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**STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
OFFICE OF CONSERVATION AND COASTAL LANDS  
Honolulu, Hawaii**

180-Day Exp. Date: April 4, 2012  
CDUA OA-3610

February 10, 2012

**Board of Land and  
Natural Resources  
State of Hawaii  
Honolulu, Hawaii**

**REGARDING:** Kewalo Basin Repair Project

**APPLICANT:** Hawai'i Community Development Corporation, 461 Cooke Street,  
Honolulu, HI 96813

**AGENT:** Gail Renard, Helber Hastert & Fee, 733 Bishop Street, Suite 2590,  
Honolulu, HI 96813

**LANDOWNER:** Hawai'i Community Development Corporation

**LOCATION:** Kaka'ako, Kona District, O'ahu

**TMK:** (1) 2-1-058: pors. 002, 035, 095, 128

**AREA OF USE:** 75.800 ft<sup>2</sup> of pier in 22 acres of harbor area

**SUBZONE:** Resource (submerged lands)

**DESCRIPTION OF AREA AND CURRENT USE**

The applicant proposes to increase the number of boat slips, and to conduct infrastructure repair, within 22 acres of harbor area at Kewalo Basin. The project would increase the number of slips from 143 to 250 at full build-out, modernize the harbor's potable water and electric systems, and provide a new fire suppression system and a new sewage pump-out.

The Hawai'i Community Development Corporation (HCDA) regulates planning and zoning for Kewalo Basin as part of the 600-acre Kaka'ako Community Development District. The harbor was previously administered by the State of Hawai'i Harbors Division; the basin and surrounding fastlands were transferred to HCDA by Act 86 in 1990, and management was transferred in March 1, 2009. The harbor is currently managed by Almar Management under contract to HCDA.

Kewalo Basin consists of 143 boat slips, ranging from 30 feet to 100 feet, on four piers (A, B, C, and "Herringbone Pier) and three wharves (Mauka Wharf, a.k.a. Front Row; Makai Wharf; and 'Ewa Loading Dock, a.k.a. Fisherman's Wharf). Kewalo is a mixed-use harbor with commercial fishing craft, charter tours, pleasure craft, and research vessel operators. The commercial fishing fleet includes holders of annual permits and transient vessels on 90-day permits. Occupancy as of June 2011 was 137 vessels, or 96% of capacity. Prior to the current management regime occupancy had dropped to 60 vessels in 2009, or ~40% of capacity.

A 2007 condition study revealed extensive deterioration of the harbor infrastructure. In addition, there is no sewage pumpout. The harbor is also exposed to wind-generated waves and surge, and the project calls for engineering solutions to lessen the severity of conditions inside the harbor.

Key elements of the project include:

- Increasing the number of slips to 250, with a total moorage length of 13,100 feet. The structures represent a coverage of 75,800 square feet of improvements.
- Replacing and extending Piers A, B, and C.
- Demolishing the Herringbone Pier.
- Reconstructing the Front Row slips with reconfigured lengths and widths.
- Constructing a longitudinal berth adjacent to Makai Wharf.
- Constructing two new finger piers extending from the Fisherman's Wharf loading dock.
- Constructing a single jetty pier at the makai end of the Fishermen's Wharf loading dock.
- Constructing a dedicated marine maintenance dock adjacent to the current Honolulu Marine Inc. shipyard facility.
- Modernizing the water and electric utilities that service the new slips.
- Providing septic handling systems, including a pier-based mechanical pump-out station.
- Providing a water supply and fire fighting capabilities.

**Exhibits 1-7** show existing conditions and the proposed site plan.

The plan calls for the demolition and removal of all existing submerged structures. The new pier arrangement will contain a mix of floating and fixed piers. Piers in areas with greater wave energy, or that will service larger vessels, will be fixed. Depending on the type of pier, the number of piles needed at full build-out will range from 300 (at 100% floating piers) to 500 (at 100% fixed piers).

If approved, the project will be implemented in phases over several years according to the availability of funding. By May 2012 the design of the first phase will be completed and the required development entitlements and permits obtained, after which a construction

contract may be awarded. Construction of the initial phase could then be completed with an eight to twelve month period.

This initial phase represents approximately 1/3 of the total project scope. The specific timing of the full build-out scenario is difficult to estimate, but if funding holds out at the current rate then the project could be completed in ten years. Increased funding would allow the project to be completed earlier.

A typical construction scenario would be as follows:

- Demolition and disposal of existing concrete infrastructure, including extraction of piles from the seabed.
- Creation of an upland lay-down and staging area
- Off-site fabrication of pre-cast float modules for floating piers and pre-cast deck panels for fixed piers.
- For fixed piers, construction will involve pile driving for installation of the support piles, forming and pouring cast-in-place reinforced concrete pile caps, installation of pre-cast deck panels, and placement of a topping concrete deck.
- For floating piers, construction will involve assembly of float modules and pile driving to install the guide piles that secure the floats in place.
- Installation of topside appurtenances (fenders, cleats, pier boxes, utilities, etc.).
- Installation and/or extension of existing landside utility services to accommodate the revised layout of the new piers.
- Installation of landside utility connections and connection to shore-side services.

Demolition of each pier will take one to two months, while installation will require two to three months. The construction sequence will alternate between demolition and installation. The total construction duration for Phase 1 (demolition of Piers B, C, and Herringbone; installation of Piers B and C) will be 8 to 12 months.

Demolition will be conducted from the waterside with a barge-mounted crane and lay-by barge to receive debris. The topside decks will be cut and lifted on the barge, the concrete pile caps will likely be demolished using a hydraulic breaker, and the piles extracted with the aid of a vibratory hammer.

Pile driving within the harbor will be conducted using a barge-mounted diesel or hydraulic impact hammer. Installation will require pre-drilling with a barge-mounted auger drill. Due to space limitations it is unlikely that more than one barge-mounted pile-driver will be in operation at any one time.

The associated Environmental Impact Statement contains a full list of best-management practices and mitigative measures.

- Use of turbidity barriers around in water-work areas.
- No nighttime work.
- Water quality monitoring program developed in coordination with USACE for Section 10 permit.

- Visual observation by qualified personnel for the presence of Federally-protected marine protected species (specifically green turtles potentially present in the harbor and channel) during in-water activities such as pile driving, boat operations or diving.
- Establish shutdown safety zones corresponding to where sea turtles could be injured or harassed based upon empirical measurements of pile driving sound levels at the construction site. These safety zones shall include all areas where the underwater sound pressure levels (SPLs) are anticipated to equal or exceed the 160 dB re 1  $\mu$ Pa root-meansquare (rms) criterion for sea turtles, and will be observed at all times when pile driving is underway.
- Prior to the start of pile driving activity, the basin will be monitored for 30 minutes to ensure it is clear of sea turtles. Pile driving will not commence until the observers have declared the safety zone clear of sea turtles. If a sea turtle is found within the established safety zone, pile driving of the segment will be delayed until either the animals have been visually confirmed beyond the impact zone or 30 minutes have passed without re-detection of the animal.
- Outside of the harbor channel, reduce construction related vessel speed to 10 knots or less when piloting vessels in the proximity of sea turtles.
- Implement a contingency plan to control and contain spills of potential contaminants, including petroleum products (both on land and into marine waters).
- All construction project-related materials and equipment placed in the water will be free of pollutants.
- Fueling of construction project-related vehicles and equipment will take place at least 50 feet away from the water, preferably over an impervious surface. With respect to construction equipment (barges) that cannot be fueled out of the water, spill prevention booms will be employed to contain any potential spills. Any fuel spilled will be cleaned up immediately.
- Develop and implement a plan to prevent construction debris from entering or remaining in the marine environment during the project.
- Minimize turbidity and siltation from upland construction-related activities (e.g., staging and transportation of equipment to the in-water work sites) through use of modern designs that promote infiltration and natural processes to the extent practicable.
- A contingency plan will be in place for the removal and adequate securing of equipment in the event of approaching storms.

## **SUMMARY OF COMMENTS**

Copies of the application were submitted to the following agencies for review and comment: DLNR- Land Division, Historic Preservation, DAR, DOBOR; State Department of Health; Office of Hawaiian Affairs; the City and County of Honolulu Department of Design and Permitting; and the Ala Moana / Kaka'ako Neighborhood Board.

In addition, this CDUA was sent to the Hawai'i State Library for public review.

Comments were received by the following:

DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT, & TOURISM, OFFICE OF PLANNING

The Hawai'i CZM Program has completed the federal consistency review process. The proposal is "consistent with the enforceable policies of the Hawai'i CZM Program" based upon the following conditions:

- That the best management and mitigation measures outlined in the EIS be fully implemented;
- That the project be compliant with Hawai'i Administrative Rules (HAR) §11-154 and HRS Chapter 342D, which contain the federally-approved enforceable policies of the CZM program;
- That a CDUP be secured from DLNR; and
- That the project be in compliance with the Special Management Area (SMA) Use Approval issued by the Office of Planning on October 7, 2011.

DEPARTMENT OF LAND AND NATURAL RESOURCES

**1. Land Division**

No comments

**2. Division of Boating and Ocean Recreation**

No comments

**3. State Historic Preservation Division (HPD)**

A 2010 study by Mason Architects found that only Honolulu Marine Inc. shipyard as retaining sufficient integrity to be eligible for the National Register of Historic Places. The project would not directly impact the shipyard. SHPD concurs that the proposal will not affect historic properties.

**ANALYSIS**

OCCL notified the applicant on October 13, 2011 that:

1. The proposed Kewalo Basin Repair Project was an identified land use within the Conservation District, pursuant to Hawai'i Administrative Rules (HAR) §13-5-22, Identified Land Uses in the Protective Subzone, P-6 PUBLIC PURPOSE USE, (D-1) *Land uses undertaken by the State of Hawai'i or the counties to fulfill a mandated government function, activity, or service for public benefit and in accordance with public policy and the purpose of the conservation district. Such land uses many include transportation services, water systems, communications systems and*

*recreation facilities.* The final decision as to whether to grant, modify, or deny the permit lies with the Board of Land and Natural Resources.

2. Pursuant to HAR §13-5-40 *Hearings*, no public hearing would be required.
3. Pursuant to HAR §13-5-31 *Permit applications*, the permit required that an Environmental Impact Statement (EIS) be carried out. An EIS was prepared by Helber Hastert & Fee, with the Hawai'i Community Development Authority as the accepting authority. The Final EIS was accepted on March 30, 2011, and published on April 23, 2011.

Notice of CDUA OA-3610 was published in the October 8, 2011 issue of the *Environmental Notice*.

### CONSERVATION CRITERIA

The following discussion evaluates the merits of the proposed land use by applying the criteria established in HAR §13-5-30.

1. *The proposed land use is consistent with the purpose of the Conservation District.*

The objective of the Conservation District is to conserve, protect and preserve the important natural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety, and welfare.

The project is considered an identified land use in the subject area of the Conservation District; as such, it is subject to the regulatory process established in Chapter 183C, HRS and detailed further in Chapter 13-5, HAR. This process provides for the application of appropriate management tools to protect the relevant resources, including objective analysis and thoughtful decision-making by the Department and Board of Land and Natural Resources.

Staff believes the proposal is consistent with the purpose of the Conservation District as the proposal is within a previously disturbed area, is aimed at protecting public safety, and will not have a significant impact on cultural or natural resources.

2. *The proposed land use is consistent with the objectives of the subzone of the land on which the use will occur.*

The objective of the Resource subzone is to develop, with proper management, areas to ensure sustained use of the natural resources of those areas. The proposed use is an identified land use in this subzone pursuant to HAR §13-5-22, P-6 PUBLIC PURPOSE USES.

The proposal will increase the potential capacity of the harbor. However, staff notes that the current infrastructure is deteriorating and presents a long-term threat to the health of the environment. The proposed facilities should also be more resistant to damage from natural disasters. In addition, bringing in sewage pump-

out facilities and a local fire-suppression facilities will reduce both existing and potential environmental impacts.

Staff has also reviewed the proposed mitigation measures. These are designed to minimize the risk of siltation, protect sea turtles and other marine species, and limit the risk of debris entering the water during demolition and construction.

Staff believes the project will not have a negative impact on the sustained use of the area's resources.

3. *The proposed land use complies with provisions and guidelines contained in Chapter 205, HRS, entitled Coastal Zone Management, where applicable.*

The State Office of Planning issued a letter on October 7, 2011 stating that the project had been reviewed in accordance with the CZM objectives and policies, HRS §205A-2, and HAR §15-510-6. A Special Management Area (SMA) Use Permit was issued, with 12 attached conditions. OCCL would like to call attention to the following:

- a. The applicant and contractors shall implement site-specific best management practices with a water quality monitoring program, and apply containment devices, including silt curtains, booms, tarpaulins, and floats, as appropriate, to prevent any potential pollutant(s) discharge and polluted runoff associated with the proposed demolition and construction, and staging area from adversely impacting the State waters as specified in HAR Chapter 11-54.
- b. The applicant shall enforce the Kewalo Basin Rules, HAR Chapter 15-212, to limit the transit speed of all vessels through the channel of Kewalo Basin Harbor to a slow-no-wake speed, in order to minimize (the impacts of) any ingress and egress of vessel traffic on ocean recreation activities;
- c. The applicant and contractors shall minimize potential traffic impacts generated from the proposed pier demolition and construction activities on the existing public access to the coastal recreation areas. Construction-related activities for the proposed project shall not affect park users' parking;
- d. The operation of the proposed project shall not interfere or restrict public access, including park users' parking, to the ocean and adjacent parks;
- e. The applicant and contractors shall constrain the proposed staging area within one acre, and shall return the staging area to its original condition at minimum, upon completion of the use of the staging area or upon expiration of this SMA Use Approval, whichever occurs first; and
- f. The applicant and its authorized users shall properly position or shield lights to minimize adverse impacts of artificial light of the harbor facilities on the shoreline and ocean waters, and provide the needed shielding to lessen possible seabird strikes.

OCCL supports these conditions, and feel that they are necessary to insure that the project is consistent with Chapter 205A guidelines.

4. *The proposed land use will not cause substantial adverse impacts to existing natural resources within the surrounding area, community, or region.*

Staff believes the proposed land use will not cause substantial adverse impacts to existing natural resources within the surrounding area, community or region. As discussed earlier, it represents a potential increase in use of an already urbanized coast line. However, mitigation measures and best management practices are in place to minimize the risk of environmental harm during demolition and construction, and the finished harbor should be more “sustainable” than the current decaying harbor.

5. *The proposed land use, including buildings, structures and facilities, shall be compatible with the locality and surrounding area, appropriate to the physical conditions and capabilities of the specific parcel or parcels.*

Kewalo has been in use as a harbor for at least 50 years. The surrounding Kaka`ako area is currently semi-developed, and contains a mix of modern buildings, local businesses, vacant lots, and abandoned structures. The redevelopment of Kewalo Basin is one step in restoring the integrity of Kaka`ako Kai as a viable neighborhood.

6. *The existing physical and environmental aspect of the land, such as natural beauty and open space characteristics, will be preserved or improved upon, which ever is applicable.*

OCCL feels that the repair of the Harbor will improve the physical aspects of this stretch of the coast.

7. *Subdivision of the land will not be utilized to increase the intensity of land uses in the Conservation District.*

No subdivision of land is being proposed.

8. *The proposed land use will not be materially detrimental to the public health, safety and welfare.*

The redevelopment of Kewalo Basin should benefit the public health, safety, and welfare through the removal of decaying infrastructure, allowing for the increased economic use of the area, and providing needed sewage pump-out facilities for vessels in the harbor.

## **DISCUSSION**

The proposed use is an identified use within the Conservation District according to the Hawai`i Administrative Rules (HAR), § 13-5-22, P-6, PUBLIC PURPOSE USE.

Based on the above analysis, staff concludes that the Kewalo Basin Repairs Project is consistent with the rules and objectives of the Conservation District. Staff notes that the Department has received letters of support for the project, but no letters of objection or concern.

Staff notes that this determination is based upon the applicant following the best management practices and mitigation measures outlined in the project’s EIS, and with their complying with the conditions of their SMA Use Permit. Although the applicant is



required to comply with all the mitigation measures in the application and EIS, **OCCL recommends that the Board make some of these measures specific conditions of a CDUP, if granted** (see proposed Condition 8).

The full build out scenario is dependent on funding. If the current level of expenditures is reauthorized every three to four years then the project could be finished in ten years. A more conservative estimate is that full build-out could be achieved in fifteen years. **OCCL recommends that the Board modify the standard condition regarding project completion deadlines to reflect the fifteen-year potential timeline of the project.** OCCL would also remind the applicant is that a standard condition of any CDUP is that construction plans need to be authorized by the Chair or their representative for approval; each phase of the project would thus need to be reviewed for consistency with the CDUP.

### RECOMMENDATION

Based on the preceding analysis, Staff recommends that the Board of Land and Natural Resources APPROVE a Conservation District Use Permit (CDUP) OA-3610 for the Kewalo Basin Repair Project at Kaka'ako, Kona District, O'ahu, TMK (1) 52-1-058: pors 002, 035, 095, and 128, subject to the following conditions:

1. The permittee shall comply with all applicable statutes, ordinances, rules, and regulations of the federal, state, and county governments, and applicable parts of this chapter;
2. The permittee, its successors and assigns, shall indemnify and hold the State of Hawaii harmless from and against any loss, liability, claim, or demand for property damage, personal injury, and death arising out of any act or omission of the applicant, its successors, assigns, officers, employees, contractors, and agents under this permit or relating to or connected with the granting of this permit;
3. The permittee shall obtain appropriate authorization from the department for the occupancy of state lands, if applicable;
4. The permittee shall comply with all applicable department of health administrative rules;
5. Before proceeding with any work authorized by the department or the board, the permittee shall submit four copies of the construction plans and specifications to the chairperson or an authorized representative for approval for consistency with the conditions of the permit and the declarations set forth in the permit application. Three of the copies will be returned to the permittee. Plan approval by the chairperson does not constitute approval required from other agencies;
6. Unless otherwise authorized, any work or construction to be done on the land shall be initiated within one year of the approval of such use, in accordance with construction plans that have been signed by the chairperson, and shall be completed within fifteen years of the approval of such use. The permittee shall

- notify the department in writing when construction activity is initiated and when it is completed;
7. All representations relative to mitigation set forth in the accepted environmental assessment or impact statement for the proposed use are incorporated as conditions of the permit;
  8. The conditions of the project's Special Management Area Use Permit are incorporated as conditions of the permit, including but not limited to:
    - a. The permittee shall implement site-specific best management practices with a water quality monitoring program, and apply containment devices, including silt curtains, booms, tarpaulins, and floats, as appropriate, to prevent any potential pollutant(s) discharge and polluted runoff associated with the proposed demolition and construction, and staging area from adversely impacting the State waters as specified in HAR Chapter 11-54.
    - b. The permittee shall enforce the Kewalo Basin Rules, HAR Chapter 15-212, to limit the transit speed of all vessels through the channel of Kewalo Basin Harbor to a slow-no-wake speed, in order to minimize the impacts of vessel traffic on ocean recreation activities;
    - c. The permittee shall minimize potential traffic impacts generated from the proposed pier demolition and construction activities on the existing public access to the coastal recreation areas. Construction-related activities for the proposed project shall not affect park users' parking;
    - d. The operation of the proposed project shall not interfere or restrict public access, including park users' parking, to the ocean and adjacent parks;
    - e. The permittee shall constrain the proposed staging area within one acre, and shall return the staging area to its original condition at minimum, upon completion of the use of the staging area or upon expiration of this SMA Use Approval, whichever occurs first; and
    - f. The permittee and its authorized users shall properly position or shield lights to minimize adverse impacts of artificial light of the harbor facilities on the shoreline and ocean waters, and provide the needed shielding to lessen possible seabird strikes.
  9. The permittee understands and agrees that the permit does not convey any vested right(s) or exclusive privilege;
  10. In issuing the permit, the department and board have relied on the information and data that the permittee has provided in connection with the permit application. If, subsequent to the issuance of the permit such information and data prove to be false, incomplete, or inaccurate, this permit may be modified, suspended, or revoked, in whole or in part, and the department may, in addition, institute appropriate legal proceedings;
  11. When provided or required, potable water supply and sanitation facilities shall have the approval of the department of health and the county department of water supply;

12. Provisions for access, parking, drainage, fire protection, safety, signs, lighting, and changes on the landscape shall be provided;
13. Where any interference, nuisance, or harm may be caused, or hazard established by the use, the permittee shall be required to take measures to minimize or eliminate the interference, nuisance, harm, or hazard;
14. Obstruction of public roads, trails, lateral shoreline access, and pathways shall be avoided or minimized. If obstruction is unavoidable, the permittee shall provide alternative roads, trails, lateral beach access, or pathways acceptable to the department;
15. During construction, appropriate mitigation measures shall be implemented to minimize impacts to off-site roadways, utilities, and public facilities;
16. Artificial light from exterior lighting fixtures, including but not limited to floodlights, uplights, or spotlights used for decorative or aesthetic purposes, shall be prohibited if the light directly illuminates or is directed to project across property boundaries toward the shoreline and ocean waters, except as may be permitted pursuant to section 205A-71, HRS. All exterior lighting shall be shielded to protect the night sky;
17. The permittee acknowledges that the approved work shall not hamper, impede, or otherwise limit the exercise of traditional, customary, or religious practices of native Hawaiians in the immediate area, to the extent the practices are provided for by the Constitution of the State of Hawaii, and by Hawaii statutory and case law; and
18. Other terms and conditions as prescribed by the chairperson.
19. Failure to comply with any of these conditions shall render this Conservation District Use Permit null and void.

Respectfully submitted,



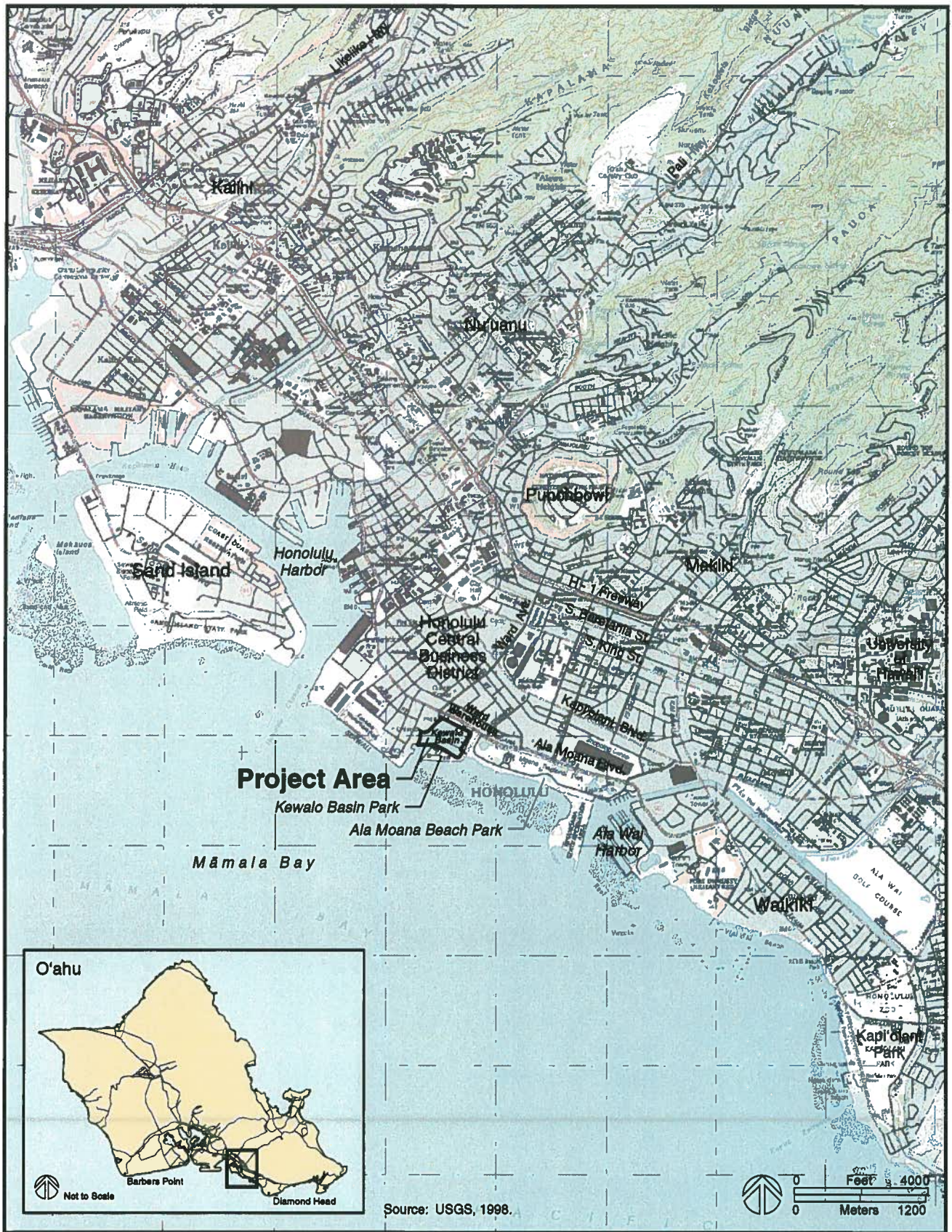
Michael Cain, Staff Planner  
Office of Conservation and Coastal Lands

**Approved for submittal:**

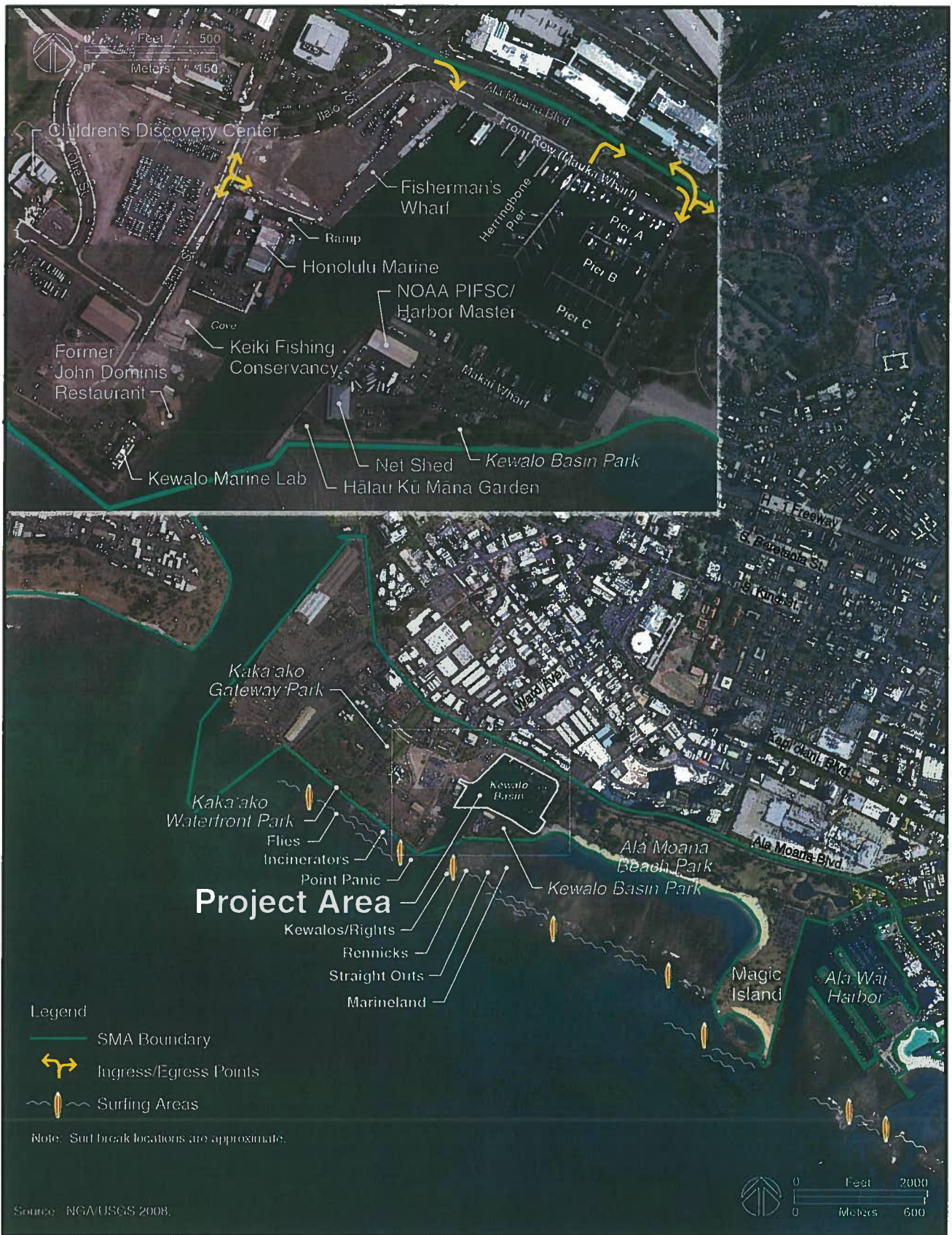


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**William J. Aila, Chairperson**  
**Board of Land and Natural Resources**



Kewalo Basin Repairs Project Conservation District Use Application  
**Location Map**  
 Hawai'i Community Development Authority



Kewalo Basin Repairs Project Conservation District Use Application  
**Project Area and Vicinity**  
 Hawai'i Community Development Authority



**1** 'Ewa Loading Dock and former Fisherman's Wharf restaurant.



**2** Front Row catwalk.



**3** Herringbone Pier looking makai.



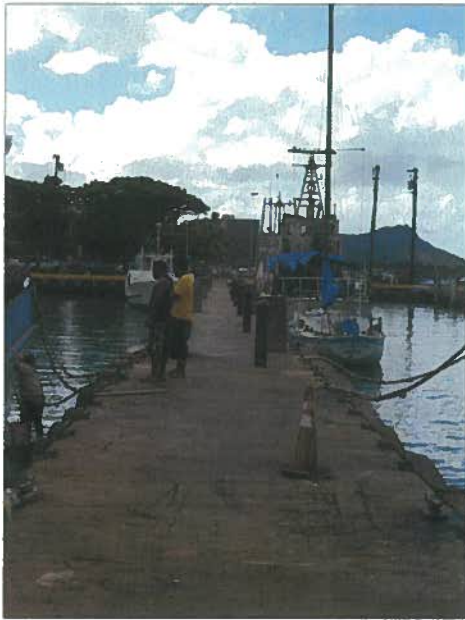
**4** Pier A looking east.



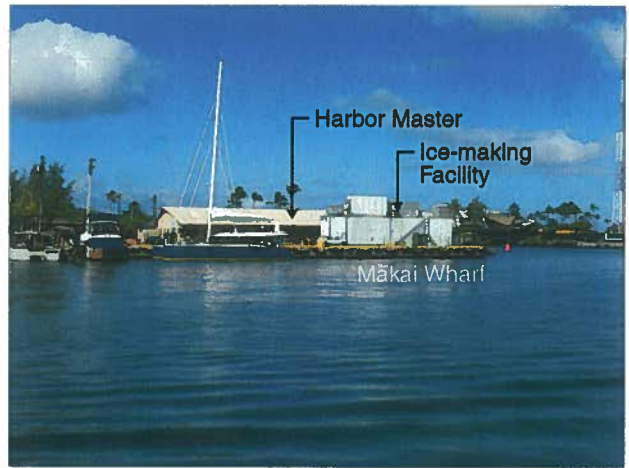
Source: Date of Photos, July 2011.



**5** Pier B looking west.



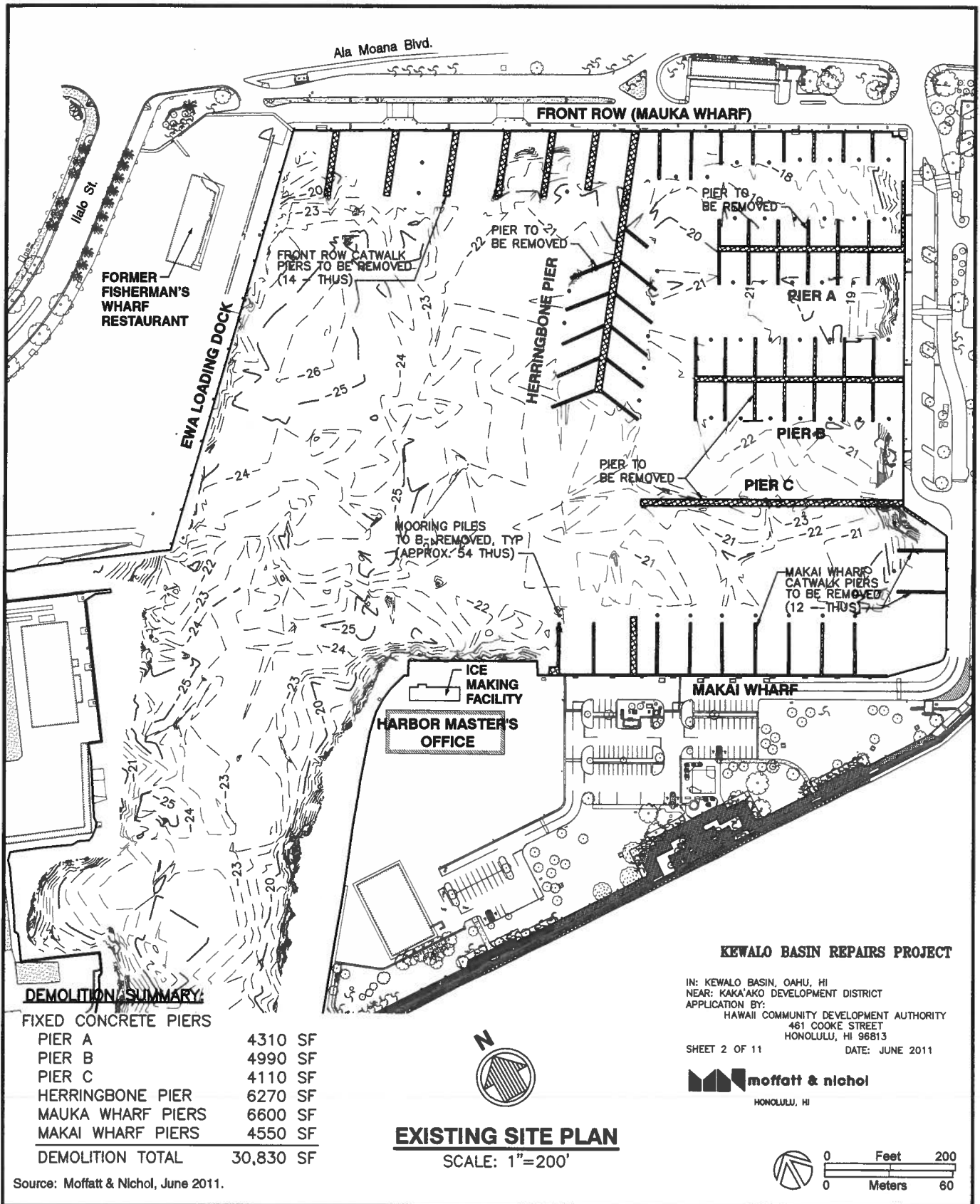
**6** Pier C looking east.



**7** Makai Wharf from Herringbone Pier. Harbor master building and ice-making facility also visible.



Source: Date of Photos, July 2011.



**DEMOLITION SUMMARY:**

FIXED CONCRETE PIERS	
PIER A	4310 SF
PIER B	4990 SF
PIER C	4110 SF
HERRINGBONE PIER	6270 SF
MAUKA WHARF PIERS	6600 SF
MAKAI WHARF PIERS	4550 SF
<b>DEMOLITION TOTAL</b>	<b>30,830 SF</b>

Source: Moffatt & Nichol, June 2011.

**EXISTING SITE PLAN**

SCALE: 1"=200'

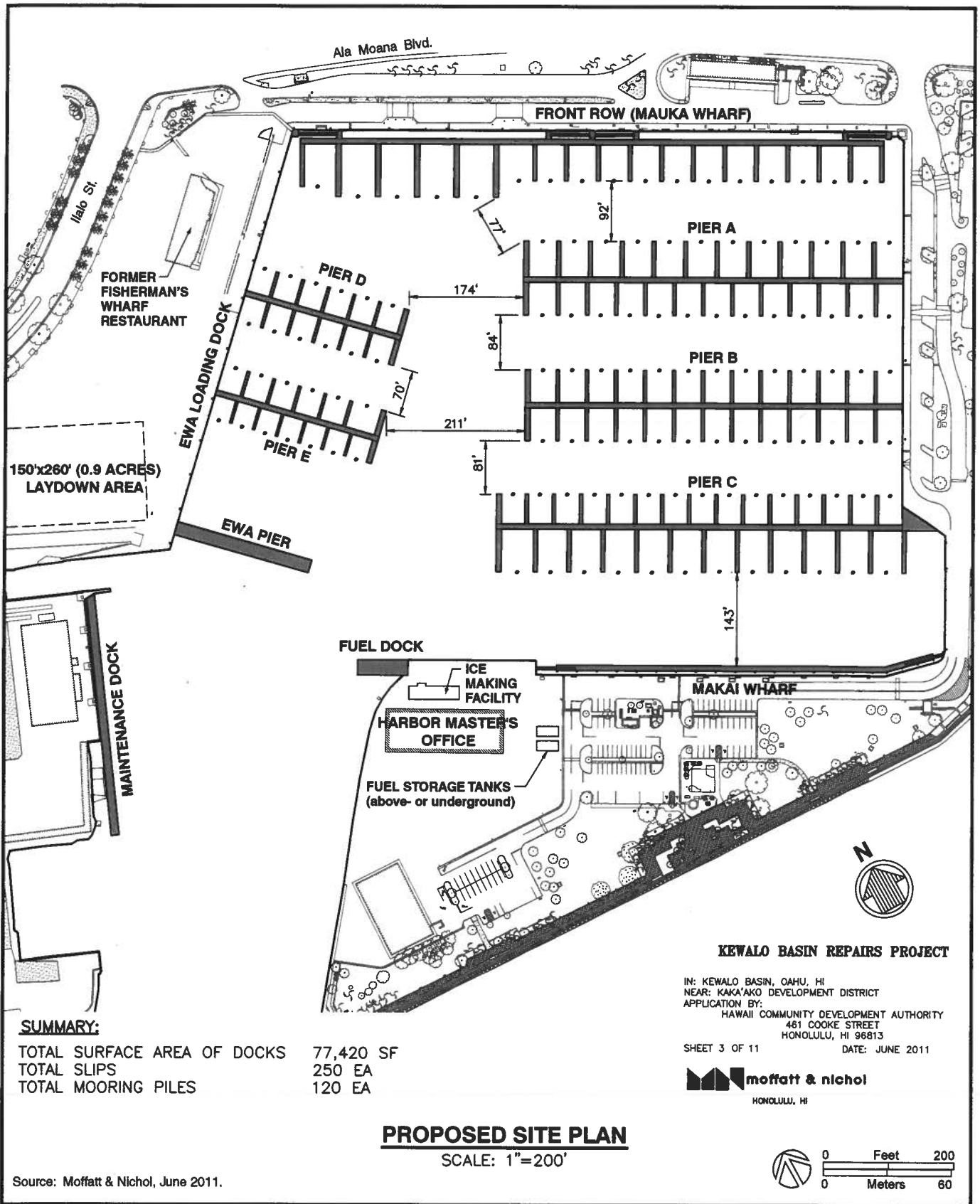
**KEWALO BASIN REPAIRS PROJECT**

IN: KEWALO BASIN, OAHU, HI  
 NEAR: KAKA'AKO DEVELOPMENT DISTRICT  
 APPLICATION BY:  
 HAWAII COMMUNITY DEVELOPMENT AUTHORITY  
 461 COOKE STREET  
 HONOLULU, HI 96813  
 SHEET 2 OF 11      DATE: JUNE 2011

**moffatt & nichol**  
 HONOLULU, HI







**SUMMARY:**

TOTAL SURFACE AREA OF DOCKS	77,420 SF
TOTAL SLIPS	250 EA
TOTAL MOORING PILES	120 EA

**PROPOSED SITE PLAN**

SCALE: 1"=200'

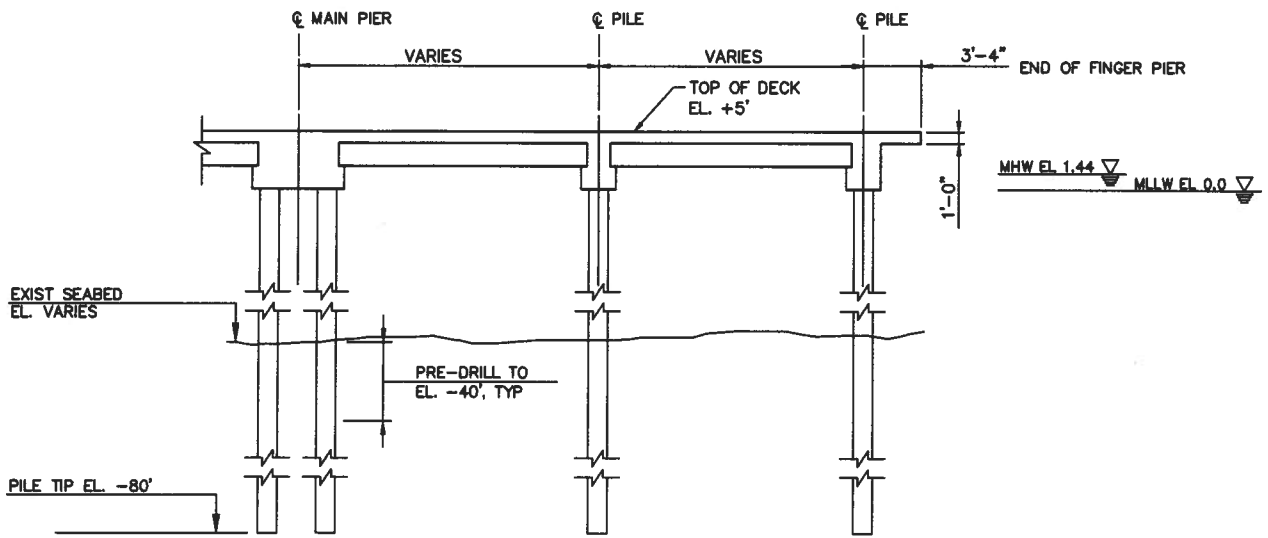
Source: Moffatt & Nichol, June 2011.

**KEWALO BASIN REPAIRS PROJECT**

IN: KEWALO BASIN, OAHU, HI  
 NEAR: KAKA'AKO DEVELOPMENT DISTRICT  
 APPLICATION BY:  
 HAWAII COMMUNITY DEVELOPMENT AUTHORITY  
 481 COOKE STREET  
 HONOLULU, HI 96813  
 SHEET 3 OF 11 DATE: JUNE 2011

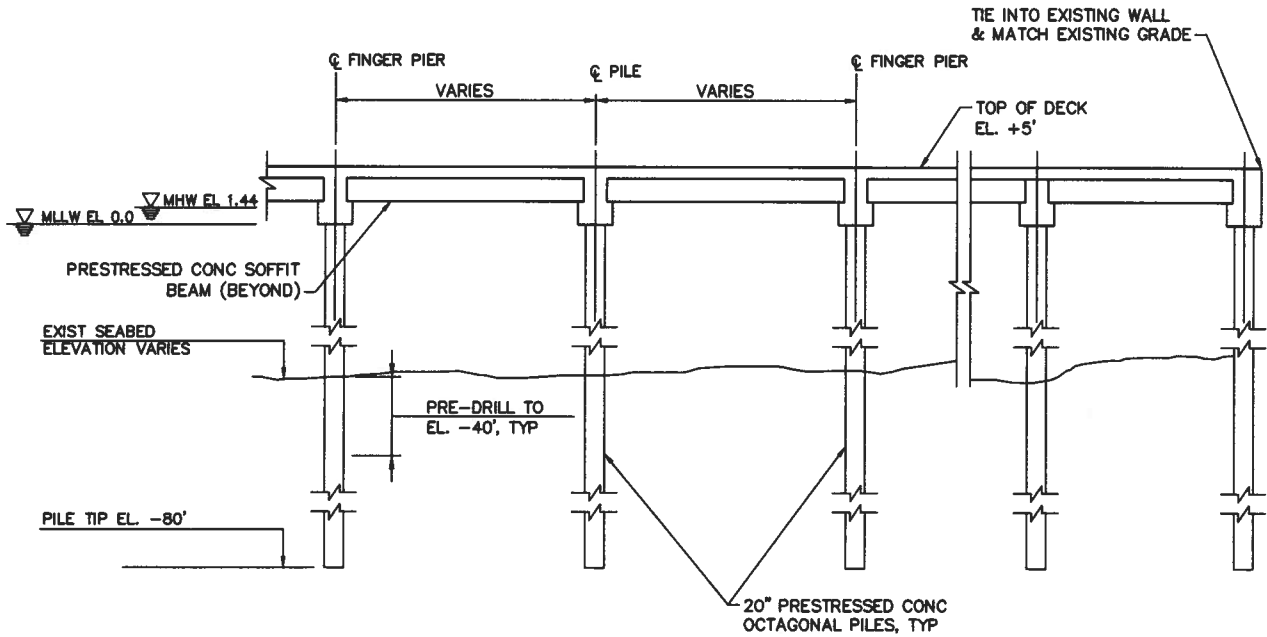
**moffatt & nichol**  
 HONOLULU, HI





**TYPICAL FIXED FINGER PIER**

SCALE: 1/16" = 1'-0"



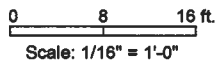
**TYPICAL FIXED MAIN PIER**

SCALE: 1/16" = 1'-0"

**KEWALO BASIN REPAIRS PROJECT**

IN: KEWALO BASIN, OAHU, HI  
 NEAR: KAKA'AKO DEVELOPMENT DISTRICT  
 APPLICATION BY:  
 HAWAII COMMUNITY DEVELOPMENT AUTHORITY  
 461 COOKE STREET  
 HONOLULU, HI 96813

SHEET 8 OF 11 DATE: JUNE 2011



Source: Moffatt & Nichol, June 2011.