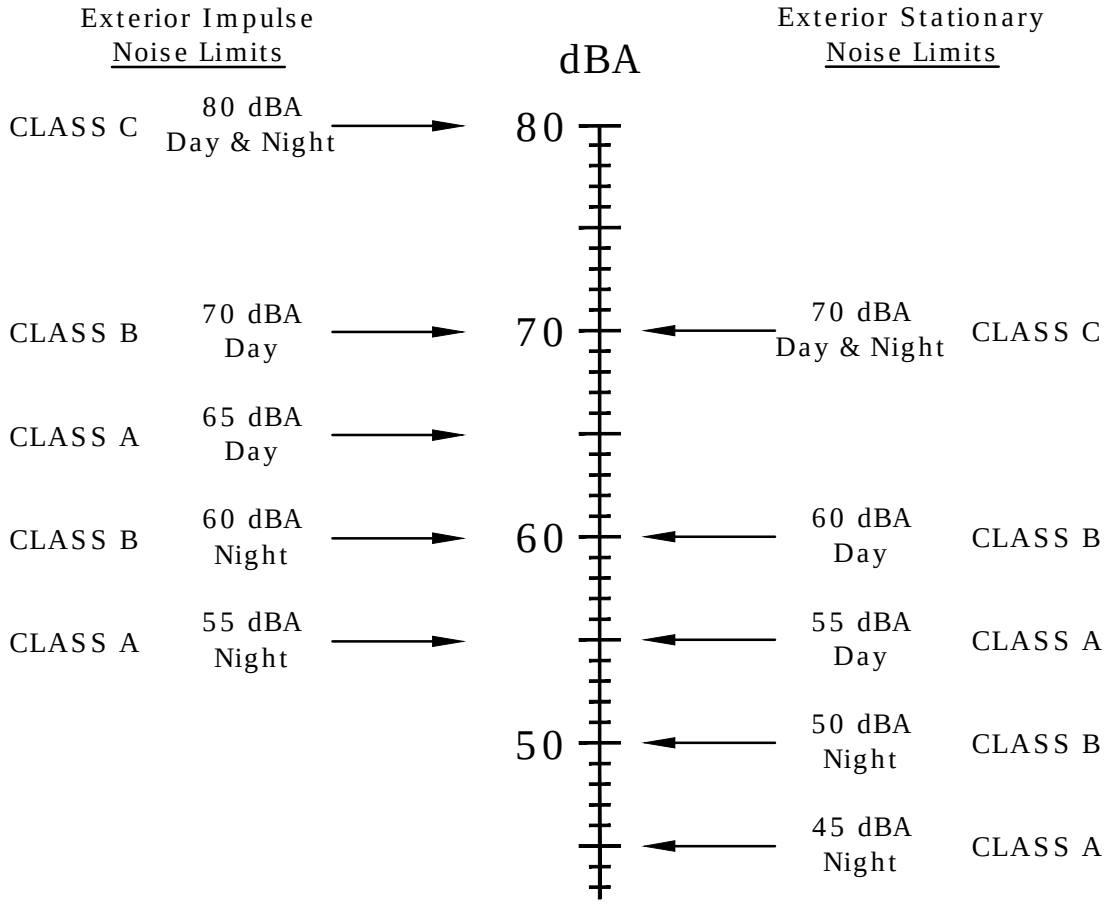
7. *Federal Highway Administration's Roadway Construction Noise Model*, FHWA-HEP-05-054, U.S. Department of Transportation, February 2006.

HAWAII DEPARTMENT OF HEALTH MAXIMUM PERMISSIBLE SOUND LEVELS FOR VARIOUS ZONING DISTRICTS

Zoning District	Day Hours (7 AM to 10 PM)	Night Hours (10 PM to 7 AM)
CLASS A Residential, Conservation, Preservation, Public Space, Open Space	55 dBA (Exterior)	45 dBA (Exterior)
CLASS B Multi-Family Dwellings, Apartments, Business, Commercial, Hotel, Resort	60 dBA (Exterior)	50 dBA (Exterior)
CLASS C Agriculture, Country, Industrial	70 dBA (Exterior)	70 dBA (Exterior)

IMPULSE NOISE:

The maximum permissible noise limit for impulse noise is 10 dBA above the stationary noise limits.



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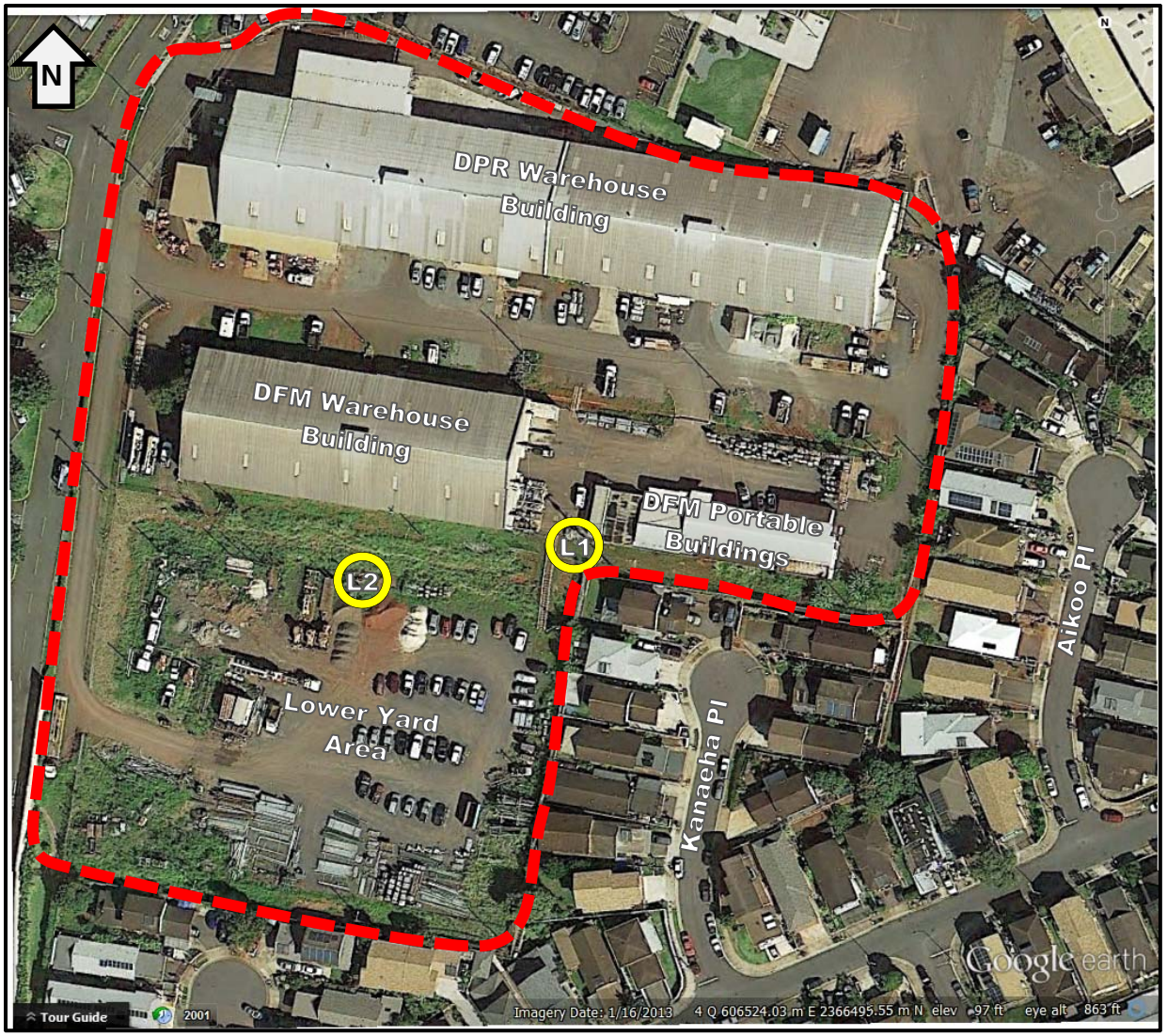
PROJECT: Manana Corporation Yard Improvements		
PROJECT NO: 14-27	DATE: September 2014	FIGURE: 1

Property Boundaries and Noise Measurement Locations



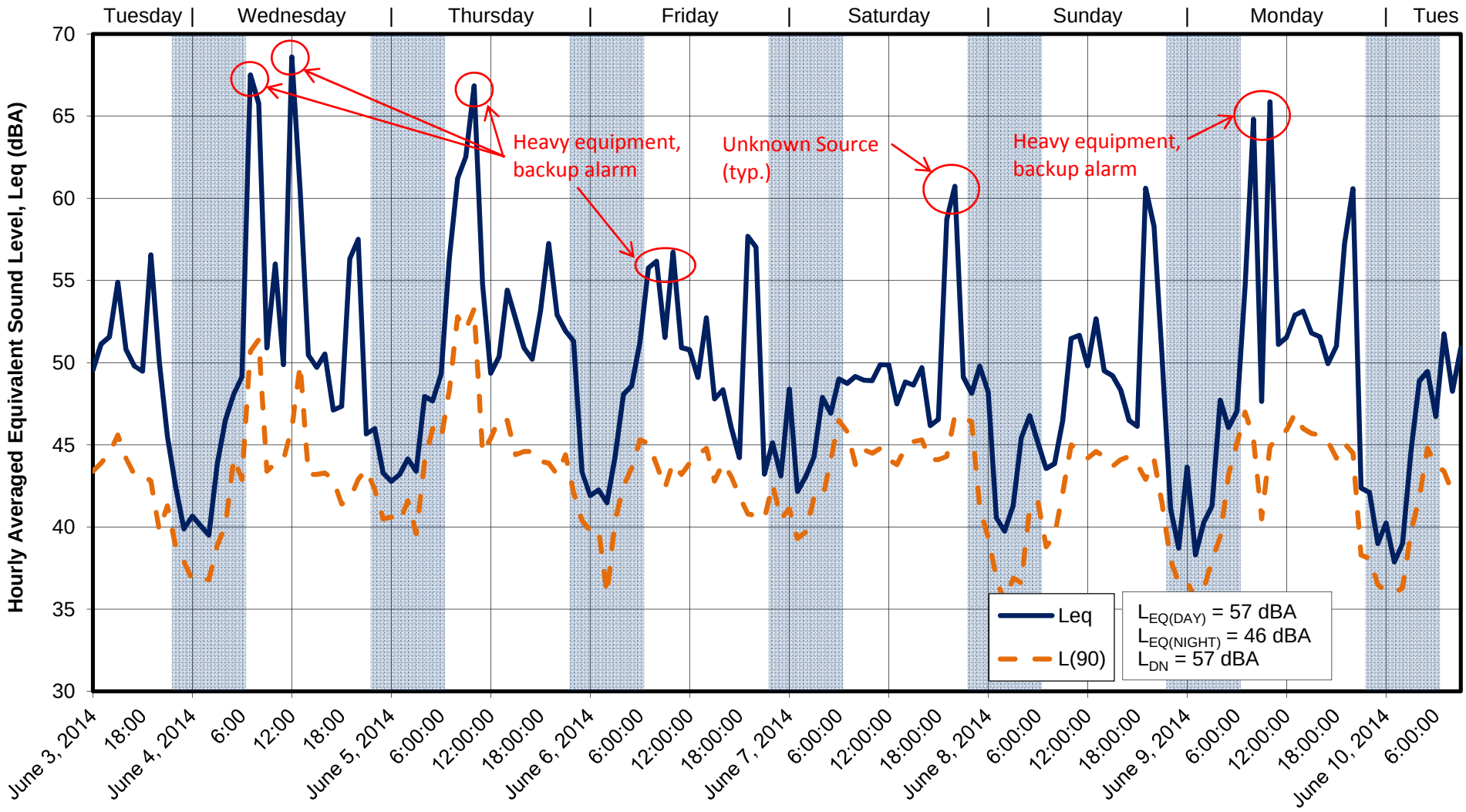
Legend

Noise Measurement Location

Property Boundary

D. L. ADAMS ASSOCIATES acoustics | performing arts | technology	Manana Corporation Yard Improvements		
	PROJECT NO: 14-27	DATE: September 2014	FIGURE: 2

Long Term Noise Measurement Data - Location L1



Date & Time of Measurement

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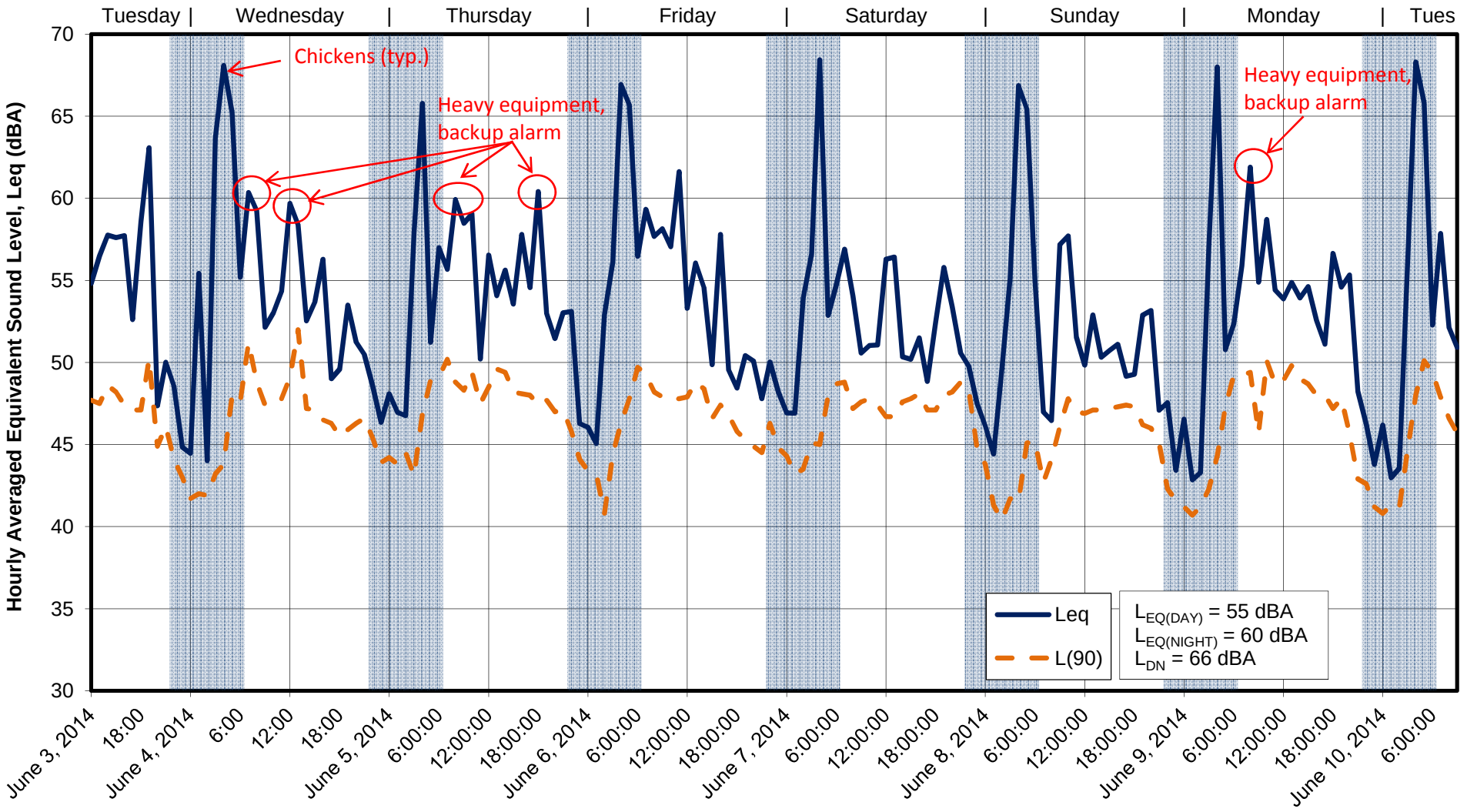
	PROJECT NO: 14-27	DATE: September 2014	FIGURE: 3

Long Term Noise Measurement Data - Location L2



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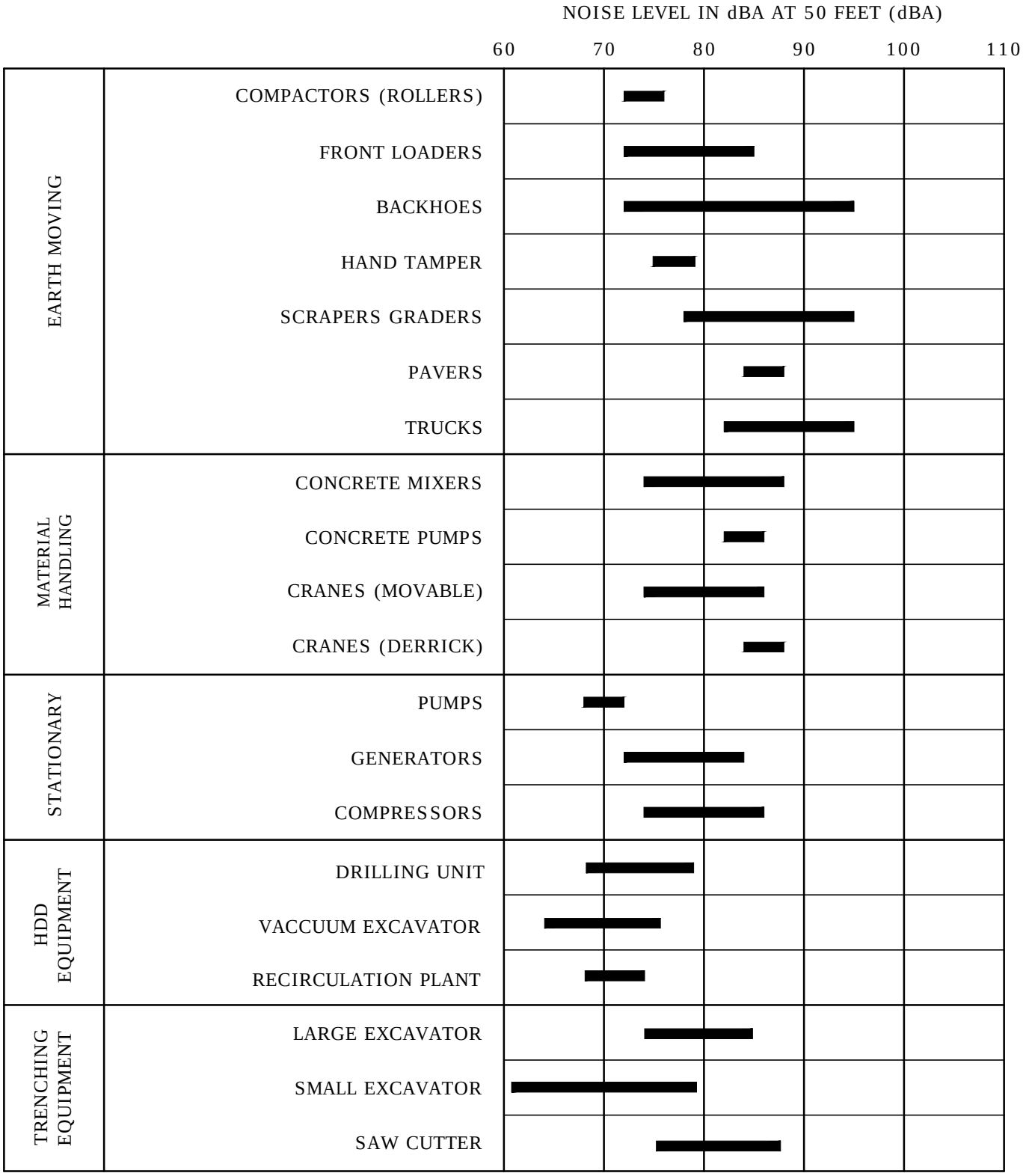
	PROJECT NO: 14-27	DATE: September 2014	FIGURE: 4

TYPICAL NOISE LEVELS FROM CONSTRUCTION EQUIPMENT



NOTE: BASED ON LIMITED AVAILABLE DATA SAMPLES

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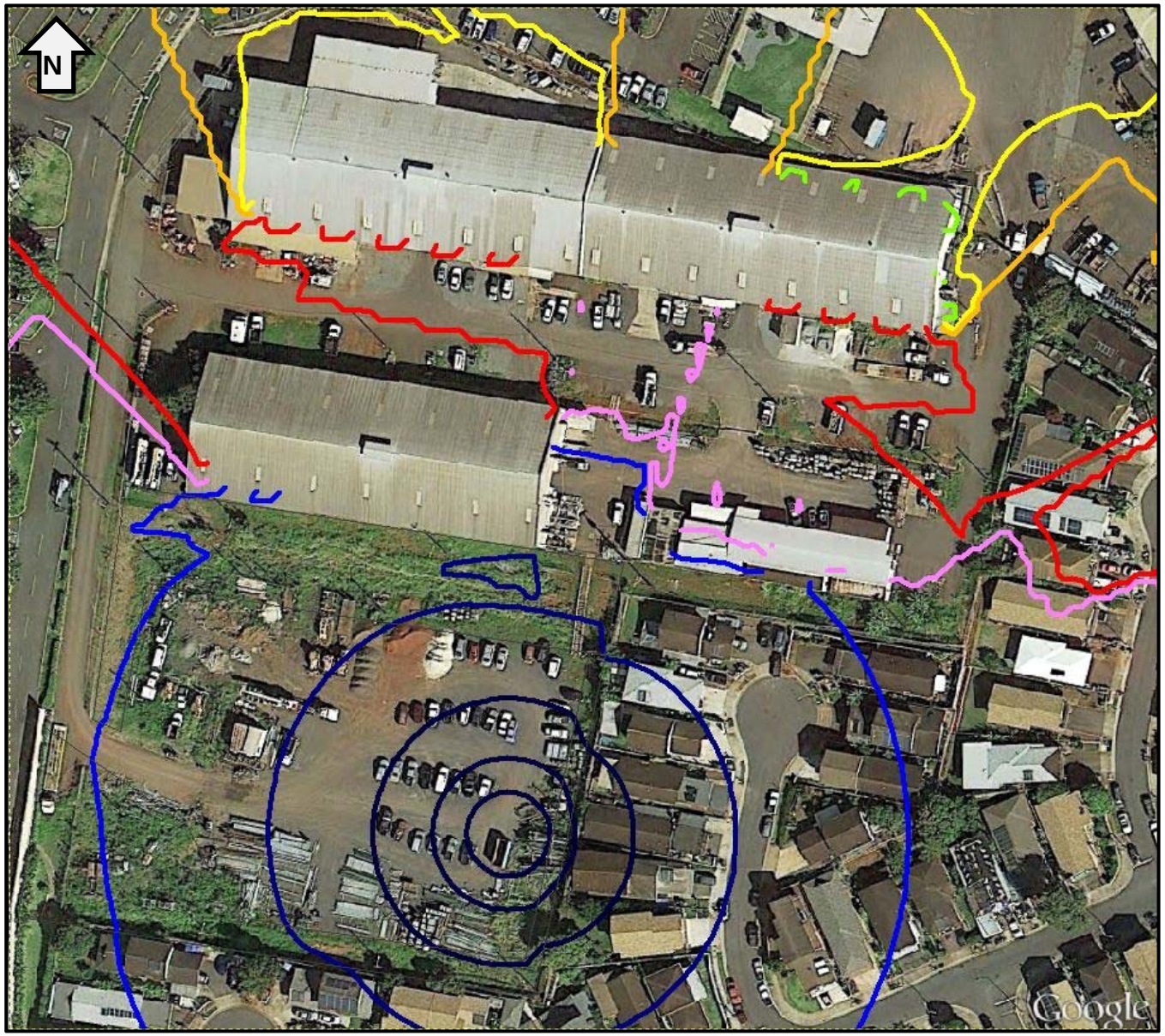
PROJECT: Manana Corporation Yard Improvements		
PROJECT NO: 14-27	DATE: September 2014	FIGURE: 5

Noise Contours for DFM Operations – Existing Condition



Noise Level Line Contours

- = 40 dBA
- = 45 dBA
- = 50 dBA
- = 55 dBA
- = 60 dBA
- = 65 dBA
- = 70 dBA

Notes:

1. Line contours represent maximum predicted sound levels that occur during intermittent operations within the yard
2. DFM typical operation: load TEMS materials (street light poles, etc.) onto flatbed trucks
3. Noise sources: fork lift, backup alarm

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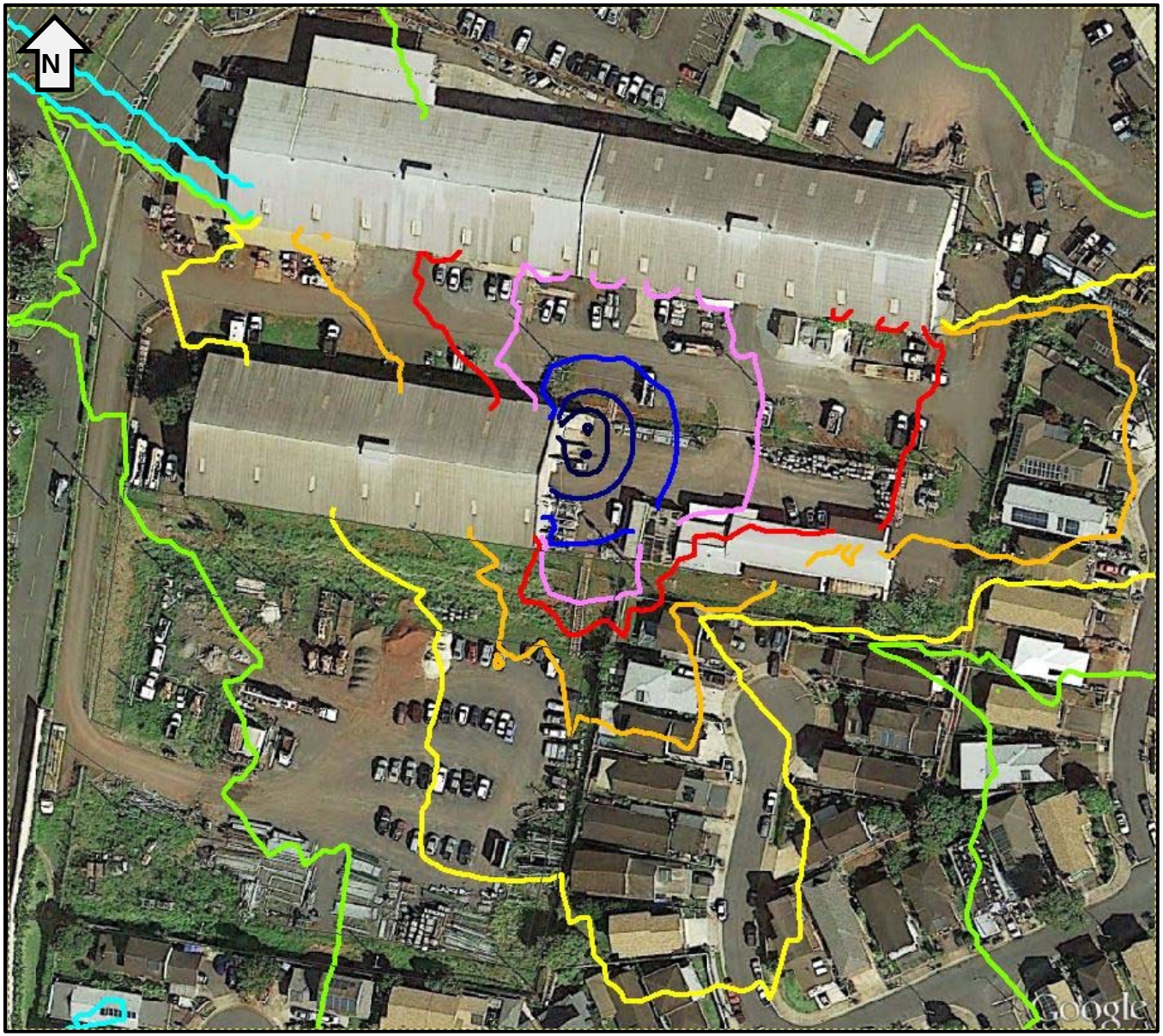
Manana Corporation Yard Improvements

PROJECT NO:	DATE:	FIGURE:
14-27	September 2014	6

Noise Contours for DFM Night Operations – Existing Condition



Noise Level Line Contours

- = 40 dBA
- = 45 dBA
- = 50 dBA
- = 55 dBA
- = 60 dBA
- = 65 dBA
- = 70 dBA

Notes:

1. Line contours represent maximum predicted sound levels that occur during intermittent operations within the yard
2. DFM typical night shift operation: two TEMS trucks deploy once per night
3. Noise sources: two diesel trucks

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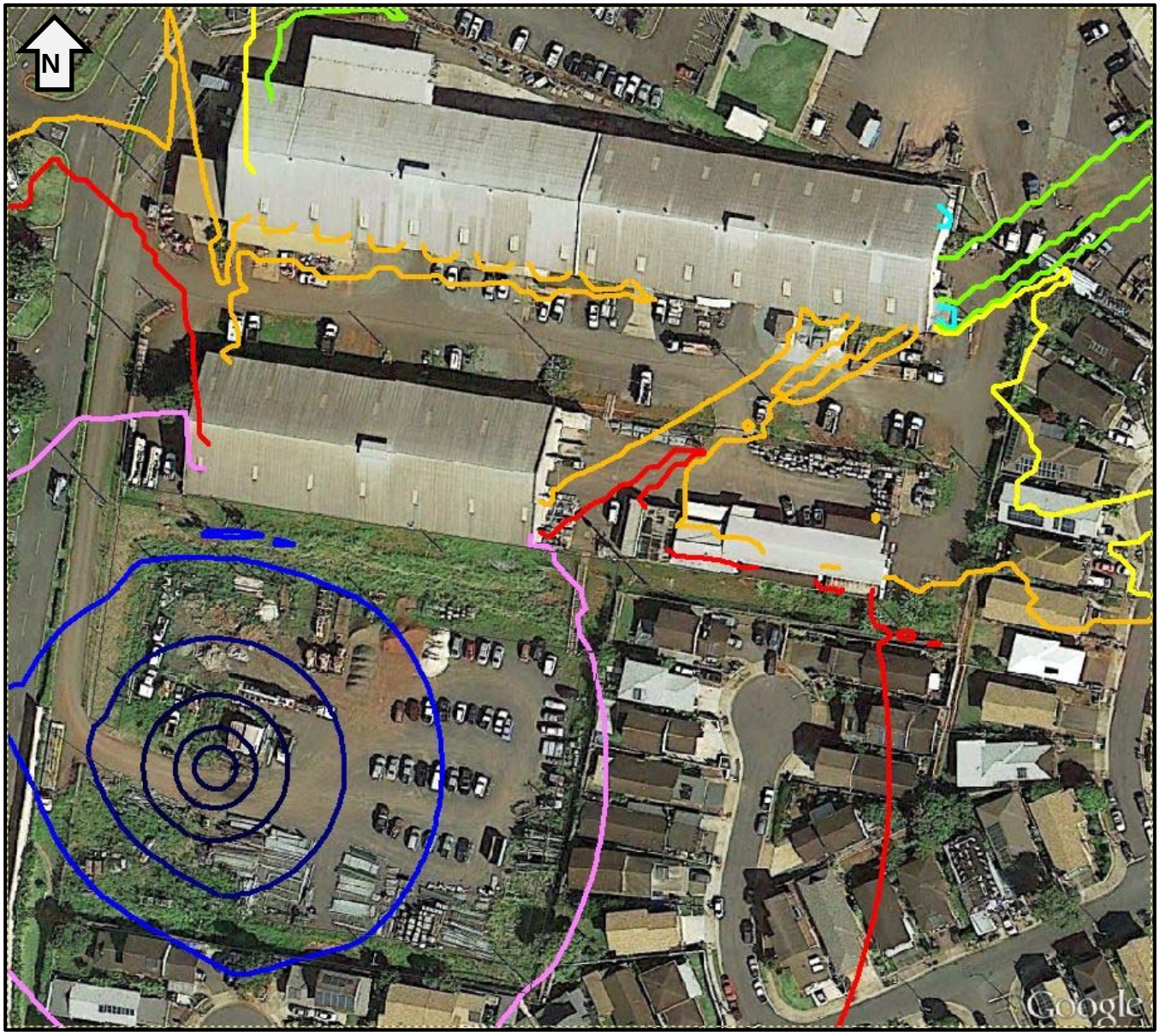
PROJECT NO:	DATE:	FIGURE:
14-27	September 2014	7

Noise Contours for DPR Operations – Existing Condition



Noise Level Line Contours

- = 40 dBA
- = 45 dBA
- = 50 dBA
- = 55 dBA
- = 60 dBA
- = 65 dBA
- = 70 dBA

Notes:

1. Line contours represent maximum predicted sound levels that occur during intermittent operations within the yard
2. DPR typical operation: delivery of materials
3. Noise sources: dump truck, backup alarm

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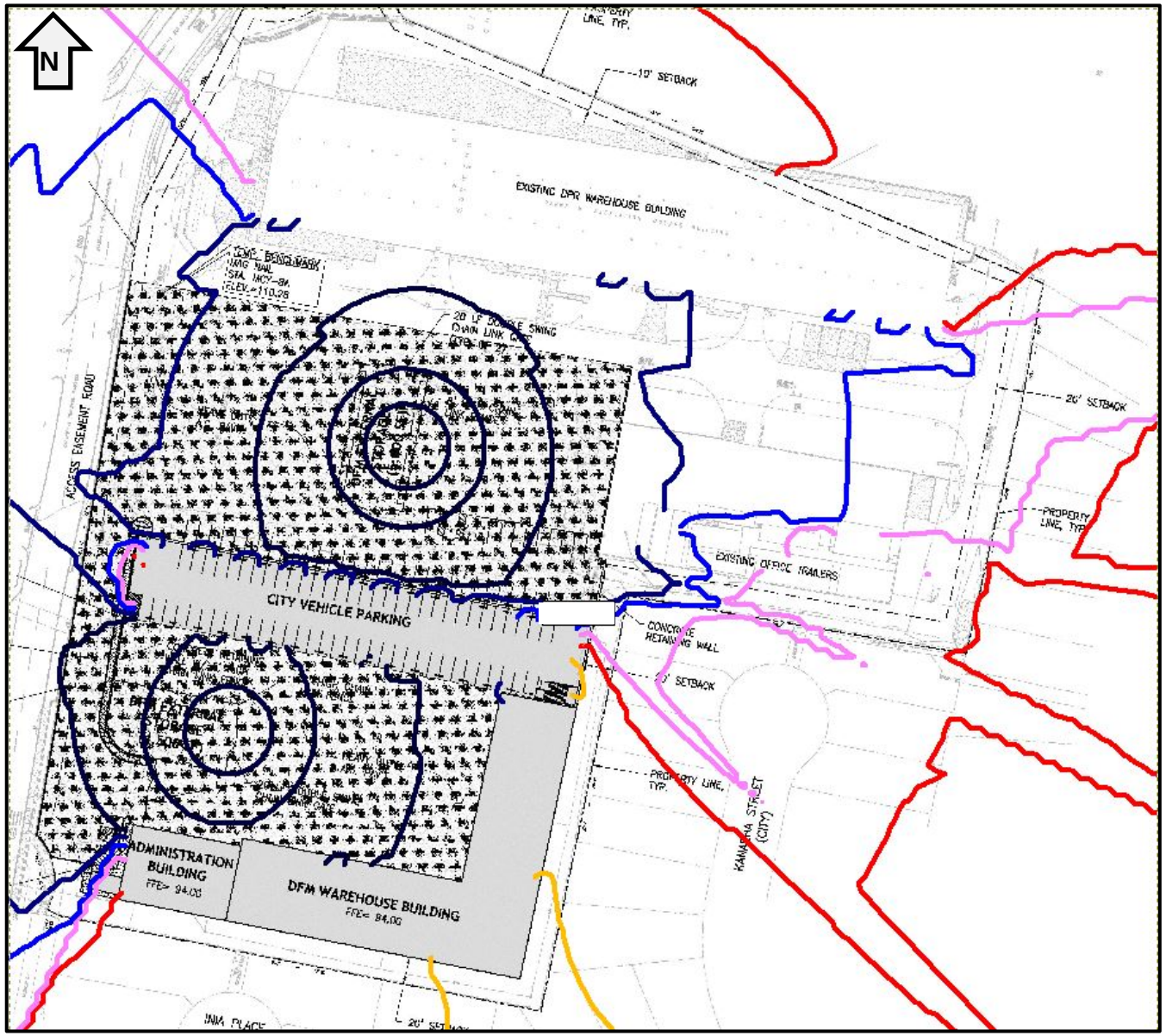
Manana Corporation Yard Improvements

PROJECT NO:	DATE:	FIGURE:
14-27	September 2014	8

Noise Contours for Manana Base Yard DFM Operations – Phase 1 Condition



Noise Level Line Contours

- = 40 dBA
- = 45 dBA
- = 50 dBA
- = 55 dBA
- = 60 dBA
- = 65 dBA
- = 70 dBA

Notes:

1. Line contours represent maximum predicted sound levels that occur during intermittent operations within the yard
2. DFM typical operation in proposed storage areas: load TEMS materials (street light poles, etc.) onto flatbed trucks
3. Noise sources: fork lift, backup alarm

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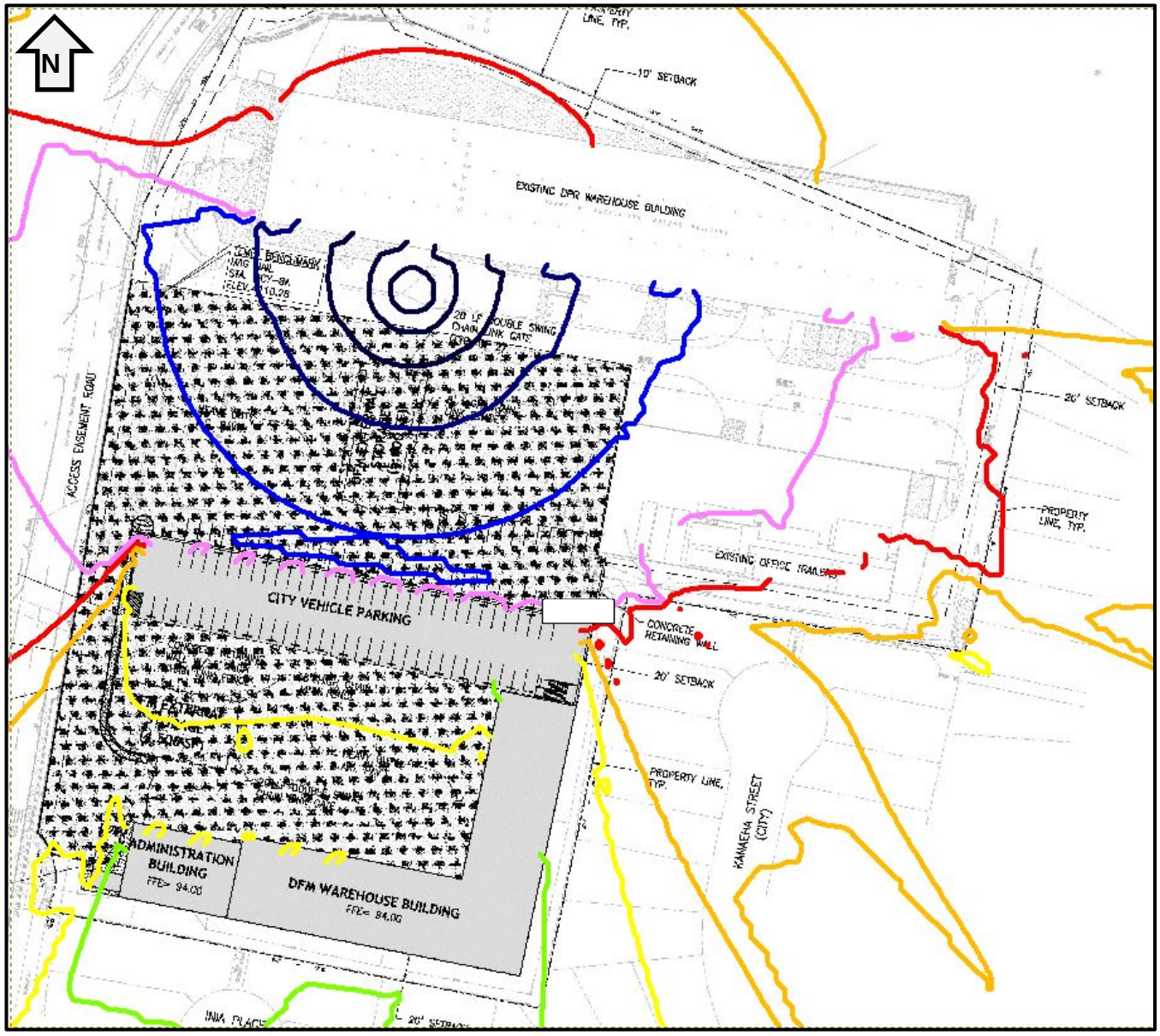
Manana Base Yard Improvements

PROJECT NO:	DATE:	FIGURE:
14-27	September 2014	9

Noise Contours for Manana Base Yard DPR Operations – Phase 1 Condition



Noise Level Line Contours

- = 40 dBA
- = 45 dBA
- = 50 dBA
- = 55 dBA
- = 60 dBA
- = 65 dBA
- = 70 dBA

Notes:

1. Line contours represent maximum predicted sound levels that occur during intermittent operations within the yard
2. DPR typical operation in proposed storage area: delivery of materials
3. Noise sources: dump truck, backup alarm

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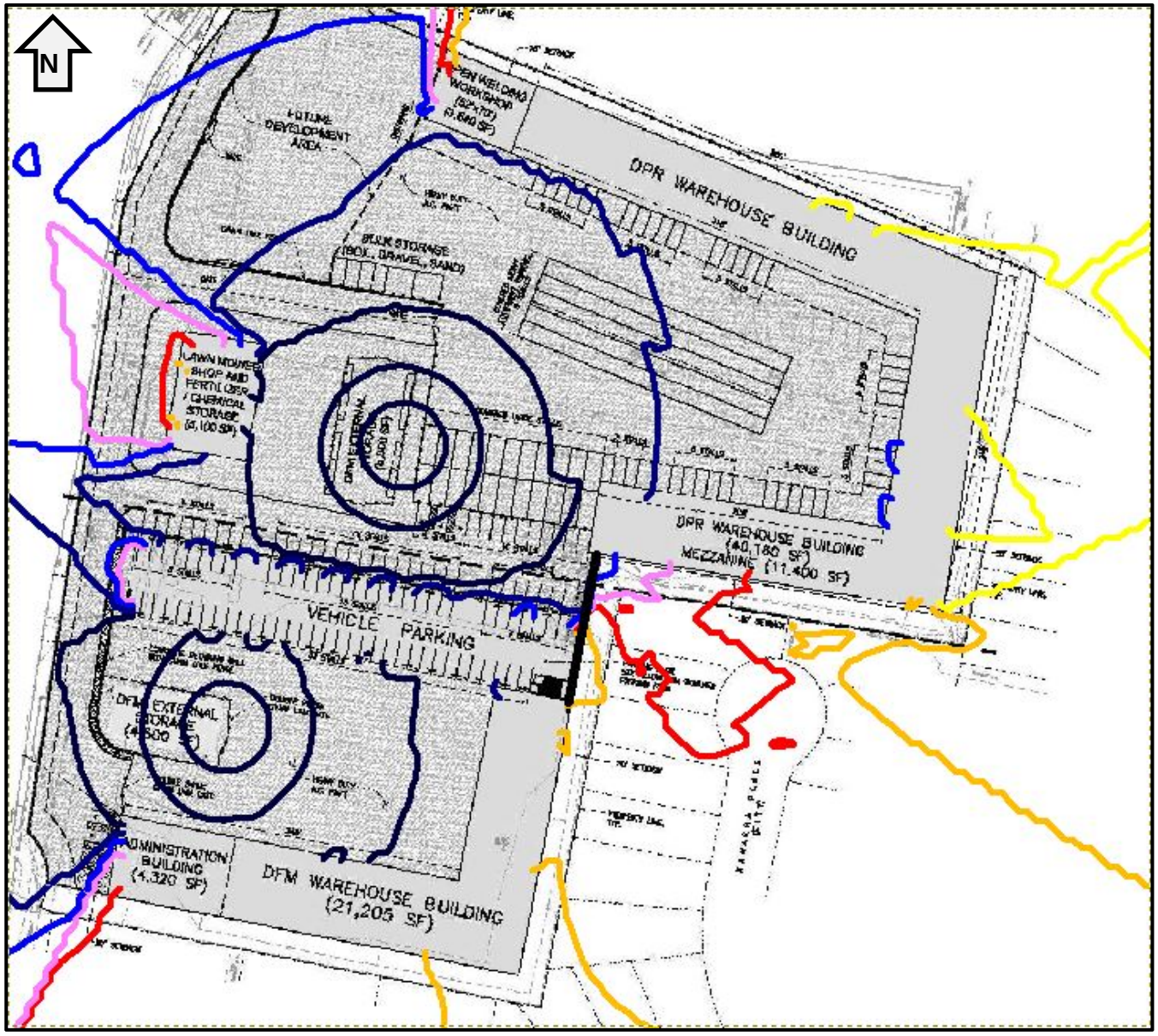
Manana Base Yard Improvements

PROJECT NO:	DATE:	FIGURE:
14-27	September 2014	10

Noise Contours for Manana Base Yard DFM Operations – Phase 2 Condition



Noise Level Line Contours

- = 40 dBA
- = 45 dBA
- = 50 dBA
- = 55 dBA
- = 60 dBA
- = 65 dBA
- = 70 dBA

Noise Barrier Wall

Notes:

1. Line contours represent maximum predicted sound levels that occur during intermittent operations within the yard
2. DFM typical operation in proposed storage areas: load TEMS materials (street light poles, etc.) onto flatbed trucks
3. Noise sources: fork lift, backup alarm

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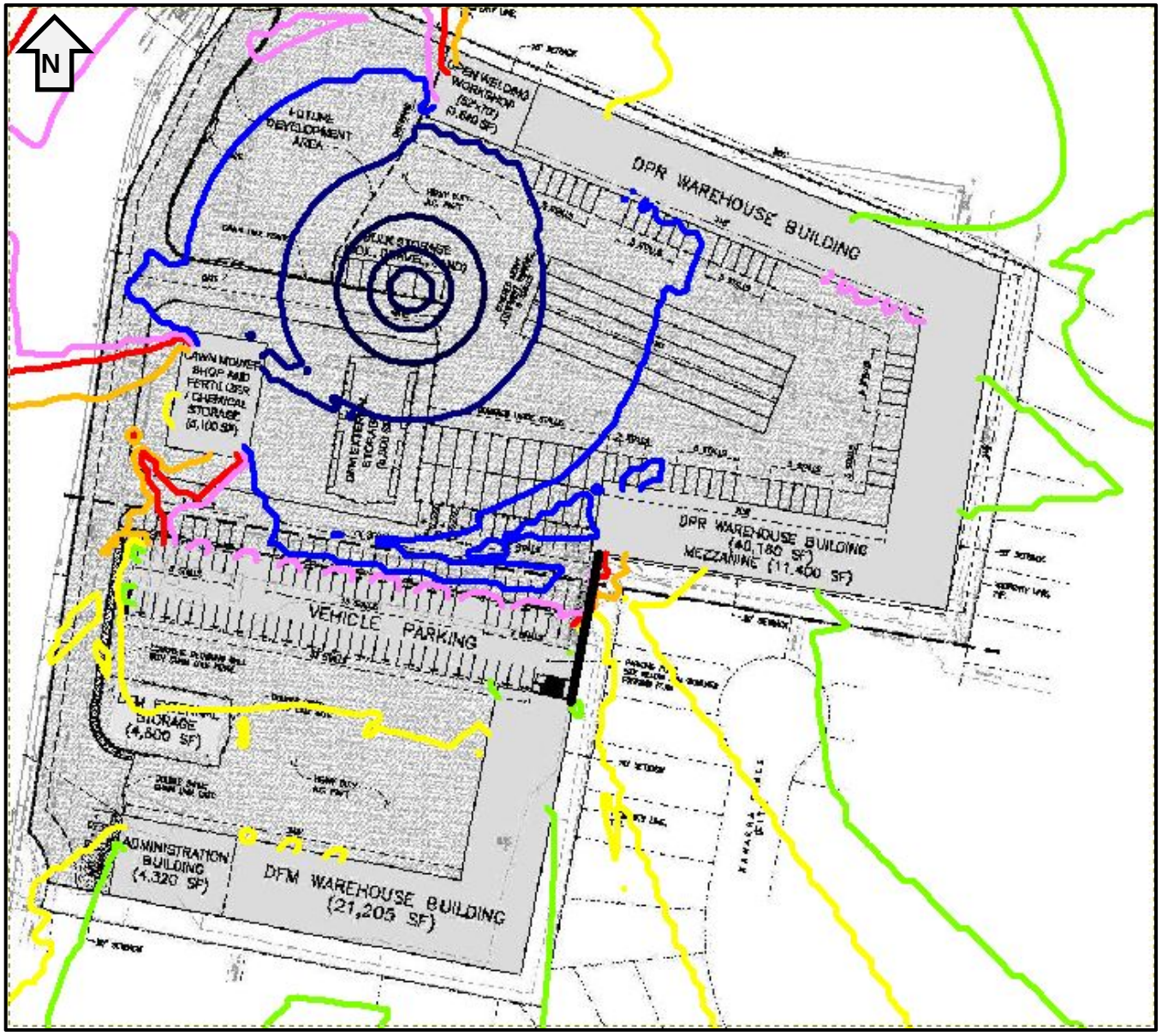
Manana Base Yard Improvements

PROJECT NO:	DATE:	FIGURE:
14-27	September 2014	11

Noise Contours for Manana Base Yard DPR Operations – Phase 2 Condition



Noise Level Line Contours

- = 40 dBA
- = 45 dBA
- = 50 dBA
- = 55 dBA
- = 60 dBA
- = 65 dBA
- = 70 dBA

Noise Barrier Wall

Notes:

1. Line contours represent maximum predicted sound levels that occur during intermittent operations within the yard
2. DPR typical operation in proposed storage area: delivery of materials
3. Noise sources: dump truck, backup alarm

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Manana Base Yard Improvements

PROJECT NO:	DATE:	FIGURE:
14-27	September 2014	12

APPENDIX A

Acoustic Terminology

Acoustic Terminology

Sound Pressure Level

Sound, or noise, is the term given to variations in air pressure that are capable of being detected by the human ear. Small fluctuations in atmospheric pressure (sound pressure) constitute the physical property measured with a sound pressure level meter. Because the human ear can detect variations in atmospheric pressure over such a large range of magnitudes, sound pressure is expressed on a logarithmic scale in units called decibels (dB). Noise is defined as Aunwanted@ sound.

Technically, sound pressure level (SPL) is defined as:

$$SPL = 20 \log (P/P_{ref}) \text{ dB}$$

where P is the sound pressure fluctuation (above or below atmospheric pressure) and P_{ref} is the reference pressure, 20 µPa, which is approximately the lowest sound pressure that can be detected by the human ear. For example:

If P = 20 µPa, then SPL = 0 dB
If P = 200 µPa, then SPL = 20 dB
If P = 2000 µPa, then SPL = 40 dB

The sound pressure level that results from a combination of noise sources is not the arithmetic sum of the individual sound sources, but rather the logarithmic sum. For example, two sound levels of 50 dB produce a combined sound level of 53 dB, not 100 dB. Two sound levels of 40 and 50 dB produce a combined level of 50.4 dB.

Human sensitivity to changes in sound pressure level is highly individualized. Sensitivity to sound depends on frequency content, time of occurrence, duration, and psychological factors such as emotions and expectations. However, in general, a change of 1 or 2 dB in the level of sound is difficult for most people to detect. A 3 dB change is commonly taken as the smallest perceptible change and a 6 dB change corresponds to a noticeable change in loudness. A 10 dB increase or decrease in sound level corresponds to an approximate doubling or halving of loudness, respectively.

A-Weighted Sound Level

Studies have shown conclusively that at equal sound pressure levels, people are generally more sensitive to certain higher frequency sounds (such as made by speech, horns, and whistles) than most lower frequency sounds (such as made by motors and engines)[1] at the same level. To address this preferential response to frequency, the A-weighted scale was developed. The A-weighted scale adjusts the sound level in each frequency band in much the same manner that the human auditory system does. Thus the A-weighted sound level (read as "dBA") becomes a single number that defines the level of a sound and has some correlation with the sensitivity of the human ear to that sound. Different sounds with the same A-weighted sound level are perceived as being equally loud. The A-weighted noise level is commonly used today in environmental noise analysis and in noise regulations. Typical values of the A-weighted sound level of various noise sources are shown in Figure A-1.

[1] D.W. Robinson and R.S. Dadson, AA Re-Determination of the Equal-Loudness Relations for Pure Tones,@ *British Journal of Applied Physics*, vol. 7, pp. 166 - 181, 1956. (Adopted by the International Standards Organization as Recommendation R-226.

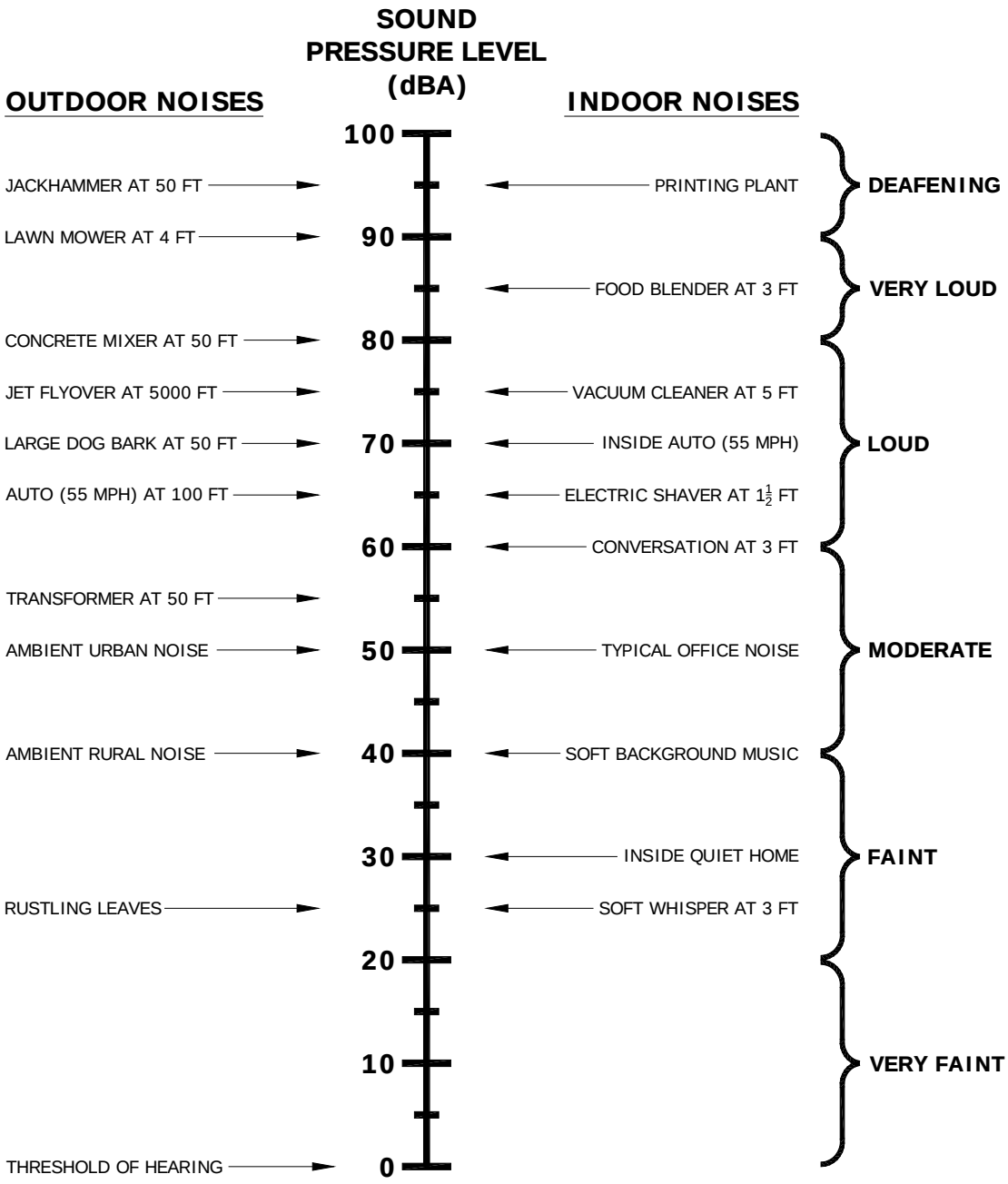

Figure A-1. Common Outdoor/Indoor Sound Levels

Equivalent Sound Level

The Equivalent Sound Level (L_{eq}) is a type of average which represents the steady level that, integrated over a time period, would produce the same energy as the actual signal. The actual *instantaneous* noise levels typically fluctuate above and below the measured L_{eq} during the measurement period. The A-weighted L_{eq} is a common index for measuring environmental noise. A graphical description of the equivalent sound level is shown in Figure A-2.

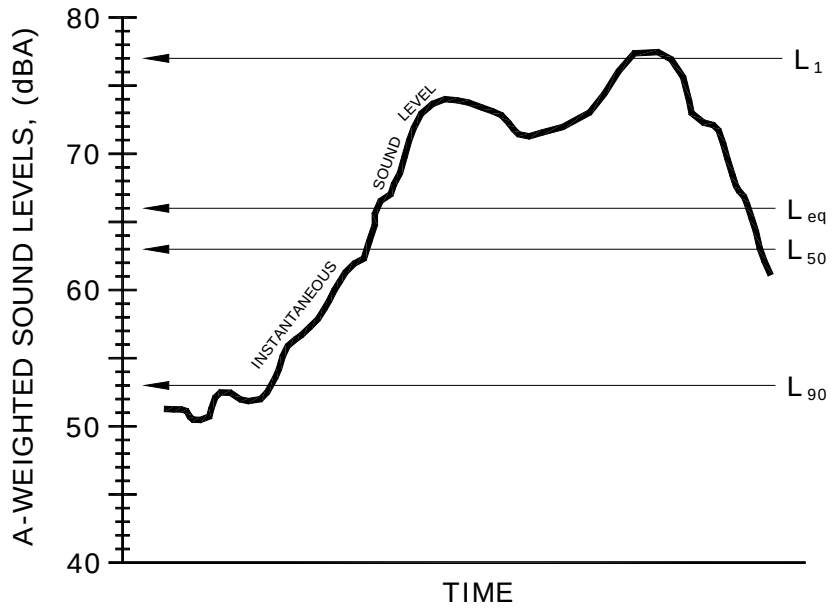

Figure A-2. Example Graph of Equivalent and Statistical Sound Levels

Statistical Sound Level

The sound levels of long-term noise producing activities such as traffic movement, aircraft operations, etc., can vary considerably with time. In order to obtain a single number rating of such a noise source, a statistically-based method of expressing sound or noise levels has been developed. It is known as the Exceedence Level, L_n. The L_n represents the sound level that is exceeded for n% of the measurement time period. For example, L_{10} = 60 dBA indicates that for the duration of the measurement period, the sound level exceeded 60 dBA 10% of the time. Typically, in noise regulations and standards, the specified time period is one hour. Commonly used Exceedence Levels include L_{01}, L_{10}, L_{50}, and L_{90}, which are widely used to assess community and environmental noise. A graphical description of the equivalent sound level is shown in Figure A-2.

Day-Night Equivalent Sound Level

The Day-Night Equivalent Sound Level, L_{dn}, is the Equivalent Sound Level, L_{eq}, measured over a 24-hour period. However, a 10 dB penalty is added to the noise levels recorded between 10 p.m. and 7 a.m. to account for people's higher sensitivity to noise at night when the background noise level is typically lower. The L_{dn} is a commonly used noise descriptor in assessing land use compatibility, and is widely used by federal and local agencies and standards organizations.

APPENDIX B

Photographs at Project Site

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Location 1

Microphone mounted to the fence at the north east property line near the DFM warehouse building and portable offices.

Location 2

Microphone mounted to a utility pole in the lower yard open storage area at the base of the slope.

APPENDIX B

Preliminary Engineering Report

Mānana Corporation Yard Improvements

Wilson Okamoto Corporation

October 2014

Preliminary Engineering Report
Civil Infrastructure

Mānana Corporation Yard Improvements

Mānana, Pearl City, Hawaii
Tax Map Key: 9-7-024:041

Prepared for:

Department of Design and Construction
City and County of Honolulu
650 South King Street
Honolulu Hawaii 96813

Prepared by:

Wilson Okamoto Corporation
Engineers and Planners
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826
WOC Job No. 7995-01

October 2014

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EXECUTIVE SUMMARY

A preliminary engineering assessment of the proposed Mānana Corporation Yard was conducted to review the site infrastructure and utilities systems, identify possible constraints, and to describe proposed improvements to sanitary sewer, water systems, storm drainage, parking, roadway, electrical, telephone, cable, and data communications systems.

Sewer: Sanitary sewer service is currently provided to the Mānana Corporation Yard by the City and County of Honolulu. Based on the existing average wastewater flow of 10,720 gallons per day, the proposed average wastewater flow of 11,840 gallons per day (gpd), would equate to an increase of about 10%. The City and County should be consulted to during the design to verify if the existing collection system and treatment facility servicing the project site has adequate capacity to collect and treat the expected flows from the project. Anticipated improvements include a new on-site sewer collection system consisting of sewer manholes and gravity sewerlines as well as a low pressure sewer pump station and force main. The on-site sewer collection system will connect to the existing 10-inch sewerline extending through the adjacent Walmart property to the west and the existing 6- and 8-inch sewer laterals extending from the Aikoo Place system to the east.

Water: Potable water service from the Board of Water Supply water system is available from the 12-inch water main which extends along Makolu Street to an existing 1-inch meter currently servicing the project site. A 4-inch water lateral connected to the 1-inch meter provides domestic water service to the facility. Fire protection water for the project site will be provided via the existing 12-inch fire water main and 8-inch detector check meter. The expected water demand based on past water meter readings is approximately 4,103 gallons per day (gpd) for the Mānana Corporation Yard. The on-site potable water system will consist of new waterline connections to the buildings while the fire protection system will consist of a new looped fire waterline with hydrants spaced at maximum 250-ft intervals. Fire sprinkler lateral connections to the new buildings will be provided from the fire waterline. The mechanical engineer will need to verify the adequacy of the existing meters and water mains based on the proposed fixture units and fire demands during the design phase of the project

Site Grading, Flooding, and Storm Drainage: The project site slopes in the south direction with elevations ranging from approximately 118 feet mean sea level (msl) near the northwest corner of the property at the end of the Makolu Street cul-de-sac, to approximately 90 feet mean sea level (msl) at the southwest corner of the project site. Proposed grading for the project site will maintain existing drainage flow patterns. Given the majority of the lower portion of the site is unpaved, runoff from the developed project site will be more than the existing runoff quantity. Additional runoff generated by the proposed development will be retained onsite, as required by the City and County of Honolulu Department of Planning and Permitting (DPP). Underground retention/detention basin(s) are proposed for this project to maximize the amount of usable open space on-site. The new on-site drainage system will consist of drainlines, drain inlets, and storm drain manholes. The on-site storm drainage system will connect to the existing storm drain headwall and concrete ditch extending from the Kanaeha Place system and existing drainage structure extending from Inia Place system both to the south of the project site.

Parking and Roadway System: The roadway system serving the redeveloped Mānana Corporation Yard will be connected to Makolu Street via a new driveway apron. Makolu Street is City and County owned and maintained dead-end road providing access to Walmart, BWS Mānana Yard, and the project site. The project site will be paved with heavy duty asphalt concrete to accommodate the heavy equipment and large vehicles being parked on-site. Parking for the Mānana Corporation Yard will include approximately 138 POV parking stalls, 5 accessible stalls, and 44 City vehicle and heavy equipment parking stalls.

Electrical, Telephone, Cable and Data Systems: Electrical, telephone, and cable TV service, and data line access to the Internet for the project site are available and will be provided through Hawaiian Electric Company, Hawaii Telcom, and Oceanic Time Warner Cable. New underground ductlines will be extended from the existing underground system located along Makolu Street. Fiber-optic data service is also required to for the new facility.

1. INTRODUCTION

1.1 Report Purpose

Based on the Programming and Concept Design plans prepared by WOC, this Preliminary Engineering Report presents the preliminary assessment of the infrastructure and utility systems on the project site. The objective of the report is to review existing infrastructure systems, determine project demands, identify possible constraints based on the projected demands, and describe proposed improvements relative to:

- sanitary sewer,
- water systems,
- storm drainage,
- parking and roadway,
- electrical system,
- telephone, cable, and data communication systems.

The proposed improvements are preliminary concepts and subject to change based on refinement of plans and availability of more detailed information.

1.2 Project Information

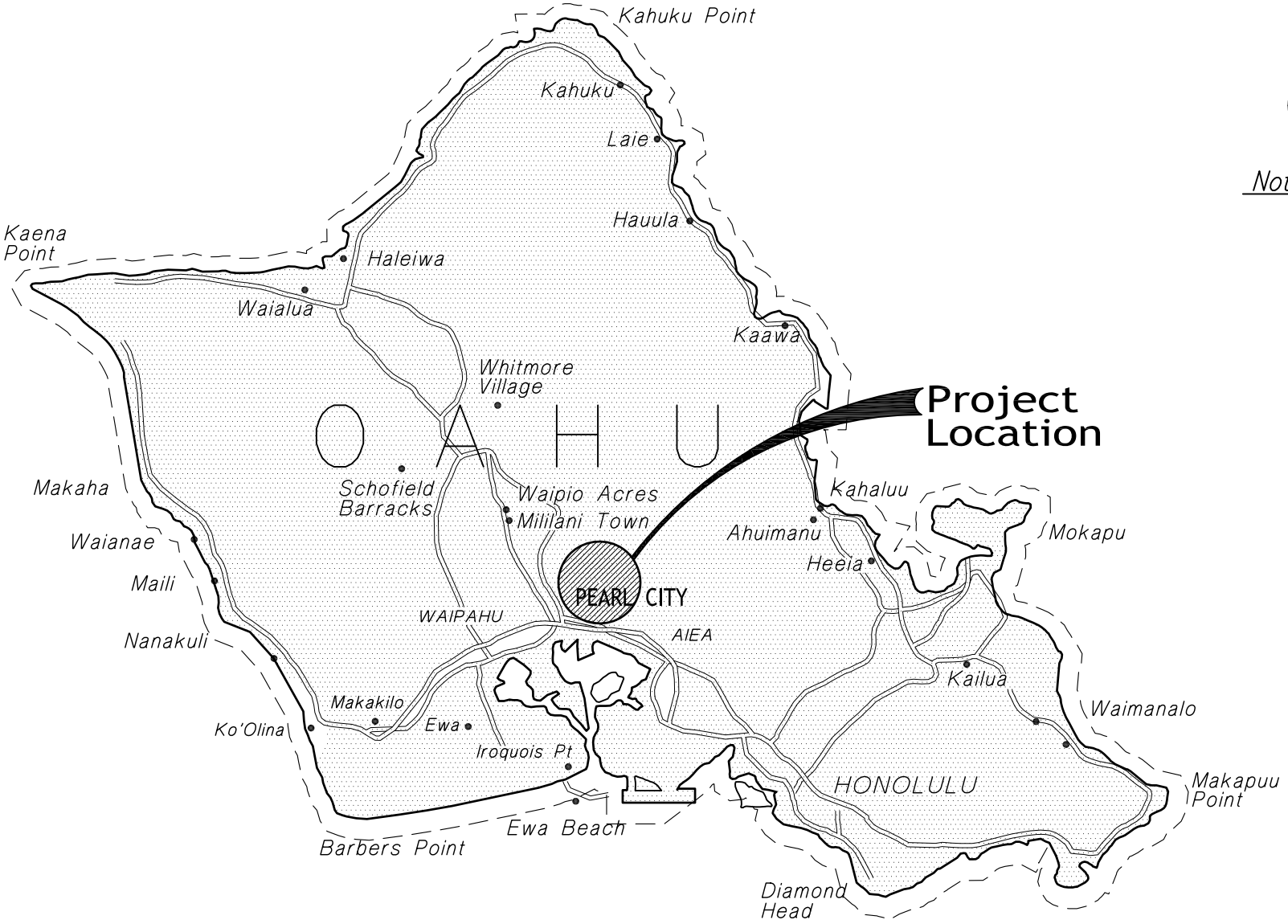
The project site, identified by TMK: 9-7-024: 041, is a 7.8-acre lot in Pearl City on the island of Oahu. The project site is bound by Walmart to the west, existing residential subdivisions to the east and south, and the Board of Water Supply's Mānana Yard to the north. A portion of the existing Parks and Recreation Building located on the northern boundary of the project site extends into the adjacent BWS Mānana Yard property (See Figures 1-1, 1-2, 1-3, and 1-4).

The project site is a part of the larger 109 acre Mānana Naval Distribution Center. The subject Mānana site represents a portion of the significant military activity and related development which occurred on O'ahu prior to, during and after World War II. In the 1970's and 1980's, the Mānana site was used to collect, stage, and transfer hazardous and non-hazardous materials recovered from Pacific Rim military facilities. After the

Navy ceased operations on-site, the State of Hawai'i was granted purchasing rights for the property through a legal agreement between the City and County of Honolulu, Navy and the State of Hawai'i. This agreement allowed the property to be sold under the condition that the Navy would conduct a site remediation in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act. Preliminary remediation surveys conducted by the Navy found the site's underlying soil to be contaminated with arsenic necessitating clean up. Purchasing rights then transferred to the City and County of Honolulu. In 1993, the property sold for $109 million for the 109 acre Mānana Storage Area and the nearby 14 acre Pearl City Junction property.

In 1995, the City established a Pearl City Planning Task force to develop community–based land use recommendations for the property. The City Department of Housing and Community Development worked with the Task Force to develop a conceptual redevelopment plan for the properties. The resulting master plan for the Mānana Storage Area included commercial (retail and office) space, public facilities, a community park, a family entertainment center, medical facilities and light industrial sites. Space for a 21 acre Pearl City Bus Facility and a Board of Water Supply Corporation Yard were specifically included in the original conceptual plan. A subsequent revision which was done for the "Spine Road" (currently Kuala Street) which links Moanalua Road to Acacia Road, also includes space for the Department of Parks and Recreation and the Department of Transportation Services.

In the meantime, the Navy worked with the Environmental Protection Agency in the development of clean up goals and a Final Remedy. The removal action for contaminated soil occurred in 1996. City and County of Honolulu agencies have utilized the site for general warehouse and maintenance operations since then. In 2003, a comprehensive study of the groundwater was completed, and Wal-Mart purchased a portion of the site. In 2006, a decision that required no further remediation was issued.



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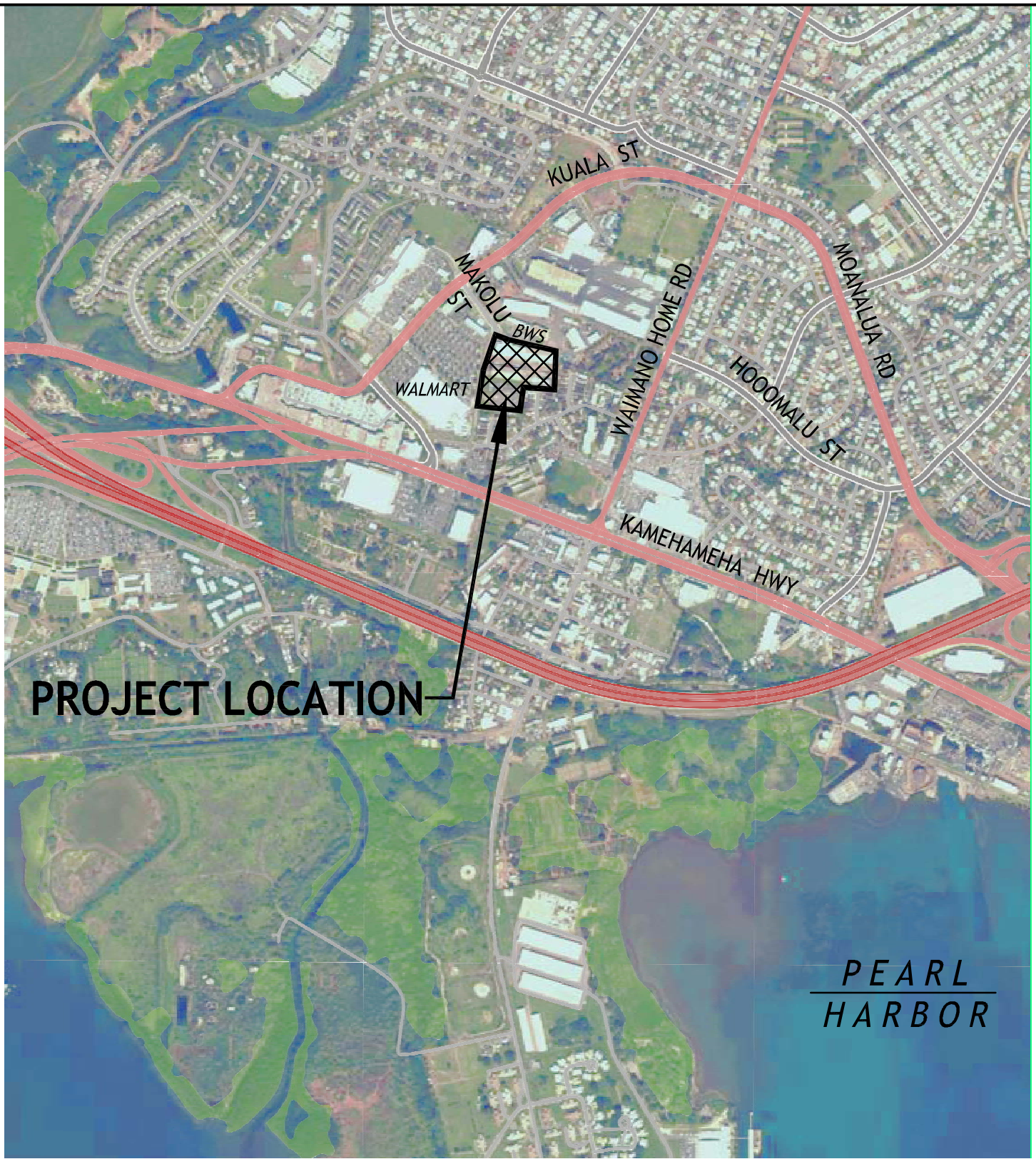
MANANA CORPORATION YARD

PEARL CITY, OAHU, HAWAII

VICINITY MAP

Figure 1-1



GRAPHIC SCALE

1000 0 1000 2000

1" = 1000'

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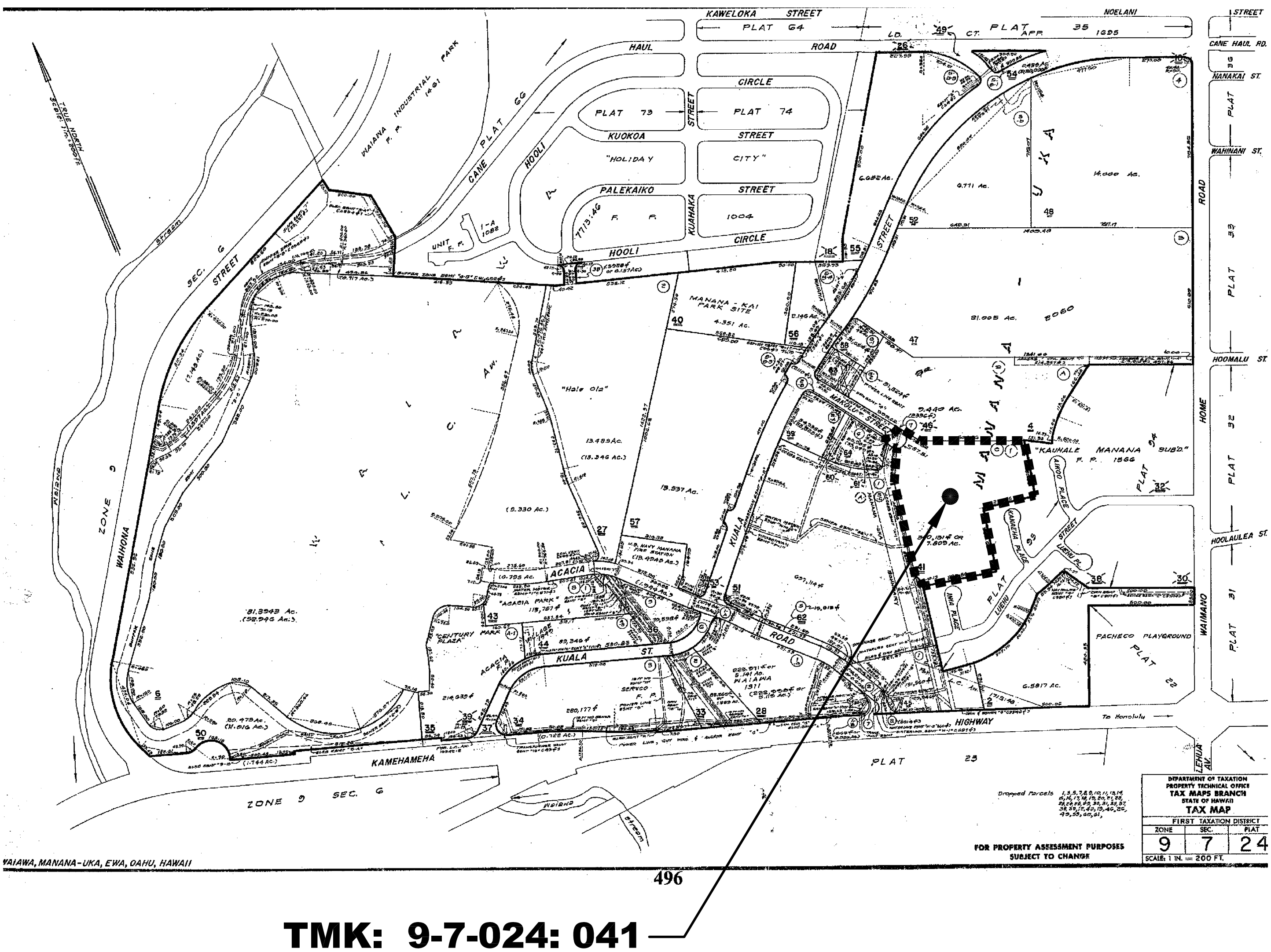
PEARL CITY, OAHU, HAWAII

LOCATION MAP

Figure 1-2



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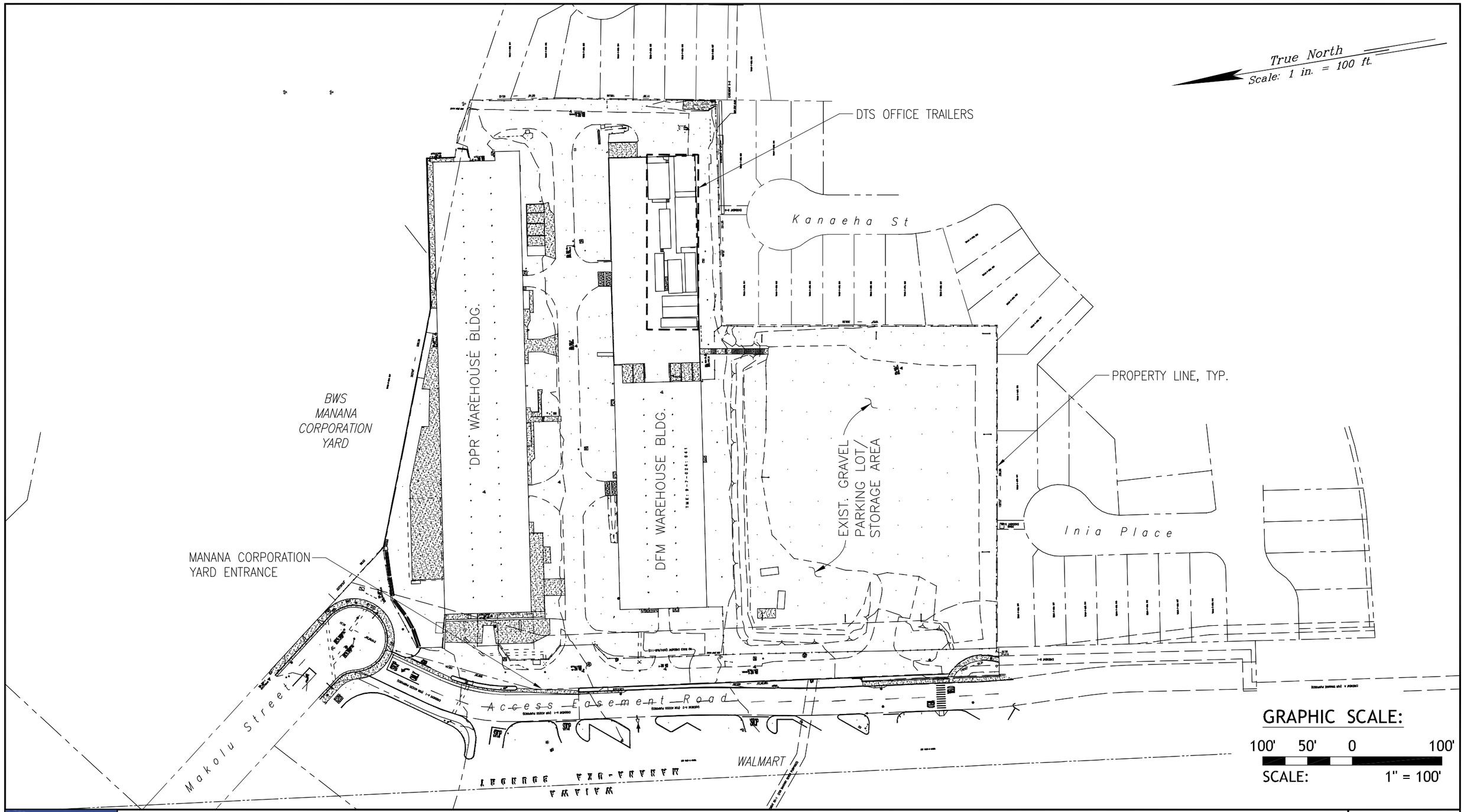
MANANA CORPORATION YARD

PEARL CITY, OAHU, HAWAII

TMK: 9-7-024: 041

Figure 1-3



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MANANA CORPORATION YARD

PEARL CITY, OAHU, HAWAII

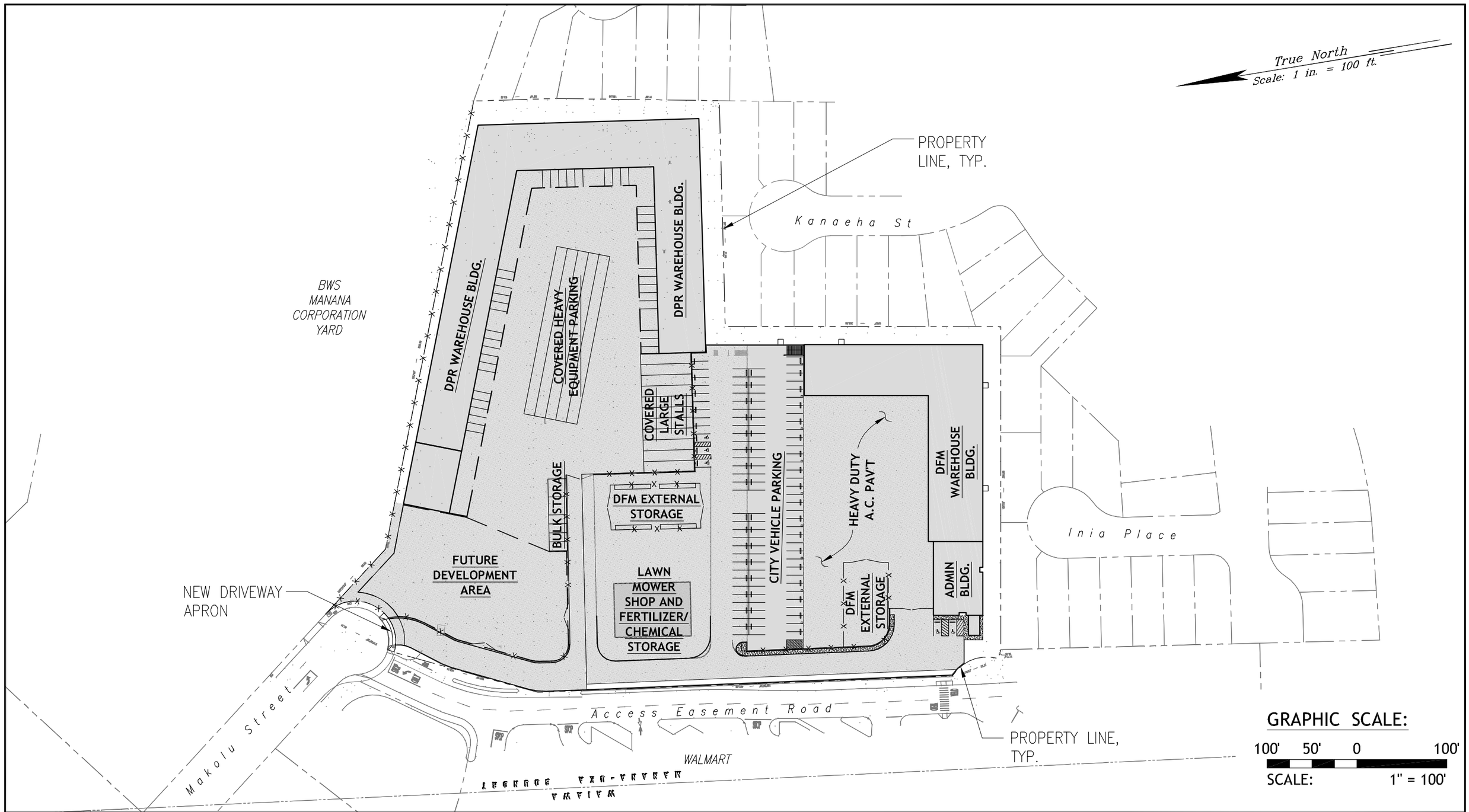
EXISTING CONDITIONS PLAN

Figure
1-4

The City and County of Design and Construction (DDC) intends to demolish and replace the existing warehouse facilities currently used and occupied by City and County's Department of Parks and Recreation's Maintenance Support Services Division (DPR-MSS), Department of Facilities Maintenance's Traffic Electrical Maintenance Branch (DFM-TEMS), and Department of Transportation Services, (DTS) Traffic Signal Maintenance Section. DTS intends to move out of the baseyard and will be accommodated at other DTS locations. The proposed project will be constructed in two phases.

Phase 1 involves the redevelopment of the lower portion of the project site for DFM-TEMS including a new administration building, warehouse building, and two-story parking structure. Other improvements include heavy duty asphalt pavement access roads and storage areas, concrete walkways, security fencing, and landscaping.

Phase 2 of the project involves the redevelopment of the upper portion of the project site for DPR including the construction of a new DPR warehouse building, welding workshop, lawnmower shop, and bulk storage bays for soil, gravel and sand. Other improvements include heavy duty asphalt pavement access roads, vehicle parking areas, and storage areas (See Figure 1-5).



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MANANA CORPORATION YARD

PEARL CITY, OAHU, HAWAII

CONCEPTUAL SITE PLAN

Figure **1-5**

2. SANITARY SEWER SYSTEM

2.1 Background

Sanitary sewer service for the project site is provided by the municipal sanitary sewer system of the City and County of Honolulu's Department of Environmental Services (ENV). The City and County's sewer collection system transports sewage flows generated by the project site to the Pearl City pump station and eventually ending at the City and County's Honouliuli Wastewater Treatment Plant.

2.2 Existing Conditions

The existing on-site sanitary sewer system consists of smaller gravity lines servicing the existing warehouse and prefabricated buildings. The on-site system connects to the City's system on both the east and west boundaries of the project site. Existing 6-inch and 8-inch sewerlines servicing the west end of the warehouse facilities connect to a 10-inch sewerline that extends through a sewer easement within the adjacent Walmart property. This system eventually connects into the City's sewer main located in Kuala Street.

On the eastern portion of the project site, the existing warehouse and prefabricated buildings connected to a 6-inch sewer lateral which conveys wastewater to an 8-inch sewerline running in the north to south direction along the eastern boundary of the project site. The 8-inch sewerline also appears to service portions of the BWS Mānana Yard located to the north. Both the 6- and 8-inch sewerlines connect into the City's system located in Aikoo Place to the east of the project site (See Figure 2-1).

An average sanitary sewer volume of 10,720 gpd is calculated for the existing project site, based on Design Standards of the Department of Wastewater Management Volume 1 dated July, 1993. The existing sewer flow is based on 53 DFM employees, 71 DPR employees and 10 DTS employees multiplied by 80 gallons per employee per day (See Appendix A).

True North
Scale: 1 in. = 100 ft.

LEGEND
PROPERTY LINE
ES8 EXISTING SEWERLINE
EXISTING SEWER MANHOLE

AIKOO PLACE
ES8
EXIST. SEWER EASEMENT
DTS OFFICE TRAILERS
KANAEHA STREET
LUEHU STREET
BWS MANANA CORPORATION YARD
DPR WAREHOUSE BLDG.
DFM WAREHOUSE BLDG.
ES6
ES7
EXIST. SMH, TYP.
INIA PLACE
MAKOLU STREET
WALMART
ES10
EXIST. SEWER EASEMENT

GRAPHIC SCALE
100' 50' 0 100' 200'
1" = 100'

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MANANA CORPORATION YARD
PEARL CITY, OAHU, HAWAII

EXISTING SANITARY SEWER SYSTEM

Figure
2-1

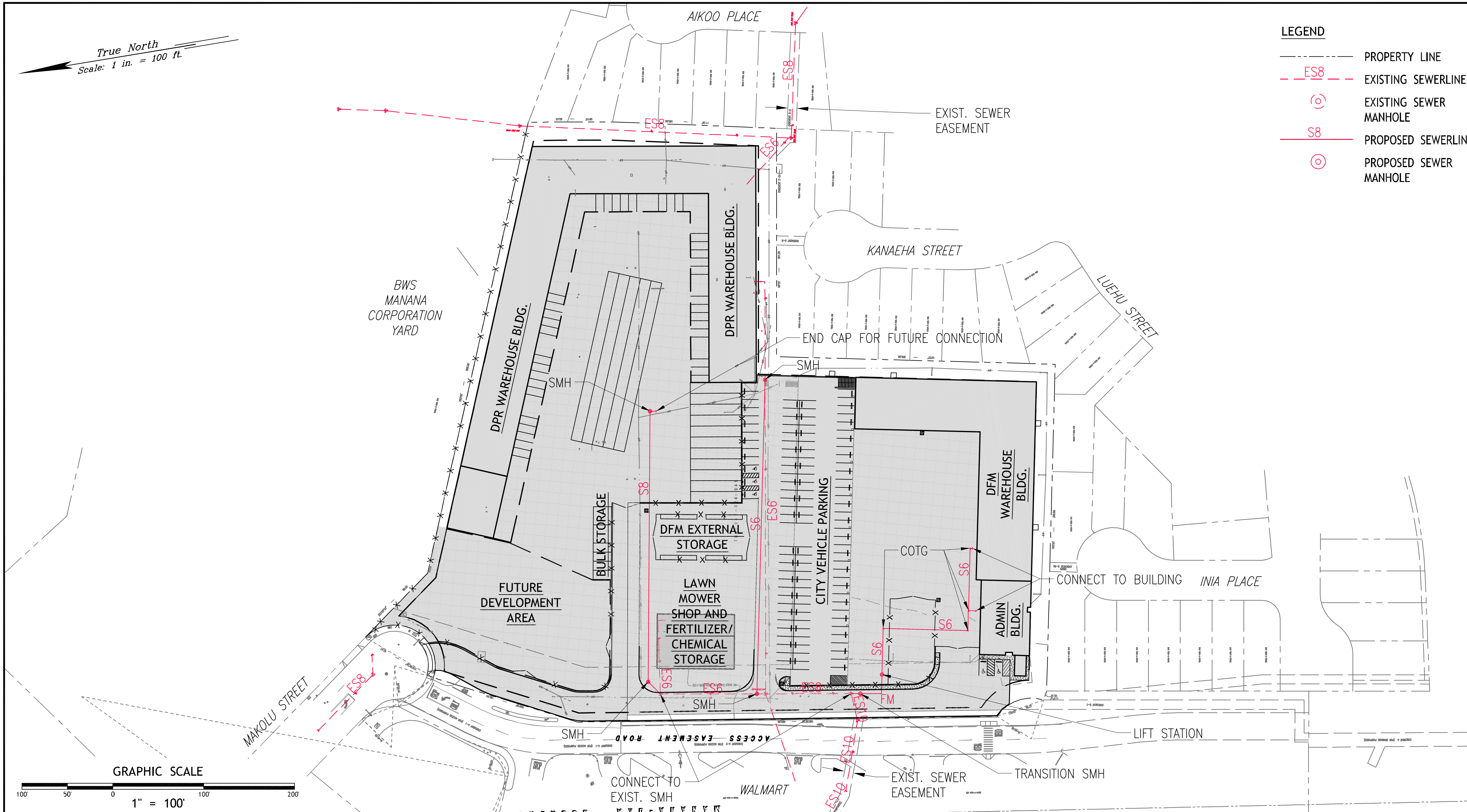
2.3 Projected Demands

Sanitary sewer volumes for the project were derived using the project's program requirements and generalized simulation of projected demands for similar developments. Line sizes will be determined during the design phase of the project.

An average sanitary sewer volume of 11,840 gpd is projected for the Mānana Corporation Yard, based on City and County guidelines for wastewater contribution. This projected sewer volume is increased approximately 10 percent compared to the existing volume of 10,720 gpd (See Appendix A).

2.4 Proposed Improvements

The new on-site sanitary sewer collection system will consist of gravity sewerlines, force main and lift station, clean out to grade, and sewer manholes. The on-site sewer collection system will connect to the existing 10-inch sewerline extending through the adjacent Walmart property to the west and the existing 6- and 8-inch sewer laterals extending from Aikoo Place system to the east. Figure 2-2 shows the Conceptual Sanitary Sewer System Layout. The City and County should be consulted to during the design to verify if the existing collection system and treatment facility servicing the project site has adequate capacity to collect and treat the expected flows from the project.



WILSON OKAMOTO CORPORATION

MANANA CORPORATION YARD

PEARL CITY, OAHU, HAWAII

CONCEPTUAL SANITARY SEWER SYSTEM

Figure 2-2

3. WATER SYSTEMS

3.1 Background

Potable water service for the project will be provided through the municipal water system of the City and County of Honolulu's Board of Water Supply (BWS).

3.2 Existing Conditions

The BWS water system in the vicinity of the project site consists of a 12-inch water main extending along Makolu Street to the end of the cul-de-sac fronting the project site. The 12-inch water main along Makolu Street is connected to a looped 12-inch water main along Kuala Street (See BWS Facility Map in Appendix A) BWS records indicate an existing 1-inch domestic meter and 8-inch detector check meter provide potable and fire protection water service respectively to the project site. See Figure 3-1.

The on-site potable water system consists of various smaller water lines extending from the 1-inch meter and 4-inch water lateral located at the Makolu Street cul-de-sac. Water service is provided to the two existing warehouse buildings and field offices from three separate water laterals. There is no water service to the lower area.

The on-site fire protection water system consists of a 12-inch water line running along the western boundary of the project site extending from the detector meter located at the Makolu Street cul-de-sac. A 12-inch branch line extends between the warehouses. There are four existing fire hydrants serving the project site. Three hydrants are located between the two warehouses and the fourth hydrant is near the top portion of the lower area.

Currently, there is no separate irrigation system on site and there are no nonpotable water sources available for irrigation.

Existing BWS meter shows a historical average potable water use of 4,103 gallons per day (gpd). One water meter services the existing project site as DFM, DPR and DTS water use is not separately metered.

True North
Scale: 1 in. = 100 ft.

LEGEND
PROPERTY LINE
EW12 EXISTING WATERLINE

AIKOO PLACE
DTS OFFICE TRAILERS
KANAEHA STREET
LUEHU STREET
BWS MANANA CORPORATION YARD
EXIST. FIRE HYDRANT
EXIST. FIRE HYDRANT
EXIST. FIRE HYDRANT
EXIST. FIRE HYDRANT
EXIST. 1" DOMESTIC WATER METER MN# 01040175
EXIST. 8" FIRE WATER METER MN# 04189610
EXIST. FIRE HYDRANT
DPR WAREHOUSE BLDG.
DFM WAREHOUSE BLDG.
EW2½
EW12
EW2
EW1
MAKOLU STREET
INIA PLACE
WALMART
GRAPHIC SCALE
100' 50' 0 100' 200'
1" = 100'

WILSON OKAMOTO CORPORATION

MANANA CORPORATION YARD
PEARL CITY, OAHU, HAWAII

EXISTING WATER SYSTEM

Figure 3-1

3.3 Projected Demands

Potable water demands were derived using the project's program requirements provided and generalized simulation of projected demands for similar developments. Line sizes will be determined during the design phase of the project.

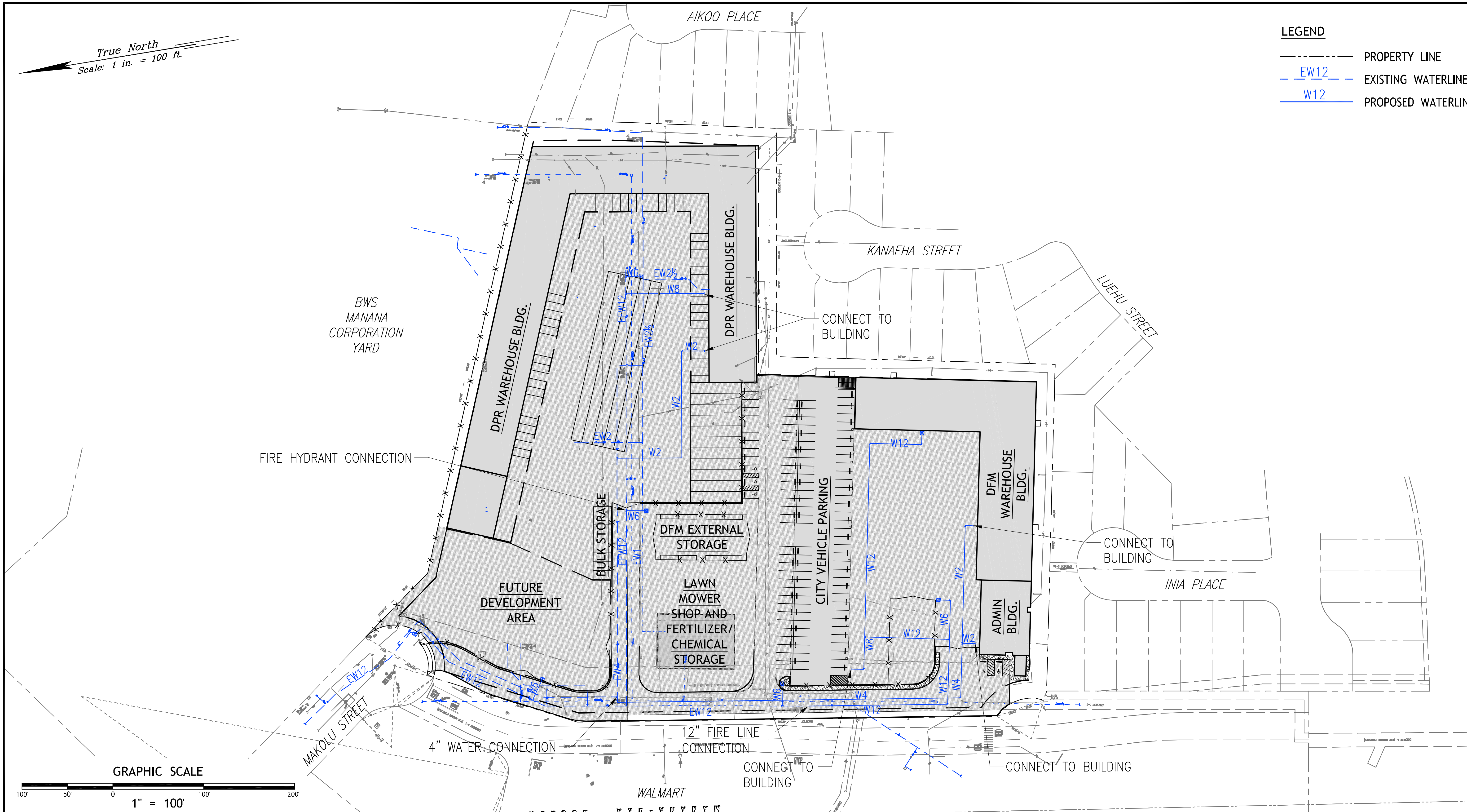
No increase in water demand is anticipated given that the overall increase in building square footage is negligible and the usage of the facility will remain the same. An average daily demand of 8,087 gpd was determined for potable water for the Mānana Corporation Yard, based on the Department of Water Supply Water System Standards dated 2002. This average daily demand represents a 0.2 percent increase compared to the existing demand of 8,070 gpd (See Appendix B).

3.4 Proposed Improvements

The potable water service for the project is anticipated to be via the existing 1-inch potable water meter. The new on-site potable water system will consist of water laterals connecting to the existing 4-inch water main to the new facilities. The mechanical engineer will need to verify the adequacy of the existing 1-inch meter and 4-inch water main based on the proposed fixture units during the design phase of the project

The fire protection water service for the project is anticipated to be via the existing 8-inch detector check meter. The new on-site fire protection water system will connect to the existing 12-inch fire water main. Fire protection water lines will extend around the new facilities with fire hydrants spaced at 250-foot intervals. The BWS standard fire flow requirement for BWS Light Industrial classification is 4,000 gallons per minute (gpm). The mechanical engineer will need to verify the need for a fire pump for the new facilities buildings during the design phase of the project (See Figure 3-2).

Irrigation water for the project site is anticipated to be provided by the potable water system.



WILSON OKAMOTO CORPORATION

MANANA CORPORATION YARD

PEARL CITY, OAHU, HAWAII

CONCEPTUAL WATER SYSTEM

Figure 3-2

4. SITE GRADING, FLOODING, AND STORM DRAINAGE SYSTEM

4.1 Background

The review of the site grading, flooding, and storm drainage system is based on review of the topographic survey map (See Figure 4-1), record drawings of previous projects within the project vicinity, and site investigation.

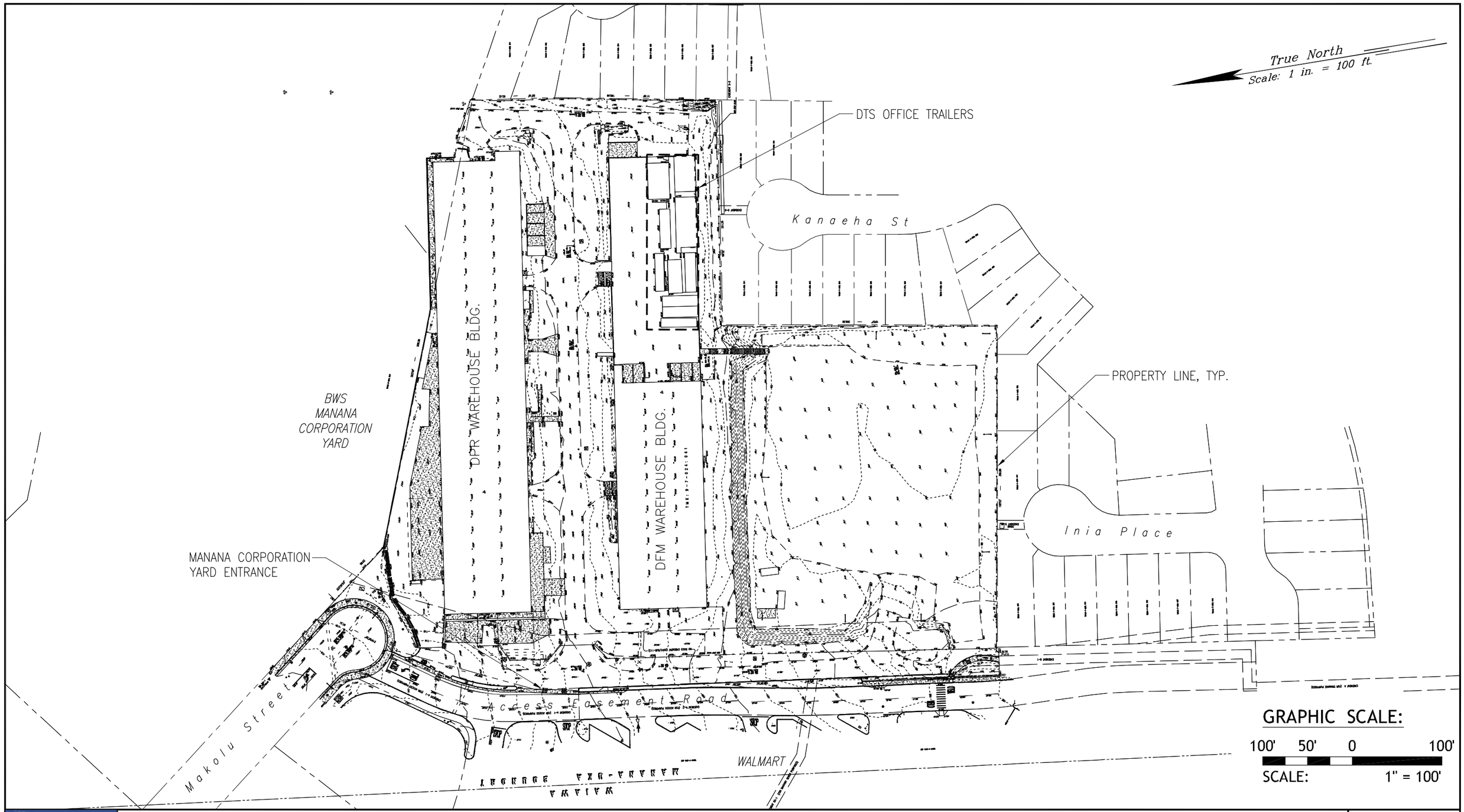
4.2 Existing Conditions

The project site slopes in the south direction with elevations ranging from approximately 118 feet mean sea level (msl) near the northwest corner of the property at the end of the Makolu Street cul-de-sac, to approximately 90 feet mean sea level (msl) at the southwest corner of the project site. The upper two thirds of the project site is relatively flat and consists of AC pavement, existing warehouses, and temporary trailers. An approximately 5-ft high retaining wall along the northern property boundary separates the project site from the higher BWS Mānana Yard to the north. The lower third of the project site is approximately 15-ft below the existing warehouse area. The lower third is also relatively flat and consists of a gravel/dirt area which is currently used for vehicle parking and material storage.

Storm drainage flows generated by upper two thirds of the project site is collected by a system of trench drains, drainlines and graded swales running in the west to east direction between the existing warehouse and prefabricated buildings. This system connects to an existing drainage system extending along the east end of the project site. Portions of the BWS Mānana Yard to the north also drain into this system. An existing headwall and open ditch along the southeast boundary of the project site connects to an existing 30-inch drainline located in the Kanaeha Street cul-de-sac to the south of the project site. The remaining lower third of the project site sheet flows into an existing drainage structure at south end of the project that is connected to an existing 18-inch drainline located in the Inia Place cul-de-sac (See Figure 4-2).

Estimated existing storm drainage flow rates for a 10-year, 1-hour rainfall event is 27.44 cubic feet per second (cfs) for the project site.

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Community Panel No: 15003C0239G dated January 19, 2011 shows that the project site is primarily located within Zone X and small portion with Zone D. Zone X is an area determined to be outside of the 0.2% annual chance floodplain. No base flood elevations or depths are shown in this zone. Zone D designates areas where flood hazards are undetermined, but possible. The project site is not located in the tsunami evacuation zone as established by the Oahu Civil Defense. See Figure 4-3.



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MANANA CORPORATION YARD

PEARL CITY, OAHU, HAWAII

PROJECT SITE TOPOGRAPHIC MAP

Figure
4-1

True North
Scale: 1 in. = 100 ft.

AIKOO PLACE

EXIST. HEADWALL

EXIST. HEADWALL

EXIST. CONC. DITCH

DTS OFFICE TRAILERS

EXIST. STORM DRAINAGE EASEMENT

ED18 ED18 ED12 ED12 ED16 ED30

KANAEHA STREET

EXIST. CONC. SWALE

BWS MANANA CORPORATION YARD

EXIST. INTAKE STRUCTURE

LUEHU STREET

DPR WAREHOUSE BLDG.

DFM WAREHOUSE BLDG.

EXIST. TRENCH DRAIN

EXIST. INTAKE STRUCTURE

EXIST. STORM DRAIN MANHOLE, TYP.

EXIST. STORM DRAINAGE EASEMENT

ED18

INIA PLACE

EXIST. CATCH BASIN, TYP.

ED24 ED24 ED16 ED18 ED18 ED18 ED18

MAKOLU STREET

EXIST. STORM DRAINAGE EASEMENT

WALMART

EXIST. CATCH BASIN, TYP.

GRAPHIC SCALE
100' 50' 0 100' 200'
1" = 100'

LEGEND

- PROPERTY LINE
- ED12 EXISTING DRAINLINE
- EXISTING STORM DRAINAGE MANHOLE
- EXISTING CATCH BASIN

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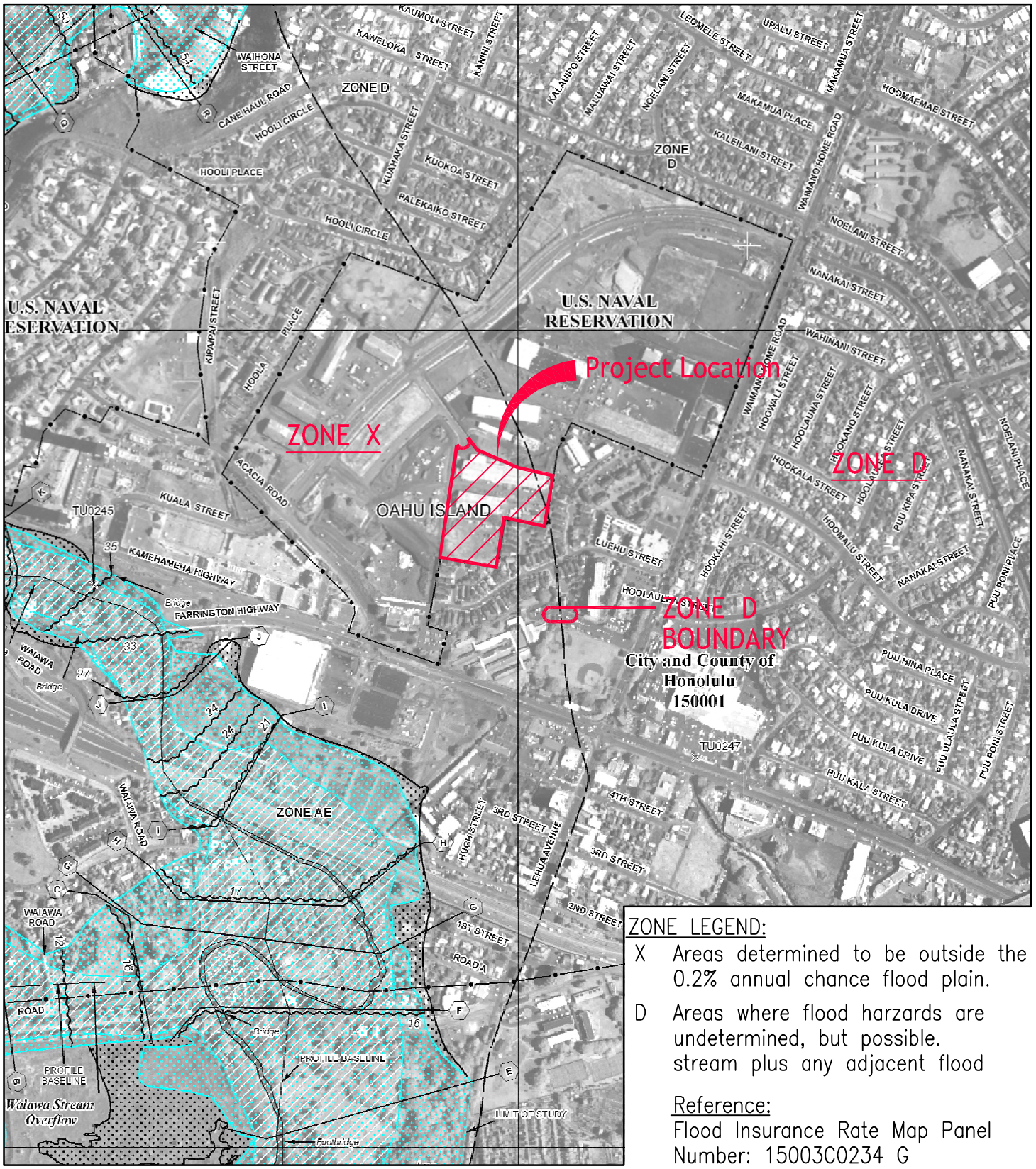
MANANA CORPORATION YARD
PEARL CITY, OAHU, HAWAII

EXISTING STORM DRAINAGE SYSTEM

Figure
4-2



ZONE LEGEND:

X Areas determined to be outside the 0.2% annual chance flood plain.

D Areas where flood harzards are undetermined, but possible. stream plus any adjacent flood

Reference:
Flood Insurance Rate Map Panel Number: 15003C0234 G
Dated: January 19, 2011

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MANANA CORPORATION YARD
PEARL CITY, OAHU, HAWAII

FLOOD ZONE MAP

Figure 4-3

4.3 Projected Demands

Drainage improvements and runoff rates for the proposed condition shall be determined based on the *Rules Relating to Storm Drainage Standards*, Department of Planning and Permitting, City and County of Honolulu, dated January 2000. Increase in runoff due to the proposed improvements will be retained on-site to ensure that the project will not have any adverse effects on downstream properties. The project will also be required to comply with the City's Storm Water Quality Criteria. Since the project will be phased, both projects will be classified as Priority A1 projects. Based on this classification, the project shall meet the following storm water quality criteria:

i. Incorporate appropriate LID Site Design Strategies
ii. Incorporate appropriate Source Control BMP's
iii. Unless determined infeasible, either retain on-site by infiltration or evapotranspiration, the water quality volume or biofilter the water quality volume or a combination of the two.

4.4 Proposed Improvements

Storm drainage volumes for the project site were derived using the Conceptual Layout Plans provided by WOC and generalized simulation of projected demands for similar developments. The proposed on-site storm drainage system is likely to consist of a combination of drain inlets, storm drain manholes, underground piping, and underground detention/retention. Line sizes, inlet locations, and storm water treatment requirements will be determined during the design phase of the project (See Figure 4-4).

The proposed project will increase the estimated 10-year 1-hour storm drainage peak flow from 27.44 cubic feet per second (cfs) for existing conditions to 36.92 cfs for proposed conditions. Additionally, runoff volume will increase by 21,238 cubic feet (cf) from existing to proposed conditions based on the 50-year 1-hour storm. (See Appendix C) The increase in peak discharge and runoff volume can be attributed to the increase in impervious area due to the addition of the new warehouse buildings and AC areas. Underground retention/detention basin(s) are proposed for this project to maximize the

amount of usable open space on-site. Acceptable options for the treatment of the stormwater would include vegetated swales and sand filters.

True North
Scale: 1 in. = 100 ft.

AIKOO PLACE

CONNECT TO EXIST. INTAKE STRUCTURE

EXIST. STORM DRAINAGE EASEMENT

ED30

KANAEHA STREET

LUEHU STREET

DRAIN INLET, TYP.

BWS MANANA CORPORATION YARD

DPR WAREHOUSE BLDG.

DPR WAREHOUSE BLDG.

UNDERGROUND BASIN

BULK STORAGE

DFM EXTERNAL STORAGE

FUTURE DEVELOPMENT AREA

LAWN MOWER SHOP AND FERTILIZER/ CHEMICAL STORAGE

CITY VEHICLE PARKING

UNDERGROUND BASIN

DFM WAREHOUSE BLDG.

ADMIN BLDG.

CONNECT TO EXIST. INTAKE STRUCTURE

EXIST. STORM DRAINAGE EASEMENT

INIA PLACE

DMH, TYP.

EXIST. STORM DRAINAGE EASEMENT

DRAIN INLET

MAKOLU STREET

DRAIN INLET

DMH, TYP.

WALMART

LEGEND

- PROPERTY LINE
- EXISTING DRAINLINE
- EXISTING STORM DRAINAGE MANHOLE
- EXISTING CATCH BASIN
- PROPOSED DRAINLINE
- PROPOSED STORM DRAINAGE MANHOLE
- PROPOSED DRAIN INLET

GRAPHIC SCALE
100' 50' 0 100' 200'
1" = 100'

WILSON OKAMOTO CORPORATION

MANANA CORPORATION YARD
PEARL CITY, OAHU, HAWAII

CONCEPTUAL STORM DRAINAGE SYSTEM

Figure 4-4

5. PARKING AND ROADWAY SYSTEM

5.1 Background

The review of the parking and roadway system is based on the review of the Conceptual Plan prepared by WOC. This section will concentrate on on-site related parking and roadway system issues.

5.2 Existing Conditions

Existing access to the site is from Makolu Street via Easement A-1 which is an access easement that provides access to Walmart to the west and Mānana Corporation Yard to the east. Entrance to Easement A-1 is through Makolu Street, a dead-end road owned and maintained by the City and County.

There are three entrances to the project site via Easement A-1. From the north, the first entrance leads to the DPR warehouse building. Further south, an AC driveway provides access to the south side of the DPR warehouse building as well as the DFM warehouse building and the DTS Traffic Signal Maintenance Buildings. At the south end of the project, an AC driveway provides access to a gravel lot which provides parking for the facility's employees (See Figure 1-4).

5.3 Project Demands

New access roads will be connected to Makolu Street and to the existing access roads within the project site. Geometric of access roads and parking lots shall been designed in accordance with city requirements. The geometric of the upper level POV parking lot will be based on passenger cars and vans. A total of POV parking stalls are required based on 53 DFM and 90 DPR employees and an 88-percent attendance factor. Access road geometrics shall accommodate turning movements for fire trucks and heavy duty equipment (SU-30 vehicles). The site will be paved with heavy duty asphalt concrete to accommodate the heavy equipment and large vehicles being parked on-site. The proposed pavement structure will follow the Soils Engineer's recommendations.

5.4 Proposed Improvements

Based on the Preliminary Concept Site Plan prepared by WOC, the roadway system serving the redeveloped Mānana Corporation Yard will be connected to Makolu Street via a new driveway apron. The project site will be paved with heavy duty asphalt concrete to accommodate the heavy equipment and large vehicles being parked on-site. The proposed pavement structure will follow the Soils Engineer's recommendations

Emergency and fire truck vehicles will also utilize the access road to access the project site. A new 30-foot wide, AC pavement access road is proposed along the western boundary of the project site to provide emergency access to the project site. The turnaround area shall be designed for a fire truck's outside turning radius of 40.5-feet. In general, the roadway and entrance driveways to the project site appear to have adequate capacity to accommodate normal traffic.

Accessible parking stalls will be provided to the west of the proposed warehouse building. Layout, dimensions, longitudinal and cross slopes of ADA walkways and ramps shall comply with ADA Accessibility Guidelines. Five accessible parking stalls will be provided for the entire facility. Two are located adjacent to the proposed DFM Administration Building and three accessible stalls are located near the DFM external storage area in the upper portion of the yard.

City vehicle and heavy equipment parking will be provided at the lower lever of the parking structure. A total of 44 tandem parking stalls will be provided. The second level of the parking structure contains 90 parking stalls for employee parking. Ten additional employee parking stalls plus three accessible stalls are located on an adjacent portion of the upper area. An additional 35 parking stalls will be provided along the DPR building for POV parking (See Figure 1-5).

6. ELECTRICAL, TELEPHONE, CABLE, AND DATA SYSTEMS

6.1 Background

Electrical service is provided to the project site by Hawaiian Electric Company (HECO). The service, located on Makolu Street, is single phase (120-240 volts) to the City-owned transformer on the project site.

Telephone service for the project will be provided by Hawaiian Telecom (HT). Internet and cable TV service for the project will be provided by Oceanic Time Warner Cable (OTWC). The City also has its own fiber-optic data service provided to the site.

6.2 Existing Conditions

The existing electrical distribution system for the Mānana Corporation Yard currently consists of City owned overhead primary lines, pole mounted transformers and overhead secondary service drops connected to a Hawaiian Electric Company (HECO) primary meter located at NW portion of the complex at the end of Makolu Street. Primary HECO service is distributed to the site via existing overhead lines and poles, from pole #513897 (adjacent to HECO handhole) to poles located adjacent to DFM warehouse and DPR warehouse structures. Existing HECO primary meter (meter #532588) is located on the existing pole #513896. Existing pole-mounted “ABB”, 167 kVA, 1-phase transformer is located at the pole adjacent to existing DFM warehouse and is providing secondary power to DFM warehouse (800A, 120/240V, 1-phase main panelboard, located at the exterior of the building) and to portable trailers. Existing overhead distribution is continued via poles to DPR warehouse (pole and pole-mounted transformers are located near SE corner of the building). Three (3)-75 kVA pole-mounted transformers provide secondary power to existing DPR warehouse structure (main service disconnects with check meters are located on the SE exterior of the building).

Existing telephone landline is provided from existing Hawaiian Telcom facilities located at NW portion of the complex at the end of Makolu Street. Telephone service is distributed to the site via existing overhead lines and poles, following electrical primary distribution, to poles located adjacent to existing DFM warehouse and DPR warehouse

structures. Main telephone cabinet is located at the exterior of the existing DFM warehouse and is providing telephone landline service to the complex.

Internet and cable TV service for the project site and surrounding area is provided by Oceanic Time Warner Cable from a main underground cable located at the end of Makolu Street.

Fiber-optic data connection to the Fasi Municipal Building is provided to the site through the existing 12-strand single mode fiber-optic service cable located at the pole near the NE portion to the complex adjacent to existing DPR warehouse. Incoming fiber-optic cable is extended one of the Traffic Signal Trailers, from which it is distributed overhead via poles to existing DFM and DPR warehouses, providing data and voice service to existing facilities.

Existing CCTV system cameras are building and pole-mounted and are connected to existing security station (located at trailer #1) via overhead distribution and poles.

6.3 Projected Demands

The proposed electrical, telecom, cable, and data systems demand load post-redevelopment will need to be calculated by the project's electrical engineering consultant.

6.4 Proposed Improvements

New primary underground infrastructure will consist of 5-inch empty duct lines, electrical handholes and concrete pads to support the provision of HECO electric service to new DFM warehouse and existing facilities to remain. New duct run will extend from existing HECO facilities at the end of Makolu Street to a new transformer concrete pad adjacent to the new facility. In addition, new primary infrastructure will be provided to new transformer concrete pads: one located adjacent to existing DFM warehouse, and other located adjacent to SE corner of existing DPR warehouse (next to existing service disconnects). All electrical requirements will be coordinated with HECO.

New underground telecommunication infrastructure will consist of empty duct lines with muletape, handholes and enclosures to support the provision of HT service to new DFM facility. New duct run will extend from existing HT facilities located at the end of Makolu Street to the Telecom Room, in new facility. All telecommunication service requirements will be coordinated with DFM, Department of Information and Technology (DIT) and HT.

New underground infrastructure for cable TV and internet will consist of empty duct lines with muletape, handholes and enclosures to support the provision of OTWC service to the new facility. New duct run will extend from existing OTWC facilities at the end of Makolu Street to the Telecom Room CATV backboard, in new the facility. All telecommunication service requirements will be coordinated with DFM, DIT and OTWC.

New underground fiber-optic cable infrastructure, consisting of duct lines, handholes and cable(s), will be provided between the new warehouses and existing DFM and DPR offices to facilitate system connectivity between the buildings. Incoming 12-strand SM fiber, at the NE entrance to the complex, will be extended to Telecom Room at new DFM facility. All fiber-optic requirements will be coordinated with DFM and DIT.

7. OTHER UTILITIES

7.1 Fuel Systems

According to as-built information obtained from The Gas Company, there is no existing underground fuel system on the project site. On-site liquefied petroleum gas tanks (LPG or propane) will provide gas service to the existing warehouses. Total calculated LPG consumption for the proposed facility is to be determined during design.

APPENDICES

Appendix A

Sewage Design Flow Calculations

7995-01 Manana Corporation Yard
Sewer Flow Calculations Oct 2014

EXISTING

Description	Use Type	Office No. of Employees	Unit Rate gal/empl/day*	Ave. Sewer Demand Flow (Gallons Per Day)	Cumulative Ave. Sewer Daily Flow (Gallons Per Day)
DFM Staff	Office	53	80	4,240	4,240
DPR Staff	Office	71	80	5,680	9,920
DTS Staff	Office	10	80	800	10,720
TOTAL					**10,720**

PROPOSED

Description	Use Type	Office No. of Employees	Unit Rate gal/empl/day*	Ave. Sewer Demand Flow (Gallons Per Day)	Cumulative Ave. Sewer Daily Flow (Gallons Per Day)
DFM Staff	Office	58	80	4,640	4,640
DPR Staff	Office	90	80	7,200	11,840
DTS Staff Relocation	Office	0	80	0	11,840
TOTAL					**11,840**

INCREASE DIFFERENCE (Gal/day)	**1,120**

*Reference:

Chapter 20 Design of Sewers, Paragraph 22.2.1

Design Standards of the Department of Wastewater Management, Volume 1 - July 1993

Appendix B

Water Demand Calculations

Manana Corporation Yard
Water Demand Calculations

Average Daily Water Consumption

Year	Reading Month	Consumption (gal/day)
2009	September	4536
	October	4655
	November	4324
	December	4161
2010	January	3966
	March	3875
	April	4033
	May	3931
	June	4364
	July	4824
	August	4857
	September	4862
	October	4967
	November	4765
	December	4517
2011	January	4794
	February	4357
	March	4514
	April	4706
	May	4565
	June	4516
	July	5103
	August	5393
	August	5621
	September	5759
	October	6607
	November	5281
	December	5355
2012	February	6147
	February	5000
	March	3207
	April	2593
	May	4065
	June	4690
	July	4375
	August	4793
	September	5000
	October	4321
	November	4559

Manana Corporation Yard
Water Demand Calculations

Average Daily Water Consumption

Year	Reading Month	Consumption (gal/day)
2013	January	5397
	February	3863
	March	2593
	April	1751
	May	4637
	June	5508
	July	5358
	August	5720
	September	5851
	October	5616
	November	2305
	December	1192
2014	January	1253
	February	1530
	March	1776
	April	1957
	May	1711
	June	1617
	July	1547
	August	1449
	September	1578
	TOTAL (gal/day)	**4103**

REFERENCE:
Manana Corp. Yard Water Consumption
Records from BWS for the 1" (MR #01040175)
Domestic Water Meter servicing the property

7995-01 Manana Corporation Yard
Water Flow Calculations Oct 2014

EXISTING

Buidling Description	Zoning Designation	Area (SF)	Average Daily Demand	Ave. Water Demand Flow (Gallons Per Day)	Cumulative Ave. Water Daily Flow (Gallons Per Day)
DFM Warehouse Bldg	Commercial/Industrial Mix	24,680	100 gals / 1000 sf	2,468	2,468
DPR Warehouse Bldg	Commercial/Industrial Mix	49,140	100 gals / 1000 sf	4,914	7,382
Modular Office Trailers	Commercial/Industrial Mix	6,875	100 gals / 1000 sf	688	8,070
	TOTAL	**80,695**			**8,070**

PROPOSED

Buidling Description	Zoning Designation	Area (SF)	Average Daily Demand	Ave. Water Demand Flow (Gallons Per Day)	Cumulative Ave. Water Daily Flow (Gallons Per Day)
Administration Bldg	Commercial/Industrial Mix	4,460	100 gals / 1000 sf	446	446
DFM Warehouse Bldg	Commercial/Industrial Mix	21,212	100 gals / 1000 sf	2,121	2,567
DPR Warehouse Bldg	Commercial/Industrial Mix	40,160	100 gals / 1000 sf	4,016	6,583
DPR Mezzanine	Commercial/Industrial Mix	11,400	100 gals / 1000 sf	1,140	7,723
Welding Workshop	Commercial/Industrial Mix	3,640	100 gals / 1000 sf	364	8,087
	TOTAL	**80,872**			**8,087**

DIFFERENCE (Gal/day) **18**

*Reference:

Section 111.05 Demand Factors, Table 100-18 Domestic Consumbtion Guidelines

Water Systems Standards - Board of Water Supply, City and County of Honolulu 2002

Appendix C

Preliminary Drainage Report

APPENDIX C

Preliminary Drainage Study

Mānana Corporation Yard

Wilson Okamoto Corporation

October 2014

Preliminary Drainage Study

Manana Corporation Yard

Manana, Pearl City, Hawaii

Tax Map Key: 9-7-024:041

Prepared for:

Department of Design and Construction
City and County of Honolulu
650 South King Street
Honolulu Hawaii 96813

Prepared by:

Wilson Okamoto Corporation
Engineers and Planners
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826
WOC Job No. 7995-01

October 2014

TABLE OF CONTENTS

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FIGURES

I. INTRODUCTION

A. Purpose

This drainage study was conducted to:

1. Calculate storm runoff quantities occurring at the Manana Corporation Yard project site under existing conditions.

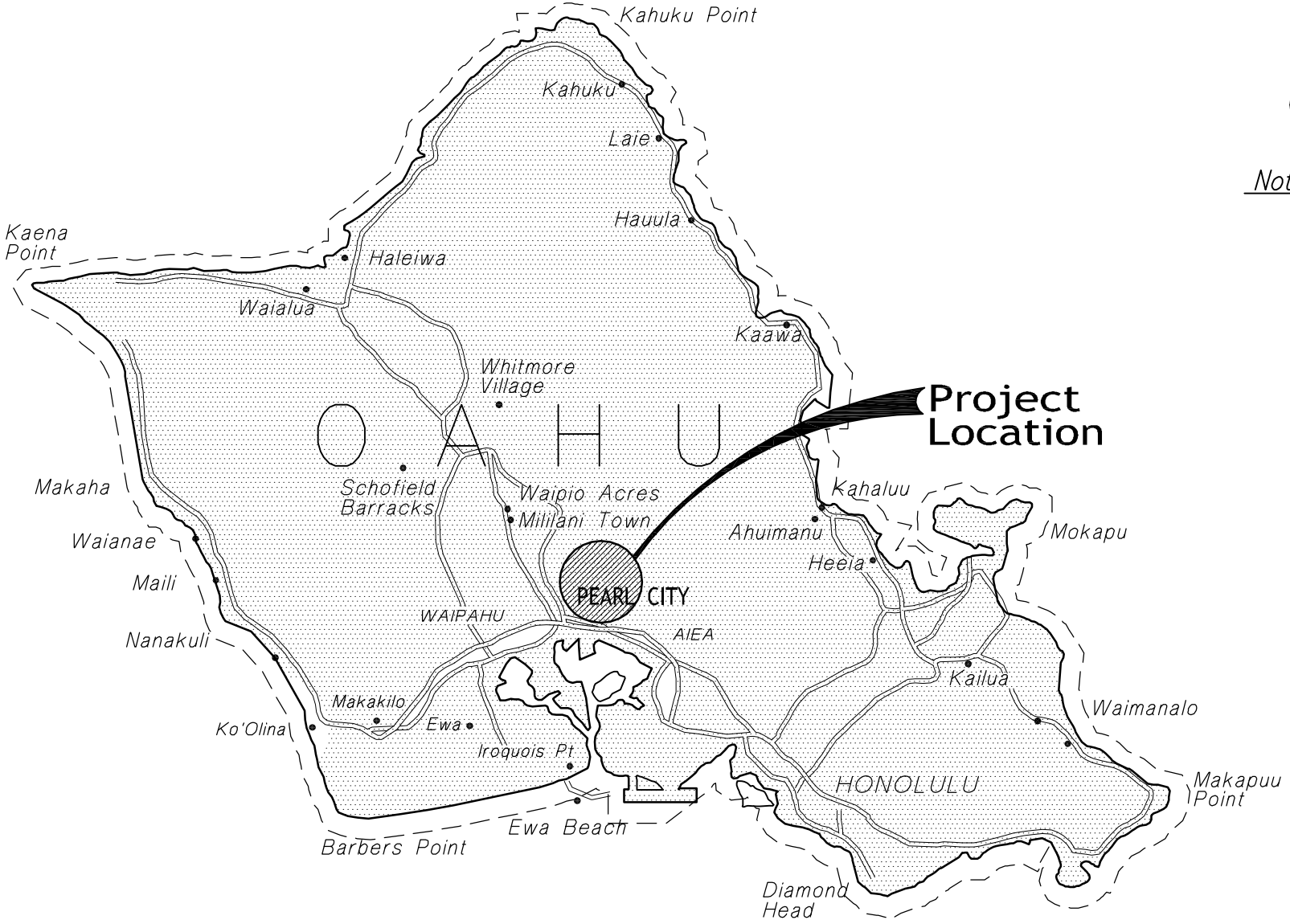
2. Determine required drainage improvements such as inlets, drywells, sub-drains, sump areas, and drainage basins.

3. Ensure compliance with the "Rules Relating to Storm Drainage Standards", Department of Planning and Permitting, City and County of Honolulu, Hawaii, January 1, 2000.

B. Proposed Project Location and Description

The project site, identified by TMK: 9-7-024: 041, is a 7.8-acre lot in Pearl City on the island of Oahu. The project site is bound by Walmart to the west, existing residential subdivisions to the east and south, and the Board of Water Supply's Manana Yard to the north. (See Figures 1, 2, and 3)

The existing project site consists of warehouse facilities currently used and occupied by City and County's Department of Parks and Recreation's (DPR) Maintenance Support Service Section, Department of Facilities Maintenance's (DFM) Traffic Electrical Maintenance Service Branch, and Department of Transportation Services (DTS) Traffic Signal Maintenance Section.



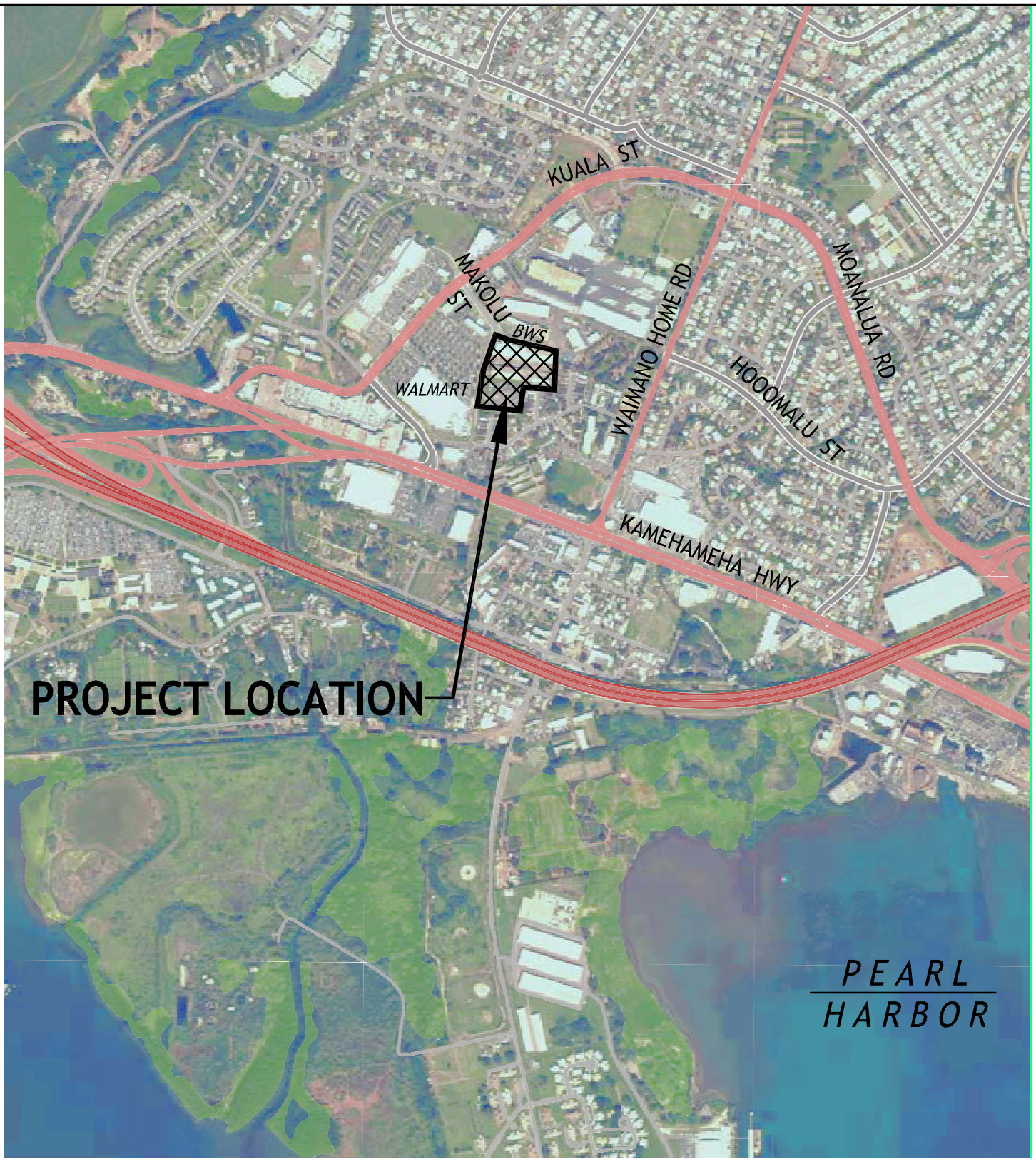
WILSON OKAMOTO CORPORATION

MANANA CORPORATION YARD

PEARL CITY, OAHU, HAWAII

VICINITY MAP

Figure 1



GRAPHIC SCALE

1000 0 1000 2000

1" = 1000'

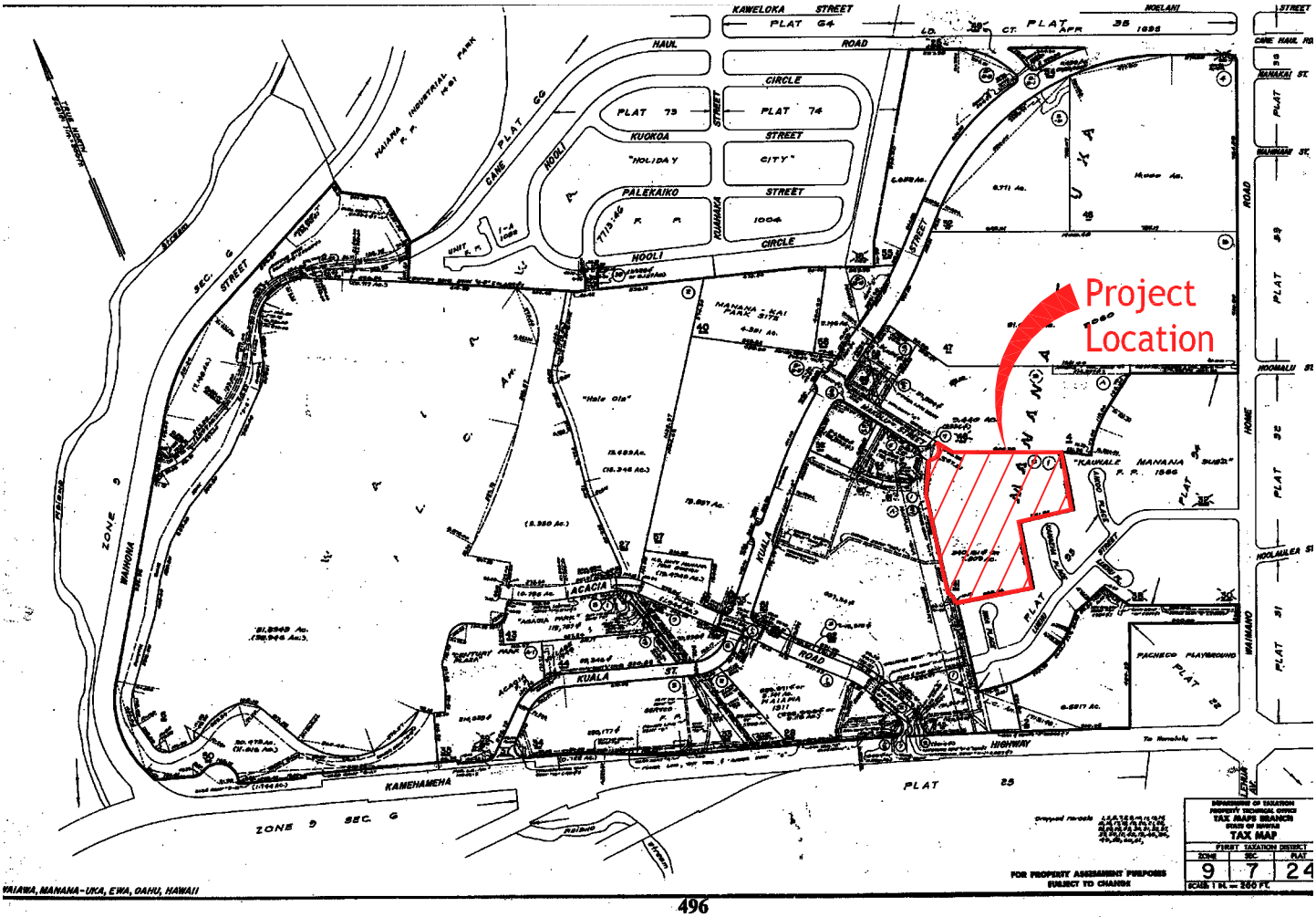
WILSON OKAMOTO CORPORATION

MANANA CORPORATION YARD

PEARL CITY, OAHU, HAWAII

LOCATION MAP

Figure 2



WILSON OKAMOTO CORPORATION

MANANA CORPORATION YARD

PEARL CITY, OAHU, HAWAII

TMK: 9-7-024: 041

Figure 3

C. Existing Topography

The project site slopes in the southerly direction with elevations ranging from approximately 118 feet mean sea level (msl) near the northwest corner of the property at the end of the Makolu Street cul-de-sac, to approximately 90 feet mean see level (msl) at the southwest corner of the project site. The upper two thirds of the project site is relatively flat and consists of A.C. pavement, existing warehouses, and temporary trailers. An approximately 5-ft high retaining wall along the northern property boundary separates the project site from the higher BWS Manana Yard to the north. The lower third of the project site is approximately 15-ft lower than the existing warehouses and temporary trailer facilities area. The lower third is also relatively flat and consists of a gravel/dirt area which is currently used for vehicle parking and material storage.

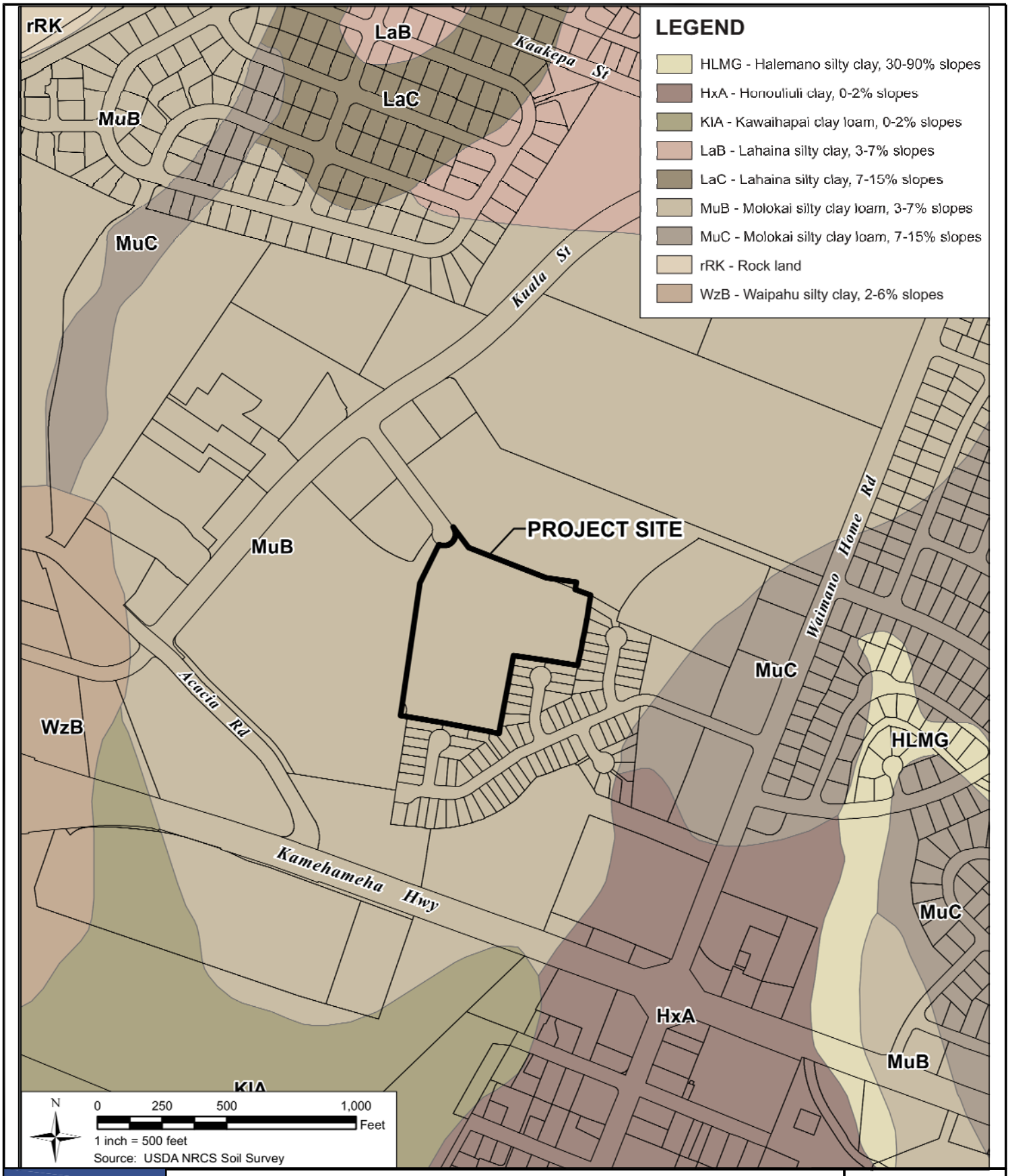
D. Soils

Soil series and mapping units for the island of Oahu are found in maps in the "Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii" dated August 1972, prepared by the U.S. Department of Agricultural, Soil Conservation Service (currently Natural Resources Conservation Services). The underlying soil within the project site consists of the following: (See Figure 4)

Molokai silty clay loam, 3 to 7 percent slope (MuB)
Molokai silty clay loam, 3 to 7 percent slope consists of eroded to soft weathered rock and dark reddish-brown silty clay loams. Runoff is slow to medium and the erosion hazard is slight to moderate. This soil is typically used for sugarcane, pineapple, pasture, wildlife habitat, and homesites.

E. Vegetation

Vegetation is sparse throughout the project. Several areas throughout the site contain poor vegetation such as weeds and shrubs.



WILSON OKAMOTO CORPORATION

MANANA CORPORATION YARD

PEARL CITY, OAHU, HAWAII

SOILS CLASSIFICATION MAP

Figure 4

II. EXISTING DRAINAGE CONDITIONS

A. Drainage

Storm drainage flows generated by upper two thirds of the project site is collected by a system of trench drains, drainlines and graded swales running in the west to east direction between the existing warehouse and temporary trailer facilities. This system connects to an existing drainage system extending along the east end of the project site. Portions of the BWS Manana Yard to the north also drain into this system. An existing headwall and open ditch along the southeast boundary of the project site connects to an existing 30-inch drainline located in the Kanaeha Street cul-de-sac to the south of the project site. The remaining lower third of the project site sheet flows into an existing drainage structure at south end of the project that is connected to an exisitng 18-inch drainline located in the Inia Place cul-de-sac.

Based on the existing topography and drainage conditions, the project site contains three (3) drainage basins contributing to the City and County drainage system (See Figure 5).

B. Flood Hazard

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for City and County of Honolulu, Hawaii, Panel Number 15003C0239G dated January 19, 2011 shows that the project site is located within Zone X. (See Figure 6)

Zone X: Areas determined to be outside the 0.2% annual chance floodplain.

SUBBASIN	AREA (Acs)	Tm (yr)	Q (cfs)
E1	3.69	10	14.12
E2	4.05	10	13.09
E3	0.07	10	0.23
Total:	7.81		27.44

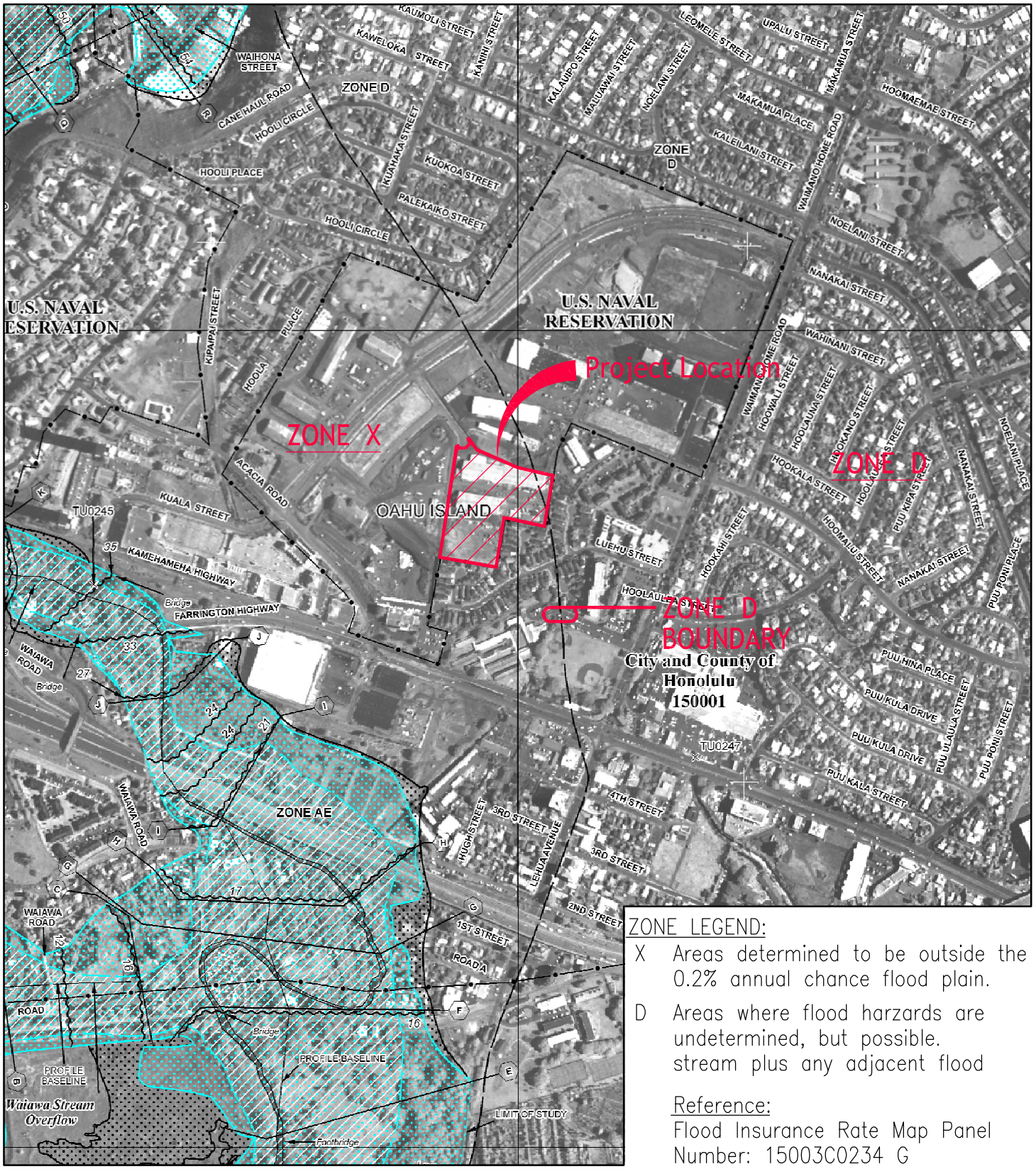
WILSON OKAMOTO CORPORATION

MANANA CORPORATION YARD

PEARL CITY, OAHU, HAWAII

EXISTING DRAINAGE CONDITION

Figure 5



ZONE LEGEND:

X Areas determined to be outside the 0.2% annual chance flood plain.

D Areas where flood harzards are undetermined, but possible. stream plus any adjacent flood

Reference:
Flood Insurance Rate Map Panel Number: 15003C0234 G
Dated: January 19, 2011

WILSON OKAMOTO CORPORATION

MANANA CORPORATION YARD
PEARL CITY, OAHU, HAWAII

FLOOD ZONE MAP

Figure 6

III. PROPOSED DRAINAGE CONDITIONS

The proposed drainage patterns will match existing conditions. See Section II of this report for existing drainage conditions. Any increase in runoff volume will be mitigated by an underground retention/detention basin consisting of pipes and/or arched chambers.

Based on the conceptual site layout and grading and the location of the drain inlets, the proposed project site contains two drainage basins (See Figure 7).

SUBBASIN	AREA (Acs)	Tm (yr)	Q (cfs)
P1	5.38	10	24.65
P2	2.53	10	12.27
Total:	7.81		36.92

WILSON OKAMOTO CORPORATION

MANANA CORPORATION YARD

PEARL CITY, OAHU, HAWAII

CONCEPTUAL DRAINAGE CONDITION

Figure **7**

IV. HYDROLOGY ANALYSIS

A. Design Criteria

Peak flow is calculated using the Rational Method using a 10-year 1-hour rainfall event for both existing and proposed conditions. Site runoff volumes are determined using a 50-year 1-hour for both existing and proposed conditions.

B. Peak Flow Calculation

1. Rational Method

Peak flows are determined by the Rational Method expressed as:

$$Q = C * I * A$$

where:

Q = Flowrate in cubic feet per second (cfs)

C = Runoff coefficient

I = Rainfall intensity in inches per hour for a duration equal to the time of concentration.

A = Drainage area, in acres

a) Runoff Coefficient (C)

The Rules Relating to Storm Drainage Standards was used to determine the runoff coefficient for the existing condition..

C = 0.30 for landscaped areas
C= 0.50 for gravel areas
C = 0.90 for impervious areas

Each subbasin delineated consists of both pervious and impervious surfaces. To account for the varying surface types, a weighted runoff coefficient is determined. Tables 1a and 2a in the Appendix provide weighted runoff coefficient values for existing and proposed conditions respectively.

b) Rainfall Intensity (I)

The time of concentration and design rainfall intensity were determined in accordance with plates 1, 3, and 4 respectively, as shown in the Rules Relating to Storm Drainage Standards. A 1-hour rainfall value of 2.4 inches/hour was used based on a 10-year 1-hour rainfall in the Pearl City area.

c) Drainage Area (A)

Limits of the drainage basins are delineated based on topographic features. There are three subbasins for the existing condition and two subbasins for the proposed condition with a total area of 7.81 acres in both instances. Delineation of areas for existing and proposed conditions is presented in Figures 5 and 7 respectively.

d) Results

Peak flow in cubic feet per second as calculated by the Rational Method for both the existing and proposed conditions are shown in Tables 1 and 2 in the Appendix respectively. Total discharge generated onsite under existing drainage conditions is 27.44 cfs. Total discharge generated onsite under proposed drainage conditions is 36.92 cfs.

C. Runoff Volume Calculations

1. Volumetric Equation

Runoff volumes are calculated by the equation:

$$V = C * I * A * 3630$$

where:

V = Runoff volume in cubic feet (cf)

C = Runoff coefficient

I = Rainfall intensity in inches per hour

A = Drainage area, in acres

a) Runoff Coefficient (C)

The Rules Relating to Storm Drainage Standards was used to determine the runoff coefficient for the existing condition..

C = 0.30 for landscaped areas
C= 0.50 for gravel areas
C = 0.90 for impervious areas

Each subbasin delineated consists of both pervious and impervious surfaces. To account for the varying surface types, a weighted runoff coefficient is determined. Tables 1a and 2a in the Appendix provide weighted runoff coefficient values for existing and proposed conditions respectively.

b) Rainfall Intensity (I)

The rainfall intensity was determined in accordance with plate 2 as shown in the Rules Relating to Storm Drainage Standards. A 1-hour rainfall value of 3.3 inches/hour was used based on a 50-year 1-hour rainfall in the Pearl City area.

c) Drainage Area (A)

Limits of the drainage basins are delineated based on topographic features. There are three subbasins for the existing condition and two subbasins for the proposed condition with a total area of 7.81 acres in both instances. Delineation of areas for existing and proposed conditions is presented in Figures 5 and 7 respectively.

d) Results

Site runoff volumes in cubic feet for both the existing and proposed conditions are shown in Tables 3 and 4 in the Appendix respectively. Total runoff generated onsite under existing drainage conditions is 57,935 cf. Total runoff generated onsite under proposed drainage conditions is 79,173 cf.

V. CONCLUSION

As a requirement of the "Rules Relating to Storm Drainage Standards", all increases in storm water runoff, based on a 10-year, 1-hour storm, will be stored on site. Proposed development will increase the amount of runoff from the existing conditions unless onsite storage is provided for the excess runoff. By following this criteria, the project's storm drainage plan will not cause any adverse effects to the City's drainage system or adjacent properties.

In comparing the peak discharge of the existing and proposed drainage conditions for the project site, there is an increase of approximately 9.48 cfs. The increase in peak discharge can be attributed to an increase in impervious area caused by the site redevelopment. Runoff volume calculations show a total increase of runoff equaling 21,238 cf.

Anticipated runoff increase can be mitigated on-site with the use of an underground retention/detention basin which will allow the run-off to percolate on-site over time. Actual design of the underground retention/detention basin and required improvements will be determined during the design phase of the project.

As a requirement of the "Rules Relating to Storm Drainage Standards", stormwater improvements for the proposed project shall be implemented such that the overall peak flow and runoff volume will be maintained at or below predevelopment conditions. By following this criteria, the development of this project will not cause any adverse effects to the City's drainage system or adjacent properties.

VI. REFERENCES

1. "Flood Insurance Rate Map, City and County of Honolulu, Hawaii, Community Panel Number 150003 C0239 G," Federal Emergency Management Agency, Federal Insurance Administration, January 19, 2011.

2. Rules Relating to Storm Drainage Standards", Department of Planning and Permitting, City and County of Honolulu, January 2000.

3. "Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii", United States Department of Agriculture Soil Conservation Service in cooperation with University of Hawaii Agricultural Experiment Station, August 1972.

APPENDIX

Table 1: Hydrologic Calculations - Existing Conditions

Subbasin	Area (acre)	C	Length (ft)	Height (ft)	Slope	Tc (min)	Corr. Fact.	$i_{10yr\text{-}1hr}$ (in.)	icorr (in.)	Q (cfs)
E1	3.69	0.71	765.05	12.82	0.017	9.90	2.25	2.4	5.40	14.12
E2	4.05	0.54	689.00	22.40	0.033	7.30	2.5	2.4	6.00	13.09
E3	0.07	0.60	158.59	6.58	0.041	8.50	2.4	2.4	5.76	0.23
Total	7.81									27.44

Table 1a: Weighted C Values - Existing Conditions

Subbasin	Total Area (sf)	C_{grass}	A_{grass} (sf)	$C_{hardscape}$	$A_{hardscape}$ (sf)	C_{gravel}	A_{gravel}	$C_{building}$	$A_{building}$(sf)	$C_{weighted}$
E1	160630.93	0.30	51119.18	0.90	60558.09	0.50	0.00	0.90	48953.66	0.71
E2	176605.53	0.30	66981.57	0.90	36523.28	0.50	59309.22	0.90	13791.46	0.54
E3	2915.64	0.30	1464.66	0.90	1450.98	0.50	0.00	0.90	0.00	0.60
Total	340152.10									

Table 2: Hydrologic Calculations - Proposed Conditions

Subbasin	Area (acre)	C	Length (ft)	Height (ft)	Slope	Tc (min)	Corr. Fact.	$i_{10yr\text{-}1hr}$ (in.)	icorr (in.)	Q (cfs)
P1	5.28	0.86	765.05	12.82	0.017	9.90	2.25	2.4	5.40	24.65
P2	2.53	0.81	689.00	22.40	0.033	7.30	2.5	2.4	6.00	12.27
Total	7.81									36.92

Table 2a: Weighted C Values - Proposed Conditions

Subbasin	Total Area (sf)	C_{grass}	A_{grass} (sf)	$C_{hardscape}$	$A_{hardscape}$ (sf)	$C_{building}$	$A_{building}$ (sf)	$C_{weighted}$
P1	229954.91	0.30	13556.00	0.90	124367.02	0.90	92031.89	0.86
P2	110197.29	0.30	16834.35	0.90	56473.46	0.90	36889.48	0.81
Total	340152.20							

Table 3 - Existing Conditon Runoff Volumes

Subbasin	(1) C	(2) I_{50} in/hr	Subbasin Area acres	(3) V_{50} cf
E1	0.71	3.3	3.69	31,321.49
E2	0.54	3.3	4.05	26,133.90
E3	0.60	3.3	0.07	479.95
		Total	**7.81**	**57,935.34**

Table 4 - Proposed Conditon Runoff Volumes

Subbasin	(1) C	(2) I_{50} in/hr	Subbasin Area acres	(3) V_{50} cf
P1	0.86	3.3	5.28	54,677.10
P2	0.81	3.3	2.53	24,496.16
		Total	**7.81**	**79,173.26**

Increase (cf) 21,237.92

(1) Weighted runoff coefficient (C) See Table 2a

(2) 1-hour rainfall value (I) from Plate 2 of Rules Relating to Storm Drainage Standards

(3) Runoff Volume (V) = C x I x A x 3630

APPENDIX D

Pre-Assessment Consultation Comment and Response Letters

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

September 3, 2014

Mr. Milton Arakawa, AICP
Project Manager/Senior Planner
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Arakawa:

Subject: Your Letter Dated August 4, 2014 on the Draft Environmental Assessment Pre-Consultation for the Manana Corporation Yard Improvements Tax Map Key: 9-7-024: 041

Thank you for your letter regarding the proposed Manana Corporation Yard Improvements.

The existing water system is adequate to accommodate the proposed improvements. However, please be advised that this information is based upon current data, and therefore, the Board of Water Supply (BWS) reserves the right to change any position or information stated herein up until the final approval of the building permit application. The final decision on the availability of water will be confirmed when the building permit application is submitted for approval.

When water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission and daily storage.

The proposed project is subject to BWS Cross-Connection Control and Backflow Prevention requirements prior to the issuance of the Building Permit Applications.

If you have any questions, please contact Robert Chun, Project Review Branch of our Water Resources Division at 748-5443.

Very truly yours,

ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

WILSON OKAMOTO CORPORATION

1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
Phone 808 946 2277
Fax 808 946 2253
www.wilsonokamoto.com

7995-01
May 1, 2015

Mr. Ernest Y.W. Lau, P.E.
Manager and Chief Engineer
Board of Water Supply
City and County of Honolulu
630 South Beretania Street
Honolulu, Hawai'i 96843

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for
Mānana Corporation Yard Improvements
Mānana, O'ahu, Hawai'i
TMK: 9-7-024:041

Dear Mr. Lau:

Thank you for your letter dated September 3, 2014 regarding the subject Draft EA pre-assessment consultation. We appreciate the information that the existing water system is adequate to accommodate the proposed improvements, but that the final decision on the availability of water will be confirmed when the building permit application is submitted for approval. The Department of Design and Construction intends to work with the Board of Water Supply regarding conformance with applicable requirements including Water System Facilities Charges for resource development, transmission and daily storage, cross-connection control and backflow prevention requirements, prior to issuance of building permit applications for each phase.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. John Condrey, Department of Design and Construction

MA

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8480 • Fax: (808) 768-4567
Web site www.honolulu.gov

KIRK CALDWELL
MAYOR

MARK YONAMINE, P.E.
ACTING DIRECTOR

GERALD HAMADA, P.E.
ACTING DEPUTY DIRECTOR

CDP 14-575705

August 19, 2014

RECEIVED
AUG 19 2014
WILSON OKAMOTO CORPORATION

Mr. Milton Arakawa, AICP
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Arakawa:

SUBJECT: Preassessment Consultation for Environmental Assessment
Manana Corporation Yard Improvements
Tax Map Key: 9-7-024: 41
Manana, Oahu, Hawaii

The Civil Division of the Department of Design and Construction does not have any comments to offer on the subject project:

Thank you for the opportunity to review and comment. Should there be any questions, please contact me at 768-8480.

Very truly yours,

Mark Yonamine, P.E.
Acting Director

GS:pto

WILSON OKAMOTO CORPORATION

1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
Phone: 808.946.2277
Fax: 808.946.2253
www.wilsonokamoto.com

7995-01
May 1, 2015

Mr. Robert J. Kroning, P.E.
Director
Department of Design and Construction
City and County of Honolulu
650 South King Street, 11th Floor
Honolulu, Hawai'i 96813

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for
Mānana Corporation Yard Improvements
Manana, O'ahu, Hawai'i
TMK: 9-7-024:041

Dear Mr. Kroning:

Thank you for your letter dated August 19, 2014 regarding the subject Draft EA pre-assessment consultation. We appreciate the information that the Department has no comments to offer on the environmental assessment pre-assessment consultation.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. John Condrey, Department of Design and Construction

DEPARTMENT OF FACILITY MAINTENANCE

CITY AND COUNTY OF HONOLULU

1000 Ulu'ohia Street, Suite 215, Kapolei, Hawaii 96707
Phone: (808) 768-3343 • Fax: (808) 768-3381
Website: www.honolulu.gov

KIRK CALDWELL
MAYOR

ROSS S. SASAMURA, P.E.
DIRECTOR AND CHIEF ENGINEER

EDUARDO P. MANGLALLAN
DEPUTY DIRECTOR

IN REPLY REFER TO:
DRM 14-787

September 5, 2014

Mr. Milton Arakawa, AICP
Project Manager/Senior Planner
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

RECEIVED
SEP 10 2014
WILSON OKAMOTO CORPORATION

Dear Mr. Arakawa:

SUBJECT: Manana Corporation Yard Improvements
Pre-Assessment Consultation
Manana, Oahu, Hawaii
TMK: 9-7-024:041

Thank you for the opportunity to review and comment on your letter dated August 4, 2014, regarding the above subject project.

Our only comment at this time is that all Asphaltic Concrete (AC) work shall be to the present City standards – minimum of 2" thick AC City Mix #4 compacted over a minimum of 3" thick Asphalt Treated Base compacted over 8" thick Aggregate Base Coarse compacted.

If you have any questions, please contact Mr. Kyle Oyasato of the Division of Road Maintenance at 768-3697.

Sincerely,

Ross S. Sasamura, P.E.
Director and Chief Engineer

WILSON OKAMOTO CORPORATION

1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
Phone 808 946 2277
Fax 808 946 2253
www.wilsonokamoto.com

7995-01
May 1, 2015

Mr. Ross S. Sasamura, P.E.
Director and Chief Engineer
Department of Facility Maintenance
City and County of Honolulu
1000 Uluohia Street, Suite 215
Kapolei, Hawai'i 96707

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for
Mānana Corporation Yard Improvements
Mānana, O'ahu, Hawai'i
TMK: 9-7-024:041

Dear Mr. Sasamura:

Thank you for your letter dated September 5, 2014 regarding the subject Draft EA pre-assessment consultation. We have the following response to your comment.

We acknowledge the fact that all Asphaltic Concrete (AC) work shall be to City standards which are a minimum of 2" thick AC City Mix #4 compacted over a minimum of 3" thick Asphalt Treated Base compacted over 8" thick Aggregate Base Course compacted.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. John Condrey, Department of Design and Construction

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 768-8000 • FAX: (808) 768-6041
DEPT. WEB SITE: www.honoluludpp.org • CITY WEB SITE: www.honolulu.gov

KIRK CALDWELL
MAYOR

GEORGE I. ATTA, FAICP
DIRECTOR

ARTHUR D. CHALLACOMBE
DEPUTY DIRECTOR

2014/ELOG-1421(hs)

September 15, 2014

Mr. Milton Arakawa, AICP
Project Manager/Senior Planner
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Arakawa:

In response to your letter dated August 4, 2014, requesting pre-consultation comments on the proposed Manana Corporation Yard Improvements, we have the following comments:

1. The Draft Environmental Assessment (DEA) should include a discussion of how the proposed project is consistent with the City and County of Honolulu's General Plan, the Primary Urban Center Development Plan, and the IMX-1 (Industrial-Commercial Mixed Use) zoning of the project site.

2. The proposed project will require a Primary Urban Center Public Infrastructure Map Revision to add a publicly funded Corporation Yard Modification symbol prior to appropriation for land acquisition and/or construction.

3. The DEA should discuss how the proposed project will comply with the conditions in the Unilateral Agreement and Declaration for Conditional Zoning passed as Ordinance 02-13. (See attachment). Special emphasis should be placed on discussing the project's compliance with landscape buffers, yards and height setbacks, and landscape maintenance plans required for the project.

4. As the corporation yard is in close proximity to the Pearl Highlands rail station, the DEA should discuss how the project will take advantage of this proximity. For example, the proposed design should anticipate that some employees will arrive using rail transit. Entrances to the site should be provided in locations convenient to pedestrians, including those arriving from the rail station. Perimeter sidewalk and internal walkways should be provided to maximize pedestrian safety. Bicycle storage should be provided in convenient and safe locations.

   To support the TOD Plan's objective of creating a pedestrian friendly environment around the rail station, visible edges of the site should be designed to be engaging to pedestrians (windows and views of active spaces rather than blank walls and dead space).

   In the interest of maximizing rail ridership, more intense and vertical development of the site is preferred over a low-density arrangement of uses.

5. The DEA should also include a complete listing of required permits and approvals.

Thank you for the opportunity to offer pre-assessment consultation comments on your proposed DEA. Should you have any questions, please contact Hal Senter of our staff at 768-8055.

Very truly yours,

George I. Atta, FAICP
Director

GIA:kh

1175288

Attachment

UNILATERAL AGREEMENT AND DECLARATION FOR CONDITIONAL ZONING

THIS INDENTURE (hereinafter referred to as this "Unilateral Agreement" or this "Declaration"), is made this 10th day of September, 2001, by the CITY AND COUNTY OF HONOLULU, a municipal corporation of the State of Hawaii, whose principal business office is located at Honolulu Hale, 530 South King Street, Honolulu, Hawaii, 96813 (hereinafter referred to as the "Declarant"), the owner of those certain parcels of land situate at Manana, Oahu, State of Hawaii,

WITNESSETH:

WHEREAS, the Declarant is the owner in fee simple of certain parcels of land situated in Pearl City, City and County of Honolulu, State of Hawaii, consisting of approximately 112 acres, as described as Tax Map Key Numbers 9-7-24: 4, 26, 41, 47, 48, and 49, and more particularly described in Exhibit A attached hereto and made apart hereof (the "Land"), and desires to make the Land subject to this Unilateral Agreement; and

WHEREAS, the City Council (the "Council") of the City, pursuant to the provisions of the Land Use Ordinance ("LUO"), Revised Ordinances of Honolulu, 1990 (ROH") Section 21-2.80, as amended, relating to conditional zoning, is considering a change in zoning under the LUO of the land from F-1 Military and Federal Preservation District and R-5 Residential District to IMX-1 Industrial-Commercial Mixed Use District with a 60-foot height limit and P-2 General Preservation District with a 25-foot height limit; and

WHEREAS, a public hearing regarding the change in zoning, Bill 84 (2000), was held February 21, 2001; and

WHEREAS, the Council recommended by its Zoning Committee Report No. 388 that the said change in zoning be approved, subject to the following conditions contained in this Declaration to be made pursuant to the provisions of ROH Section 21-2.80, as amended, relating to conditional zoning, to become effective on the effective date of the zoning ordinance approving the change of zoning (the "Rezoning Ordinance");

NOW THEREFORE, the Declarant hereby covenants and declares as follows:

1. When deemed warranted by the City Department of Transportation Services (DTS), the Declarant shall implement the improvements identified in the "Traffic Impact Assessment Report for the Manana Spine Road," December 28,1998, prepared by Pacific Planning and Engineering Inc., for Engineering Concepts, Inc. under the Environmental Assessment for the Manana Development Spine Road, February, 1999, except as may be modified, deleted, or otherwise revised by the DTS following subsequent traffic evaluations by the DTS. The

DTS shall establish base line data in the year 2001, and shall review conditions every three years thereafter until Year 2010, or until one year after the certificate of occupancy or similar event has occurred on the last vacant lot, whichever comes first.

2. a. Landscape Buffer.

There shall be a 20-foot wide landscaping buffer between existing apartment or residential uses and the IMX-1 zoning district. Other than unobtrusive fencing such as, but not limited to chainlink, at the property line, no structures, other improvements, or parking or delivery shall be allowed in the landscaping area. To minimize the visibility of a fence, a continuous hedge, of at least 42 inches in height, should be established adjacent to the fencing. In cases where an adjacent residence or apartment is at a lower grade, and is within approximately 10 feet of the common property line, the hedge may be omitted.

In the event the finished grade of the residential or apartment district is higher than that of the IMX-1-zoned property, the landscaping shall include large, close canopy-form trees; otherwise the landscaping shall include vertical-form trees. To the extent practicable, existing trees shall remain and additional trees planted to result in a continuous screen.

b. Yards and Height Setbacks.

1) Where a zoning lot in the Industrial-Commercial Mixed Use District adjoins a residential or apartment district, no portion of a structure shall exceed 15 feet in height along the buildable area boundary line on the adjoining side of the IMX-1 zoning lot, provided that additional height may be permitted if the additional height is set back one foot from the buildable area boundary line for each 2 feet in height or fraction thereof. This setback shall be a continuous plane from the top of the structure to the beginning of the additional height;

2) Frontage along Acacia Road should have a minimum 10-foot front yard, landscaped as a signature entry function, as well as a height setback with a slope not exceeding two feet of vertical rise for every foot of horizontal distance, beginning at a height of 15 feet at the buildable area boundary;

3) Lots fronting the Diamond Head/Makai side of Kuala Road, also identified as the "Spine Road" should have a minimum 20-foot front yard, while lots fronting the Ewa/Mauka side of Kuala Road should have a minimum 10-foot front yard. In both cases, no portion of a structure shall exceed 15 feet in height along the buildable area boundary line, provided that additional height may be permitted if the additional height is set back one foot from the buildable area boundary line for each 2 feet in height or fraction thereof. This setback should be a continuous plane from the top of the structure to the beginning of the additional height;

4) Lots adjacent to the area known as the "Old Cane Haul Road" should have a minimum front or side yard along the Cane Haul Road frontage of 15 feet, with no transitional height setbacks required; and

5) Lots fronting Waimano Home Road should have a minimum 10-foot front yard, with no transitional height setbacks required.

c. Landscape and Landscape Maintenance Plan.
Prior to the application for any further subdivision, or a building permit after September 1, 2001, the Declarant shall submit a landscape and landscape maintenance plan to the Department of Planning and Permitting, for review and approval. Such landscape plan should include the preceding elements. The Declarant shall comply with the approved plan.

3. Approval of this zone change does not constitute compliance with other LUO or other governmental requirements. They are subject to separate review and approval. The City shall be responsible for ensuring that the final plans for any future development or construction on the Land comply with all applicable LUO and other governmental provisions and requirements.

4. On an annual basis, the Declarant shall submit a written status report to the Department of Planning and Permitting documenting its satisfaction of and/or describing its progress toward complying with each condition of approval for this zone change. The status report shall be submitted to the Department of Planning and Permitting by December 31 of each year until such time as the Department of Planning and Permitting has determined that all conditions of approval have been satisfied.

5. In the event of noncompliance with any conditions set forth herein, the Director of Planning and Permitting shall inform the Council and may initiate action to rezone the Land, seek civil enforcement, or take appropriate action to terminate or stop any future development or construction on the land until applicable conditions are met.

6. Failure to fulfill any conditions to the zone change may be grounds for revocation of the permits issued under this zoning and grounds for the enactment of ordinances making further zone changes, including revocation of the underlying zoning, upon initiation by the proper parties in accordance with the Revised City Charter.

NOW, THEREFORE, the City hereby makes the following additional Declarations:

That the conditions imposed herein are reasonably conceived to fulfill public service demands created by the requested change in zoning and are rationally related to the objective of preserving the public health, safety and general welfare and the further implementation of the General Plan of the City and County of Honolulu.

02 - 13

02 - 13

That the development of the Land shall conform to the aforesaid conditions with the understanding that, at the request of the Declarant and upon the satisfaction of the conditions set forth in this Unilateral Agreement, the Department of Planning and Permitting may fully or partially release, as applicable, any of the foregoing conditions that have been fulfilled.

That if there are any conflicts between this Unilateral Agreement and any previous unilateral agreement(s) applicable to the Land, the terms and conditions of this Unilateral Agreement shall apply.

AND IT IS EXPRESSLY UNDERSTOOD AND AGREED that the conditions imposed in this Declaration shall run with the Land and shall bind and constitute notice to all parties hereto and subsequent lessees, grantees, assignees, mortgagees, lienors, successors, and any other persons who have or claim to have an interest in the Land, and the City and County of Honolulu shall have the right to enforce this Declaration by rezoning, appropriate action at law or suit in equity against all such persons, provided that the Declarant or its successors and assigns may file a petition with the Department of Planning and Permitting for amendment or removal of any conditions or termination of this Declaration, such petition to be processed in the same manner as petitions for zone changes.

IN WITNESS WHEREOF, this Unilateral Agreement and Declaration for Conditional Zoning has been executed on the day and year first above written.

CITY AND COUNTY OF HONOLULU,
a municipal corporation of the State of Hawaii

By: _____
Its Mayor

APPROVED AS TO FORM AND LEGALITY:

By: _____
DEPUTY CORPORATION COUNSEL

02 - 13

WILSON OKAMOTO CORPORATION

1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
Phone: 808 946 2277
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www.wilsonokamoto.com

7995-01
May 1, 2015

Mr. George I. Atta, FAICP
Director
Department of Planning and Permitting
City and County of Honolulu
650 South King Street, 7th Floor
Honolulu, Hawai'i 96813

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for
Mānana Corporation Yard Improvements
Mānana, O'ahu, Hawai'i
TMK: 9-7-024:041

Dear Mr. Atta:

Thank you for your letter dated September 15, 2014 regarding the subject pre-assessment consultation for the proposed Mānana Corporation Yard Improvements. We have the following responses to your comments.

The Draft Environmental Assessment will include a discussion of how the proposed project is consistent with the City and County of Honolulu General Plan, the Primary Urban Center Development Plan, and the IMX-1 (Industrial-Commercial Mixed Use) zoning of the project site.

Regarding the issue of a possible Infrastructure Map Revision, it is noted that the project site is a portion of a U.S. Navy spare parts distribution center and other supply depot warehouses built during World War II. The City and County of Honolulu purchased the 109 acre Mānana Storage area and the nearby 14 acre Pearl City Junction property from the U.S. Navy in 1993. The subject project site has been utilized continuously by the City and County of Honolulu as a corporation yard since the mid-1990's. The subject project involves demolition of old and temporary structures and construction of a new facility with the same function and use. Since the proposed action involves no land acquisition and involves rebuilding an existing facility which predates the City and County of Honolulu Development Plan, we do not believe that an Infrastructure Map Revision would be warranted.

The Draft EA will be discussing compliance with the existing unilateral agreement and declaration for conditional zoning. We acknowledge landscape buffer, yards and height setbacks, and landscape and landscape maintenance plan requirements noted in the unilateral agreement. Proposed warehouse structures which abut residentially zoned areas will respect the 20-foot landscaping setback provision in the unilateral agreement.

WILSON OKAMOTO CORPORATION

No portion of a warehouse structure abutting residentially zoned areas will exceed 15 feet in height along the buildable area boundary line. Moreover, the warehouse roof will be sloped away from the boundary so that it complies with the additional height setback of one foot from the buildable area boundary line for each 2 feet in height or fraction thereof. We appreciate your bringing this to our attention.

There are sidewalks on both sides of Kuala and Makolu Street leading up to the project site. Bike lanes are available on portions of Kuala Street. Within the project site, pedestrians and bicycles can utilize the shoulders of the existing on-site roadways and driveways since traffic generation within the site is quite low. Bicycle parking can be accommodated within existing employee parking areas. Racks can be provided on an as-needed basis.

In reference to the TOD Plan, it is noted that the subject project has provided more densely developed new warehouses with increased use of mezzanines and tandem parking. It has also provided a landscaped perimeter along required yards in order to provide a more visually appealing frontage.

The Draft Environmental Assessment will include a complete listing of required permits and approvals.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. John Condrey, Department of Design and Construction

DEPARTMENT OF PARKS AND RECREATION

CITY AND COUNTY OF HONOLULU

1000 Uluohia Street, Suite 309, Kapolei, Hawaii 96707
Phone: (808) 768-3003 • FAX: (808) 768-3053
Website: www.honolulu.gov

KIRK CALDWELL
MAYOR

MICHELE K. NEKOTA
DIRECTOR

JEANNE C. ISHIKAWA
DEPUTY DIRECTOR

August 22, 2014

RECEIVED
SEP 08 2014
WILSON OKAMOTO CORPORATION

Mr. Milton Arakawa, AICP
Project Manager/Senior Planner
Wilson Okamoto Corporation
1907 South Beretania Street
Honolulu, Hawaii 96826

Dear Mr. Arakawa:

Thank you for the opportunity to comment on the proposed Manana Corporation Yard Improvements.

The Maintenance Support Services (MSS) would like to reiterate the importance of having a wash down area for washing equipment to prolong the life expectancy of each equipment. MSS does not have any further comments at this time.

Should you have any questions, please call Jerome Fukuda, Manager, Maintenance Support Services at 768-5334.

Sincerely,

Michele K. Nekota
Director

MKN:dy
(574608)

cc: Department of Design and Construction

WILSON OKAMOTO CORPORATION

1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
Phone 808.946.2277
Fax 808.946.2253
www.wilsonokamoto.com

7995-01
May 1, 2015

Ms. Michele K. Nekota
Director
Department of Parks and Recreation
City and County of Honolulu
1000 Uluohia Street, Suite 309
Kapolei, Hawai'i 96707

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for
Mānana Corporation Yard Improvements
Mānana, O'ahu, Hawai'i
TMK: 9-7-024:041

Dear Ms. Nekota:

Thank you for your letter dated August 22, 2014 regarding the subject Draft EA pre-assessment consultation. We have the following response to your comment.

Due to the fact that nearby wash down areas for equipment are available for use by the Department of Parks and Recreation as well as the Department of Facilities Management at the Pearl City and Hālawa Corporation Yards, an on-site wash down area is not being provided. This helps to optimize use of City funds as well as enable more dense development in a finite area. It should be noted that covered equipment parking is being provided in order to provide shelter and prolong life expectancy of equipment.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. John Condrey, Department of Design and Construction

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 3RD FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8305 • Fax: (808) 768-4730 • Internet: www.honolulu.gov

KIRK CALDWELL
MAYOR

MICHAEL D. FORMBY
DIRECTOR

MARK N. GARRITY, AICP
DEPUTY DIRECTOR

TP8/14-575052R

September 2, 2014

Mr. Milton Arakawa, AICP
Project Manager/Senior Planner
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

RECEIVED
SEP 03 2014
WILSON OKAMOTO CORPORATION

Dear Mr. Arakawa:

SUBJECT: Pre-Assessment Consultation for Environmental Assessment (EA)
Manana Corporation Yard Improvements; Manana, Oahu, Hawaii

In response to your letter dated August 4, 2014, we have the following comments:

1. The Draft EA should discuss any traffic impacts the project may have on any surrounding City roadways, including short-term impacts during construction, and measures to mitigate these impacts.

2. The area Neighborhood Board, as well as the area residents, businesses, emergency personnel, Oahu Transit Services, Inc. (TheBus), etc., should be kept apprised of the details of the proposed project and the impacts, particularly during construction, the project may have on the adjoining local street area network.

3. Any construction materials and equipment should be transferred to and from the project site during off-peak traffic hours (8:30 a.m. to 3:30 p.m.) to minimize any possible disruption to traffic on the local streets.

4. A street usage permit will be required from our department for any temporary lane closure on a City street. A traffic plan should be submitted to our Street Usage Section for approval.

Thank you for the opportunity to review this matter. Should you have any questions, please contact Renee Yamasaki of my staff at 768-8383.

Very truly yours,

Michael D. Formby
Director

WILSON OKAMOTO CORPORATION

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Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
Phone 808 946 2277
Fax 808 946 2253
www.wilsonokamoto.com

7995-01
May 1, 2015

Mr. Michael D. Formby
Director
Department of Transportation Services
City and County of Honolulu
650 South King Street, 3rd Floor
Honolulu, Hawai'i 96813

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for
Mānana Corporation Yard Improvements
Mānana, O'ahu, Hawai'i
TMK: 9-7-024:041

Dear Mr. Formby:

Thank you for your letter dated May 9, 2014 regarding the subject Draft EA pre-assessment consultation. We have the following responses to your comments.

The Draft EA will discuss traffic impacts on surrounding City roadways which may result from project implementation, including short term impacts during construction, and measures to mitigate impacts.

The suggestion to keep the Neighborhood Board, as well as area residents, businesses, emergency personnel, O'ahu Transit Services, etc. apprised of the proposed project and the impacts, particularly during construction, will be taken into consideration.

We acknowledge that construction materials and equipment should be transferred to and from the project site during off-peak traffic hours (8:30 am to 3:30 pm) to minimize any possible disruption to traffic on the local streets. The selected contractor will be responsible for compliance.

Should temporary lane closure of a City street be necessary, a street usage permit will be submitted for approval.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. John Condrey, Department of Design and Construction

DEPARTMENT OF ENVIRONMENTAL SERVICES
CITY AND COUNTY OF HONOLULU
1000 ULUOHIA STREET, SUITE 308, KAPOLEI, HAWAII 96707
TELEPHONE: (808) 768-3486 ● FAX: (808) 768-3487 ● WEBSITE: http://envhonolulu.org

KIRK CALDWELL
MAYOR

LORI M.K. KAHIKINA, P.E.
DIRECTOR

TIMOTHY A. HOUGHTON
DEPUTY DIRECTOR

ROSS S. TANIMOTO, P.E.
DEPUTY DIRECTOR

IN REPLY REFER TO
PRO 14-145

October 10, 2014

RECEIVED
OCT 22 2014
WILSON OKAMOTO CORPORATION

Mr. Milton Arakawa, AICP
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Arakawa:

SUBJECT: Manana Corporation Yard Improvements, Pre-Assessment Consultation, Manana, Oahu, Hawaii, (TMK: 9-7-024:041)

We have reviewed the subject document as transmitted to us by your letter dated August 4, 2014. We have the following comments:

1. The Refuse Divisions cautions that City provided Front-End Loader (FEL) refuse collection service may not be available to this proposed City Corporation Yard as FEL service may be discontinued by the City. Hence, the project should be cognizant of this issue and plan accordingly for refuse collection service.

2. Please consult with the Environmental Quality Division, Storm Water Quality Branch regarding the proposed storm drainage improvements on site as detailed design is developed.

Should you have any questions, please call Lisa Kimura, Civil Engineer, at 768-3455.

Sincerely,

Ross S. Tanimoto

Lori M.K. Kahikina, P.E.
Director

cc: Department of Environmental Services, Refuse Division
Department of Environmental Services, EQ Division, SWQB

WILSON OKAMOTO CORPORATION

1907 South Beretania Street
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7995-01
May 1, 2015

Ms. Lori M. K. Kahikina, P.E.
Director
Department of Environmental Services
City and County of Honolulu
1000 Uluohia Street, Suite 308
Kapolei, Hawai'i 96707

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for
Mānana Corporation Yard Improvements
Mānana, O'ahu, Hawai'i
TMK: 9-7-024:041

Dear Ms. Kahikina:

Thank you for your letter dated October 10, 2014 regarding the subject Draft EA pre-assessment consultation. We have the following response to your comments.

We appreciate the information that Front-End Loader refuse collection service may be discontinued. Please keep us apprised of the timing of possible implementation so that we may be able to plan accordingly.

We will consult with the Environmental Quality Division, Storm Water Quality Branch regarding proposed storm drainage improvements on site as the detailed design is developed.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. John Condrey, Department of Design and Construction

HONOLULU FIRE DEPARTMENT

CITY AND COUNTY OF HONOLULU

636 South Street
Honolulu, Hawaii 96813-5007
Phone: 808-723-7139 Fax: 808-723-7111 Internet: www.honolulu.gov/hfd

KIRK CALDWELL
MAYOR

MANUEL P. NEVES
FIRE CHIEF

LIONEL CAMARA JR.
DEPUTY FIRE CHIEF

August 21, 2014

Mr. Milton Arakawa, AICP
Project Manager/Senior Planner
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Arakawa:

Subject: Preassessment Consultation
Manana Corporation Yard Improvements
Tax Map Key: 9-7-024: 041

In response to your letter of August 4, 2014, regarding the above-mentioned subject, the Honolulu Fire Department (HFD) requires that the following be complied with:

1. Fire department access roads shall be provided such that any portion of the facility or any portion of an exterior wall of the first story of the building is located not more than 150 feet from fire department access roads as measured by an approved route around the exterior of the building or facility. (National Fire Protection Association [NFPA] 1, Uniform Fire Code [UFC]™, 2006 Edition, Section 18.2.3.2.2.)

   A fire department access road shall extend to within 50 ft of at least one exterior door that can be opened from the outside and that provides access to the interior of the building. (NFPA 1, UFC™, 2006 Edition, Section 18.2.3.2.1.)

2. A water supply approved by the county, capable of supplying the required fire flow for fire protection, shall be provided to all premises upon which facilities or buildings, or portions thereof, are hereafter constructed, or moved into or within the county. When any portion of the facility or building is in excess of 150 feet from a water supply on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains capable of supplying the required fire flow shall be provided when required by the AHJ [Authority Having Jurisdiction]. (NFPA 1, UFC™, 2006 Edition, Section 18.3.1, as amended.)

3. The unobstructed width and unobstructed vertical clearance of a fire apparatus access road shall meet county requirements. (NFPA 1, UFC™, 2006 Edition, Section 18.2.3.4.1.1, as amended.)

4. Submit civil drawings to the HFD for review and approval.

Should you have questions, please contact Battalion Chief Terry Seelig of our Fire Prevention Bureau at 723-7151 or tseelig@honolulu.gov.

Sincerely,

Socrates D. Bratakos

SOCRATES D. BRATAKOS
Assistant Chief

SDB/SY:bh

WILSON OKAMOTO CORPORATION

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7995-01
May 1, 2015

Mr. Socrates D. Bratakos
Assistant Chief
Honolulu Fire Department
City and County of Honolulu
636 South Street
Honolulu, Hawai'i 96813-5007

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for
Mānana Corporation Yard Improvements
Mānana, O'ahu, Hawai'i
TMK: 9-7-024:041

Dear Mr. Bratakos:

Thank you for your letter dated August 21, 2014 regarding the subject Draft EA pre-assessment consultation. We offer the following responses to your comments.

Because of limited access to the planned rear of the warehouses for fire department access, the intent is to fully sprinkle the warehouse structures. Plans shall be submitted prior to each phase relating to the provision of water supply capable of meeting required fire flow as well as required distances from fire apparatus roads, on-site hydrants and mains. Applicable civil drawings will be submitted to the Fire Department prior to each phase.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. John Condrey, Department of Design and Construction

POLICE DEPARTMENT
CITY AND COUNTY OF HONOLULU
801 SOUTH BERETANIA STREET · HONOLULU, HAWAII 96813
TELEPHONE: (808) 529-3111 · INTERNET: www.honolulupd.org

PETER B. CARLISLE
MAYOR

LOUIS M. KEALOHA
CHIEF

DAVE M. KAJIHIRO
MARIE A. McCAULEY
DEPUTY CHIEFS

OUR REFERENCE EO-WS

August 25, 2014

Mr. Milton Arakawa, AICP
Project Manager/Senior Planner
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

RECEIVED
AUG 27 2014
WILSON OKAMOTO CORPORATION

Dear Mr. Arakawa:

This is in response to your letter dated August 4, 2014, requesting comments on the Pre-Assessment Consultation, Draft Environmental Assessment, for the proposed Manana Corporation Yard Improvements project.

This project should have no significant impact on the services or operations of the Honolulu Police Department.

If there are any questions, please contact Major Clayton Saito of District 3 (Pearl City) at 723-8803 or via e-mail at csaito1@honolulu.gov.

Sincerely,

LOUIS M. KEALOHA
Chief of Police

By Randal K. Macadangdang
RANDAL K. MACADANGDANG
Assistant Chief
Support Services Bureau

Serving and Protecting With Aloha

WILSON OKAMOTO CORPORATION

1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
Phone: 808.946.2277
Fax: 808.946.2253
www.wilsonokamoto.com

7995-01
May 1, 2015

Mr. Randal K. Macadangdang
Assistant Chief
Support Services Bureau
Police Department
City and County of Honolulu
801 South Beretania Street
Honolulu, Hawai'i 96813

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for
Mānana Corporation Yard Improvements
Mānana, O'ahu, Hawai'i
TMK: 9-7-024:041

Dear Mr. Macadangdang:

Thank you for your letter dated August 25, 2014 regarding the subject Draft EA pre-assessment consultation. We appreciate the information that the project should have no significant impact on the services or operations of the Police Department.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. John Condrey, Department of Design and Construction

PHONE (808) 594-1888 FAX (808) 594-1865

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
560 N. NIMITZ HWY., SUITE 200
HONOLULU, HAWAI'I 96817

HRD14/7237

September 4, 2014

Mr. Milton Arakawa, ACIP
Project Manager
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawai'i 96826

Re: Comments on Mānana Corporation Yard Improvements, Pre-Assessment Consultation
Mānana, O'ahu, Hawai'i
TMK: (1) 9-7-024:041

Aloha Mr. Arakawa:

The Office of Hawaiian Affairs (OHA) is in receipt of your August 4, 2014 letter requesting comments to assist the preparation of a draft environmental assessment (DEA) for proposed improvements to the Mānana Corporation Yard. Given the use of City and County of Honolulu land and funds, a DEA is being proposed to comply with the State environmental requirements.

The improvements to the existing 7.8 acre baseyard site are to provide additional and more efficient baseyard space for city agencies—the Department of Facilities Management, Department of Parks and Recreation, and Department of Transportation Services. Improvements include a one-story administrative building, a new warehouse structure, and a two-level parking structure providing 139 parking slots.

OHA has no specific comments at this time. We note that the property has been used by the City and County of Honolulu for general warehouse and maintenance operations since the mid-1990s. Given the parcel's past use as a city baseyard and a part of the Mānana Naval Distribution Center, we have not identified any other issues to focus on in the preparation of the DEA. We look forward to the opportunity to review the DEA and provide additional comments at that time.

Mahalo for the opportunity to comment. Should you have any questions, please contact Jerry B. Norris at 594-0227 or by email at jerryn@oha.org.

'O wau iho nō me ka 'oia 'i'o,

Kamana'opono M. Crabbe, Ph.D.
Ka Pouhana, Chief Executive Officer

KC:jbn

WILSON OKAMOTO CORPORATION
1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
Phone 808 946 2277
Fax 808 946 2253
www.wilsonokamoto.com

7995-01
May 1, 2015

Dr. Kamana'opono M. Crabbe
Ka Pouhana, Chief Executive Officer
Office of Hawaiian Affairs
560 North Nimitz Highway, Suite 200
Honolulu, Hawai'i 96817

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for
Mānana Corporation Yard Improvements
Mānana, O'ahu, Hawai'i
TMK: 9-7-024:041

Dear Dr. Crabbe:

Thank you for your letter dated September 4, 2014 regarding the subject Draft EA pre-assessment consultation. We appreciate your review and note that there are no specific comments at this time.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. John Condrey, Department of Design and Construction

NEIL ABERCROMBIE
GOVERNOR

Dean H. Seki
Comptroller

Maria E. Zielinski
Deputy Comptroller

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

AUG 11 2014

(P)1260.4

Mr. Milton Arakawa, AICP
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

RECEIVED
AUG 12 2014
WILSON OKAMOTO CORPORATION

Dear Mr. Arakawa:

Subject: Manana Corporation Yard Improvements
Pre-Assessment Consultation
Manana, Oahu, Hawaii
TMK: 9-7-024:041

Thank you for the opportunity to provide comments for the subject project. This project does not impact any of the Department of Accounting and General Services' projects or existing facilities in this area and we have no comments to offer at this time.

If you have any questions, your staff may call Mr. Alva Nakamura of the Public Works Division at 586-0488.

Sincerely,

DEAN H. SEKI
Comptroller

c: Mr. John Condrey, City & County of Honolulu, Dept. of Design and Construction

WILSON OKAMOTO CORPORATION
1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
Phone: 808 946 2277
Fax: 808 946.2253
www.wilsonokamoto.com

7995-01
May 1, 2015

Mr. Douglas Murdock, Comptroller
Department of Accounting and General Services
P.O. Box 119
Honolulu, Hawai'i 96810-0119

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for
Mānana Corporation Yard Improvements
Mānana, O'ahu, Hawai'i
TMK: 9-7-024:041

Dear Mr. Murdock:

Thank you for your letter dated August 11, 2014 regarding the subject Draft EA pre-assessment consultation. We appreciate the information that the proposed project does not impact any of the Department's projects or existing facilities.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. John Condrey, Department of Design and Construction

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

September 3, 2014

Wilson Okamoto Corporation
Attention: Mr. Milton Arakawa, Project Manager
1907 South Beretania Street, Suite 400 via email: marakawa@wilsonokamoto.com
Honolulu, Hawai`i 96826

Dear Mr. Arakawa,

SUBJECT: Manana Corporation Yard Improvements, Pre-Assessment Consultation

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comments.

At this time, enclosed are comments from (1) Land Division – Oahu District; (2) Engineering Division; and (3) Commission on Water Resource Management. No other comments were received as of our suspense date. Should you have any questions, please feel free to call Supervising Land Agent Steve Molmen at 587-0439. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosure(s)

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

August 6, 2014

MEMORANDUM

TO: **DLNR Agencies:**
__Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
X Engineering Division
__Div. of Forestry & Wildlife
__Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Oahu District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Manana Corporation Yard Improvements, Pre-Assessment Consultation
LOCATION: Manana, Oahu, Hawaii, TMK: 9-7-024:041
APPLICANT: City and County of Honolulu Department of Design and Construction, by its consultant Wilson Okamoto Corporation

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document.

Please submit any comments by September 2, 2014. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

( ) We have no objections.
(✓) We have no comments.
( ) Comments are attached.

Signed: _____
Print Name: Tony Chee
Date: 8/7/14
BC

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

August 6, 2014

MEMORANDUM

TO: FR:

DLNR Agencies:
__Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
X Engineering Division
__Div. of Forestry & Wildlife
__Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Oahu District
X Historic Preservation

TO:

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Manana Corporation Yard Improvements, Pre-Assessment Consultation
LOCATION: Manana, Oahu, Hawaii, TMK: 9-7-024:041
APPLICANT: City and County of Honolulu Department of Design and Construction, by its consultant Wilson Okamoto Corporation

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document.

Please submit any comments by September 2, 2014. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

( ) We have no objections.
( ) We have no comments.
(✓) Comments are attached.

Signed:
Print Name: Carty S. Chang, Chief Engineer
Date: 8/27/14

RECEIVED
LAND DIVISION '14 AUG 06 P02:50 ENGINEERING

2014 AUG 28 PM 12:16
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/ Russell Y. Tsuji
REF: Pre-assessment Consultation for EA for Proposed Manana Corporation Yard Improvements Oahu.045

COMMENTS

( ) We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone ___.

(X) Please take note that the project site according to the Flood Insurance Rate Map (FIRM), is located in Zones X and D. The National Flood Insurance Program (NFIP) does not regulate developments within Zones X and D.

( ) Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is ___.

( ) Please note that the project must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.

Please be advised that 44CFR indicates the minimum standards set forth by the NFIP. Your Community's local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:

( ) Mr. Mario Siu Li at (808) 768-8098 of the City and County of Honolulu, Department of Planning and Permitting.
( ) Mr. Frank DeMarco at (808) 961-8042 of the County of Hawaii, Department of Public Works.
( ) Mr. Carolyn Cortez at (808) 270-7253 of the County of Maui, Department of Planning.
( ) Mr. Stanford Iwamoto at (808) 241-4896 of the County of Kauai, Department of Public Works.

( ) The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.

( ) The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.

( ) Additional Comments: _____

( ) Other: _____

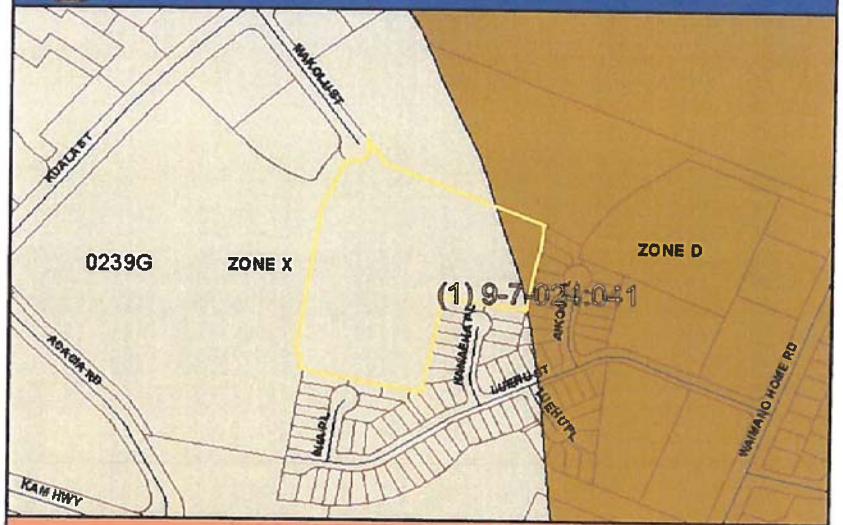
Should you have any questions, please call Mr. Dennis Imada of the Planning Branch at 587-0257.

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER

Date: 8/27/14

State of Hawaii

FLOOD HAZARD ASSESSMENT REPORT



NATIONAL FLOOD INSURANCE PROGRAM

FLOOD ZONE DEFINITIONS

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD – The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zone A, AE, AH, AO, V, and VE. The Base Flood Elevation (BFE) is the water-surface elevation of the 1% annual chance flood. Mandatory flood insurance purchase applies in these zones:

- **Zone A:** No BFE determined.
- **Zone AE:** BFE determined.
- **Zone AH:** Flood depths of 1 to 3 feet (usually areas of ponding); BFE determined.
- **Zone AO:** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined.
- **Zone V:** Coastal flood zone with velocity hazard (wave action); no BFE determined.
- **Zone VE:** Coastal flood zone with velocity hazard (wave action); BFE determined.
- **Zone AEF:** Floodway areas in Zone AE. The floodway is the channel of stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without increasing the BFE.

NON-SPECIAL FLOOD HAZARD AREA – An area in a low-to-moderate risk flood zone. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

- **Zone XS (X shaded):** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
- **Zone X:** Areas determined to be outside the 0.2% annual chance floodplain.

OTHER FLOOD AREAS

- **Zone D:** Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

PROPERTY INFORMATION

COUNTY:	HONOLULU
TMK NO:	(1) 9-7-024-041
PARCEL ADDRESS:	1003 MAKOLU STREET PEARL CITY, HI 96782
FIRM INDEX DATE:	JANUARY 19, 2011
LETTER OF MAP CHANGE(S):	NONE
FEMA FIRM PANEL(S):	15003C0239G
PANEL EFFECTIVE DATE:	JANUARY 19, 2011

PARCEL DATA FROM:	APRIL 2014
IMAGERY DATA FROM:	MAY 2006

IMPORTANT PHONE NUMBERS

County NFIP Coordinator	
City and County of Honolulu	
Mario Siu-Li, CFM	(808) 768-8098
State NFIP Coordinator	
Carol Tyau-Beam, P.E., CFM	(808) 587-0267

Disclaimer: The Department of Land and Natural Resources (DLNR) assumes no responsibility arising from the use of the information contained in this report. Viewers/Users are responsible for verifying the accuracy of the information and agree to indemnify the DLNR from any liability, which may arise from its use.

If this map has been identified as 'PRELIMINARY' or 'UNOFFICIAL', please note that it is being provided for informational purposes and is not to be used for official/legal decisions, regulatory compliance, or flood insurance rating. Contact your county NFIP coordinator for flood zone determinations to be used for compliance with local floodplain management regulations.

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

RECEIVED
LAND DIVISION
2014 AUG 29 AM 9:35
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

2014 AUG -7 AM 8:39

August 6, 2014

MEMORANDUM

TO: **DLNR Agencies:**
__Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
X Engineering Division
__Div. of Forestry & Wildlife
__Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Oahu District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Manana Corporation Yard Improvements, Pre-Assessment Consultation
LOCATION: Manana, Oahu, Hawaii, TMK: 9-7-024:041
APPLICANT: City and County of Honolulu Department of Design and Construction, by its consultant Wilson Okamoto Corporation

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document.

Please submit any comments by September 2, 2014. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

( ) We have no objections.
( ) We have no comments.
(√) Comments are attached.

Signed: Lenore N. Ohye
Print Name: Lenore N. Ohye, Acting Deputy Director
Date: August 28, 2014

FILE ID: RFD 4027 3
LOC ID: 11729

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR
CHAIRPERSON

KAMANA BEAMER
MICHAEL G. BUCK
MILTON D. PAVAO
LINDA ROSEN, M.D., M.P.H.
JONATHAN STARR

WILLIAM M. TAM
DEPUTY DIRECTOR

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

August 28, 2014

REF: RFD.4027.3

TO: Russell Tsuji, Administrator
Land Division

FROM: William M. Tam, Deputy Director Lenore H. Ohye for
Commission on Water Resource Management

SUBJECT: Manana Corporation Yard Improvements, Pre-Assessment Consultation

FILE NO.:
TMK NO.: 9-7-024:041

Thank you for the opportunity to review the subject document. The Commission on Water Resource Management (CWRM) is the agency responsible for administering the State Water Code (Code). Under the Code, all waters of the State are held in trust for the benefit of the citizens of the State, therefore, all water use is subject to legally protected water rights. CWRM strongly promotes the efficient use of Hawaii's water resources through conservation measures and appropriate resource management. For more information, please refer to the State Water Code, Chapter 174C, Hawaii Revised Statutes, and Hawaii Administrative Rules, Chapters 13-167 to 13-171. These documents are available via the Internet at http://www.hawaii.gov/dlnr/cwrm.

Our comments related to water resources are checked off below.

☐ 1. We recommend coordination with the county to incorporate this project into the county's Water Use and Development Plan. Please contact the respective Planning Department and/or Department of Water Supply for further information.

☐ 2. We recommend coordination with the Engineering Division of the State Department of Land and Natural Resources to incorporate this project into the State Water Projects Plan.

☐ 3. We recommend coordination with the Hawaii Department of Agriculture (HDOA) to incorporate the reclassification of agricultural zoned land and the redistribution of agricultural resources into the State's Agricultural Water Use and Development Plan (AWUDP). Please contact the HDOA for more information.

☒ 4. We recommend that water efficient fixtures be installed and water efficient practices implemented throughout the development to reduce the increased demand on the area's freshwater resources. Reducing the water usage of a home or building may earn credit towards Leadership in Energy and Environmental Design (LEED) certification. More information on LEED certification is available at http://www.usgbc.org/leed. A listing of fixtures certified by the EPA as having high water efficiency can be found at http://www.epa.gov/watersense/

☒ 5. We recommend the use of best management practices (BMP) for stormwater management to minimize the impact of the project to the existing area's hydrology while maintaining on-site infiltration and preventing polluted runoff from storm events. Stormwater management BMPs may earn credit toward LEED certification. More information on stormwater BMPs can be found at http://hawaii.gov/dbedt/czm/initiative/lid.php.

☒ 6. We recommend the use of alternative water sources, wherever practicable.

☐ 7. We recommend participating in the Hawaii Green Business Program, that assists and recognizes businesses that strive to operate in an environmentally and socially responsible manner. The program description can be found online at http://energy.hawaii.gov/green-business-program

☐ 8. We recommend adopting landscape irrigation conservation best management practices endorsed by the Landscape Industry Council of Hawaii. These practices can be found online at http://www.hawaiiscape.com/wp-content/uploads/2013/04/LICH_Irrigation_Conservation_BMPs.pdf

☐ 9. There may be the potential for ground or surface water degradation/contamination and recommend that approvals for this project be conditioned upon a review by the State Department of Health and the developer's acceptance of any resulting requirements related to water quality.

Permits required by CWRM:
Additional information and forms are available at http://hawaii.gov/dlnr/cwrm/info_permits.htm.

☐ 10. The proposed water supply source for the project is located in a designated water management area, and a Water Use Permit is required prior to use of water. The Water Use Permit may be conditioned on the requirement to use dual line water supply systems for new industrial and commercial developments.

☐ 11. A Well Construction Permit(s) is (are) required before any well construction work begins.

☐ 12. A Pump Installation Permit(s) is (are) required before ground water is developed as a source of supply for the project.

☐ 13. There is (are) well(s) located on or adjacent to this project. If wells are not planned to be used and will be affected by any new construction, they must be properly abandoned and sealed. A permit for well abandonment must be obtained.

☐ 14. Ground water withdrawals from this project may affect streamflows, which may require an instream flow standard amendment.

☐ 15. A Stream Channel Alteration Permit(s) is (are) required before any alteration(s) can be made to the bed and/or banks of a stream channel.

☐ 16. A Stream Diversion Works Permit(s) is (are) required before any stream diversion works is (are) constructed or altered.

☐ 17. A Petition to Amend the Interim Instream Flow Standard is required for any new or expanded diversion(s) of surface water.

☐ 18. The planned source of water for this project has not been identified in this report. Therefore, we cannot determine what permits or petitions are required from our office, or whether there are potential impacts to water resources.

☐ OTHER:

If there are any questions, please contact Lenore Ohye at 587-0216.

WILSON OKAMOTO CORPORATION

1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
Phone: 808.946.2277
Fax: 808.946.2253
www.wilsonokamoto.com

7995-01
May 1, 2015

Mr. Russell Y. Tsuji
Land Adminstrator
Department of Land and Natural Resources
Land Division
P.O. Box 621
Honolulu, Hawai'i 96809

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for
Mānana Corporation Yard Improvements
Mānana, O'ahu, Hawai'i
TMK: 9-7-024:041

Dear Mr. Tsuji:

Thank you for your transmittal dated September 3, 2014 regarding the subject Draft EA pre-assessment consultation. We have the following response to your comments.

We appreciate the information that the project site is located within Flood Zones X and D, and that the National Flood Insurance Program does not regulate developments within those zones.

As detailed designs are formulated for each phase, water demands and calculations will be provided to the Engineering Division of DLNR. The use of water conservation measures, best management practices to mitigate stormwater runoff, and the reuse of stormwater and other alternative non-potable sources will also be considered during the design phase.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. John Condrey, Department of Design and Construction

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

LINDA ROSEN, M.D., M.P.H.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
File:
EPO 14-174

August 6, 2014

RECEIVED
AUG 12 2014
WILSON OKAMOTO CORPORATION

Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826
Attention: Milton Arakawa, AICP

Dear Mr. Arakawa:

SUBJECT: Manana Corporation Yard Improvements, Pre-Assessment Consultation
Manana, Oahu, Hawaii, TMK: 9-7-024: 041

The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of your letter dated August 4, 2014. Thank you for allowing us to review and comment on the subject document. The document was routed to the relevant Environmental Health divisions, branches, and offices. They will provide specific comments to you if necessary. EPO recommends that you review the standard comments at: http://health.hawaii.gov/epo/home/landuse-planning-review-program/. You are required to adhere to all applicable standard comments.

You may wish to review the recently posted Draft Water Quality Plan at: http://health.hawaii.gov/water/
The revised Water Quality Standards Maps that have been updated for all islands. Please see:
http://health.hawaii.gov/cwb/site-map/clean-water-branch-home-page/water-quality-standards/.

The EPO suggests that you examine the many sources available on strategies to support the sustainable and healthy design of communities and buildings, including the: 2014 National Climate Change Report – Highlights for Hawaii: http://ipcc-wg2.gov/AR5/images/uploads/WGIIAR5-Chap29_FGDall.pdf;
U.S. Health and Human Services: www.hhs.gov/about/sustainability;
U.S. Environmental Protection Agency's sustainability programs: www.epa.gov/sustainability;
U.S. Green Building Council's LEED program: www.usgbc.org/leed;
Smart Growth America: www.smartgrowthamerica.org;
International Well Building Standard: http://delosliving.com; and
Intergovernmental Panel on Climate Change (IPCC): http://ipcc-wg2.gov/AR5/images/uploads/WGIIAR5-Chap29_FGDall.pdf.

In line with the Aloha+ Challenge and the target for smart sustainable communities, we request you share all of this information with others to increase community awareness on sustainable, innovative, inspirational, resilient and healthy community design.

We also encourage you to examine and utilize the Hawaii Environmental Health Portal. The portal provides links to e-Permitting, the Environmental Health Warehouse, a Groundwater Contamination Viewer, the Emergency Response Exchange, Emission Inventory System, Water Pollution Control Viewer, Water Quality Data, Warnings, Advisories and Postings. Please visit it at: https://eha-cloud.doh.hawaii.gov.

Mahalo,

Laura Lelaloha Phillips McIntyre, AICP
Program Manager, Environmental Planning Office

c. Clean Air Branch
Clean Water Branch
Hazard Evaluation and Emergency Response Office, attn: Fenix Grange
Indoor and Radiological Health Branch

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7995-01
May 1, 2015

Ms. Laura Leialoha Phillips McIntyre, AICP
Program Manager, Environmental Planning Office
State of Hawai'i
Department of Health
P.O. Box 3378
Honolulu, Hawai'i 96801-3378

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for
Mānana Corporation Yard Improvements
Mānana, O'ahu, Hawai'i
TMK: 9-7-024:041

Dear Ms. McIntyre:

Thank you for your letter dated August 6, 2014 regarding the subject Draft EA pre-assessment consultation. We will review your Department's Standard Comments on your website. Applicable comments shall be adhered to during project implementation.

We will also review the recently revised Water Quality Standards Maps as well as the sustainable design resources you have referenced and will take them into consideration in project design. To the extent feasible, opportunities for energy efficiency and achievement of environmental standards will be pursued as part of the proposed phasing work.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. John Condrey, Department of Design and Construction

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

LINDA ROSEN, M.D., M.P.H.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
EMD/CWB

08018PJF.14

August 8, 2014

Mr. Milton Arakawa, AICP
Project Manager
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

RECEIVED
AUG 13 2014
WILSON OKAMOTO CORPORATION

Dear Mr. Arakawa:

**SUBJECT: Comments on Environmental Assessment (EA)
Pre-Assessment Consultation for
Manana Corporation Yard Improvements
Manana, Island of Oahu, Hawaii**

The Department of Health (DOH), Clean Water Branch (CWB), acknowledges receipt of your letter, dated August 4, 2014, requesting comments on the subject document. The DOH-CWB has reviewed the subject document and offers these comments. Please note that our review is based solely on the information provided in the subject document and its compliance with the Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. Your applicant may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at: http://health.hawaii.gov/epo/files/2013/10/CWB_Oct22.pdf.

1. Any project and its potential impacts to State waters must meet the following criteria:

   a. Antidegradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.

   b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.

   c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).

2. National Pollutant Discharge Elimination System (NPDES) permit coverage is required for pollutant discharges into State surface waters and for certain situations involving storm water (HAR, Chapter 11-55).

   a. Discharges into Class 2 or Class A State waters can be covered under an

NPDES general permit only if all of the NPDES general permit requirements are met. Please see the DOH-CWB website (http://health.hawaii.gov/cwb/) for the NPDES general permits and instructions to request coverage.

b. All other discharges into State surface waters and discharges into Class 1 or Class AA State waters require an NPDES individual permit. To request NPDES individual permit coverage, please see the DOH-CWB forms website located at: http://health.hawaii.gov/cwb/site-map/clean-water-branch-home-page/forms/.

c. NPDES permit coverage for storm water associated with construction activities is required if your project will result in the disturbance of one (1) acre or more of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. NPDES permit coverage is required before the start of the construction activities.

Land disturbance includes, but is not limited to clearing, grading, grubbing, uprooting of vegetation, demolition (even if leaving foundation slab), staging, stockpiling, excavation into pavement areas which go down to the base course, and storage areas (including areas on the roadway to park equipment if these areas are blocked off from public usage, grassed areas, or bare ground).

3. If the project involves work in, over, or under waters of the United States, it is highly recommend that your applicant contact the Army Corp of Engineers, Regulatory Branch (Tel: 438-9258) regarding their permitting requirements.

Pursuant to Federal Water Pollution Control Act [commonly known as the "Clean Water Act" (CWA)], Paragraph 401(a)(1), a Section 401 Water Quality Certification (WQC) is required for "[a]ny applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may **result** in any discharge into the navigable waters..." (emphasis added). The term "discharge" is defined in CWA, Subsections 502(16), 502(12), and 502(6); Title 40 of the Code of Federal Regulations, Section 122.2; and HAR, Chapter 11-54.

4. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 WQC are required, must comply with the State's Water Quality Standards. Noncompliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties of $25,000 per day per violation.

If you have any questions, please visit our website at: http://health.hawaii.gov/cwb, or contact the Engineering Section, CWB, at (808) 586-4309.

Sincerely,

Darryl Lum for

ALEC WONG, P.E., CHIEF
Clean Water Branch

JF:bk

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7995-01
May 1, 2015

Mr. Alec Wong, P.E. Chief
Clean Water Branch
State of Hawai'i
Department of Health
P.O. Box 3378
Honolulu, Hawai'i 96801-3378

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for
Mānana Corporation yard Improvements
Mānana, O'ahu, Hawai'i
TMK: 9-7-024:041

Dear Mr. Wong:

Thank you for your letter dated May 12, 2014 regarding the subject Draft EA pre-assessment consultation. We have the following responses to your comments.

We will review your Department's Standard Comments on your website. Applicable comments shall be adhered to during project implementation.

We appreciate the information provided regarding the antidegradation policy, designated uses, and water quality criteria on any project and its impact on State waters (Chapter 11-54, HAR). The project will comply with applicable provisions.

Thank you for the information on National Pollutant Discharge Elimination System (NPDES) provisions. Prior to the start of construction, coordination will be undertaken with the Department of Health on applicable requirements.

Early consultation with the Corps of Engineers has also been undertaken to ascertain applicable requirements. The sharing of additional information regarding Section 401 Water Quality Certification provisions is appreciated and compliance with applicable provisions is also acknowledged. We also acknowledge that all discharges related to project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 are required, must comply with the State's Water Quality Standards.

WILSON OKAMOTO CORPORATION

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. John Condrey, Department of Design and Construction

NEIL ABERCROMBIE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI
INTERIM DIRECTOR

Deputy Directors
RANDY GRUNE
AUDREY HIDANO
ROSS M. HIGASHI
JADINE URASAKI

IN REPLY REFER TO:
STP 8.1645

August 14, 2014

Mr. Milton Arakawa, AICP
Project Manager/Senior Planner
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

RECEIVED
AUG 22 2014
WILSON OKAMOTO CORPORATION

Dear Mr. Arakawa:

Subject: Manana Corporation Yard Improvements
Pre-Assessment Consultation for Draft Environmental Assessment
TMK: 9-7-024:041

Our Department of Transportation's (DOT) comments on the subject project are as follows:

1. The Draft Environmental Assessment should discuss and evaluate the project's contribution to the cumulative traffic impacts on State highways facilities in the area.

2. A permit from DOT Highways Division is required for the transport of oversized and/or overweight materials and equipment on State highway facilities.

If there are any questions, please contact Mr. Norren Kato of the DOT Statewide Transportation Planning Office at telephone number (808) 831-7976.

Very truly yours,

FORD N. FUCHIGAMI
Interim Director of Transportation

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7995-01
May 1, 2015

Mr. Ford N. Fuchigami
Director of Transportation
Department of Transportation
State of Hawai'i
869 Punchbowl Street
Honolulu, Hawai'i 96813-5097

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for
Mānana Corporation Yard Improvements
Mānana, O'ahu, Hawai'i
TMK: 9-7-024:041

Dear Mr. Fuchigami:

Thank you for your letter dated June 3, 2014 (STP 8.1645) regarding the subject Draft EA pre-assessment consultation. We have the following responses to your comments.

The EA will review and discuss possible project impacts on nearby State transportation facilities.

We acknowledge that a permit from DOT Highways Division is required for the transport of oversized and/or overweight materials and equipment on State highway facilities.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. John Condrey, Department of Design and Construction

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STATE OF HAWAII

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Ref. No. P-14489

September 2, 2014

Mr. Milton Arakawa, AICP
Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Arakawa:

Subject: Early Consultation for a Draft Environmental Assessment (Draft EA) for the Manana Corporation Yard Improvements, Manana, Oahu; TMK: (1) 9-7-024:041

Thank you for the opportunity to provide early consultation comments on the City and County of Honolulu Department of Design and Construction's proposed Manana Corporation Yard Improvements. We have reviewed the documents sent to us by letter dated August 4, 2014, and have the following comments to offer:

1. The Office of Planning (OP) provides technical assistance to state and county agencies in administering the statewide planning system in Hawaii Revised Statutes (HRS) Chapter 226, the Hawaii State Plan. The Hawaii State Plan provides goals, objectives, priorities, and priority guidelines for growth, development, and the allocation of resources throughout the State. The State Plan has very diverse policies and objectives that include the economy, agriculture, the visitor industry, federal expenditure, the physical environment, facility systems, and socio-cultural advancement.

   This project may have an impact on a number of these objectives, policies, and priority guidelines including but not limited to: HRS § 226-14 facility systems, HRS § 226-27 Socio-Cultural Advancement – Government, and § 226-108 – Sustainability (smart growth and livability principles). The Draft EA should include an analysis of the Hawaii State Plan, HRS Chapter 226, in a section of relationships to policies and objectives as they pertain to this project.

2. OP is the lead agency for the Hawaii Coastal Zone Management (CZM) Program. The coastal zone management area is defined as "all lands of the State and the area extending seaward from the shoreline to the limit of the State's police power and management authority, including the U.S. territorial sea" see HRS § 205A-1 (definition of "coastal zone management area"). The Draft EA should include a discussion of the proposed project's ability to meet all of the objectives and policies set forth in HRS § 205A-2. These objectives and policies include: recreational resources, historic resources, scenic and open space resources, coastal ecosystems, economic uses, coastal hazards, managing development, public participation, beach protection, and marine resources. The Draft EA should include the Coastal Zone Management Act, HRS Chapter 205A, in a section of relationships to land use plans, policies, and controls.

3. Although this project is situated in an area that is typically arid, the entire island of Oahu, in general, is subject to flashy and unstable weather during the winter months. Please consider utilizing OP's *Stormwater Impact Assessment* to identify and evaluate information on hydrology, stressors, sensitivity of aquatic and riparian resources, and management measures to control runoff occurrences. In particular, please examine Low-Impact Development Concepts. These concepts include decentralized micro-scale controls that infiltrate, filter, store, reuse, evaporate, and detain runoff close to its source.

   This guidance document will assist in integrating stormwater impact assessment within your review process. The purpose of this document is to provide guidance on assessing stormwater impacts in the planning phase of project development. The goal is to provide a suggested framework and various tools for integrating stormwater impacts assessment. Please review the Low-Impact Development Concepts listed on pages 14-16 of the *Stormwater Impact Assessment* guidance. This can be found at http://files.hawaii.gov/dbedt/op/czm/initiative/stomwater_imapct/final_stormwater_impact_assessments_guidance.pdf.

If you have any questions regarding this comment letter, please contact Josh Hekekia of our Hawaii CZM Program at 587-2845.

Sincerely,

Leo R. Asuncion
Acting Director

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7995-01
May 1, 2015

Mr. Leo R. Asuncion, Acting Director
Office of Planning
State of Hawai'i
235 South Beretania Street, 6th Floor
Honolulu, Hawai'i 96813

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for
Mānana Corporation Yard Improvements
Mānana, O'ahu, Hawai'i
TMK: 9-7-024:041

Dear Mr. Asuncion:

Thank you for your letter dated September 2, 2014 regarding the subject Draft EA pre-assessment consultation. We have the following response to your comments.

We appreciate the information that the Office of Planning provides technical assistance to State and County agencies in administering the statewide planning system in Chapter 226, HRS. The EA will include an analysis of relevant objectives, policies and priority guidelines of Chapter 226, HRS as it relates to the subject project.

We understand that the entire state is within the Coastal Zone Management Area. The EA will include a discussion of the proposed project's ability to meet the objectives and policies set forth in Section 205A-2, HRS. This would be included in the Draft EA section on "relationships to land use plans, policies and controls".

The Department of Design and Construction will consider utilizing the Office of Planning's *Stormwater Impact Assessment* to identify and evaluate information on hydrology, stressors, sensitivity of resources, and management considerations.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. John Condrey, Department of Design and Construction

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