



# KAKA'AKO MAKAI PARKS

KAKA'AKO WATERFRONT PARK | GATEWAY PARK | KEWALO BASIN PARK  
OPEN HOUSE JUNE 4 & 13, 2015



# PRESENTATION OVERVIEW

- Background & Information Gathered
- Design Considerations and Plan Evolution
- Next Steps
- Your Feedback





**BACKGROUND**



**&**

**PLANNING**



**PROCESS**





Google™

Imagery Date: 1/29/2013 21°17'03.29" N 157°48'51.58" W elev 40 ft eye

Project Context

KAKA'AKO WATERFRONT PARK | GATEWAY PARK | KEWALO BASIN PARK | OPEN HOUSE JUNE 2015







Analysis: Existing site characteristics (2014)





# Kaka'ako Makai

Conceptual Master Plan Final Report  
April 2011

Hawaii Community Development Authority



## 2011 Conceptual Plan for Kaka'ako Makai Parks

KAKA'AKO WATERFRONT PARK | GATEWAY PARK | KEWALO BASIN PARK | OPEN HOUSE JUNE 2015







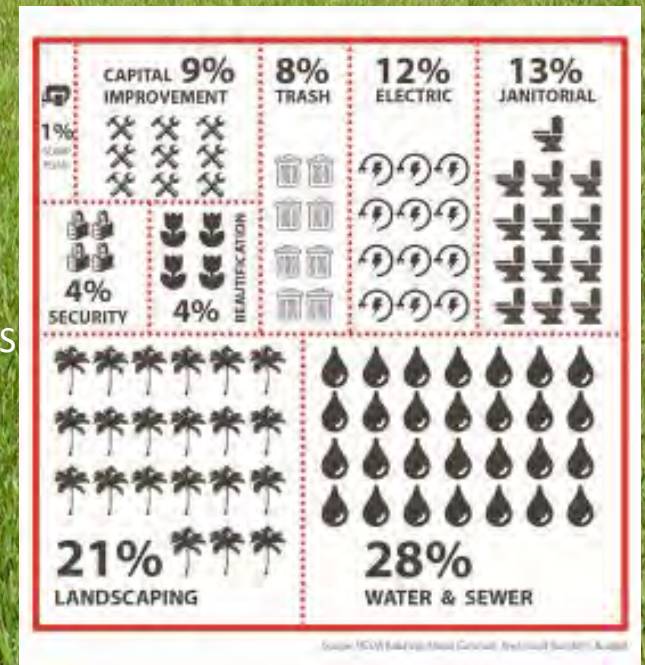
# ADJACENT LANDOWNERS



## INTRODUCED LANDSCAPE



## MAINTENANCE & BUDGET REALITIES





# PROJECT OBJECTIVES

- Develop an active facilities master plan for the Kaka'ako Makai Parks
- Generate revenues to help maintain the parks
- Build upon the work completed in 2011 Conceptual Master Plan
- Take into account the many changes that have occurred in the area since



# PLANNING PROCESS

- August – December, 2014
  - Research & information gathering
  - Idea generation
  - Public Open Houses August/Sept. and Oct/Nov.
  - Parks Peek
  - On-line engagement
- January – April, 2015
  - Begin technical studies and evaluation of ideas
  - Publish EISPN – comment period ended April 22nd





“INTERACTIVE FOUNTAINS”



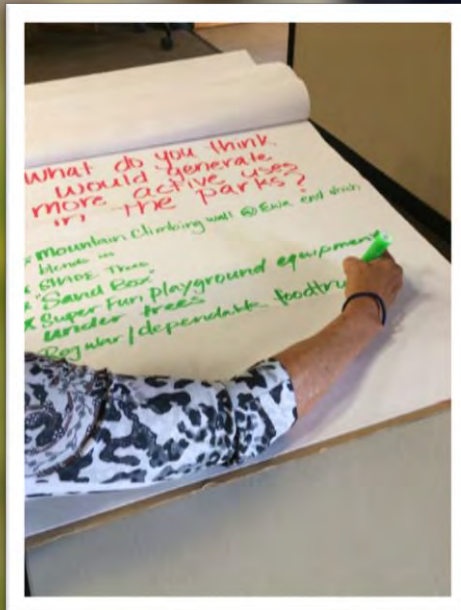
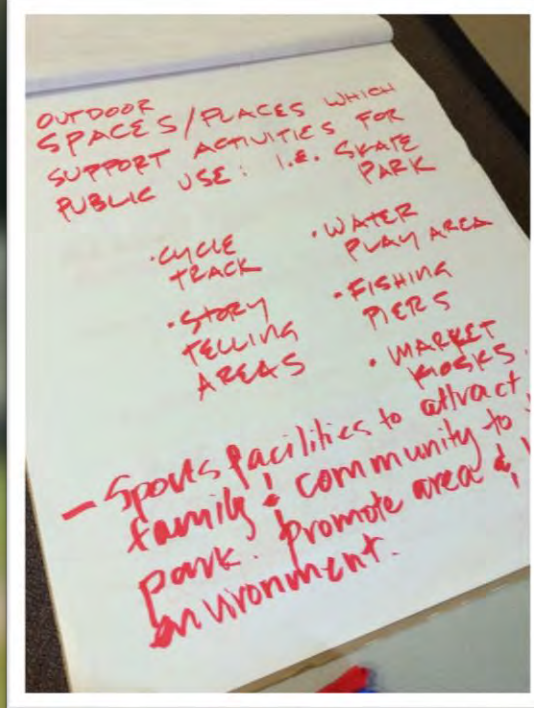
“SUPER FUN PLAYGROUND EQUIPMENT UNDER THE TREES”



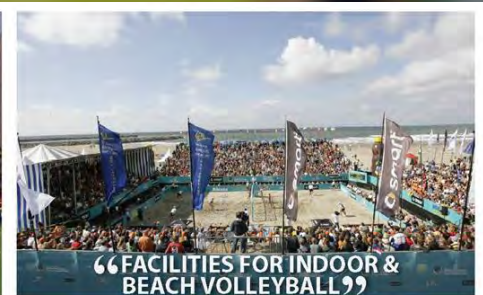
“WATER PLAY AREA”



“ALL ACCESS, INCLUSIVE PLAYGROUND”



“SPORTS FACILITIES TO ATTRACT FAMILIES & COMMUNITY TO PARK”



“FACILITIES FOR INDOOR & BEACH VOLLEYBALL”



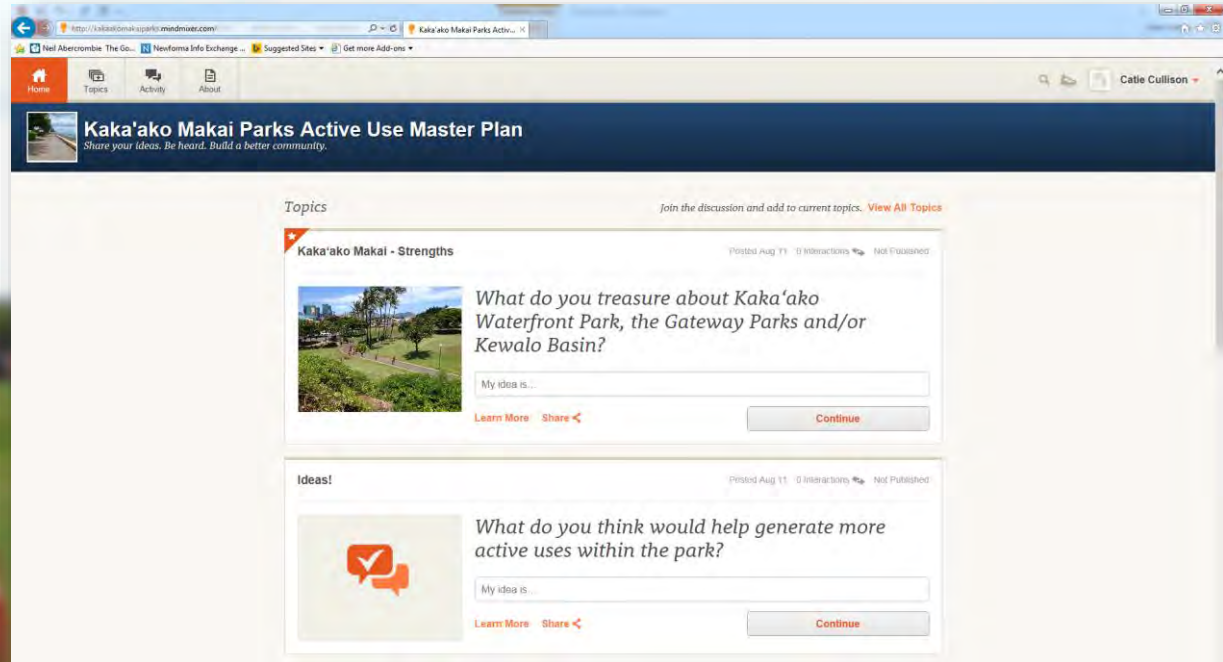
“MOUNTAIN CLIMBING WALL AT 'EWA END”



“SKATE PARK”



- 1,979 visitors
- 5,434 page views
- Avg. participant:
  - 34 yrs old
  - Female
  - 96813, 96822, 96816 zip codes



# ON LINE ENGAGEMENT

<http://kakaakomakaiparks.mindmixer.com/>



# PUBLIC COMMENTS:

- Safety concerns are the #1 reason for not using the parks
- The parks are valued for their views and location relative to the urban environment
- Respect the Guiding Principles of the 2011 Conceptual Master Plan



# PUBLIC COMMENTS:

Top active uses with positive responses at open house events:

- Sports activities - volleyball
- Regular programmed food/entertainment activities
- Family friendly activities: i.e. playground, giant slides, waterplay
- Fitness uses: i.e. workout stations





# DESIGN PROCESS & ALTERNATIVES



A tropical sunset scene with palm trees and a lighthouse. The sun is low on the horizon, casting a warm glow over the water and sky. The sky is filled with soft, colorful clouds in shades of orange, yellow, and blue. Silhouettes of palm trees and a lighthouse are visible against the bright sky. The overall mood is peaceful and serene.

# KAKA'AKO

1. : dull, slow





It is estimated that the population of Kaka'ako will  
double in the next 15 years to 30,000 people





Punchbowl St

King Street

Mother Waldron Park

Kawaiaha'o  
Mini Park

Future Linear Park

Kapiolani Blvd

South St

Ward Ave

Koluwalu Mauka &  
Makai parks

Ala Moana Blvd

Piikoi Street

Kewalo Basin  
Harbor

Kaka'ako  
Makai Parks

Ala Moana Beach Park

Kewalo Basin Park



# 161 acres of park space in and around Kaka'ako, 45.27 acres of park space managed by HCDA

Kuloloia  
(Honolulu Harbor)

Mother Waldron Park  
1.76 acres

Kawaiaha'o  
Mini Park  
0.2 acres

Kaka'ako

- Mauka gateway = 2 acres
- Makai gateway = 4 acres
- Waterfront Parks = 30 acres

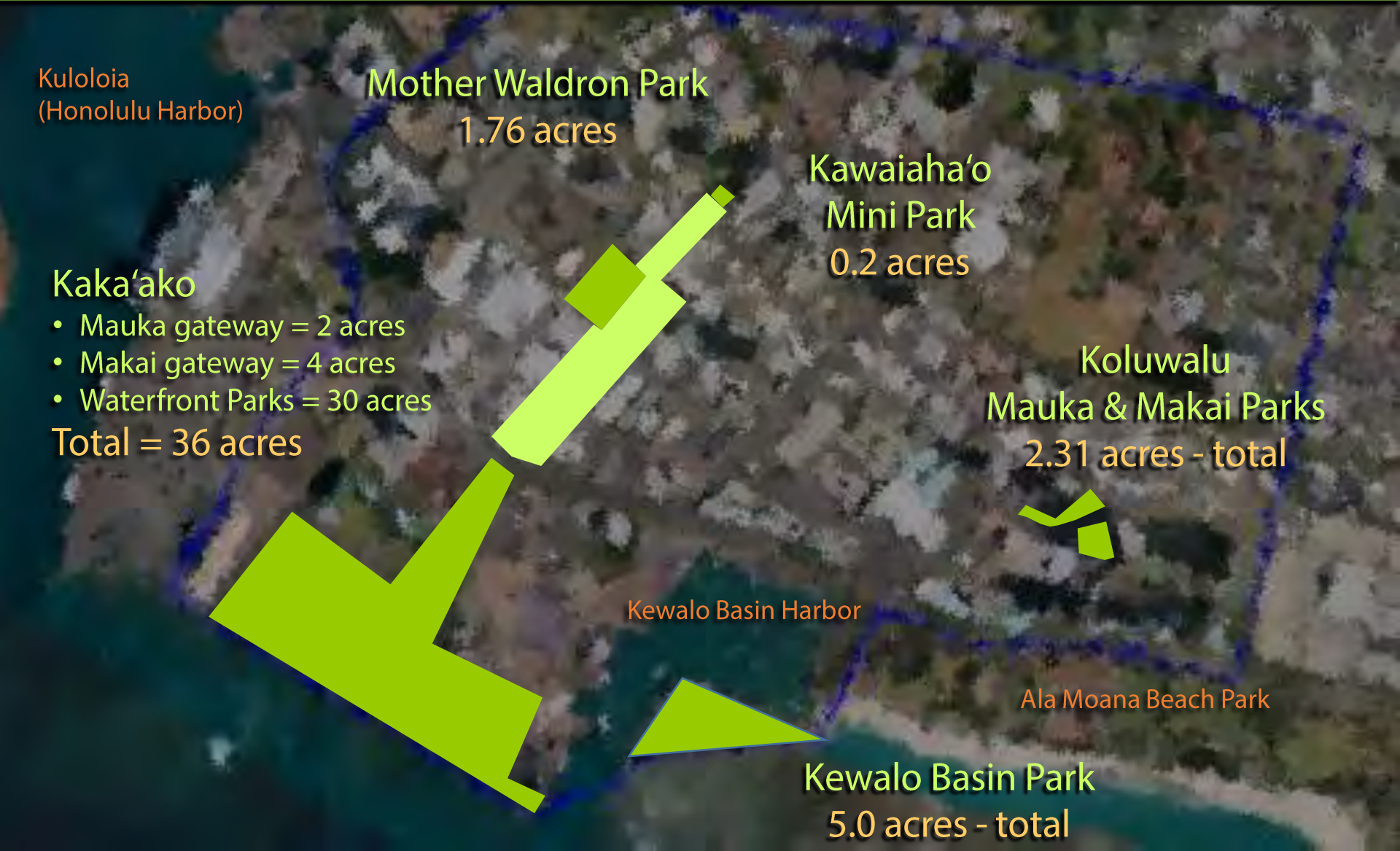
Total = 36 acres

Koluwalu  
Mauka & Makai Parks  
2.31 acres - total

Kewalo Basin Harbor

Ala Moana Beach Park

Kewalo Basin Park  
5.0 acres - total







Kaka'ako Parks:	45.27 acres
Neighboring Parks:	112.5 acres
Ala Moana Beach Park (including Magic Isl):	106 acres
Thomas Square:	6.5 acres
Future (Howard Hughes):	3.44 acres
<b>Total Park Acres:</b> <i>(Immediate Area)</i>	<b>161.21 acres</b>

Considering a common rule of thumb of 2 acres of park per 1,000 people, 60 acres of park would be warranted for a population of 30,000 people.





Island-wide, we enjoy  
34.5 acres of park per 1,000 people

Source: Trust for Public Land *City Park Facts* (2015)





We shouldn't be too fixed on **QUANTITY**...  
it's just a rule of thumb





There is an apparent fixed amount of open space in Kaka'ako while the community continues to grow. Therefore, we need to concern ourselves with maintaining and improving the QUALITY of open space





Improving the over all quality of the users' experience sometimes requires sacrificing some open space.





Puowaina

Kuloloia  
(Honolulu  
Harbor)

Kaka'ako  
parks

Ala Moana Beach  
Park

Waikiki

Leahi

HONOLULU SHORELINE 1887







Puowaina

Kuloloia  
(Honolulu  
Harbor)

Kaka'ako  
parks

Ala Moana Beach  
Park

Walkiki

Duke Kahanamoku Lagoon

HONOLULU SHORELINE 1887



# HONOLULU SHORELINE 1952





# VIEWS FROM KAKA'AKO PARKS



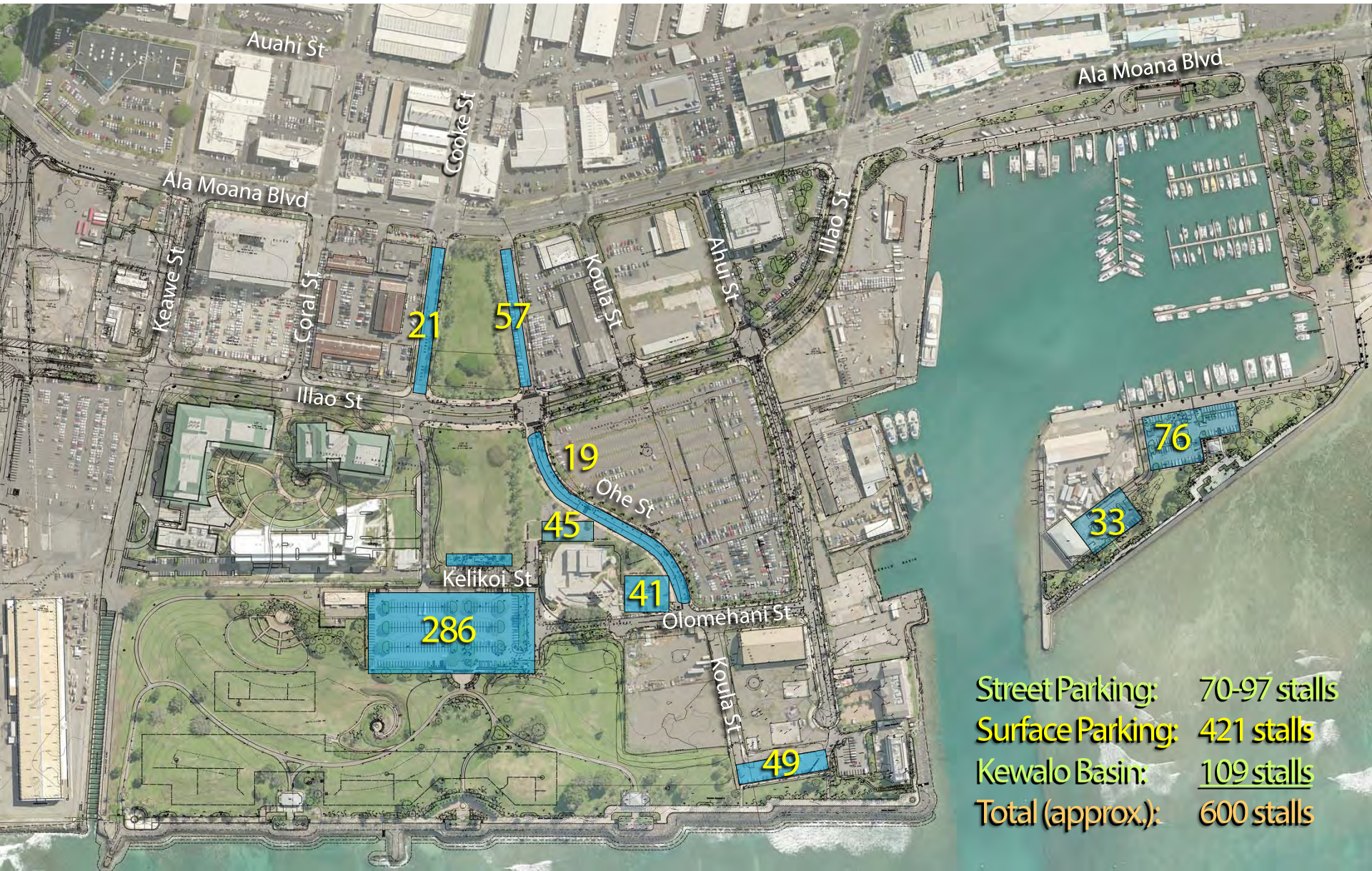


# PARK VEHICULAR ENTRIES





# EXISTING PARKING AREAS



Street Parking: 70-97 stalls  
Surface Parking: 421 stalls  
Kewalo Basin: 109 stalls  
Total (approx.): 600 stalls

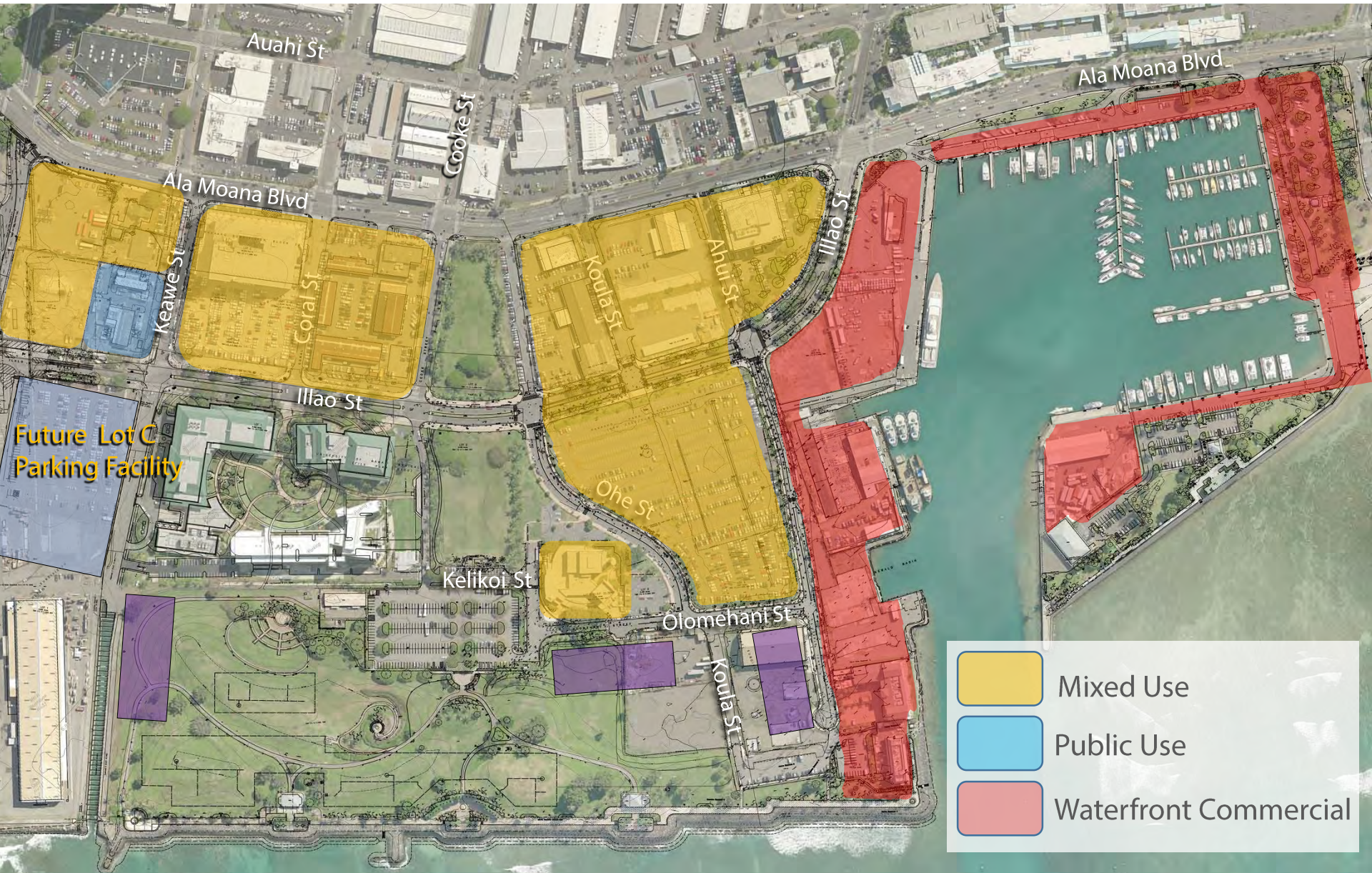





# POTENTIAL PARKING AREAS





# POTENTIAL PARKING STRUCTURES



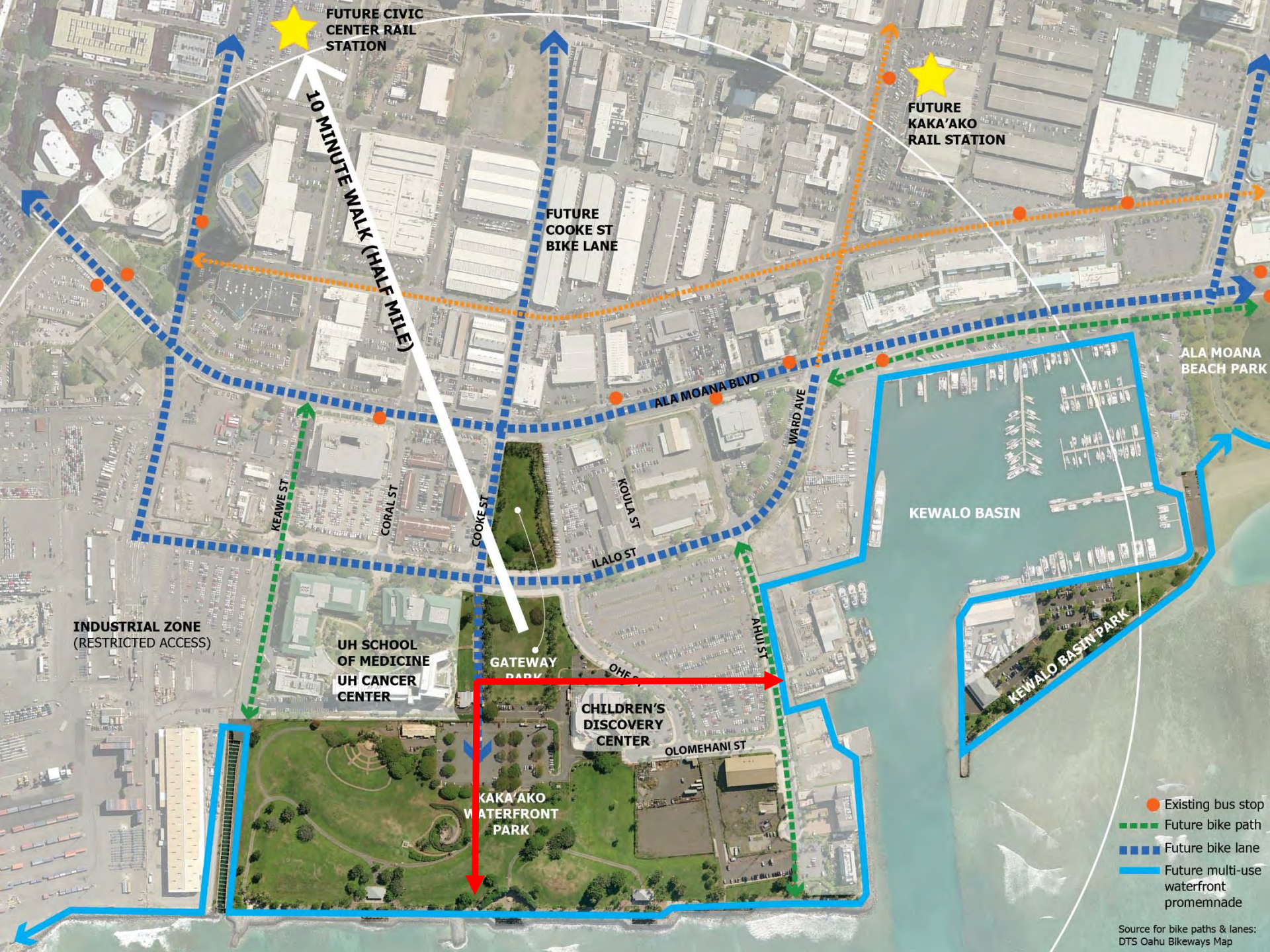
-  Mixed Use
-  Public Use
-  Waterfront Commercial



# MAXIMUM HEIGHT & FAR

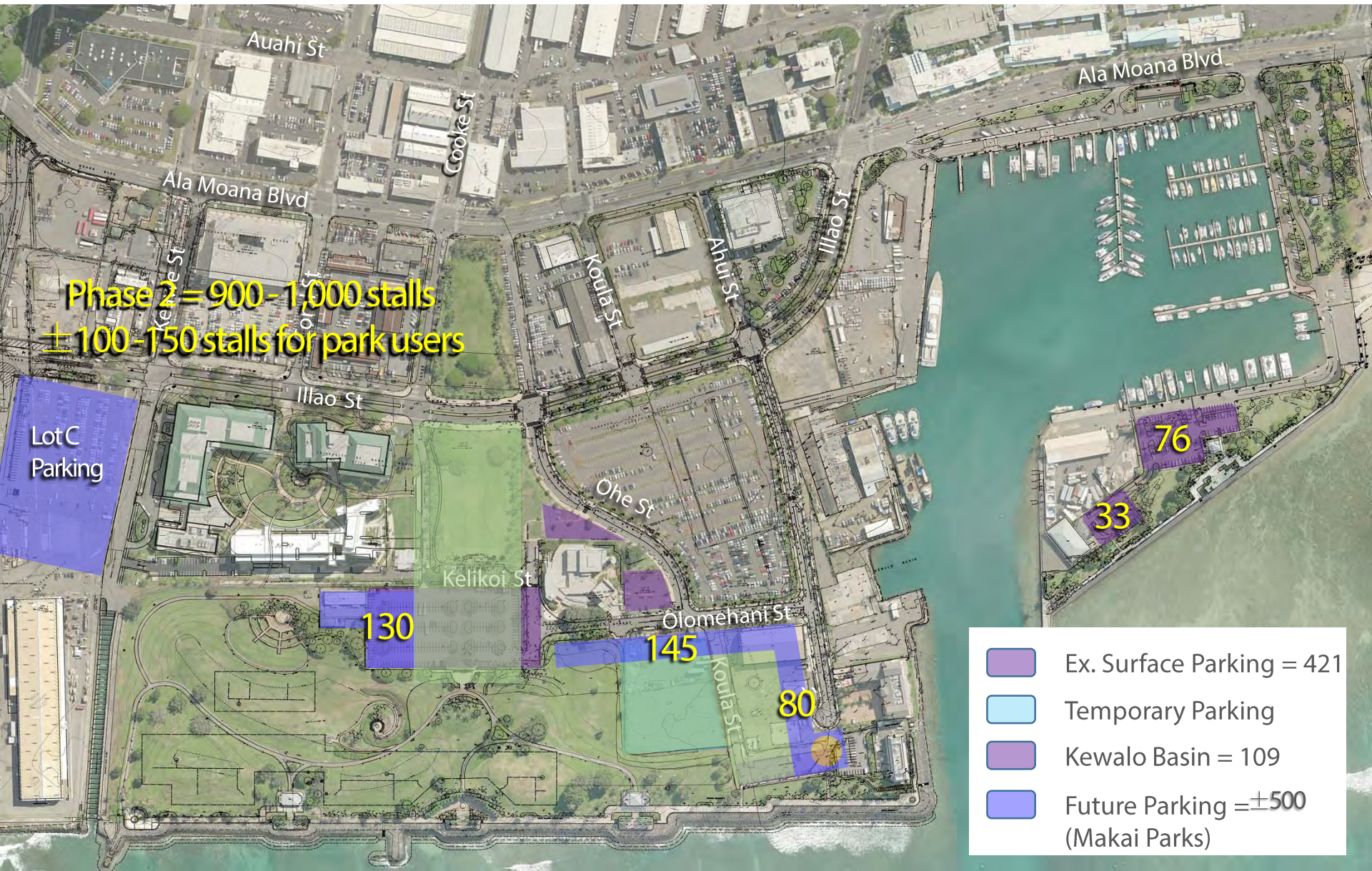








# ON-SITE PARKING PHASING





# ON-SITE PARKING PHASING

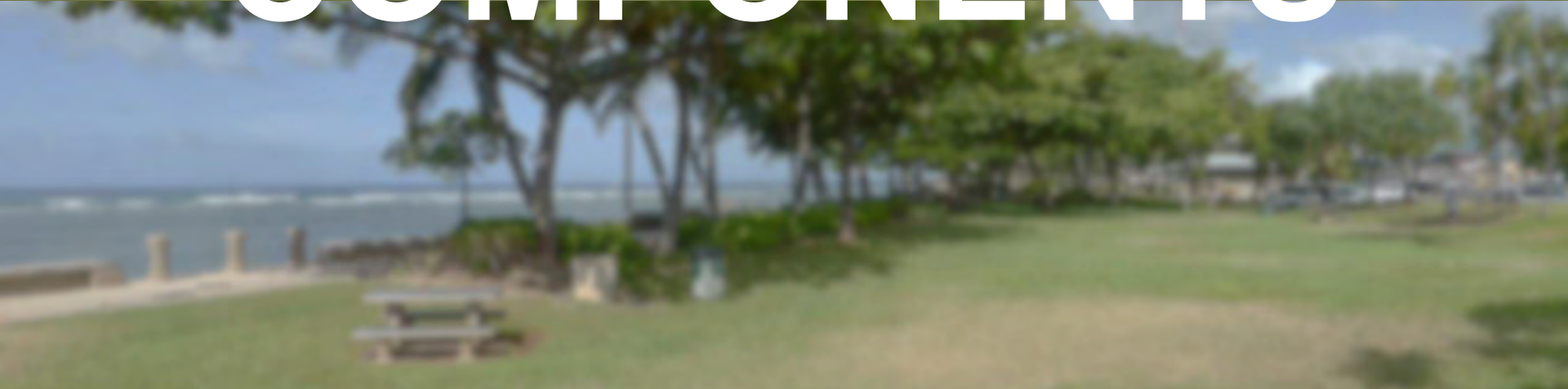


- Existing Parking = 421
- Future Parking =  $\pm 500$   
(Makai Parks)
- Parking Structure =  
 $\pm 130 - 2$  levels  
 $\pm 260 - 3$  levels



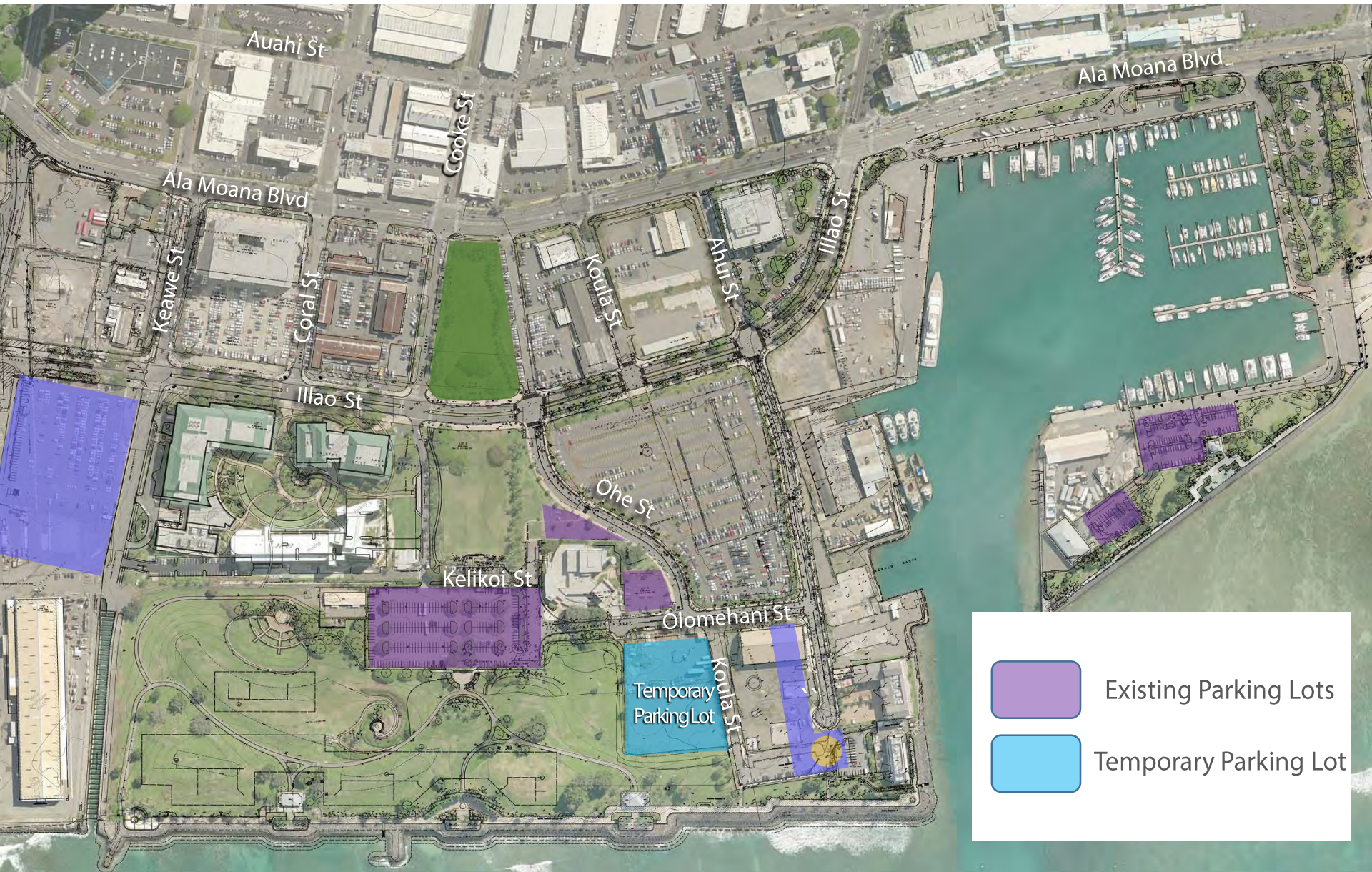


# PARK COMPONENTS





# FLEXIBLE & OPEN COMMUNITY SPACE



Existing Parking Lots



Temporary Parking Lot





## Open / Community Flex Space







## Open / Community Flex Space





# BEGIN THE LEI OF GREEN – connect to Ala Moana Park







## Connect to Ala Moana Beach Park





# SPORTS COMPLEX





# GREAT LAWN & GATEWAY FEATURES







Gateway Features







## Art in the Park!



## ...and in the Dark!





# GREAT LAWN EXTENSION & SPORTS COMPLEX







Great Lawn







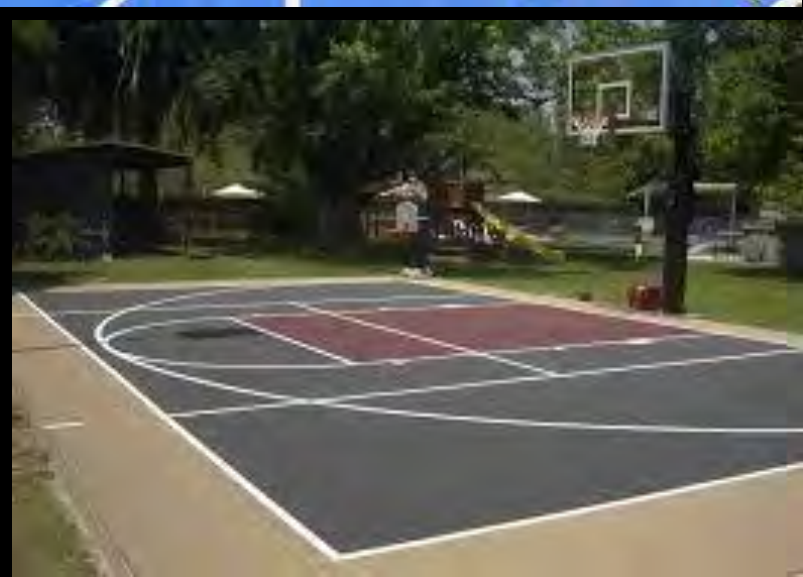
# Sports Complex







Sports Complex





# KEIKI ZONE







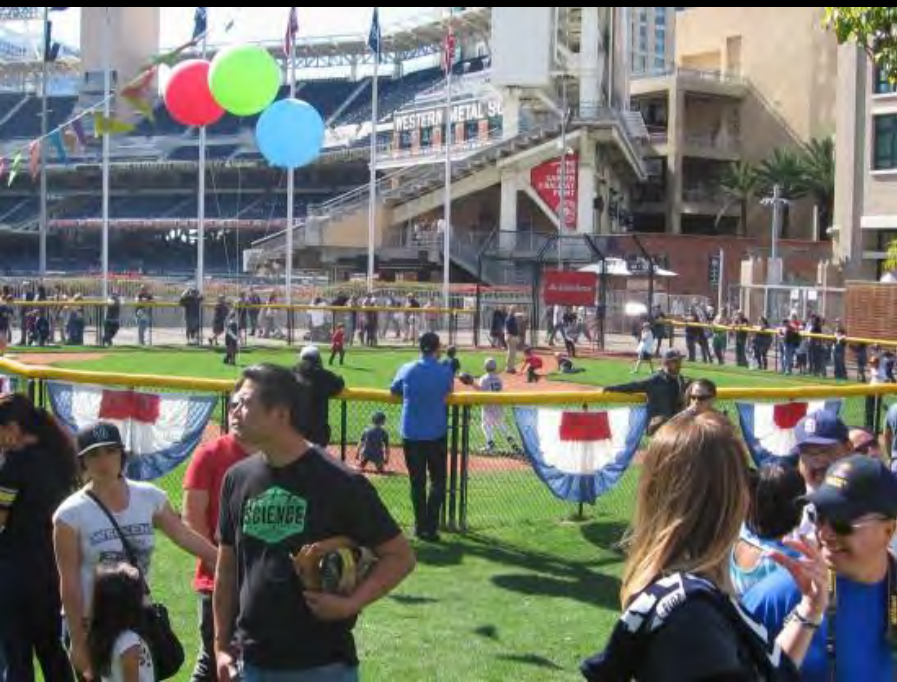
Keiki Zone













# FOOD CONCESSIONS & BEACH HALE







## Food Concessions







Beach Pavilion





# PLAZA & WATER FEATURE







## Plaza & Water Features







## Plaza & Water Features







## Plaza & Water Features





# GATHERING PLACES: BIERGARTEN & COMMUNITY CENTER







Biergarten







## Community Center





















Adventure Zone







## Adventure Zone







St. Louis' City Museum is essentially one big giant playground. Inside, it has a giant treehouse and a 10-story spiral slide that you can use to whoosh into the building's basement. Outside, there's a 30-foot-tall Ferris wheel on the roof, multiple airplanes you can crawl into, a rope swing, and more.

## Adventure Zone





# ENTERTAINMENT: AMPHITHEATER





# Waikiki Shell Comparison







Ocean Front Amphitheatre







The Gorge Amphitheatre, Columbia River, George, Washington







Mark's Park Amphitheatre, St. Louis, Missouri









Red Rocks Amphitheatre, Morrison, Colorado



# Red Rocks Amphitheatre, Morrison, Colorado







Deer Valley Amphitheatre, Park City, Utah



# Concept for New Water Front Amphitheatre, Seattle Washington







**NEXT STEPS**





# EIS PROCESS

## EISPN

- Define EIS scope
- Public comment/input

## Draft EIS

- Public review and comment

## Final EIS

Incorporates all  
comments  
Accepted by Governor



# TECHNICAL STUDIES

- Biological Survey
- Acoustic Study
- Air Quality Study
- Economic Impact Analysis / Public Cost-Benefit Assessment
- Cultural/Archaeological Studies
- Preliminary Civil Engineering Report
- Traffic Impact Assessment Report



# DRAFT EIS

- Prepared in accordance with Hawai'i laws and rules:
  - The Hawai'i EIS Law (Chapter 343, HRS)
  - EIS Law Administrative Rules (§11-200-17, HAR)
- Primary environmental review document
- Discusses potential impacts & mitigation measures
- Includes all technical studies
- Contains all EISPN comments and responses
- Available online at the OEQC website & all regional public libraries
- 45-day agency/public comment period (expected late-summer)



# EIS DISTRIBUTION FOR REVIEW AND COMMENT

- Federal Agencies
- State Agencies
- City and County of Honolulu Agencies
- Elected Officials
- Community Groups & Individuals



# FINAL EIS

- Draft EIS is revised in response to comments
- Contains all Draft EIS comments and responses
- The Governor is the Accepting Authority
- Final EIS is not a permit
- Disclosure document for HCDA decision-making





# YOUR FEEDBACK



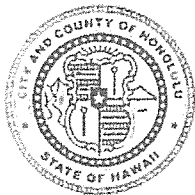




# MAHALO!

KAKA'AKO WATERFRONT PARK | GATEWAY PARK | KEWALO BASIN PARK  
OPEN HOUSE JUNE 4 & 13, 2015





**CITY COUNCIL**  
CITY AND COUNTY OF HONOLULU  
530 SOUTH KING STREET, ROOM 202  
HONOLULU, HAWAII 96813-3065  
TELEPHONE: (808) 768-5010 • FAX: (808) 768-5011

June 22, 2015

John Whalen, Chair  
Anthony Ching, Executive Director  
Hawaii Community Development Authority  
545 Queen Street  
Honolulu, HI 96813

RECEIVED  
2015 JUN 24 AM 8 56  
HAWAII COMMUNITY  
DEVELOPMENT  
AUTHORITY

RE: *Resolution 15-161, Proposed FD1 - Authorizing the Director and Chief Engineer of the Department of Facility Maintenance to enter into an inter-governmental agreement with the Hawaii Community Development Authority regarding the use of a portion of open space within the Kakaako Community Development District.*

Dear Chair Whalen and Director Ching,

Attached for your review and comment is *Resolution 15-161, Proposed FD1*, which authorizes the Department of Facility Maintenance to enter into an inter-governmental agreement with the Hawaii Community Development Authority regarding the use of a portion of open space located at 40 Ahui Street, TMK: (1) 2-1-60:001.

With the large number of homeless encampments in the immediate vicinity of the 40 Ahui Street property, close to the Children's Discovery Center Museum, the 53 By the Sea Restaurant and Wedding Chapel, the John A. Burns School of Medicine and the Cancer Center of Hawaii, City Councilmembers have been deeply concerned over the lack of success that State, County and Federal agencies have experienced thus far in persuading homeless individuals and families to accept alternative emergency or permanent supportive housing/services.

We have conducted numerous meetings and site visits to this area to develop and pursue solutions that would help to relocate homeless individuals and families out of this area to more permanent supportive housing locations. We have also met with Governor Ige and his staff to seek immediate action to address the unsanitary conditions, public health and safety problems, and family welfare/social services concerns in this Kaka'ako region.

With the proposed relocation of Department of Facility Maintenance's Sidewalk-Nuisance Ordinance and Stored Property Ordinance Team to the Ahui Street property, we believe that **now** is the time for your agency, other State agencies and Department of Facility Maintenance (in partnership with other City agencies) to forge an action agenda with City, State/Federal agencies and appropriate service providers to relocate individuals and families into more suitable housing/services than the streets of Kaka'ako *Makai*.

As such, the Proposed FD1 draft to Resolution 15-161 adds an additional 6<sup>th</sup> WHEREAS clause, and a new 3<sup>rd</sup> BE IT RESOLVED clause to underscore the need for immediate



collaborative action and partnership solutions (*see attached copy of Resolution 15-161, Proposed FD1*). We note that Mayor Caldwell's statements reported by Hawaii News Now ("*Mayor suspends Kaka'ako homeless sweeps, says they're 'not solving the problem'*" – Mileka Lincoln, May 11, 2015) indicates that the City administration is reducing the number of sidewalk sweeps and SPO-enforcement actions on the streets identified in *Resolution 15-161, Proposed FD1*.

While we would appreciate your agency taking the lead in pursuing appropriate solutions in concert with other state agencies, and Department of Facility Maintenance taking the lead with other city agencies, we believe that executive branch and legislative branches of all levels of government are needed in order to produce lasting housing and wrap-around services solutions, as well as to restore safe, clean and healthy conditions for businesses, employees, students, parents and their children and all other visitors to this Kaka'ako *Makai* region.

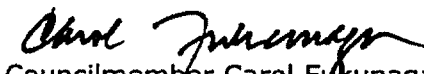
For our part, we have added appropriations (ATTACHMENT A, copy attached) to Bills 13 and 14, the City & County of Honolulu's FY 16 budget measures, which we believe will help to provide current relief to area businesses, and to relocate homeless individuals and families into more appropriate housing with wrap-around services.


We would appreciate your comments and feedback regarding *Resolution 15-161, Proposed FD1* by June 30, 2015, since Zoning & Planning Committee Chair Anderson will make a determination on his next steps on *Resolution 15-161, Proposed FD1* by July 1, 2015.

Finally, *Resolution 15-161, Proposed FD1* makes no changes to the Memorandum of Agreement between the Hawaii Community Development Authority and the City and County of Honolulu regarding use of a portion of the open space located at 40 Ahui Street. However, it does highlight the urgency of State/County and Federal cooperation in addressing the Kaka'ako encampments issue.

Please contact Kess O'Halloran of Councilmember Fukunaga's staff at 768-5072 ([kohalloran@honolulu.gov](mailto:kohalloran@honolulu.gov)) or Radiant Cordero of Councilmember Manahan's staff at 768-5029 ([rcordero@honolulu.gov](mailto:rcordero@honolulu.gov)) if you have additional questions. Thank you for your assistance.

Sincerely,

  
Councilmember Carol Fukunaga  
District 6 (Makiki/Punchbowl, Tantalus, Chinatown  
Kaka'ako, Nuuanu, Liliha-Alewa, Kalihi Valley-Red  
Hill, Moanalua, Alea-Halawa Heights)

  
Councilmember Joey Manahan  
District 7 (Portions of Kalihi Valley-Liliha, Kalihi-Palama,  
Iwilei, Kalihi Kai, Sand Island, Mapunapuna, Salt Lake,  
Aliamanu, Hickam, Foster Village, Pearl Harbor)

CC: Mike McCartney, Chief of Staff, Office of the Governor  
Rachel Wong, Director, Department of Human Services



**ATTACHMENT A**  
**Bills 13 (Operating) and 14 (Capital) - Selected Appropriations**

	Description	Amount	MOF	Bill Number
1	Add funding for current expenses for a Homeless Outreach Team. Proviso to read, "At least \$100,000 out of current expenses shall be appropriated for a Homeless Outreach Team."	\$100,000	GN	13, CD2, FD1 (Amendment List 8, HPD Patrol Division)
2	Increase funding for current expenses to provide assistance to officers responding to incidents concerning persons with mental health issues	\$300,000	GN	13, CD2, FD1 (Amendment List 8, HPD Patrol Division)
3	Add funding for current expenses. Proviso to read, "At least \$500,000 out of current expenses shall be appropriated to expand the scope of services with homeless services providers with a proven track record of successful housing, treatment and related services for chronically homeless with mental health and/or chemical dependency issues to accommodate 50 additional homeless residents."	\$500,000	GN	13, CD2, FD1 (Amendment List 14, DCS Ofc. Of Grants Management)
4	Increase funding for current expenses. Proviso to read: "A minimum of \$616,488 out of current expenses shall be appropriated for intensive case management at a location to be determined targeting homeless veterans, working homeless and homeless families."	\$616,488	GN	13, CD2, FD1 (Amendment List 15, DCS Ofc. Of Grants Management)
5	Add proviso: "At least \$500,000 out of current expenses shall be appropriated for programs to assist households such as shallow subsidy programs."			13, CD2, FD1 (Amendment List 16, DCS Ofc. of Grants Management)
6	Protective Chain Link Fencing at Kapalama Canal: Design and construct protective chain link fencing improvements along Kapalama Canal, which includes the installation of a 4' high chain-link fence on Kokea Street and Kohou Street sides of the embankment from Olomea Street to Nimitz Highway.	\$240,000	GI	14, CD2, FD1 (Page PS-7, Dept. of Design & Construction)
7	Protective Chain-Link Fencing at the Children's Discovery Center: Plan, design construct and inspect protective chain-link fencing improvements around the Children's Discovery Center located at 111 Ohe Street (TMK: 2-1-060-017).	\$250,000	GN	14, CD2, FD1 (Page PS-7, Dept. of Design & Construction)
8	Homeless Relocation Initiative: Acquisition, lease, development and/or renovation of facilities to relocate homeless individuals and families from parks facilities and other public areas to emergency, transitional and/or permanent housing. Consideration shall be given to working homeless and homeless families with children.	\$32,000,000	GI	14, CD2, FD1 (Page HU-22, DCS Project 2015002)
	<b>OPERATING - SUBTOTALS</b>	<b>\$1,516,488</b>	<b>GN</b>	
	<b>CAPITAL - SUBTOTALS</b>	<b>\$32,490,000</b>		

**NOTE:** The Council did not approve 7 positions and \$616,488 in general funds requested by the City administration for Department of Community Services. However, the Budget Committee noted that the administration funded the establishment of these positions from FY 15 savings. The annual "Issue Profile - Status of the City's Finances (Ofc. of Council Services)" identifies General Fund Lapses for FY 14 (\$159.2 million or 13.2% of the budget), FY 13 (\$88.9 million or 8.5% of the budget) & FY 12 (\$96.9 million or 8.9% of the budget).



**SUMMARY OF PROPOSED FD1:**

**Resolution 15-161**

**AUTHORIZING THE DIRECTOR AND CHIEF ENGINEER OF THE DEPARTMENT OF FACILITY MAINTENANCE, CITY AND COUNTY OF HONOLULU, OR THE DIRECTOR AND CHIEF ENGINEER'S DESIGNEE TO ENTER INTO AN INTER-GOVERNMENTAL AGREEMENT WITH THE HAWAII COMMUNITY DEVELOPMENT AUTHORITY RE: USE OF A PORTION OF OPEN SPACE LOCATED AT 40 AHUI STREET, HONOLULU, HAWAII, TMK: (1) 2-1-60:001 (POR.) WITHIN THE KAKAAKO COMMUNITY DEVELOPMENT DISTRICT.**

**PROPOSED FD1 makes the following amendments:**

- A. Adds a new 6<sup>th</sup> WHEREAS paragraph to read as follows:

WHEREAS, the Council notes that the unauthorized encampment of numerous individuals in the vicinity of the Property discourages the use of the public facilities and amenities of Kakaako Makai of Ala Moana Boulevard and poses a serious threat to public sanitation, health and safety; and

- B. Adds a new 3<sup>rd</sup> RESOLVED paragraph to read as follows:

BE IT FURTHER RESOLVED that in view of mounting community concerns regarding unauthorized encampments on the streets adjacent to the Property, including Ohe Street, Olomehani Street, Koula Street, and Ilalo Street, the Department of Facility Maintenance, the Office of Hawaiian Affairs and the Hawaii Community Development Authority are urged to work together with other area landowners and tenants to take immediate steps to address public sanitation and health and safety issues associated with such encampments; and

- C. Makes miscellaneous technical and nonsubstantive amendments.





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**A BILL FOR AN ORDINANCE**

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**AUTHORIZING THE DIRECTOR AND CHIEF ENGINEER OF THE DEPARTMENT OF FACILITY MAINTENANCE, CITY AND COUNTY OF HONOLULU, OR THE DIRECTOR AND CHIEF ENGINEER'S DESIGNEE TO ENTER INTO AN INTER-GOVERNMENTAL AGREEMENT WITH THE HAWAII COMMUNITY DEVELOPMENT AUTHORITY RE: USE OF A PORTION OF OPEN SPACE LOCATED AT 40 AHUI STREET, HONOLULU, HAWAII, TMK: (1) 2-1-60:001 (POR.) WITHIN THE KAKAAKO COMMUNITY DEVELOPMENT DISTRICT.**

**WHEREAS, Chapter 1, Article 8, Revised Ordinances of Honolulu 1990, requires that any intergovernmental agreement or any amendment thereto, which places an obligation upon the City or any department or agency thereof, receive the consent and approval of the Council of the City and County of Honolulu; and**

**WHEREAS, the Hawaii Community Development Authority (HCDA) owns an approximately 59,800 square feet open yard area adjacent to an 18,000 square foot warehouse commonly referred to as the former Look Lab Building on that certain real property located at 40 Ahui Street, Honolulu, Hawaii, 96813, and identified by Oahu Tax Map Key Parcel No. (1) 2-1-060:001 (por.) (the Property); and**

**WHEREAS, the Sidewalk-Nuisance Ordinance and Stored Property Ordinance Team and the Coning Branch Unit of the Department of Facility Maintenance (DFM), Division of Road Maintenance, currently occupy a section of the closed portion of Auahi Street; and**

**WHEREAS, the HCDA is willing to grant DFM temporary, nonexclusive use of a portion of the Property; and**

**WHEREAS, DFM wishes to use a portion of the open yard area of the Property for its Coning Branch Unit and to store, maintain, and administer its Sidewalk-Nuisance Ordinance and Stored Property Ordinance program; and**

**WHEREAS, the Council notes that the unauthorized encampment of numerous individuals in the vicinity of the Property discourages the use of the public facilities and amenities of Kakaako makai of Ala Moana Boulevard and poses a serious threat to public sanitation, health and safety; and**

**WHEREAS, the Director and Chief Engineer of Facility Maintenance, City and County of Honolulu, or his designated representative was approved to enter into a memorandum of agreement for use of a portion of the Property with HCDA with the adoption of Resolution 14-155, CD1 (the "Resolution"), in substantially the form attached to the Resolution; and**





**CITY COUNCIL**  
CITY AND COUNTY OF HONOLULU  
HONOLULU, HAWAII

ORDINANCE \_\_\_\_\_

BILL **15-161, FD1**

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**A BILL FOR AN ORDINANCE**

---

WHEREAS, DFM and HCDA were unable to enter into the memorandum of agreement on the terms set forth in the form attached to the Resolution; and

WHEREAS, HCDA has requested, and DFM is agreeable to, substantive changes to the form attached to the Resolution, including changes to the portion of the Property to be used by DFM and to DFM's obligations under the memorandum of agreement; and

WHEREAS, a proposed Memorandum of Agreement between HCDA and the City is attached hereto as Exhibit "1" and incorporated herein by this reference; now, therefore,

BE IT RESOLVED by the Council of the City and County of Honolulu that the Memorandum of Agreement between the Hawaii Community Development Authority and the City and County of Honolulu re: Use of a Portion of Open Space Located at 40 Ahui Street, Honolulu, Hawaii, TMK: (1) 2-1-60:001 (por.) within the Kakaako Community Development District, attached hereto as Exhibit "1", is hereby approved; and

BE IT FURTHER RESOLVED that the Director and Chief Engineer of Facility Maintenance, or the Director or Chief Engineer's designee, is hereby authorized to:

1. Execute Memorandum of Agreement on behalf of the City in substantially the form attached hereto as Exhibit "1"; and
2. Execute any other incidental or related agreements and documents in connection thereto as may reasonably be required so long as such agreements and documents do not incur additional obligations on the part of the City; and

BE IT FURTHER RESOLVED that in view of mounting community concerns regarding unauthorized encampments on the streets adjacent to the Property, including Ohe Street, Olomehani Street, Koula Street, and Ilalo Street, the Department of Facility Maintenance, the Office of Hawaiian Affairs and the Hawaii Community Development Authority are urged to work together with other area landowners and tenants to take immediate steps to address public sanitation and health and safety issues associated with such encampments; and

BE IT FINALLY RESOLVED that copies of this Resolution be submitted to the Director and Chief Engineer of the Department of Facility Maintenance, 1000 Uluohia Street, Suite 215, Kapolei, Hawaii 96707 and to Executive Director Anthony Ching of





**CITY COUNCIL**  
CITY AND COUNTY OF HONOLULU  
HONOLULU, HAWAII

ORDINANCE \_\_\_\_\_

BILL **15-161, FD1**

---

**A BILL FOR AN ORDINANCE**

---

the Hawaii Community Development Authority, 461 Cooke Street, Honolulu, Hawaii  
96813.

INTRODUCED BY:

Ernest Martin (BR)

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DATE OF INTRODUCTION:

June 3, 2015  
Honolulu, Hawaii

\_\_\_\_\_  
Councilmembers



# EXHIBIT 1



**MEMORANDUM OF AGREEMENT BETWEEN THE HAWAII COMMUNITY  
DEVELOPMENT AUTHORITY AND THE CITY AND COUNTY OF HONOLULU RE:  
USE OF A PORTION OF OPEN SPACE LOCATED AT 40 AHUI STREET,  
HONOLULU, HAWAII, TMK: (1) 2-1-60:001 (POR.) WITHIN THE KAKAAKO  
COMMUNITY DEVELOPMENT DISTRICT**

This Memorandum of Agreement ("MOA"), effective on this \_\_\_\_\_ day of \_\_\_\_\_, 2015, by and between the Hawaii Community Development Authority ("HCDA"), a body corporate and public instrumentality of the State of Hawaii, and the City and County of Honolulu Department of Facility Maintenance ("City"), through their respective authorized representatives (collectively, the "Parties"), relates to the City's use of HCDA's existing facilities on Oahu Tax Map Key Parcel No. (1) 2-1-60:001 (por.) within the Kakaako Community Development District in Kakaako, Oahu.

**W I T N E S S E T H**

WHEREAS, the HCDA owns an approximately 59,800 square feet open yard area adjacent to a 18,000 square foot warehouse commonly referred to as the former Look Lab Building on that certain real property located at 40 Ahui Street, Honolulu, Hawaii, 96813; and

WHEREAS, the City is interested in using a portion of the open yard area to store, maintain and administer its Sidewalk-Nuisance Ordinance ("Sidewalk-Nuisance Ordinance") under Chapter 29, Article 16 of the Revised Ordinances of Honolulu, as amended ("ROH") and Stored Property Ordinance ("Stored Property Ordinance") under ROH Chapter 29, Article 19; and

NOW, THEREFORE, BE IT RESOLVED that the Parties agree as follows:

1. **Grant of Right-of-Entry.** HCDA hereby grants to City and all of its members, employees, officers, directors, representatives, agents, invitees, guests, and independent contractors (collectively, "Permitted Persons") a nonexclusive right of entry to enter upon the Premises (as defined below) for the sole purpose of operating its Sidewalk-Nuisance Ordinance and Stored Property Ordinance Program and Coning Branch Unit. City is responsible for communicating and explaining the terms and conditions of this MOA to all Permitted Persons.

2. **Premises.** This MOA shall pertain to approximately 29,560 sf of open yard space, as depicted in the attached Exhibit "A", which is located on that certain real property located at 40 Ahui Street, Honolulu, Hawaii, identified by Oahu Tax Map Key Parcel No. (1) 2-1-060: 001 (por.) (the "Premises").



3. **Term and Duration.** The term of this MOA granted hereby shall be for a four (4) year term applicable from 8:00 a.m. on \_\_\_\_\_, 2015 ("Commencement Date") through 11:59 p.m. on \_\_\_\_\_, 2019 ("Termination Date"). This MOA shall automatically terminate on the Termination Date, unless earlier terminated as provided below. City agrees to be bound by the terms and conditions of the MOA and any amendments to this MOA.

4. **Use of Premises.** The MOA granted hereby shall be for the sole purpose of the City using the Premises for its Sidewalk-Nuisance Ordinance and Stored Property Ordinance Program and Coning Unit Branch, which includes but is not limited to, placing office trailers for personnel and program administration, and the storage of vehicles, equipment, personal property, impounded items from enforcement actions, and traffic signs and cones. Pursuant to the June 2009 Environmental Hazard Management Plan prepared for HCDA, attached hereto as Exhibit "B" and incorporated herein, the open yard space is covered by a 6-inch layer of gravel, which is intended to contain the soils therein. Unless City obtains the prior written permission of HCDA, which HCDA may withhold in its sole and absolute discretion, City's use of the Premises shall not result in the removal, substantial disturbance, or penetration of such gravel.

5. **Acknowledgement of Use by Other Persons.** City acknowledges that other persons or entities have the right to enter and/or use the Premises with the approval of HCDA, and with the exception of the uses considered in this MOA, shall not otherwise interfere with their use and enjoyment of the Premises; provided, however, that HCDA shall provide City with forty-eight (48) hours prior written notice of any persons or entities HCDA intends to allow on the Premises and a description of the purpose for such entry.

6. **Due Care and Diligence.** City will exercise due care and diligence in entering upon the Premises and will not disrupt or disturb in any way or in any manner whatsoever the activities customary to the operations of HCDA or its agents, and City shall exercise due care for public safety. At all times during the term of this MOA and upon the termination of this MOA, City shall be responsible for: (a) removing any debris or trash deposited by Permitted Persons on the Premises; (b) repairing any damage to the Premises caused by its use by Permitted Persons; and (c) restoring the Premises to its original or better than original condition. This provision shall survive the termination of this MOA.

7. **Indemnity.** Except to the extent caused by the gross negligence or willful misconduct of HCDA and/or its officials, directors, members, employees, and agents, City shall defend, indemnify, and hold harmless HCDA and the State of Hawaii, and their respective officials, directors, members, employees, and agents from and against any and all claims, actions, penalties, damages, liabilities, costs and expenses for loss



or damage, including property damage, personal injury and wrongful death, based upon or arising out of or in connection with: (a) City's breach of this MOA; (b) a Permitted Person's tortious conduct or violation of law; (c) any injury sustained or suffered by a Permitted Person while on the Premises; and (d) any other act or omission by a Permitted Person in any way relating to or arising out of this MOA (collectively, "Covered Claims"). Except to the extent caused by the gross negligence or willful misconduct of HCDA and/or its officials, directors, members, employees, and agents, City shall also reimburse HCDA for all its costs and expenses, including reasonable attorneys' fees, incurred in connection with HCDA's defense of any Covered Claims. This provision shall survive the termination of this MOA.

8. **Insurance.** (a) City shall obtain and maintain at all times at its own expense insurance coverage of the kinds and in amounts greater than or equal to those set forth below:

Commercial General Liability:

\$1,000,000 per occurrence and \$2,000,000 in the aggregate  
\$1,000,000 Completed Operations Aggregate Limit  
\$1,000,000 Each Occurrence Limit  
\$1,000,000 Personal & Advertising Limit

Worker's Compensation:

Coverage A: As required by Hawaii Laws  
Coverage B: Employer's Liability  
\$1,000,000 Bodily Injury by Accident Each Accident  
\$1,000,000 Bodily Injury by Disease  
\$1,000,000 Policy Limit and \$1,000,000 Each Employee

Automobile: \$500,000 per occurrence and \$1,000,000 in aggregate

- (b) The City at its sole option may self-insure any of the coverages required herein.
- (c) Prior to first entry onto the Premise, City shall provide to HCDA a letter indicting City's self-insurance coverage to show compliance with subsection (a) above.
- (d) City shall name the Hawaii Community Development Authority and the State of Hawaii and their respective officials, directors, officers, members, employees and agents as additional insureds.
- (e) HCDA shall be notified at least fifteen (15) days prior to the termination, cancellation or material change in City's insurance coverage.



- (f) City shall cover all injuries, losses or damages arising from, growing out of or caused by any acts or omissions of City or Permitted Persons in connection with City's use or occupancy of the Premises.
- (g) The procuring of such required policy or policies of insurance shall not be construed to limit City's liability under this MOA or to fulfill the indemnification provisions and requirements of this MOA. Notwithstanding said policy or policies of insurance, City shall be obligated for the full and total amount of any damage, injury, or loss caused by negligence or neglect connected with this MOA.
- (h) City shall keep such insurance in effect and the certificate(s) on deposit with HCDA during the entire term of this MOA. Upon request by the HCDA, City shall furnish a copy of the policy or policies.
- (i) Failure of City to provide and keep in force such insurance shall be regarded as a material default under this MOA and HCDA shall be entitled to exercise any or all of the remedies provided in this MOA for default of City
- (j) HCDA is a self insured State agency. City's insurance shall be primary. Any insurance maintained by the State of Hawaii shall apply in excess of, and shall not contribute with insurance provided by City

HCDA reserves the right to inspect and review all coverage, form, and amount of the insurance required by the above. If, in HCDA's sole discretion, the above insurance does not provide adequate protection for HCDA, it may require City to obtain insurance sufficient in coverage, form, and amount to provide adequate protection.

9. **Condition of Premises/Assumption of Risk.** City acknowledges receipt of the Hazardous Materials Survey Report prepared by EnviroServices & Training Center, LLC, dated April 17, 2006 ("Hazardous Materials Report"), attached hereto as Exhibit "B" and made a part hereof, which indicates the presence of hazardous materials and/or conditions in, on, and/or under the Premises and accepts the premises in "as is" condition. Notwithstanding the Hazardous Materials Report, City expressly agrees to be solely responsible for and shall indemnify, defend, and hold harmless HCDA and the State of Hawaii, and their respective officials, directors, members, employees, and agents from and against any loss, damage, cost, expense, or liability arising out of or attributable to the use, generation, manufacture, treatment, handling, refining, production, processing, storage, release, threatened release, discharge, disposal, or presence of hazardous materials on the Premises caused by City or Permitted Persons, including without limitation those resulting from the removal or construction of improvements, on, under, or about the Premises, including the costs of any required or necessary removal, repair, cleanup, or remediation of the Premises, and the preparation and implementation of any closure, removal, remedial, or other required plans, and all reasonable costs and expenses incurred by HCDA in connection therewith, including without limitation reasonable attorneys' fees. Except to the extent



caused by the gross negligence or willful misconduct of HCDA and/or its members, employees, officers, directors, representatives, agents, invitees, guests, and independent contractors, City further expressly agrees to waive and release any and all claims it may have against HCDA and the State of Hawaii with respect to any losses, damages, liabilities, costs and expenses, property damage, personal injury or wrongful death based upon or arising out of or in connection with the presence of hazardous materials or dangerous or defective conditions on or in the Premises. Except as otherwise provided herein, City hereby agrees and acknowledges that, except for the Hazardous Materials Report, HCDA has not made any representation or warranty, implied or otherwise, with respect to the condition of the Premises, including any dangerous or defective conditions existing in or on the Premises, whether or not such conditions are reasonably discoverable by HCDA or City. Except to the extent caused by the gross negligence or willful misconduct of HCDA and/or its members, employees, officers, directors, representatives, agents, invitees, guests, and independent contractors, City expressly agrees to indemnify, defend, and hold harmless HCDA and the State of Hawaii, and their respective officials, directors, members, employees, and agents from and against any and all claims, actions, penalties, damages, liabilities, costs and expenses for loss or damage, including property damage, personal injury and wrongful death based upon or arising out of or in connection with the presence of hazardous materials or dangerous or defective conditions on or in the Premises sustained by a Permitted Person. City further agrees that any property left on the Premises during the term of this MOA shall be left there at the sole risk of City. This provision shall survive the expiration or earlier termination of the MOA.

10. **Compliance with Laws and Regulations.** City shall, at all times during the term of this MOA, observe and comply with all applicable laws, rules and regulations, whether County, State or federal, including but not limited to, the laws applicable to the use of the Premises and the securing of any and all necessary governmental and other approvals and permits for use of the Premises.

11. **Prohibited Use.** Any use of the Premises not authorized in Paragraph 4 above shall constitute a material breach of this MOA and upon such breach, HCDA may terminate this MOA forthwith without notice and pursue any other remedies to which HCDA is entitled to by law or under this MOA.

12. **Improvements:** City shall not construct any improvements of any kind or nature upon the Premises or any other properties of HCDA without HCDA's express prior written consent, which consent may be granted or withheld in HCDA's sole discretion. Any improvements, including but not limited to structures, erected on or moved onto the Premises by City shall remain the property of City and City shall have the right, prior to the termination or revocation of this MOA, or within an additional period HCDA in its discretion may allow, to remove the improvements from the Premises; provided, however, that in the event the City shall fail to remove the



improvements prior to the termination or revocation of this MOA or within an additional period HCDA may, in its sole discretion, elect to retain the improvements or may remove the same and charge the cost of removal and storage, if any, to City. This provision shall survive the termination of this MOA.

13. **No Lien.** City shall not: (a) create, incur, or assume any attachment, judgment, lien, charge, or other encumbrance on the Premises or any improvements thereon; or (b) suffer to exist any such encumbrance other than one created, incurred, or assumed by HCDA.

14. **Non-transferrable.** This MOA or any rights hereunder shall not be sold, assigned, conveyed, or otherwise transferred or disposed of without HCDA's express prior written consent.

15. **Additional Terms and Conditions.**

- (a) No one may reside on the Premises, and the Premises may not be accessed for any other purpose except as authorized.
- (b) City shall furnish, at its sole expense, a minimum of six (6) fully charged and operable portable fire extinguishers which shall be placed at regular intervals along normal paths of travel within 75 feet travel distance for every 3000 square feet of space.
- (c) Animals, plants, rocks, dirt, asphalt and other materials that are on or part of the Premises shall not be harmed or removed from the Premises.
- (d) If City continues to enter or remain on the Premises after the Termination Date, City shall pay HCDA as liquidated damages \$500 for each calendar day (or part thereof) that such unlawful entrance and occupation of the Premises continues beyond the Termination Date. Such damages are not a penalty, but rather are reasonable estimates of the losses that HCDA would suffer and that the Parties acknowledge would be difficult to ascertain under the circumstances triggering the damages and are HCDA's exclusive remedy, other than equitable relief (such as an injunction barring City from entering and remaining on the Premises) or legal relief (in the form of eviction of City from the Premises or similar legal relief, but not damages) for such entrance or use.
- (e) HCDA will issue City one entry key to the Premises and shall return the key to HCDA on the day that this MOA terminates. City shall not make any unauthorized duplication of the key.



- (f) HCDA reserves the right to impose, by mutual written agreement between HCDA and City, additional terms and conditions, if deemed necessary.

16. **Termination.** Either party may terminate this MOA at any time with sixty (60) days written notice to the other party in accordance with Paragraph 17 below.

17. **Notices.** Any notice, request, demand, or other communication required or permitted to be given or made under this MOA by either party hereto shall be in writing and shall be deemed to have been duly given or served if: (a) personally delivered; (b) sent by mail, postage prepaid and certified with return receipt requested; (c) transmitted by facsimile, or (d) sent by e-mail with request for delivery confirmation, at the address, facsimile number, or e-mail address given below:

Hawaii Community Development Authority  
Attention: Anthony Ching, Executive Director  
461 Cooke Street, Honolulu, Hawaii 96813  
Telephone: (808) 594-0300  
Facsimile: (808) 594-0299

City and County of Honolulu, Department of Facility Maintenance  
Attention: Ross S. Sasamura, Director & Chief Engineer  
Kapolei Hale  
1000 Uluohia Street, Suite 215, Kapolei, Hawaii 96707  
Telephone: (808) 768-3343

18. **Headings/Captions.** The headings and captions of paragraphs or other parts hereof are for convenience of reference only and are not to be used to construe, interpret, define, or limit the paragraphs to which the respective headings and captions may pertain.

19. **Governing Law.** This MOA shall be governed by and construed under the laws of the State of Hawaii.

20. **Counterparts.** This MOA may be executed in several duplicate counterparts and such counterparts, when executed, shall constitute a single agreement.

21. **Entire Agreement.** This MOA constitutes the entire agreement and understanding between the Parties and shall supersede any and all prior communications, representations, or agreements, both verbal and written, between the Parties regarding the use of the Premises. This MOA cannot be modified except by a written instrument signed by both Parties.



IN WITNESS WHEREOF, HCDA and City have caused this MOA to be executed as of the day and year first above written.

Hawaii Community Development Authority

By: \_\_\_\_\_  
Anthony J.H. Ching  
Executive Director

APPROVED AS TO FORM:

\_\_\_\_\_  
Deputy Attorney General

City and County of Honolulu, Department of  
Facility Maintenance

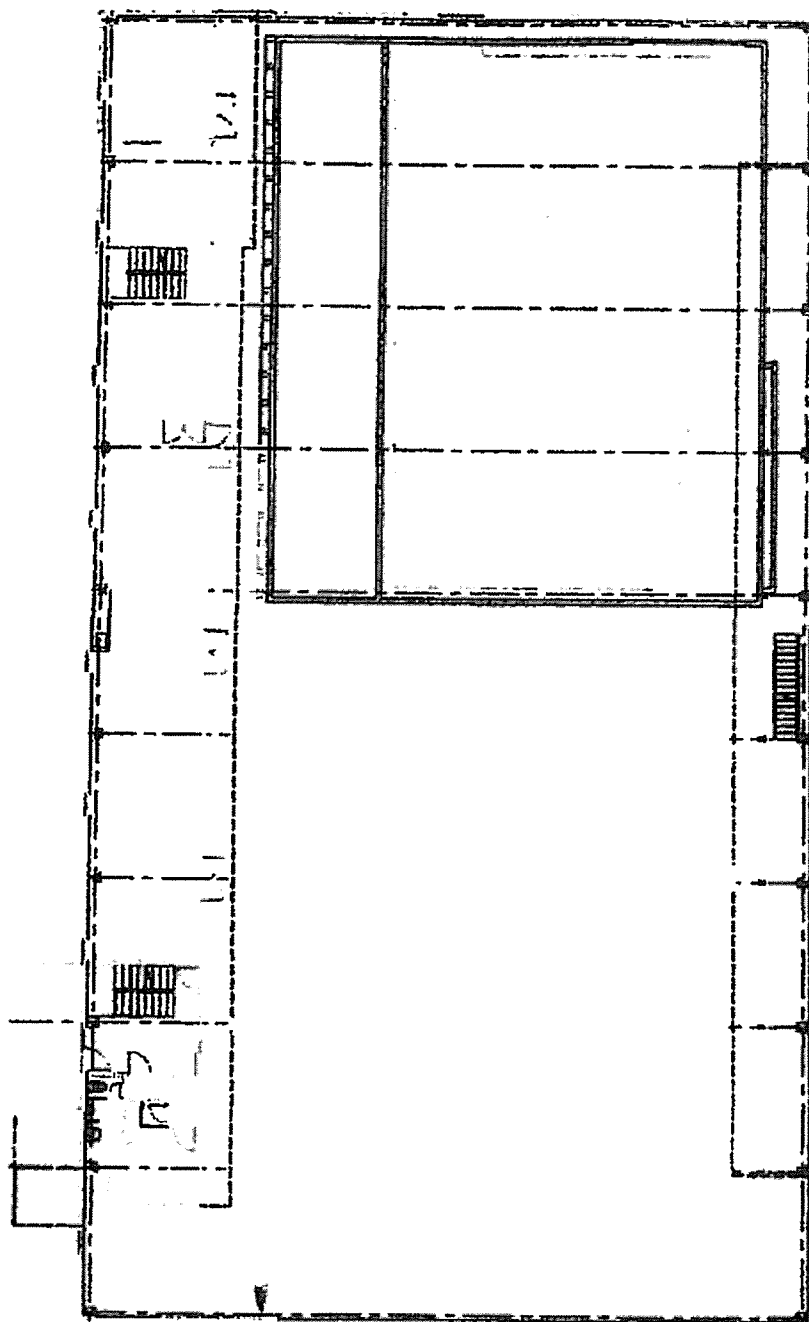
By: \_\_\_\_\_  
Ross S. Sasamura  
Director & Chief Engineer

APPROVED AS TO FORM AND LEGALITY:

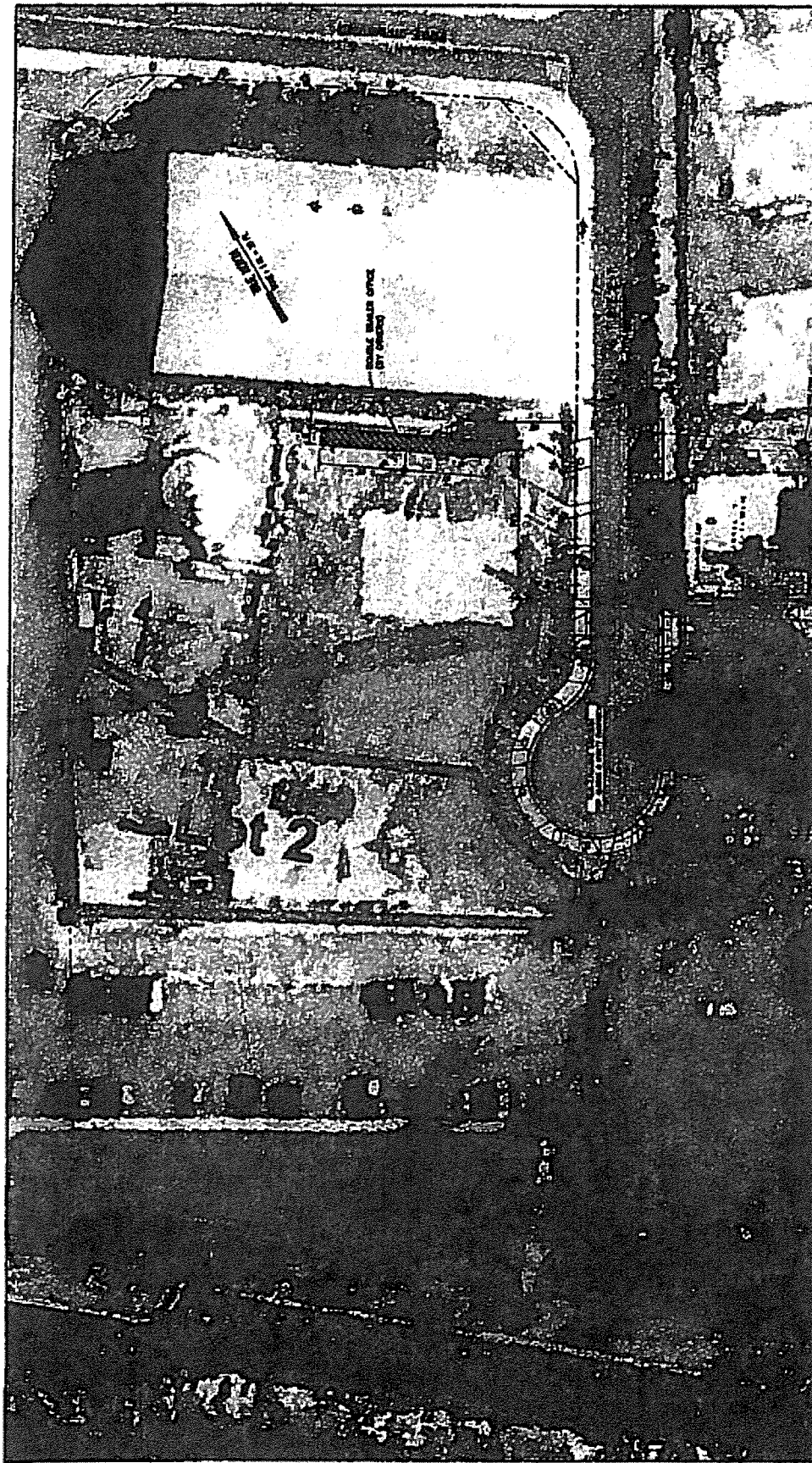
\_\_\_\_\_  
Deputy Corporation Counsel



Exhibit A  
Look Lab Building  
Ground Floor







DATE	FILE	PROJECT
HENRY C. GONZALES & ASSOCIATES, INC. 1000 KALANOA AVENUE, SUITE 100 HONOLULU, HAWAII 96813		

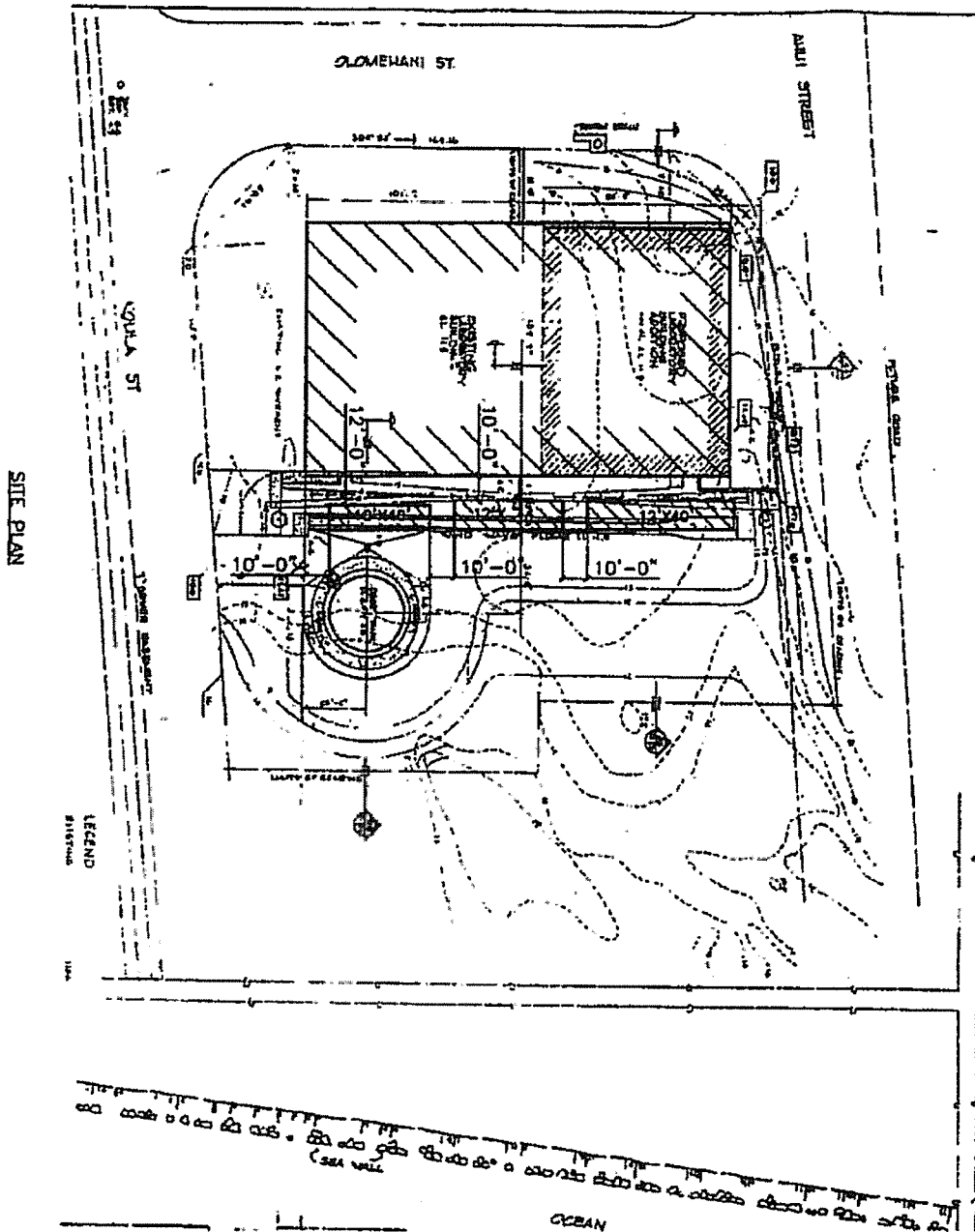


**SITE PLAN**  
SCALE 1"=20'

**Exhibit A**  
**40 Ahui Street**  
**TMK: (1)-2-1-60-1 (por.)**  
**Site Plan**



Exhibit A  
40 Ahui Street  
TMK: (1)-2-1-60-1 (por.)  
Site Plan



DEPARTMENT OF DESIGN AND CONSTRUCTION CITY & COUNTY OF HONOLULU		PREPARED BY _____	
DFM RELOCATION OF TRAILERS TO AHI ST.		CHECKED BY _____	
ADDRESS 40 AHI ST.		DATE _____	
SHEET NO. A-1		TOTAL SHEETS 1	
SCALE 1" = 10'		DRAWN BY _____	
DATE 10/10/10		REVIEWED BY _____	



**ENVIRONMENTAL HAZARD MANAGEMENT PLAN**

**KAKAAKO MAKAI DISTRICT**  
Honolulu, Oahu, Hawaii

Prepared For:  
**HAWAII COMMUNITY DEVELOPMENT AUTHORITY**  
677 Ala Moana Boulevard, Suite 1001  
Honolulu, Hawaii 96813

Prepared By:  
**THE LIMTIACO CONSULTING GROUP**  
650 Iwilei Road, Suite 208  
Honolulu, Hawaii 96817

and

**ENVIROSERVICES & TRAINING CENTER, LLC**  
505 Ward Avenue Suite 202  
Honolulu, Hawaii 96814  
tel: (808) 839-7222

June 2009



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## ACRONYMS

AST	aboveground storage tank
bgs	below ground surface
BMPs	Best Management Practices
BTEX	benzene, toluene, ethylbenzene, xylenes
C&C	City and County of Honolulu
COC	contaminants of concern
COPC	contaminants of potential concern
CSM	conceptual site model
DBCP	1,2-dibromo-3-chloropropane
DOH	State of Hawaii, Department of Health
DPW	Department of Public Works
DWWM	Department of Wastewater Management
EAL	DOH Tier 1 Environmental Action Levels
EHE	Environmental Hazard Evaluation
EHMP	Environmental Hazard Management Plan
EPA	U.S. Environmental Protection Agency
ESA	Environmental Site Assessment
ETC	EnviroServices and Training Center, LLC
HCDA	Hawaii Community Development Authority
HEER	Hazard Evaluation and Emergency Response
µg/l	micrograms per liter
mg/kg	milligrams per kilogram
MtBE	methyl tertiary-butyl ether
ng/kg	nanograms per kilogram
PAHs	polynuclear aromatic hydrocarbon
PBRC	Pacific Biosciences Research Center
PCBs	polychlorinated biphenyls
RCRA	Resource Conservation and Recovery Act
PPE	personal protective equipment
PRGs	Preliminary Remediation Goals
SSHP	Site-specific Safety and Health Plan
SVOCs	semi-volatile organic compounds
TEQ	Toxic Equivalency
TLCG	The Lintiac Consulting Group
TMK	Tax Map Key
TPH	total petroleum hydrocarbons
TPH-D	TPH as diesel
TPH-G	TPH as gasoline
TPH-O	TPH as oil
UH	University of Hawaii
UIC	Underground Injection Control
UST	underground storage tank
VOCs	volatile organic compounds
WWPS	wastewater pump station



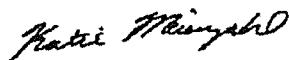
## **1.0 CERTIFICATIONS AND LIMITATIONS**

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The Limtiaco Consulting Group (TLCG) and EnviroServices & Training Center, LLC (ETC) have completed this Environmental Hazard Management Plan (EHMP) for the Kakaako Makai District (see Figure 1). The findings and conclusions contained herein are professional opinions based solely upon visual observations and interpretation of the historical information and documents available to TLCG and ETC at the time this EHMP was prepared.

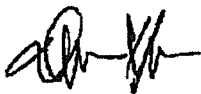
This report is intended for the sole use of the Client, State of Hawaii, Hawaii Community Development Authority (HCDA), exclusively for the project site indicated. The scope of services performed in execution of this project may not be appropriate for satisfying the needs of other users, and any use or reuse of this report or the findings and conclusions presented herein is unauthorized and at the sole risk of said user.

TLCG and ETC make no guarantee or warranty; either expressed or implied, except that our services are consistent with good commercial or customary practices designed to conform to acceptable industry standards and governmental regulations. No warranty or representation, expressed or implied, is included or intended in its proposal, contracts, or reports. Opinions stated in this report apply only to the site as outlined and apply to the conditions present at the time of the project. Moreover, these opinions do not apply to future site changes.



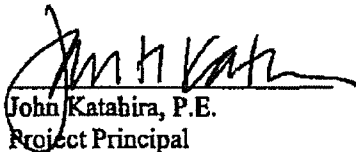
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Katie Meisenzahl  
Environmental Scientist



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Damon Hamura  
Project Engineer



John Katahira, P.E.  
Project Principal



## 2.0 INTRODUCTION/PURPOSE

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The Limtiaco Consulting Group (TLCG) was retained by the Hawaii Community Development Authority (HCDA) to prepare this Environmental Hazard Management Plan (EHMP) for portions of the Kakaako Makai District in Honolulu, Oahu, Hawaii (site) as part of a larger project. EnviroServices & Training Center, LLC (ETC) was contracted by TLCG to assist with preparation of this EHMP.

The subject of this EHMP is portions of the Kakaako Makai District. These portions include certain land areas located southwest (makai) of Ala Moana Boulevard, bounded by Forrest Avenue to the northwest and the Kewalo Basin to the southeast. The specific parcels being evaluated in this EHMP include the following Tax Map Key (TMK) parcels with the name referenced in the EHMP in parentheses:

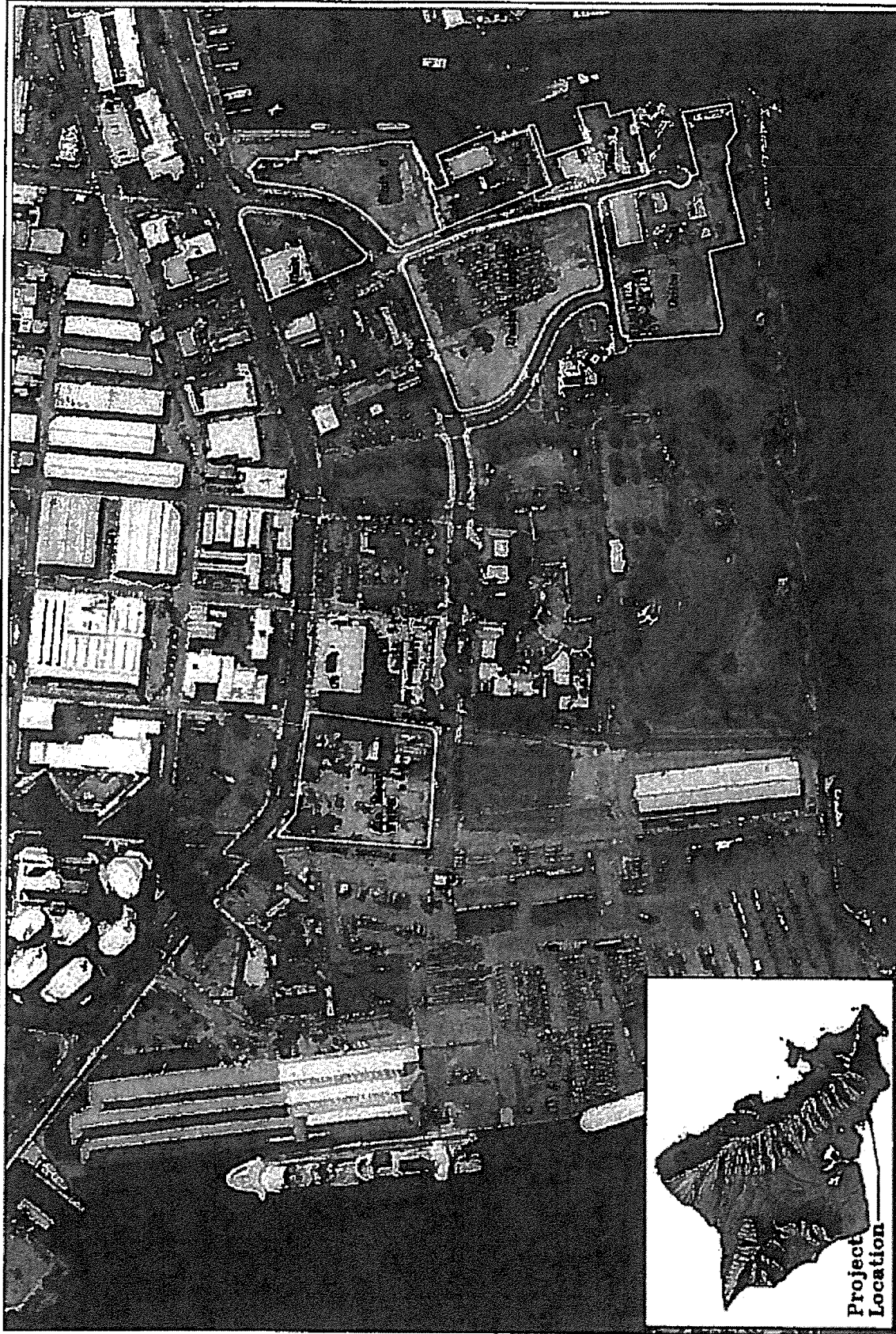
- 2-1-060: Parcels 4 and 6 (Unit 1)
- 2-1-060: Parcel 2 (Unit 2)
- 2-1-060: Parcel 5 (Unit 3)
- 2-1-060: Parcel 1 (Unit 4)
- 2-1-058: Parcel 6 (Unit 5)
- 2-1-058: Portion of Parcel 95 (Unit 6)
- 2-1-058: Parcels 2, 47, and 107 (Unit 7)
- 2-1-058: Parcels 41, 82 to 86, and 91 (Unit 8)
- 2-1-015: Parcels 22, 23, 43, 44, and 53 (Ala Moana Wastewater Pump Station)

Figure 1 shows the various areas encompassed by this EHMP.

Previous investigations at these sites generally included the collection and analysis of soil and groundwater samples. A more detailed analysis of the previous investigations can be found in the June 2009 *Environmental Hazard Evaluation* (EHE) prepared by TLCG and ETC. The contaminants targeted in these investigations included total petroleum hydrocarbons (TPH) of varying carbon ranges (gasoline, diesel, oil), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) including polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), heavy metals, various pesticides, and dioxins/furans.

The risks associated with these contaminants will be managed under this EHMP in general accordance with the Hawaii Department of Health's (DOH) June 2007 document, *Long Term Management of Petroleum-Contaminated Soil and Groundwater*. The EHMP is meant to document the extent and magnitude of the contaminated soil and groundwater left in place at the site, summarize the potential environmental hazards associated with the contamination, and provide details for the long term management of the contamination.





Aerial Photo Source: Google, 2008



EnviroServices &  
Training  
Center LLC

Project  
on-Item  
Not to Scale  
June 2009

Figure 1  
Site Location Map  
Environmental Record Management Plan  
Kalamazoo Motor District  
Hosokawa, Ohio, Enroll



### **3.0 SITE BACKGROUND**

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#### **3.1 Site Description**

The project area is currently owned by HCDA and consists of approximately 35 acres of land within the Kakaako Makai District (Figure 1). The land areas being evaluated include Kakaako Brownfields Project Units 1 through 8 and the Ala Moana Wastewater Pump Station property. These areas encompass TMKs 2-1-060: Parcels 1, 2, 4, 5, and 6; 2-1-058: Parcels 2, 6, 41, 47, 82 to 86, 91, 95 (portion), and 107; and 2-1-015: Parcels 22, 23, 43, 44, and 53.

#### **3.2 Site History and Land Use**

##### ***3.2.1 Area Wide History - Kakaako Makai District***

The original southern coastline of Honolulu generally followed the present location of Ala Moana Boulevard and the Kakaako Makai District was previously situated at or below sea level. Between 1913 and 1927, a seawall was constructed and artificial "fill" materials were deposited behind the seawall. The fill material consisted of ash from the burning of municipal refuse, unburned refuse, construction debris, household debris, automobile batteries, and other miscellaneous refuse items. The deposited fill material caused the coastline to move south and thereby established new land for development in the Kakaako Makai District. In 1930, the first of two incinerators was built on the southeast portion of Ahui Street. In the mid 1940's, a second incinerator was also constructed in the area (Noda and Cotton, 1997). From the late 1940's until the 1960's, land areas seaward of both incinerators were expanded to the south with fill material and ash from the incinerators.

On October 30, 1997, the U.S. Environmental Protection Agency (EPA) granted the DOH funds to proceed with a brownfields study in the Kakaako Makai District. The DOH forwarded the funds to the HCDA to evaluate the extent of contamination within the area and proceed with redeveloping the area if possible. Since this time, a number of investigations have been performed within the Kakaako Makai District and certain areas have been developed, including the Kakaako Waterfront Park and the Children's Discovery Center.

The site investigations revealed that certain portions of the investigation area were impacted by various contaminants as a result of the fill materials used to create the Kakaako Makai District and from previous commercial/industrial land use. In 2006, the State of Hawaii mandated by law that the Kakaako Makai District could not be used for residential purposes. The Hawaii Revised Statutes §206E-31.5 states:



**Prohibitions.** Anything contained in this chapter to the contrary notwithstanding, the authority is prohibited from:

(1) Selling or otherwise assigning the fee simple interest in any lands in the Kakaako community development district to which the authority in its corporate capacity holds title, except with respect to:

- (A) Utility easements;
- (B) Remnants as defined in section 171-52;
- (C) Grants to state or county department or agency; or
- (D) Private entities for purposes of any easement, roadway, or infrastructure improvements; or

(2) Approving any plan or proposal for any residential development in that portion of the Kakaako community development district makai of Ala Moana Boulevard and between Kewalo basin and the foreign trade zone. [L 2006, c 317, §1]

Therefore, any residential development in the Kakaako Makai District area is strictly prohibited.

### **3.2.2 Kakaako Brownfields Project Units 1 and 3**

Records indicate that Unit 1 was previously divided into three separate use areas. The north portion of Unit 1 contained five metal-framed buildings and one modular building; the remainder of the area was paved. The north portion was used for light maintenance activities and yard space by the City & County of Honolulu (C&C) Department of Transportation Services, Traffic Signs and Street Lighting Maintenance Section and the Department of Public Works (DPW), Survey Office and Materials Testing Laboratory. This area contained transformers that could have been filled with PCBs. Additionally, the Traffic Sign Yard previously contained several underground storage tanks (USTs) for fueling that had been removed. Two groundwater monitoring wells were also observed indicating that the USTs may have leaked.

The south portion of Unit 1 was utilized by the C&C DPW, Refuse Collection Division. The majority of the area was used for parking refuse collection vehicles; however, there was a single modular building with several storage sheds for light maintenance work located on the north portion of this area.

The seaward half of the south portion was utilized for employee parking and was paved in patches.

Unit 3 was utilized as the main baseyard for conducting heavy maintenance. The area contained approximately ten structures and three USTs for fueling operations. The USTs were replaced with aboveground storage tanks (ASTs) in 1999. The entire area associated with Unit 3 was covered with either a structure or pavement.



### **3.2.3 Kakaako Brownfields Project Units 2 and 4**

Records indicate that from 1956 to 1993, Unit 2 was utilized as a C&C baseyard. Activities included maintenance and repair of automotive and heavy equipment, vehicle fueling, painting, and welding. The area contained three structures on concrete slabs and the majority of the land area was paved. The northern portion of Unit 2 contained a 500-gallon diesel UST (UST Facility ID 9-103095) that was removed in August 1993. The UST had been used for prior boiler operations and several holes were observed in the tank when it was removed from the ground. Subsequent release response activities and groundwater monitoring were performed from 1995 to 2002, including contaminant plume delineation. The DOH issued a "no further action" required letter on May 24, 2002 in regards to the UST.

Since 1965, Unit 4 has been leased by the University of Hawaii (UH), which constructed and occupied the J.K.K. Look Laboratory and the Pacific Biosciences Research Center (PBRC). Structures on the site included six buildings, an animal pen, and a gas pump shed. The Look Lab was formerly used for marine research and ocean engineering activities, which included physical testing and hyperbaric studies. The Look Lab was also formerly the site of the State of Hawaii hyperbaric treatment center. PBRC is a branch of UH which operates as an educational and research facility (EKNA, 1997). File review also indicated that one 8,000-gallon methanol-gasoline UST (UST Facility ID 9-102414) located on the west portion of Unit 4 was removed in May 1998 and no release was observed.

### **3.2.4 Kakaako Brownfields Project Unit 5**

Unit 5 has historically served as office space for the Army and Air Force Exchange System and the State of Hawaii. Previous investigations noted that Unit 5 is generally upwind and at the outer limit of the area that may have been impacted by aerial ash fall from the former Kewalo Incinerator facility (EKNA, 1999).

### **3.2.5 Kakaako Brownfields Project Unit 6**

Since 1933, Unit 6 had been utilized as a tuna processing plant by Hawaiian Tuna Packers. Their operations included fish processing and canning as well as ice creation. Four USTs were removed from the site; one tank stored gasoline and three tanks stored bunker oil for fueling the boilers. In 1999, the buildings that housed these operations were demolished.



### ***3.2.6 Kakaako Brownfields Project Unit 7***

Unit 7 has been utilized as a shipyard by Honolulu Marine, Inc. from 1950 until the present. Prior to 1950, the area was a part of the tuna processing plant operated on Unit 6. The shipyard activities include ship building, painting, metal and fiberglass work, repairs, maintenance, and fuel transfers.

### ***3.2.7 Kakaako Brownfields Project Unit 8***

Records indicate that from 1949 through 1955, Unit 8 was used as an ash and refuse storage and disposal area. After 1955, Unit 8 was occupied by GRG Enterprises, Inc. who sub-leased warehouse areas on the site to various companies for industrial activities such as fish brokering, processing, and sales. In 1999, EKNA observed several fill ports around the Basin Marine sub-tenant that indicated fuel USTs were present. Previous investigations indicated that in 2002 there were six buildings and three trailers at the site (AMEC, 2002). Additionally, a UST excavation area located on the eastern central portion of the unit was identified along with a hydraulic lift area. Between 2002 and 2007, the tenant leases expired and the buildings were demolished.

### ***3.2.8 Ala Moana Wastewater Pump Station Property***

The B.P. Bishop Estate originally owned the land known as the Ala Moana Wastewater Pump Station (WWPS) area and deeded the area to the Hawaiian Government on September 9, 1891. As a result of an outbreak of bubonic plague in 1898, the Department of the Interior contracted Rudolph Hering to engineer Honolulu's sanitary sewer system. In 1900, the historic Ala Moana Wastewater Pump Station and a Screen House were constructed on TMK 2-1-15: Parcel 44 located on the corner of Ala Moana Boulevard and Keawe Street. Sewage historically arrived via the single story Screen House and was pumped to the 1900 Pumping Station. Construction drawings from 1898 indicated that the Screen House contained a pit approximately 11'-9" below the finish floor level which led to the underground storage reservoir located on TMK 2-1-15: Parcel 43. The wastewater was eventually discharged into the ocean at a depth of 40 feet.

Two additions were later built to support the facility. In 1925, an additional building was constructed to house a high-speed, electric powered pump and was later demolished in 1979. The 1900 Pump House was turned into a machine shop, storeroom and office after the construction of the 1925 Pump House and remained in operation until 1982. In 1939 a second Pump House (aka 1939 Pump House) was constructed with a pit located approximately 34 feet below grade.

The use of the Historic Ala Moana WWPS was discontinued by the C&C when the new pumping station was built in 1955 on TMK 2-1-15: Parcels 22 and 23 on the corner of Ilalo Street and Keawe Street. The new pumping station is currently in operation and consists of two buildings, WWPS #1 and WWPS #2. The 1900 Pump House, the 1939 Pump House, and the 1900 Screen House were classified as historical buildings and in 1979 the 10,000 square foot underground storage reservoir was backfilled.



TMK 2-1-15: Parcel 53 is located west of the new and historical pumping stations. In 1918 the Territory of Hawaii transferred the majority of the harbor as well as the area in Parcel 53 to the War Department by Executive Order #2901. The area was known as part of the 75-acre Fort Armstrong Complex. Ownership of the land was transferred to Inter-Island Steam Navigation Company, Ltd, then to Overseas Terminal, Ltd. and finally to the Territory of Hawaii in 1950. The State of Hawaii now uses this area as a container yard and for harbor support facilities. C&C drawings from 1953 indicate that a warehouse with boiler room facilities was located in this area. However, all structures have since been removed. The area was leased to Motor Imports International from 1985 through 1991 who utilized the area as a temporary storage site for vehicles. Then from 1991 through 1998, the site was leased to Mark Snyder & Associates dba Hawaii Port Processors for the same purpose.

### **3.3 Current Land Use**

#### **3.3.1 Kakaako Brownfields Project Units 1 and 3**

Kakaako Brownfields Project Units 1 and 3 consist of approximately 7.5 acres located between Ilalo Street and Olomehani Street. Unit 1 is identified by TMK 2-1-60: Parcels 4 and 6 and Unit 3 is identified by TMK 2-1-60: Parcel 5. Since the closure of the C&C baseyards on these units, nearby Ohe Street has been rerouted through Parcels 4 and 6 and the portion of Koula Street between Units 1 and 3 has been closed. The resulting area has recently been referred to as the "Piano Lot" based on its shape. There are currently no structures present on the combined Units 1 and 3, and groundcover currently consists of bare soil and gravel. A portion of the combined Units 1 and 3 is temporarily utilized for vehicle parking.

#### **3.3.2 Kakaako Brownfields Project Units 2 and 4**

Kakaako Brownfields Project Units 2 and 4 consist of approximately 11.4 acres of improved land located south of Olomehani Street. Unit 2 is identified as TMK 2-1-60: Parcel 2 and is surrounded by Kakaako Waterfront Park to the northwest and southwest. Unit 4 is located southeast of Unit 2 and is identified as TMK 2-1-60: Parcel 1. Both units exhibit a slight to moderate gradient towards Olomehani Street. Unit 2 is currently vacant with no structures present and consists of bare soil, gravel, and intermittent areas of pavement. Limited vehicle parking occurs on Unit 2.



Unit 4 is currently being leased by the UH PBRC and encompasses an L-shaped area. Koula Street, which previously separated Units 2 and 4, has been converted into a paved driveway that leads to the southern parking lot on Unit 4. An additional asphalt paved parking lot is located to the east and can be accessed from Ahui Street. Two structures remain on the unit; the warehouse for the former Look Lab is located on the northern portion of the site and the PBRC research building is located on the southeastern portion of the unit. A large majority of the structures located in the central portion of Unit 4 have been demolished and only the concrete foundations remain. Additionally, an empty AST (reportedly a former hyperbaric chamber) stands south of the former Look Lab warehouse. The majority of the groundcover at Unit 4 consists of bare soil, gravel, and pavement.

### ***3.3.3 Kakaako Brownfields Project Unit 5***

Unit 5 consists of a single 2.2-acre area identified as TMK 2-1-58: Parcel 6 located at the southwestern corner of the Ala Moana Boulevard and Ward Avenue intersection. A five-story reinforced concrete structure on the unit is occupied by various State of Hawaii agencies, including the DOH. The remainder of the parcel is composed of an asphalt parking lot and landscaped areas.

### ***3.3.4 Kakaako Brownfields Project Unit 6***

The Kakaako Brownfields Project Unit 6 consists of 3.6 acres located between the Kewalo Basin and Ward Avenue and is identified as the northwestern portion of TMK 2-1-58: Parcel 95. The Fisherman's Wharf restaurant is located on the eastern portion of the Parcel, but is not included in Unit 6. The northern portion of the unit has been paved and is utilized for vehicle parking; however, the southern portion of the unit is vacant and consists of gravel and sparse vegetation.

### ***3.3.5 Kakaako Brownfields Project Unit 7***

Unit 7 is situated between Kewalo Basin and Ahui Street at TMK 2-1-58: Parcels 2, 47, and 107. The 2.5-acre site is currently leased by Honolulu Marine, Inc. for shipyard activities. The site contains a one story warehouse located adjacent to Kewalo Basin and several boat docking areas fronting the structure. Additionally, a boat ramp is located on the northern portion of the unit. A conveyor system is located adjacent to Ahui Street to bring the water craft into the maintenance area. A retaining wall is constructed on the south and eastern corner of the unit around the unpaved parking area.



### **3.3.6 Kakaako Brownfields Project Unit 8**

Unit 8 is located south of Unit 7 between Kewalo Basin and Ahui Street and consists of approximately 2 acres. The area is identified as TMK 2-1-58: Parcels 41, 82 through 86, and 91 and was previously utilized by various industrial tenants. Currently, the site is vacant and all of the structures on the site have been demolished, leaving only the concrete foundations. The groundcover within the majority of the site consists of concrete slabs, asphalt pavement, and imported fill material (coral sand). The remainder of the site consists of bare soil, gravel and sparse vegetation.

### **3.3.7 Ala Moana Wastewater Pump Station**

The Ala Moana Wastewater Pump Station area consists of 5.2 acres located on the southwest corner of Ala Moana Boulevard and Forrest Avenue. The area is identified as TMK 2-1-15: Parcels 22, 23, 43, 44, and 53. Parcels 22 and 23, located on the northwest corner of Ilalo Street and Keawe Street contain the active Ala Moana Wastewater Pump Station. The active Pump Station consists of two buildings and a paved parking area. The majority of the site is paved; however, there is a small landscaped area on the southeastern corner of the site. Currently the active Ala Moana Wastewater Pump Station is the largest in the State of Hawaii and conveys wastewater from two force mains to the Sand Island Wastewater Treatment facility.

The historic Ala Moana Wastewater Pump Station is located on Parcels 43 and 44 on the southwestern corner of Ala Moana Boulevard and Keawe Street. The three historic structures ("1900 Pump House," "1939 Pump House," and "Screen House") that remain on the Historic Ala Moana Pumping Station site are included on both the National Register of Historic Places (1978) and the State Register of Historic Places (1977).

Parcel 53 located to the west of the active and historic Pump Stations is currently utilized as a construction baseyard area. The northern portion of Parcel 53 contains a trailer office and is mainly used to stage vehicles, equipment, and materials. The groundcover throughout the entire parcel consists of gravel and bare soil.

## **3.4 Future Use**

Future use of the Kakaako Makai District by law is currently limited to non-residential activities. Long-term development plans for the area have not yet been determined. Plans for interim use of the various areas have generally been identified as commercial in nature. The exception to this would be Unit 8, which is anticipated to be used as a fishing area for children as part of a tag and release program.



### **3.5 Climatologic Conditions**

The main features of Oahu's climate include mild temperatures throughout the year ranging from 88°F (31°C) to 74°F (23°C) and moderate humidity of 53% during the day. The northeasterly trade winds generated by a high pressure center north of the islands are the dominant factor that governs the climate in Hawaii. Two mountain ranges on Oahu, the Koolau Mountains which extend along the northeastern side of the island and the Waianae Mountains which extend along the southwestern side of the island, influence every aspect of the climate. Both mountain ranges serve to block the trade wind moisture and as a result, showers occur almost daily on the windward side while on the leeward side showers are light. The trade winds are generally strongest during the summer (May through October) and are periodically disrupted by storms in the winter (October through April), which result in heavy rain and thunderstorms throughout the island. At the site, the average annual rainfall reported by the U.S. Department of Agriculture is between 10 to 40 inches, most of which occurs during the winter months.

### **3.6 Geology and Hydrogeology**

#### **3.6.1 Regional Geology**

Oahu is formed by the erosional remnants of two shield volcanoes. These are the Waianae range to the west and the Koolau range to the east. The Waianae volcano is estimated to have formed 2.4 to 3.6 million years before present. It consists of a tholeiitic lava shield with a thick cap of transitional to alkalic rock. Rejuvenation-stage volcanics of undifferentiated age occur in Kolekole Pass and on the south flank of the Waianae shield. Dike orientations define northwest and southwest rift zones (Macdonald, et al., 1983).

The Koolau volcano is estimated to have formed 1.8 to 2.6 million years before the present. It consists of a tholeiitic lava shield and lacks an alkalic cap. It has well defined major dike complex trending northwest-southwest. A third, minor rift zone referred to as the Kaau rift trends southward from Kaau crater, near the upland crest of the Koolau Ridge. After a long dormant period and periods of deep erosion, the Koolau volcano developed abundant and scattered rejuvenation-stage vents, typically aligned on northeast-striking fissures (Macdonald, et al., 1983).

#### **3.6.2 Site Geology**

The soil at the property is mapped as mixed fill land, which consists of areas filled with material dredged from the ocean or hauled from nearby areas, garbage, and general material from other sources. Fill land occurs primarily near Pearl Harbor and in Honolulu, adjacent to the ocean. Average annual rainfall in the area is less than 200 cm per year. This land type is generally used for urban development including airports, housing areas, and industrial facilities (USDA, 1972).



As described in Section 3.2.1, prior to 1913, the southern coastline of Honolulu generally followed the present location of Ala Moana Boulevard. Artificial fill was used to expand the coastline seaward starting in 1913. Artificial fill used to create the current property included municipal waste and municipal incinerator ash.

### ***3.6.3 Regional Hydrogeology***

Basal groundwater is formed by rainwater percolating down through the residual soils and permeable volcanic rock. The entire island situated below sea level, except within rift zones of the volcanoes, is saturated with ocean salt water and thus forms a basal lens called the "Ghyben-Herzberg" lens. A zone of transition between the fresh groundwater and the ocean salt water occurs due to the constant movement of the interface as a result of tidal fluctuations, seasonal fluctuations in recharge and discharge and aquifer development (Macdonald, et al., 1983).

Downward percolation of rainwater may be stopped by impermeable layers such as dense lava flows, alluvial clay layers and volcanic ash. The groundwater then forms a perched or high level aquifer, which is not in contact with salt water. Recharge of the aquifer occurs in areas of high rainfall, which are the interior mountainous areas. The groundwater flows from the recharge areas to the areas of discharge along the shoreline. Frictional resistance to groundwater flow causes it to pile up within the island until it attains sufficient hydraulic head to overcome friction. Thus, basal groundwater tends to slope toward the shoreline.

### ***3.6.4 Site Hydrogeology***

According to Mink & Lau, 1990, the property is underlain by the Nuuanu Aquifer System, which is part of the Honolulu Aquifer Sector on the island of Oahu. The aquifer is classified with the system identification number 30102116 (13321). This system includes an unconfined basal aquifer in sedimentary (nonvolcanic) lithology. The groundwater in this aquifer is described as being currently used as well as ecologically important, but is not a direct drinking water source. The groundwater contains a moderate salinity (1,000 to 5,000 mg/l Cl<sup>-</sup>) and is described as replaceable with a high vulnerability to contamination (Mink and Lau, 1990).

The site is further underlain by a second aquifer of the same system. The aquifer is a confined, basal aquifer in flank compartments, and is classified with the system identification number 30302121 (11113). The lower aquifer is described as a currently used drinking water source containing groundwater with a fresh salinity (<250 mg/l Cl<sup>-</sup>). It is described as irreplaceable with a low vulnerability to contamination (Mink and Lau, 1990). Previous groundwater monitoring activities in and around the subject property indicated that groundwater was detected at depths ranging from 5.8 feet bgs to 8.5 feet below ground surface (bgs).



### **3.7 Surface Water Bodies / Drinking Water Wells / Ecological Habitats**

The nearest surface water bodies are the Kewalo Basin, located adjacent and to the east, and Mamala Bay, located adjacent and to the south, of the site. Review of the underground injection control (UIC) line maps and the August 26, 1993 *Hawaii Ground Water Index and Summary* indicated that the property is located approximately 0.25 to 0.5 miles below the UIC line. The closest drinking water wells, 1849-10, 1849-13, 1849-14, 1849-15, and 1849-16 are located above the UIC line approximately 1.75 miles east of the site. There are no wells located downgradient of the site and the land use of the neighboring properties is recreational and commercial/industrial. No ecological habitats were identified at the property. However, the adjacent Kewalo Basin and Mamala Bay support coral reefs and local bird populations.



#### **4.0 CONTAMINANTS OF CONCERN**

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The contaminants of concern (COC) were identified in the EHE based on the analytical data from various site investigations conducted between 1997 and 2009. COC were selected by comparing mean concentrations of the existing data to current DOH Tier 1 Environmental Action Levels (EALs) for unrestricted land use in areas that are less than 150 meters from the nearest surface water body and are not considered a current or potential drinking water source.

The resultant COC were identified by area and sample matrix (surface and near surface soils, subsurface soils, and groundwater) in Table 1 for soils and Table 2 for groundwater. For the purposes of the EHE, it was assumed that non-detectable concentrations of COC were not present in values above DOH EALs. This includes non-detected COC with method detection limits or reporting limits above DOH EALs. Furthermore, the "surface and near surface soil" categorization generally includes soil samples collected from the top 2 to 3 feet of soil at a site. The "subsurface soil" categorization generally includes soil samples collected from 3 feet bgs and deeper.



**Table 1: Contaminants of Concern - Soil**

COC	Sample Matrix	Units 1 & 3	Units 2 & 4	Unit 5	Unit 6	Unit 7	Unit 8	AM WWPS
TPH-O	Surface Soil	X	X			X	X	
Benzo(a)pyrene	Surface Soil	X	X			X	X	X
Dibenz(a,h)anthracene	Surface Soil					X	X	
Diethylphthalate	Surface Soil		X					
Dimethylphthalate	Surface Soil					X	X	
Naphthalene	Surface Soil	X						
Dieldrin	Surface Soil		X				X	
PCB (Total)	Surface Soil	X						
Antimony	Surface Soil		X			X		
Arsenic	Surface Soil		X			X		
Copper	Surface Soil	X	X			X	X	
Lead	Surface Soil	X	X			X	X	
Mercury	Surface Soil					X		
Thallium	Surface Soil					X		
Zinc	Surface Soil		X			X	X	
Dioxins/Furans	Surface Soil		X				X	X
TPH-D	Subsurface Soil		X					
TPH-O	Subsurface Soil		X					
1,1,2,2-Tetrachloroethane	Subsurface Soil		X					
2-Methylnaphthalene	Subsurface Soil		X					
Benzo(a)pyrene	Subsurface Soil		X				X	X
Diethylphthalate	Subsurface Soil	X	X					
Naphthalene	Subsurface Soil	X						
Dieldrin	Subsurface Soil		X				X	
PCB (Total)	Subsurface Soil	X						
Antimony	Subsurface Soil		X				X	
Arsenic	Subsurface Soil		X					
Copper	Subsurface Soil		X			X	X	
Lead	Subsurface Soil	X	X				X	
Nickel	Subsurface Soil		X					
Zinc	Subsurface Soil	X	X				X	
Dioxins/Furans	Subsurface Soil		X				X	

Note: Arithmetic mean concentration of COC exceeds DOH Tier I EAL for unrestricted land use.



**Table 2: Contaminants of Concern - Groundwater**

COC	Sample Matrix	Units 1 & 3	Units 2 & 4	Unit 5	Unit 6	Unit 7	Unit 8	AM WWPS
TPH-G	Groundwater						X	
TPH-D	Groundwater						X	
TPH-O	Groundwater		X		X	X		
Benzene	Groundwater				X			
Toluene	Groundwater							X
Xylenes	Groundwater				X			X
DBCP	Groundwater							X
Anthracene	Groundwater		X				X	
Benzo(a)anthracene	Groundwater		X					
Diethylphthalate	Groundwater	X	X					
Fluoranthene	Groundwater						X	
Fluorene	Groundwater						X	
2-Methylnaphthalene	Groundwater				X		X	
Naphthalene	Groundwater				X			
Phenanthrene	Groundwater						X	
Pyrene	Groundwater						X	
Arsenic	Groundwater				X	X		X
Copper	Groundwater				X	X	X	
Mercury	Groundwater		X			X		X
Selenium	Groundwater	X						X
Silver	Groundwater		X					X
Vanadium	Groundwater					X		
Zinc	Groundwater					X	X	
Dioxins/Furans	Groundwater		X				X	

Note: Arithmetic mean concentration of COC exceeds DOH Tier 1 EAL for unrestricted land use.



## **5.0 CONCEPTUAL SITE MODEL**

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A conceptual site model (CSM) provides a generalized framework regarding site-specific conditions relevant to potential contaminants, contaminant sources, migration pathways, routes of exposure, and potential receptors that may be affected by the contaminants. Establishment of this framework is essential for assessing risks associated with the contaminants, determining who is at risk, determining appropriate remedial strategies, and addressing unacceptable risks. A CSM diagram is provided in Figure 2.

The suspected sources of contamination at the various properties are the historic use of municipal waste and municipal incinerator ash as fill, as well as surface and subsurface releases from commercial/industrial land use. The COC identified in Section 4.0 above were compiled through review of previous environmental investigations performed at the various properties.

### **5.1 Potential Receptors**

For the purposes of this EHMP, the following potential receptors were identified:

- Current on-site workers, trespassers, recreational users (i.e., users of Kakaako Waterfront Park), and future on-site users (residential land use currently prohibited in the Kakaako Makai District, interim land use will be commercial/industrial with the exception of Unit 8);
- Future construction workers (i.e., utilities installation, site development);
- Current and future off-site users (i.e. recreational users such as park users and fishermen, transient populations); and
- Current and future ecological receptors (aquatic only, no terrestrial habitats anticipated in heavily populated urban areas).

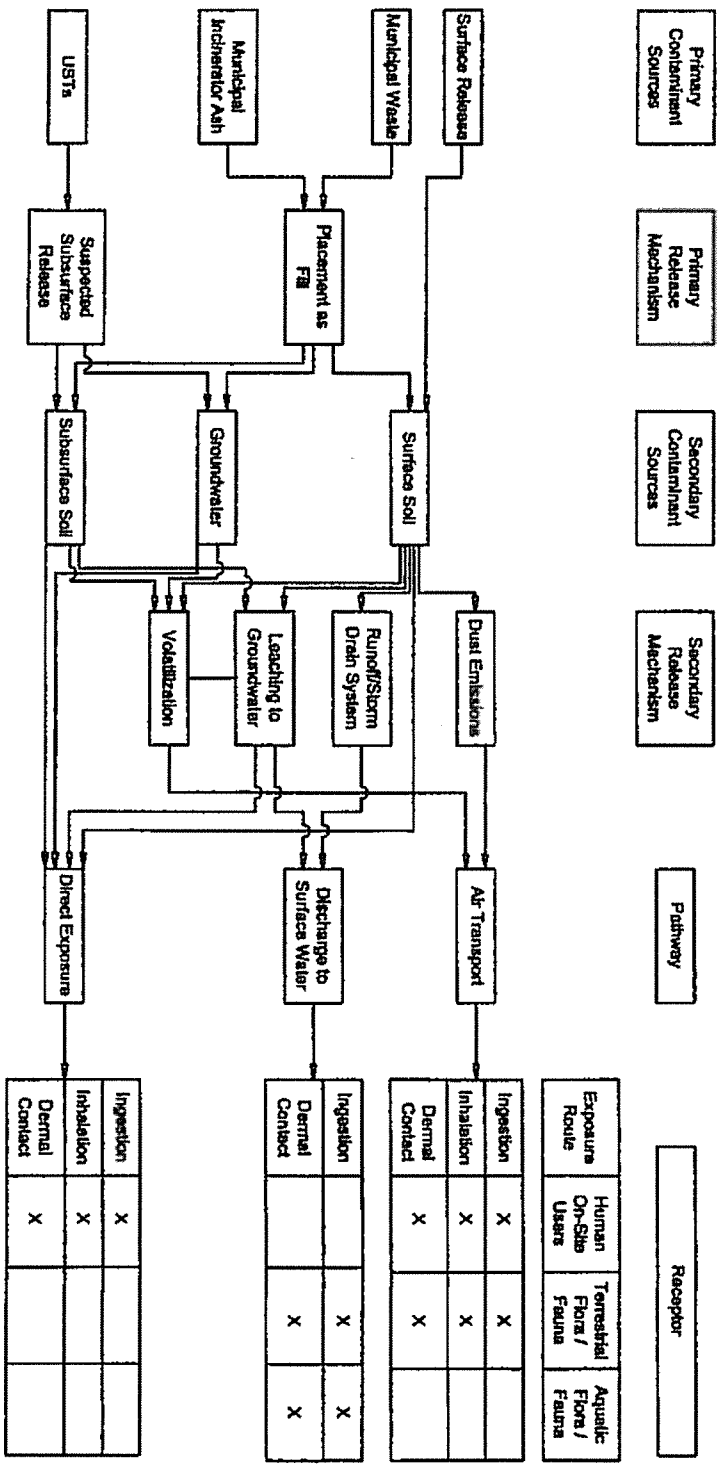
### **5.2 Exposure Pathways**

Exposure is defined as the contact of an organism with a chemical or physical agent. An exposure pathway is defined as the course a chemical or physical agent takes from a source to an exposed organism. It describes a unique mechanism by which an individual or population is exposed to chemicals or physical agents at or originating from a site. In order for an exposure pathway to be considered potentially complete, four elements must exist: 1) a source or release from a source; 2) a transport/exposure media; 3) an exposure point (point of contact with the contaminated medium); and 4) an exposure route. The potential exposure pathways present at the property are described below.

#### **5.2.1 Soil Exposure Pathway**

Direct contact with soil may result in incidental oral ingestion and/or dermal absorption of COC. Although generally associated with surface soil, direct contact may also occur with subsurface soil during trenching and excavation work.







### ***5.2.2 Air Exposure Pathway***

Air exposure pathways become potential routes of exposure when COC enter the air via volatilization or via adsorption to fugitive dust particles. Volatilization occurs when COC partition to the air. Such volatilization may occur from surface soil, subsurface soil, and/or groundwater. When considering volatilization from subsurface soil or groundwater, transport of COC occurs through void spaces in unsaturated soils, asphalt, and concrete to the outdoor air or to future indoor air through foundation cracks. Generation of fugitive dust may occur through disturbance of affected soil, such as wind or construction activities. Dust particles may be inhaled, may settle on human skin and be ingested (hand to mouth), and/or may settle on vegetation ingested by humans.

### ***5.2.3 Sediment Exposure Pathway***

Receptors may be exposed to COC in sediment as a result of surface runoff during storm events. Sediment may accumulate in the adjacent marine environment and be available for contact with various receptors. Recreational users of the marine environment (swimmers, surfers, fishermen) may come into direct contact with sediment and be exposed through oral ingestion and/or dermal absorption. Ecological receptors may live directly in the impacted sediment and may be exposed to COC through feeding within the sediment. As a secondary transport mechanism, COC may bioaccumulate in ecological receptors (i.e., fish, shellfish), then be ingested by human receptors.

### ***5.2.4 Groundwater Exposure Pathway***

Receptors may be exposed to COC in the groundwater by direct contact or by inhaling volatile COC emitted from the groundwater to air. This exposure pathway becomes especially significant during construction activities when the groundwater at the property is exposed and may be pumped out of trenches or excavations. Ecological receptors may also be affected in shallow marine environments within groundwater discharge zones.



## 6.0 SUMMARY OF ENVIRONMENTAL HAZARDS

This section identifies the various environmental hazards that exist at each unit based on the analysis conducted in the EHE. For the areas within the Kakaako Makai District, the potential environmental hazards associated with contaminated soils include direct exposure, vapor emissions to indoor air, gross contamination, leaching to groundwater, and impacts to terrestrial habitats. Additionally, contaminated groundwater may pose environmental hazards to aquatic habitats. Table 3 below provides a summary of environmental hazards and COC associated with unrestricted land use. Table 4 below provides a summary of environmental hazards and COC associated with commercial/industrial land use (with the exception of Unit 8, which will be used in the near future as a children's fishing area and therefore hazards and COC associated with unrestricted land use were provided).

**Table 3: Summary of Environmental Hazards and COC - Unrestricted**

Area	Matrix	Environmental Hazard	Contaminants of Concern
Units 1 & 3	Surface soil	Direct exposure	TPH-O, benzo(a)pyrene, PCBs, lead
		Vapor emissions	Naphthalene
		Gross contamination	TPH-O
		Leaching to groundwater	TPH-O
	Subsurface soil	Direct exposure	PCBs, lead
		Vapor emissions	Naphthalene
	Groundwater	Aquatic ecotoxicity	Selenium
Units 2 & 4	Surface soil	Direct exposure	TPH-O, benzo(a)pyrene, antimony, arsenic, lead, dioxins/furans*
		Gross contamination	TPH-O, lead
		Leaching to groundwater	TPH-O, dieldrin
	Subsurface soil	Direct exposure	TPH-D, TPH-O, benzo(a)pyrene, antimony, arsenic, copper, lead, dioxins/furans*
		Vapor emissions	1,1,2,2-tetrachloroethane
		Gross contamination	TPH-D, TPH-O, copper, lead, zinc
		Leaching to groundwater	TPH-D, TPH-O, 2-methylnaphthalene, dieldrin
	Groundwater	Aquatic ecotoxicity	TPH-O, anthracene, benzo(a)anthracene, mercury, silver, dioxins/furans
Unit 5	NA	NA	NA
Unit 6	Groundwater	Aquatic ecotoxicity	TPH-O, benzene, xylenes, 2-methylnaphthalene, naphthalene, arsenic, copper
Unit 7	Surface soil	Direct exposure	TPH-O, benzo(a)pyrene, dibenzo(a,h)anthracene, antimony, arsenic, copper, lead, mercury, thallium
		Gross contamination	TPH-O, copper, zinc
		Leaching to groundwater	TPH-O
		Terrestrial ecotoxicity**	Arsenic, copper, lead, mercury, zinc
	Subsurface soil	Direct exposure	Copper
		Terrestrial ecotoxicity**	Copper
	Groundwater	Aquatic ecotoxicity	TPH-O, arsenic, copper, mercury, vanadium, zinc

\* Mean dioxins/furans TEQ concentrations fall within the "intermediate risk" range for unrestricted land use

\*\* Terrestrial ecotoxicity concerns associated with runoff of surface soil particles to adjacent surface waters



**Table 3, Cont'd: Summary of Environmental Hazards and COC - Unrestricted**

Area	Matrix	Environmental Hazard	Contaminants of Concern
Unit 8	Surface soil	Direct exposure	TPH-O, benzo(a)pyrene, dibenzo(a,h)anthracene, lead, dioxins/furans***
		Gross contamination	TPH-O
		Leaching to groundwater	Dieldrin
		Terrestrial ecotoxicity**	Copper, lead, zinc
	Subsurface soil	Direct exposure	Benzo(a)pyrene, antimony, lead, dioxins/furans***
		Terrestrial ecotoxicity**	Antimony, copper, lead, zinc
Ala Moana WWPS	Groundwater	Leaching to groundwater	Dieldrin
		Aquatic ecotoxicity	TPH-G, TPH-D, 2-methylnaphthalene, anthracene, fluoranthene, fluorene, phenanthrene, pyrene, copper, zinc, dioxins/furans
	Surface soil	Direct exposure	Benzo(a)pyrene, dioxins/furans***
	Subsurface soil	Direct exposure	Benzo(a)pyrene
	Groundwater	Aquatic ecotoxicity	Toluene, xylenes, DBCP, arsenic, mercury, selenium, silver

\*\* Terrestrial ecotoxicity concerns associated with runoff of surface soil particles to adjacent surface waters

\*\*\* Mean dioxins/furans TEQ concentrations fall within the "low risk" range for unrestricted land use



**Table 4: Summary of Environmental Hazards and COC – Commercial/Industrial**

Area	Matrix	Environmental Hazard	Contaminants of Concern
Units 1 & 3	Surface soil	Direct exposure Leaching to groundwater	Lead TPH-O
	Groundwater	Aquatic ecotoxicity	Selenium
Units 2 & 4	Surface soil	Direct exposure Leaching to groundwater	Arsenic, lead TPH-O, dieldrin
	Subsurface soil	Gross contamination Leaching to groundwater	TPH-D, lead TPH-D, TPH-O, 2-methylnaphthalene, dieldrin
	Groundwater	Aquatic ecotoxicity	TPH-O, anthracene, benzo(a)anthracene, mercury, silver, dioxins/furans
	NA	NA	NA
Unit 5	NA	NA	NA
Unit 6	Groundwater	Aquatic ecotoxicity	TPH-O, benzene, xylenes, 2-methylnaphthalene, naphthalene, arsenic, copper
Unit 7	Surface soil	Direct exposure Gross contamination Leaching to groundwater Terrestrial ecotoxicity**	Arsenic Copper TPH-O Arsenic, copper, lead, mercury, zinc
	Groundwater	Aquatic ecotoxicity	TPH-O, arsenic, copper, mercury, vanadium, zinc
Unit 8	Surface soil	Direct exposure Gross contamination Leaching to groundwater Terrestrial ecotoxicity**	TPH-O, benzo(a)pyrene, dibenzo(a,h)anthracene, lead TPH-O Dieldrin Copper, lead, zinc
	Subsurface soil	Leaching to groundwater	Dieldrin
	Groundwater	Aquatic ecotoxicity	TPH-G, TPH-D, 2-methylnaphthalene, anthracene, fluoranthene, fluorene, phenanthrene, pyrene, copper, zinc, dioxins/furans
	Groundwater	Aquatic ecotoxicity	Toluene, xylenes, DBCP, arsenic, mercury, selenium, silver

\*\* Terrestrial ecotoxicity concerns associated with runoff of surface soil particles to adjacent surface waters

The June 2009 EHE was prepared to consolidate environmental investigation data, identify the COC and mean COC concentrations within the various sites, compare such data to current DOH EALs, and evaluate potential environmental hazards that may exist. The retained environmental hazards identified in the EHE were applicable to commercial/industrial land use anticipated for the various areas in the intermediate term since long-term plans have not been finalized. The exception to this would be Unit 8, where interim plans identify the area for use by children as a fishing area. Since Unit 8 will be utilized by sensitive receptors, the EHE compared data to EALs for unrestricted land use.

For the purposes of this EHMP, the environmental hazards and associated COC were presented for both unrestricted land use and commercial/industrial land use. Hazards and COC associated with unrestricted land use should be considered whenever existing soils are disturbed, when determining final disposition of excavated site soils, and when considering activities that may result in sediment from site soils entering surface water bodies.



## **7.0 ENGINEERING AND INSTITUTIONAL CONTROLS**

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Engineering and institutional controls are often used to mitigate environmental hazards by separating the residual COC in soil and/or groundwater at a site from potential receptors, thus breaking the exposure pathways.

### **7.1 Current Remedial Plans**

The June 2009 EHE identified environmental hazards at various sites within the overall project area, assuming future commercial/industrial land use. Specifically, direct exposure hazards (assuming commercial/industrial land use) associated with residual COC were identified in the surface/near surface soils within Units 1 & 3, Units 2 & 4, Unit 7, and Unit 8 (assuming unrestricted land use). Based on the average COC concentrations for each of these areas, the HCDA is currently planning to construct an asphalt-paved parking lot within Units 1 & 3, and install a 6-inch gravel cap within portions of Units 2 & 4 and Unit 8 as interim remedial measures (see attached June 5, 2009 letter from DOH HEER Office to HCDA). Areas that are already paved with concrete or asphalt, or areas that contain structures with impermeable concrete foundation slabs will not be altered. In addition to these areas, a 6-inch gravel cap will be placed on a strip of bare soil located on Unit 6, between an existing asphalt paved driveway and the fence line of Unit 7. Previous investigations indicated elevated lead concentrations in discrete soil samples collected from this area.

Although the EHE identified direct exposure hazards associated with residual COC in surface/near surface soils within Unit 7, placement of a gravel cap will not be performed with current HCDA plans. Unit 7 is currently in use as an operating shipyard, and therefore remedial options, such as the construction of a barrier, are not feasible at this time. HCDA will be working directly with its tenant to address the environmental hazards identified within Unit 7, separate from the current remedial plans.

The installation of the interim asphalt/gravel caps at the various areas will provide a physical barrier between the COC in soils and potential surface receptors. Furthermore, the caps will minimize runoff of sediment during storm events into the storm drain system and/or directly into adjacent surface water bodies. The caps, however, will not prevent potential leaching of COC into the groundwater or discharge of COC-impacted groundwater out to surface water bodies. These hazards were considered a lesser concern based on the amount of time that has elapsed since COC were initially released (via filling and commercial/industrial land use).

No institutional controls are currently required for the various sites within the Kakaako Makai District since there is a prohibition against development for residential use. However, future development plans at the various sites will need to consider the existing environmental hazards. Permanent remedial measures at the various sites will be dependent upon the nature of the development.



## **7.2 Long-Term Monitoring and Preventive Maintenance of Engineered Controls**

Routine upkeep of the interim asphalt or gravel caps will be required to prevent potential breaches and re-establishment of exposure pathways. This may include inspecting and sealing cracks in the asphalt as well as various other general maintenance procedures. The thickness of the gravel cap should be routinely measured to ensure that the integrity of the cap is maintained.

Over time, additional gravel may need to be added to high traffic areas due to potential erosion and degradation. Future development of the site should take into consideration the function of the cap in containing environmental hazards associated with the COC.

## **7.3 Breach or Failure of Engineered Controls**

The asphalt and gravel caps act as barriers at the site and a breach of the barriers could potentially occur during future construction activities that disturb the underlying soil. Such a breach may create a direct exposure pathway for contaminants in the soil to potential receptors. If such activities are planned, the measures described in Section 8.0 should be used to minimize exposure risks.

Furthermore, removal or breaches in the caps may allow COC particles to accumulate in surface runoff, which may then enter surface water bodies either directly (runoff from adjacent shorelines) or through the existing storm drain system. Care should be taken to avoid exposure of existing site soils to minimize and/or eliminate this potential occurrence.

The aquatic habitats in Kewalo Basin and Mamala Bay may also be impacted if construction activities at the various sites require dewatering activities. If feasible, any dewatering effluent should be maintained within the site (pumping from one trench to another). If off-site discharge of dewatering effluent is required, representative samples of the effluent should be collected and analyzed to determine COC concentrations prior to any discharge activities. Treatment of dewatering effluent may be required to remove COC prior to discharge.



## **8.0 MANAGEMENT OF CONTAMINATED SOILS AND GROUNDWATER**

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The risks associated with the presence of contaminated soil and groundwater at a site typically becomes exacerbated during site construction and development due to excavation activities. Therefore, property owners, developers, and contractors need to be cognizant of the hazards associated with the residual contaminants and contaminated media. Appropriate controls to address contaminated soils and groundwater need to be accounted for in site development plans for both the short-term and long-term protection of potential receptors.

### **8.1 Current Construction Plans**

Currently, plans are being prepared for the construction of an asphalt parking lot within Units 1 and 3 and within a portion of the Ala Moana WWPS. In addition, a 6-inch gravel cap will be placed over unpaved surfaces within Units 2 and 4, a portion of Unit 6, and within Unit 8. These activities are being performed as interim remedial measures to address certain environmental hazards associated with residual COC in site soils.

The contractor selected to perform the work will be required to utilize employees with current 40-hour HAZWOPER certification (per 29 CFR 1910.120) for any activities that may require handling of contaminated soils. The contractor will also be required to prepare a site-specific safety and health plan in accordance with 29 CFR 1910.120 to address, at a minimum, potential worker hazards, levels of worker protection, work zones, controls to protect surrounding areas from hazards associated with disturbance of site soils, and air monitoring requirements. Furthermore, the contractor will be required to prepare a contaminated soils handling and management plan to describe tasks, sequencing of operations, controls, and procedures that will be implemented during any work that may disturb contaminated soils.

The project plans and specifications prepared for the construction of interim remedial measures will also require the contractor to implement strict dust control measures, vehicle decontamination procedures, and erosion control procedures. Dust control is of particular importance since generation of fugitive dust is anticipated to be the primary factor associated with contaminant migration and exposure of potential receptors (inhalation of dust particles entrained with COC, ingestion of dust particles that settle on skin, etc.). Vehicle decontamination and erosion control procedures serve to minimize, if not prevent, migration of contaminants off-site and into surface water bodies.

### **8.2 Future Site Development**

Plans for future site development should identify and account for environmental hazards that need to be addressed to protect potential receptors from exposure to contaminated media. Controls should be specified in project planning and bidding documents that provide both short-term and long-term protection for potential receptors.



Two of the key elements for management of potential risks associated with contaminated soil and groundwater include the education of site workers through communication of the hazards associated with various work tasks and the implementation of exposure management controls.

#### **8.2.1 Education and Communication**

All construction workers who have contact with soils and groundwater should be educated on the site conditions and potential risks associated with contaminants found at the site. In particular, workers should be aware of the COC for the site (Section 4.0) and the hazards the COC pose (Section 6.0). In addition, workers should be aware that routes of exposure to the COC are generally via inhalation of airborne particulates, inhalation of vapors, ingestion of soil, and absorption through the skin and eyes.

The most common method of informing construction personnel of potential exposure risks is to prepare a Site Safety and Health Plan (SSHP). The SSHP should describe the contaminants of concern, routes of exposure, and potential symptoms of exposure. The plan should also describe personal protection measures, controls, and work practices to minimize the risk of exposure. Construction personnel should be required to review the SSHP and certify that they have reviewed the plan and understand the risks involved with the project.

The SSHP should include the requirement that all construction workers receive Hazardous Waste Operations & Emergency Response (HAZWOPER) training in accordance with 29 CFR 1910.120. Additionally, the construction workers should receive medical evaluations prior to the start of work and annually thereafter to determine whether the health of individual workers is being affected by the construction activities.

In addition to understanding how to protect oneself, site construction workers should also be educated on how contaminated soils and groundwater can impact the general public (through migration via air or surface water) and the environment. The importance of implementing controls that are protective of the general public should be emphasized.

#### **8.2.2 Exposure Management Controls**

Exposure to contaminated soils and groundwater during construction can generally be controlled by isolating the contaminated media, eliminating routes of exposure and/or eliminating the exposure point. This can be accomplished by implementing controls during the construction phase. Such controls are provided below.



#### **A. Contaminant Detection and Monitoring**

An air monitoring program should be implemented as the primary contaminant detection and monitoring system. Air monitoring should be conducted for at least three (3) full 8-hour shifts in each work area or during each work task to assess workers' exposure to airborne contaminants during excavation or soil disturbance activities. The contractor should be responsible for determining which contaminants are to be monitored (based on the work areas) to satisfy OSHA requirements and such information shall be included in the SSHP. The data obtained from work area air samples should be used to evaluate the effectiveness of control measures and to determine the appropriate level of personal protection.

In addition, area air monitoring at the project site perimeter should be conducted. Prior to start of earthwork activities, background air samples should be collected at the property to identify baseline air quality data. Throughout the project, air samples should be collected on a daily basis at the project site perimeter to monitor for contaminant migration through fugitive dust and/or vapors. Data from perimeter monitoring should be used to evaluate the effectiveness of control measures implemented on-site.

#### **B. Worker Protection**

The use of personal protective equipment (PPE) is a key measure used to eliminate the exposure point for site construction workers by placing a physical barrier between the worker and the contaminant. Workers should be provided with the opportunity to don PPE prior to the start of any work requiring disturbance of site soils. Once available, work area air monitoring data can be used to evaluate the adequacy of the selected level of worker protection. The SSHP should detail the specific PPE that will be required during various earthwork activities.

Immediately after leaving the work area, workers should remove PPE and wash hands and face with soap and water. At no time should workers be allowed to smoke, drink, or eat within the work zone and/or near contaminated soil/groundwater.

#### **C. Dust Control**

Standard procedures to minimize dusty conditions, such as spraying water on the soil, should be utilized at the site by the contractor. Dust barriers should be constructed along the perimeter of the site if extensive earthwork is anticipated. Controlled spraying of the area with water to suppress dust migration during any soil disturbance work should be conducted during any earthwork activities. The contractor should ensure that throughout the construction process, work at the site does not cause significant deterioration of existing air quality. Specifically, the Contractor shall ensure compliance with ambient air quality standards established in HAR 11-59 and shall comply with air pollution control requirements specified in HAR 11-60.1, at a minimum.



#### **D. Erosion Control Measures**

Erosion control measures should be established prior to commencement of any earthwork activities to prevent site soils from migrating via surface water runoff into adjacent roadways, drainage systems, and/or surface water bodies. The contractor should be responsible for determining whether certain permits associated with site grading and/or stockpiling are appropriate (i.e., NPDES, County grading/stockpiling permits, etc.) and whether an erosion control plan is necessary. Typically, Best Management Practices (BMPs) associated with erosion control measures are designed to ensure that soil from a site are retained on site and prevented from ultimately entering surface water bodies. Such BMPs may include (but are not limited to) installation of a silt fence along the property perimeter, physically redirecting potential storm water runoff from leaving the site, and/or installation of controls to prevent tracking of dirt and debris off-site on vehicle tires.

#### **E. Soil Excavation, Handling, and Stockpiling**

Construction activities should be structured to result in minimal soil disturbance and to minimize dust generation. When excavation of site soils is necessary for development, activities should be sequenced to minimize the potential for exposure of site workers. As an example, all earthwork (trenching for utilities, site grading, etc.) be performed prior to mobilization of other trade personnel to minimize the number of workers at the site that may be exposed to airborne particulates.

Another control that can be implemented to isolate contaminated soils during construction activities is to place a barrier on or along exposed surface soils, such as lining the walls of an open trench with polyethylene sheeting or placing a thin layer of clean, imported fill material immediately after completing foundation excavations.

If excavated soil needs to be transported, whether on-site or off-site, controls should be implemented to minimize the generation of fugitive dust. This may include spraying water on loads of excavated soil or covering truck loads with fabric.

Any excavated soil that needs to be stockpiled on-site temporarily should be placed on a minimum 10-mil thick layer of polyethylene sheeting in a designated stockpile area. All stockpiles should then be covered using minimum 6-mil thick polyethylene sheeting. The covering should be secured with inert material (i.e., clean, imported fill; etc.) to anchor the polyethylene cover to the stockpile to prevent the cover from being blown off during high wind conditions. The edges of the stockpile should then be secured to prevent run-on of storm water or run-off of soil particles. This can be accomplished by rolling the edges of the polyethylene liner and the polyethylene cover together and securing the rolled ends with heavy, inert materials. Alternatively, a berm can be constructed around the soil stockpile using clean, imported fill material.



Final disposition of excavated soils will be dependent upon site development plans. If feasible, excavated soils should be used on-site. Such soil should be placed under paved surfaces (concrete foundations, asphalt paving) when possible. At a minimum, soils excavated from the site should be placed under a 12-inch thick clean soil cap with some type of permeable marker (e.g., geotextile fabric) used to identify the interface between the contaminated soil and the clean, imported soil cap. The soil cap will need to be monitored periodically to ensure the integrity of the cap. All remedial measures associated with long-term use of the various project areas need to be discussed with the DOH HEER Office to ensure adequate protection of future property users and the environment.

If development plans require the off-site disposal of excavated soil, such soil will need to be sufficiently characterized and information will need to be provided to the government-permitted disposal facility. The disposal facility will have the discretion of accepting or rejecting the overburden soil.

#### **F. Groundwater Handling and Disposal**

If development plans require the disturbance of groundwater at the site (i.e., trench dewatering), controls will be needed to prevent the release of untreated groundwater to surface water bodies. If possible, groundwater should be retained on-site rather than being discharged or disposed off-site. This may be accomplished through construction of temporary settling basins, groundwater discharge trenches, or other means.

If discharge of groundwater off-site is necessary, the contractor will need to obtain the appropriate permits (i.e., NPDES, discharge permits, etc.) prior to release. The contractor will ensure that the groundwater being discharged has been sufficiently characterized and that any COC in the groundwater meets applicable threshold criteria (e.g., surface water quality standards, etc.). Should characterization of groundwater indicate elevated contaminant concentrations, groundwater may need to be treated on-site (i.e., settling, mechanical filtration, etc.) or disposed at a government-approved facility.



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