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JAN 08 2014

December 26, 2013

TO: THE HONORABLE HERMAN TUIOLOSEGA, ACTING DIRECTOR
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
DEPARTMENT OF HEALTH

FROM: GLENN M. OKIMOTO, PH.D.
DIRECTOR OF TRANSPORTATION 

SUBJECT: ATLANTIS ADVENTURES MAINTENANCE FACILITY AT PIER 27
DRAFT ENVIRONMENTAL ASSESSMENT, HONOLULU HARBOR,
1-5-038:001

The State Department of Transportation (DOT) has reviewed the Draft Environmental Assessment (DEA) for the subject project and the DOT anticipates a Finding of No Significant Impact under Chapter 343. The DEA has been prepared pursuant to Chapter 343, Hawaii Revised Statutes and Chapter 11-200, Hawaii Administrative Rules. Please publish notice of this DEA in the next available issue of OEQC's *The Environmental Notice*.

We have enclosed one (1) each of the following items:

- Hardcopy of the OEQC publication form and DEA; and
- CD including the DEA in pdf and publication form in MS word format.

Simultaneous with this memo, we have submitted the summary of action in a text file via electronic mail to your office.

Please contact Sandra Rossetter of our Harbors Division, Engineering Planning Section at 587-1886 if you have any questions.

Enc: Subject Draft EA

APPLICANT ACTIONS
SECTION 343-5(C), HRS
PUBLICATION FORM (JULY 2012 REVISION)

Project Name: Atlantis Adventures Maintenance Facility at Pier 27

Island: Oahu
District: Honolulu
TMK: 1-5-038: 001
Permits: Building
Approving Agency:

State of Hawaii
Department of Transportation
Harbors Division
Mr. Dean Watase, Senior Planner
79 South Nimitz Highway
Honolulu, Hawaii 96813
T: (808) 587-1883

Applicant:

E: dean.watase@hawaii.gov
Atlantis Adevntures LLC
Mr. Jon Chapman, Manager
Pier 40
Honolulu, Hawaii 96816
T: (808) 832-6603

Consultant:

E: jchapman@atlantisadventure.com
Environmental Communications, Inc.
Taeyong Kim, Principal Planner
P.O. Box 236097
Honolulu, Hawaii 96823
T: (808) 528-4661
E: tkim@environcom.com

Status (check one only):

DEA-AFNSI

Submit the approving agency notice of determination/transmittal on agency letterhead, a hard copy of DEA, a completed OEQC publication form, along with an electronic word processing summary and a PDF copy (you may send both summary and PDF to oeqc@doh.hawaii.gov); a 30-day comment period ensues upon publication in the periodic bulletin.

FEA-FONSI

Submit the approving agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and a PDF copy (send both summary and PDF to oeqc@doh.hawaii.gov); no comment period ensues upon publication in the periodic bulletin.

FEA-EISPN

Submit the approving agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and PDF copy (you may send both summary and PDF to oeqc@doh.hawaii.gov); a 30-day consultation period ensues upon publication in the periodic bulletin.

Act 172-12 EISPN

Submit the approving agency notice of determination on agency letterhead, an OEQC publication form, and an electronic word processing summary (you may send the summary to oeqc@doh.hawaii.gov). NO environmental assessment is required and a 30-day consultation period upon publication in the periodic bulletin.

DEIS

The applicant simultaneously transmits to both the OEQC and the approving agency, a hard copy of the DEIS, a completed OEQC

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publication form, a distribution list, along with an electronic word processing summary and PDF copy of the DEIS (you may send both the summary and PDF to oeqc@doh.hawaii.gov); a 45-day comment period ensues upon publication in the periodic bulletin.

___ FEIS

The applicant simultaneously transmits to both the OEQC and the approving agency, a hard copy of the FEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the FEIS (you may send both the summary and PDF to oeqc@doh.hawaii.gov); no comment period ensues upon publication in the periodic bulletin.

___ Section 11-200-23
Determination

The approving agency simultaneously transmits its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS to both OEQC and the applicant. No comment period ensues upon publication in the periodic bulletin.

___ Statutory hammer
Acceptance

The approving agency simultaneously transmits its notice to both the applicant and the OEQC that it failed to timely make a determination on the acceptance or nonacceptance of the applicant's FEIS under Section 343-5(c), HRS, and that the applicant's FEIS is deemed accepted as a matter of law.

___ Section 11-200-27
Determination

The approving agency simultaneously transmits its notice to both the applicant and the OEQC that it has reviewed (pursuant to Section 11-200-27, HAR) the previously accepted FEIS and determines that a supplemental EIS is not required. No EA is required and no comment period ensues upon publication in the periodic bulletin.

___ Withdrawal (explain)

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

The proposed action consists of the construction of a warehouse and maintenance complex for Atlantis Adventures which operates the Atlantis Submarines and the Navatek whale watch and dinner cruise boat. The central warehouse building will consist of a two-story structure comprised of stacked shipping containers configured to serve as the perimeter of the warehouse. A metal roof will be placed over the stacked containers to create a weather-proof central work and storage area. Ancillary buildings include three office trailers with decks, and two additional storage containers located close to dockside for storage and electrical equipment, for a total floor area of 12,309 square feet and a lot coverage figure of 9,763 square feet.

Ancillary parking will be provided adjacent to the warehouse and trailer offices. A total of 31 stalls will be provided including 2 required accessible stalls. Two separate loading stalls will also be provided.

Improvements proposed over the submerged lands include approximately 300 linear feet of 8-foot wide dock walkways.

The proposed action is required as the current operations located at Pier 40 are subject to the Kapalama Container Terminal and Tenant Relocation Plan. The proposed improvements at Pier 27 will not result in any significant expansion over the current operations at Pier 40.

Atlantis Adventures Maintenance Facility at Pier 27

Honolulu District, Island of Oahu

Tax Map Key: 1-5-038: 001

Draft Environmental Assessment

Applicant: Atlantis Adventures LLC
Accepting Authority: State of Hawaii
Department of Transportation Harbors Division

December 2013

Atlantis Adventures Maintenance Facility at Pier 27

Honolulu District, Island of Oahu

Tax Map Key: 1-5-038: 001

Draft Environmental Assessment

Prepared by Atlantis Adventures LLC pursuant to Chapter 343, Hawaii Revised Statutes (HRS) for review by the State of Hawaii Department of Transportation Harbors Division

Notice of availability of this document will be made in the Environmental Notice published by the Office of Environmental Quality Control. Written comments regarding this document will be included in the Final Environmental Assessment.

For additional information concerning this document please contact:

Mr. Taeyong Kim
Environmental Communications, Inc.
P.O. Box 236097
Honolulu, HI 96823
Phone: (808) 528-4661
Email: tkim@envirocom.com

A copy of any comments or requests should be made to:

Carter Luke, P.E., Engineering Program Manager
State of Hawaii
Department of Transportation, Harbors Division
79 S. Nimitz Highway
Honolulu, HI 96813

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Marine Biological Survey

Traffic Access Analysis Report

I. PROJECT SUMMARY

APPLICANT: Atlantis Adventures
1600 Kapiolani Boulevard, Suite 1630
Honolulu, Hawaii 96814

ACCEPTING AGENCY: State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

ENVIRONMENTAL CONSULTANT: Environmental Communications, Inc.
1188 Bishop Street, Suite 2210
Honolulu, Hawaii 96701

PROJECT NAME: Atlantis Adventures Maintenance Facility

PROJECT LOCATION: Pier 27, South Nimitz Highway
Honolulu, Hawaii 96817

TAXMAPKEY/ OWNERSHIP: 1-5-038: 001 por.
State of Hawaii

AREA: Portion of 27.7158 acres

ZONING: I-3 Waterfront Industrial

STATE LAND USE: Urban District

CURRENT LAND USE: The project site presently consists of an open industrial lot located within a secured portion of Honolulu Harbor located adjacent to Pier 27. The lot is paved and no improvements are located on the site.

PROJECT SCOPE: The proposed action consists of the construction of a warehouse and maintenance complex for Atlantis Adventures which operates the Atlantis Submarines and the Navatek whale watch and dinner cruise boat. The central warehouse building will consist of a two- story structure comprised of stacked shipping containers configured to serve as the perimeter of the warehouse. A metal roof will be placed over the stacked containers to create a weather-proof central work and storage area.

No hazardous materials will be stored in the open area of the warehouse. The large open area within the warehouse will be used for weather protection of large parts and tools that need to be a dry area. Items stored within the warehouse include but are limited to crated engine parts, spare diesel engines, rigging equipment, and wood products. Any oils, paint or other such materials will be stored in containers per the applicant's general BMP's that are integral with the applicant's NPDES General Permit.

Ancillary buildings include three office trailers with decks, and two additional storage containers located close to dockside for storage and electrical equipment, for a total floor area of 12,309 square feet and a lot coverage figure of 9,763 square feet.

Other existing facilities located on the subject parcels but are not part of the proposed improvements include older warehouse, production, distribution and repair facilities built in the 1930's and owned by other parties.

With the proposed improvements, the project site will have a total Floor Area Ratio (FAR) of 0.31 which is significantly less than the allowed FAR of 2.5.

Ancillary parking will be provided adjacent to the warehouse and trailer offices. A total of 31 stalls will be provided including 2 required accessible stalls. Two separate loading stalls will also be provided.

Improvements proposed over the submerged lands include approximately 300 linear feet of 8-foot wide dock walkways. The floating walkways are provided vertical travel through a dockside mounted vertical I-beam system. The deck will be topped with a recycled plastic lumber substitute plank material.

PROJECT COST/PHASING

The total project hard cost is approximately \$1,500,000 and will be privately financed.

The proposed project will be conducted in a single continuous phase with a projected commencement date during the first quarter of 2014. The improvements should be completed in approximately 1 month.

PERMITS AND APPROVALS

Department of the Army Permit (404 Section 10)
Department of Health National Pollutant Discharge Elimination System Permit (NPDES)
City and County of Honolulu Building Permits
Hawaii State Legislature Resolution for use of submerged lands

II. PROPOSED PROJECT AND STATEMENT OF OBJECTIVES

A. Project Location

The proposed action is located on industrial lands owned by the State of Hawaii. The project site is located within the waterfront industrial complex identified as TMK 1-5-038: 001, Lot 6 and Lot 17, along the makai side of Nimitz Highway. Areas west of the project site consists of a large paved flat lot used as a container yard. Located further west is a fuel tank farm. The Sause Brothers maintenance facility which is similar to the proposed warehouse facility is located to the immediate south east. A triangular portion of land to the northeast of the project site is used by Sause Brothers for their land based operations.

The Atlantis Adventures project site Lot 6 consists of flat paved vacant lands that will be used for all land-based operations. Lot 17 consists of submerged lands which will feature a new dock assembly will be used to berth the Atlantis Adventures fleet.

The site is presently unused and vacant. It is devoid of any natural features but is by design intended for maritime service functions. The site has direct access to Nimitz Highway and Pacific Street.

B. Project Description

The proposed action consists of the construction of a new maintenance facility located at Pier 27. Improvement proposed can be generally classified as warehouse and repair, storage, office, docks and parking. The scope of this environmental assessment addresses the scope of land based maintenance and service operations and the docks that will be located over submerged lands.

Proposed Structures

Warehouse Ground Floor (repair/store)	6,720 sf
Warehouse Second Floor (storage)	3,410
Office trailer 1	513
Office trailer 2	513
Office trailer 3	513
Storage 1	320
Storage 2	320
Total	12,309
Required parking	19.17
Provided parking	29 (plus 2 handicap)

Warehouse and Maintenance Building

The Atlantis Adventures maintenance and repair operations are principally located within the warehouse and repair building centrally located within the project lot. This facility, which is comprised of a perimeter formed by adapted stacked storage containers with a metal roof, allows a majority of repair and maintenance functions to be conducted within an enclosed weatherproof structure. Operations within the structure may include electrical and mechanical component repair, parts fabrication, fiberglass and composite materials repair, small-scale painting, materials and supplies storage, office space and restrooms. An internal perimeter walkway will provide access to the second level containers.

No hazardous materials will be stored in the open area of the warehouse. The large open area within the warehouse will be used for weather protection of large parts and tools that need to be a dry area. Items stored within the warehouse include but are limited to crated engine parts, spare diesel engines, rigging equipment, and wood products. Any oils, paint or other such materials will be stored in containers per the applicant's general BMP's that are integral with the applicant's NPDES General Permit.

Electrical Equipment and Storage Containers

An electrical storage containers located dockside will be used to house electrical equipment used to recharge the electric powered submarines. This equipment will include transformers, cabling and battery service items which need to be located close to the electric powered vehicles. Batteries will not be stored in this container. Back up batteries will be stored in an appropriately secured storage container located in the main warehouse/maintenance building. A second container will house high pressure breathing air compressors for the Atlantis submarines.

Three (3) separate office containers will be located along the southern end of the docks.

Parking and Security

A marked parking area will be located southwest and adjacent to two of the office trailers. This parking area will have 29 regular parking stalls, 2 handicap accessible stalls and one designed loading stall. A second loading stall will be provided adjacent to the warehouse for large deliveries. Two 24-foot wide gates will be provided at both ends of the parking lot. The entire site will be secured by a 6-foot tall chain link fence to provide an additional level of security in the already secured harbor port vicinity. Canopy trees will be located along the parking lot perimeter between the parking stalls and the trailer offices. Existing port lighting is sufficient for general operations however additional shielded lighting is planned for the future along the floating docks for safety and security.

Floating Dock

Improvements proposed over the submerged lands include approximately 300 linear feet of 8-foot wide dock walkways. The floating walkways are provided vertical travel through a dockside mounted vertical I-beam system. The deck will be topped with a recycled plastic lumber substitute plank material.

The docks are designed to be minimally invasive to the existing environment. The vertical I-beams attached to the existing pier posts are the only physical connection point. In addition to allowing the docks to remain at a relative and safe working elevation with the boats, it minimizes to the greatest degree practicable, any impacts to the marine floor or to the piers themselves.

C. Project Operations

The purpose of the proposed facility is to provide maintenance, service and support functions to the Atlantis Adventures fleet of marine watercraft. Operations occurring on the project site are limited to vehicle maintenance and do not include customer related functions such as sales and customer boarding. Customer boarding is presently conducted at Pier 6 and will continue to do so after the maintenance facility is relocated to Pier 27. The proposed improvements will not increase the level of activity for any ocean going commercial activity.

Atlantis employs a preventative maintenance program similar to the US Navy. This computerized management system tracks and schedules maintenance of the Atlantis fleet of submarines, surface vessels, shore base support equipment and the facility equipment. Daily, weekly, monthly, semi-annual, and 3-year maintenance and refurbishment operations are performed on the equipment on a time or run hour basis. Many of these processes are inspections while others require component replacement. Work that requires disassembly of the vessels is completed in the periodic dry docks mandated by the US Coast Guard, American Bureau of Shipping (Insurance underwriters) and the applicant's in house engineering group. Any process that may generate excessive noise are performed within the warehouse.

Dockside operations are conducted in conformance with a Coast Guard approved fuelling plan for the applicant's. The applicant's operations are performed under the approval of NPDES permit File No. R80B138 for present location at Pier 40. This permit will be obtained or transferred to the planned site at Pier 27.

Watercraft are typically berthed at the project site when they are not in operation during the later evening and early morning hours, when they are being recharged, refueled, provisioned, or when regular maintenance functions are required.

Maintenance staff consists of approximately 32 employees.

Dockside Operations

Functions typically occurring within the project site dockside will include:

- Interior and exterior cleaning of boats
- Replenishment of water supply
- Pumping of sanitary waste to an approved wastewater disposal pipeline
- Electrical recharging of submarines
- Fueling
- Typical repair functions
- Provisioning

All dockside operations are subject to applicable Federal and State Regulations and presently operates with a State of Hawaii Department of Health Clean Water Discharge Permit (NGPC) in accordance with HRS Sec. 11-55-34.08. A Storm Water Pollution Control Plan, a Best Management Practices Plan, and a Tenant Self-Inspection Program are in effect at the present Pier 40 location and will be transferred to the new Pier 27 location. Annual storm water sampling will also be conducted at the new site. The project operations will comply with the Department of Transportation Harbors Division Stormwater Management Plan.

In the unlikely event of any spills, the docks are equipped with spill mitigation equipment including oil booms and absorbent materials in conformance with all applicable regulations.

Land-based Operations

Functions typically occurring on the landside within the warehouse will include:

- Electrical parts repair
- Mechanical parts repair
- Maintenance and repair of functional components
- Metal fabrication
- Non-metal fabrication
- Cosmetic repairs

All land-based maintenance operations listed above are conducted under the covered warehouse structure that will not be subject to any storm water runoff that may enter the harbor. No exceptional hazardous materials are used in the general maintenance functions. Typically paints, solvents and fiberglass fabrication materials are stored and used within the container compartments that comprise the perimeter of the warehouse and maintenance facility. Standard BMPs for the handling of these materials are within the standard operating procedures for the maintenance facility.

Three office trailers located adjacent to the warehouse will be used for typical operations and maintenance management functions.

Navatek and Atlantis Submarine crew will board through the proposed project site and supplies will also be provided at this location. Approximately 25 crew members will transit through the site. Navatek crew typically board at 2:00 pm through Pier 27 and return at 8:30 pm when their shift ends.

Maintenance operations are typically staffed in two shifts. The day shift commences at 6:00 am and ends at 7:00 pm while the night shift begins at 7:00 pm to 6:00 am. Operations are conducted throughout the week on a 24-hour basis.

Vehicular Circulation within Site

A total of 29 parking stalls, including 2 handicap accessible stalls will be provided along the western perimeter of the project site. A second designated loading area is located between the other two office trailers closest to the docks. One loading stall is also provided in the lot near one of the office trailers. The parking lot is double loaded with both ingress and egress gates.

Parking is used for employees only however delivery vehicles are regularly access the site at the following rate:

Daily	5 trips (mail, FedEx, UPS, fuel truck, provisions)
Bi-weekly	2 trips (recycling and soft drink)
Weekly	1 trip (refuse)

D. Project Objective and Need for Action

The objective of the proposed action is to create a new maintenance facility which will allow the Atlantis Adventures maintenance functions to relocate from Pier 40 to Pier 27. This relocation is required as the State Department of Transportation Harbors Division is in the process of creating a new master plan and expansion of the shipping operations at Pier 40. The Master Plan for the Kapalama Container Terminal is also subject of a Environmental Impact Statement titled *Kapalama Container Terminal and Tenant Relocations Environmental Impact Statement* that is presently in Draft form but does not specifically address the impacts associated with the Atlantis Adventures maintenance facility.

The subject Environmental Assessment is prepared in conformance with Chapter 343 Hawaii Revised Statutes, as the project will involve the use of State lands. The property is owned in fee by the State of Hawaii. The State Department of Transportation will serve as the accepting authority for the subject Environmental Assessment. The proposed action will not involve the use of State funds as the proposed improvements will be privately financed.

The use of submerged lands that will be used to port the applicant's vessels will require a legislative resolution.



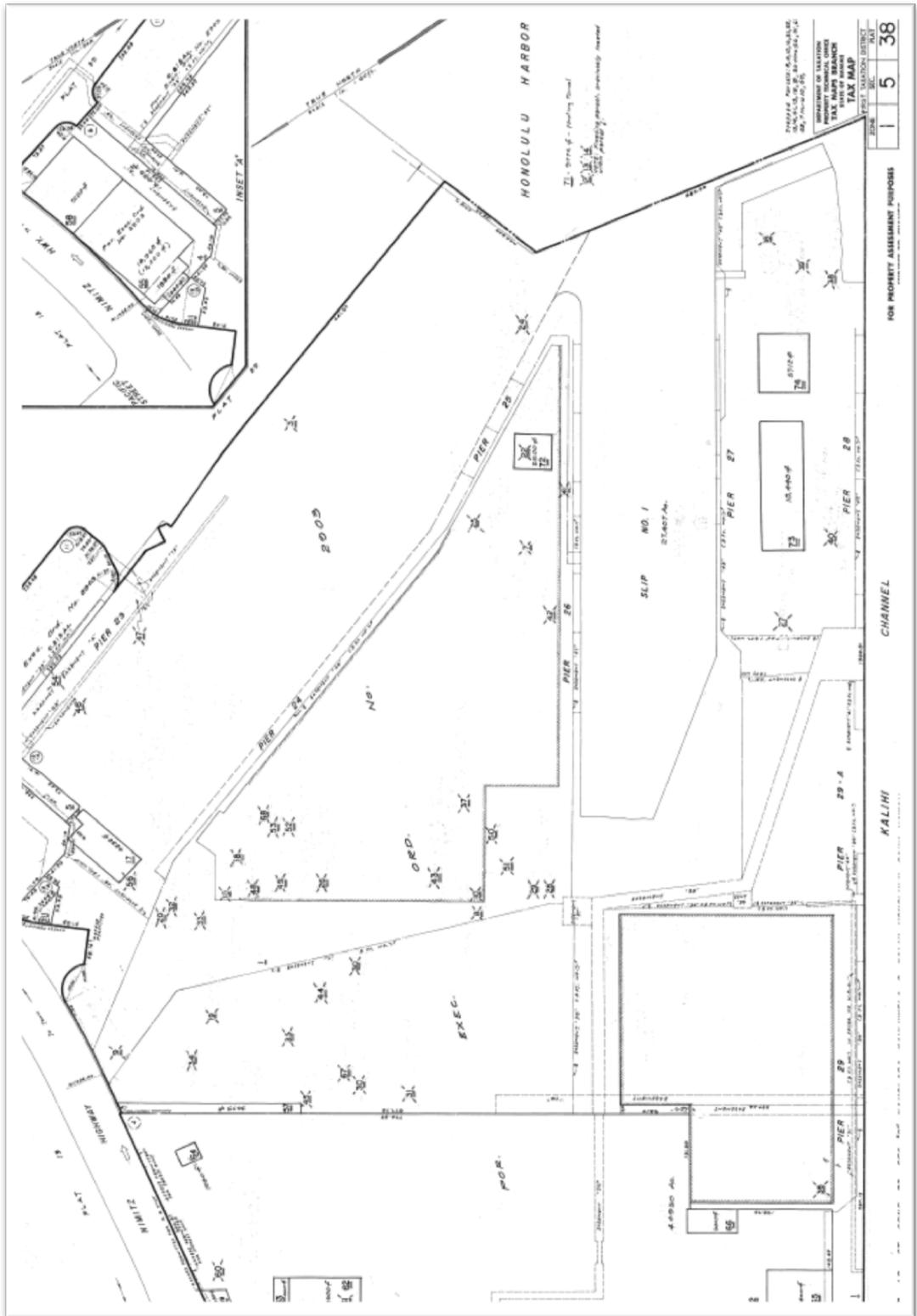
Project Location Aerial Photograph

Source: Google Earth

Environmental Assessment

Figure 1

Atlantis Adventures
Maintenance Facility
Honolulu, Hawaii



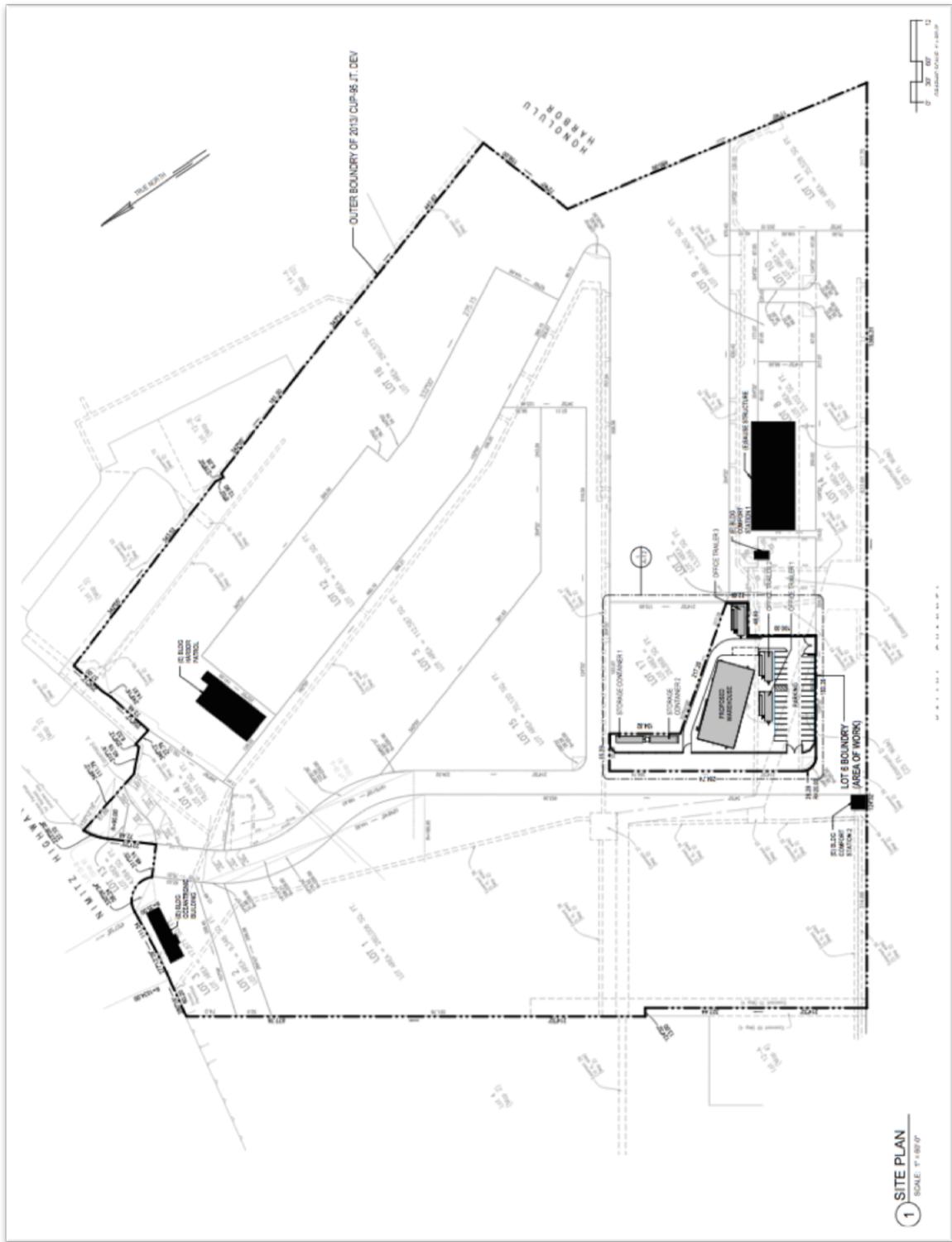
Project Location Tax Map

Source: City and County of Honolulu

Environmental Assessment

Figure 2

Atlantis Adventures
Maintenance Facility
Honolulu, Hawaii



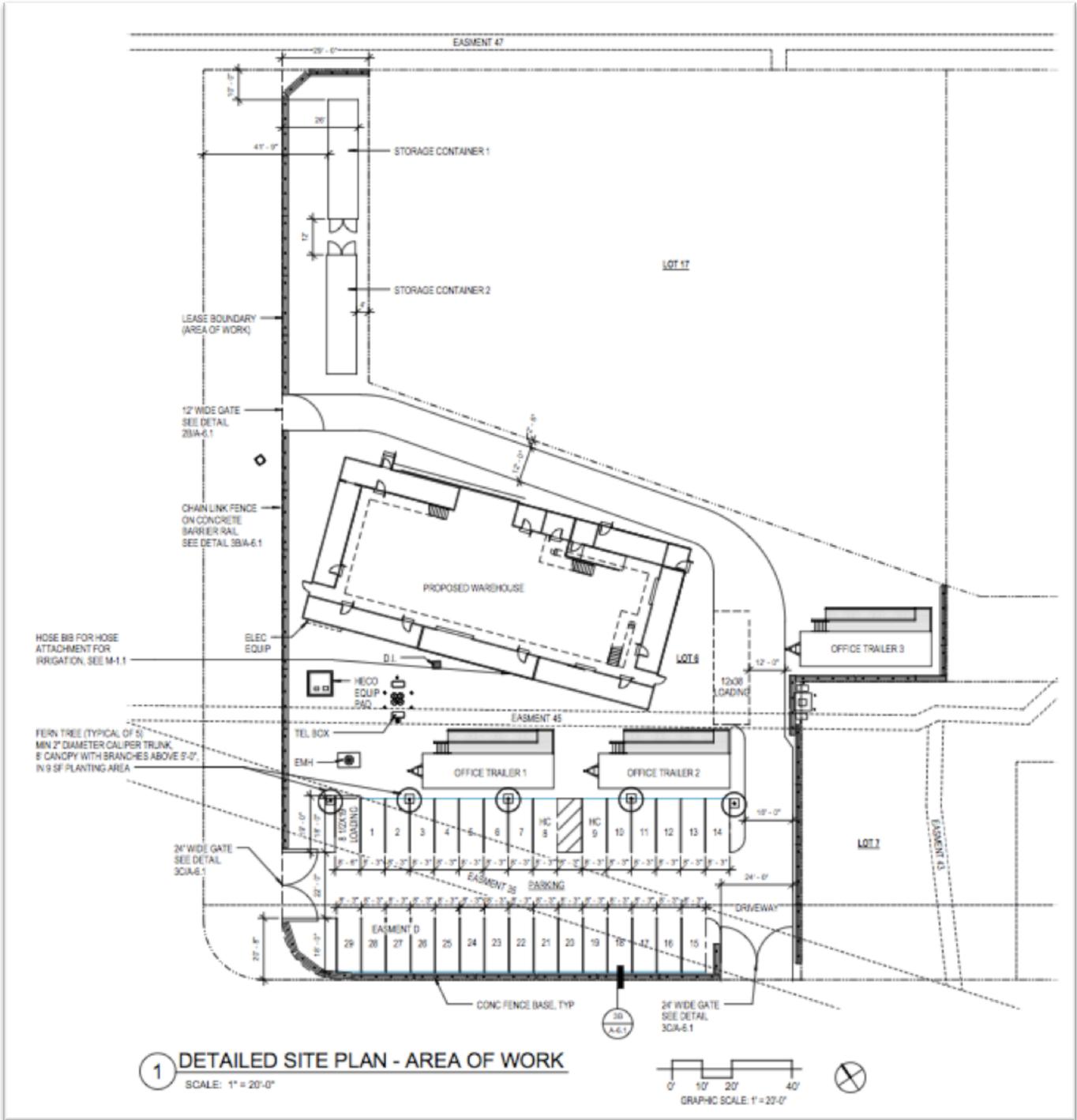
Project Site Plan

Source: Allison-Ide Structural Engineers

Environmental Assessment

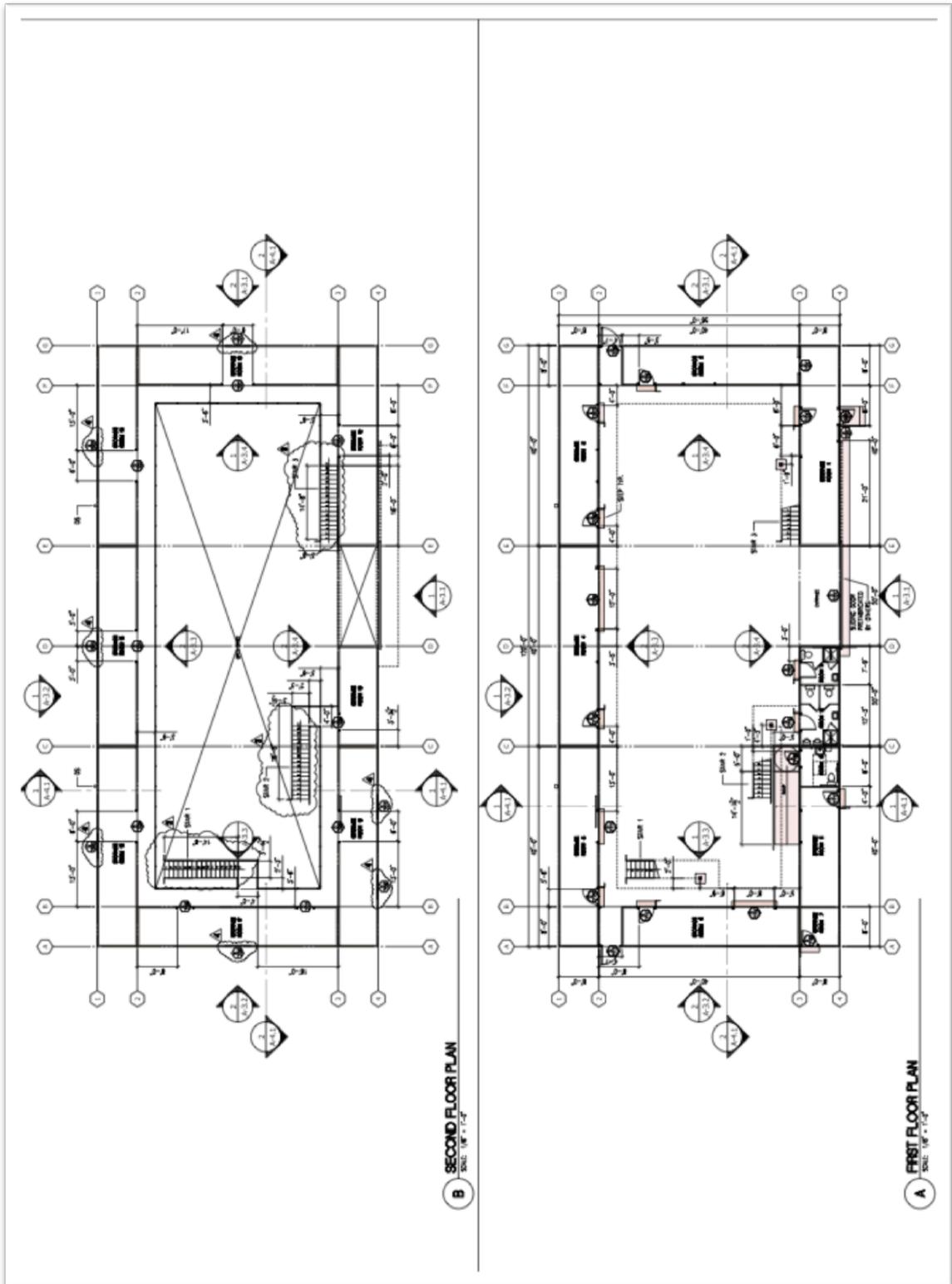
Figure 3

Atlantis Adventures
Maintenance Facility
Honolulu, Hawaii



Detailed Project Site Plan
Source: Allison-Ide Structural Engineers
Environmental Assessment

Figure 4
Atlantis Adventures
Maintenance Facility
Honolulu, Hawaii



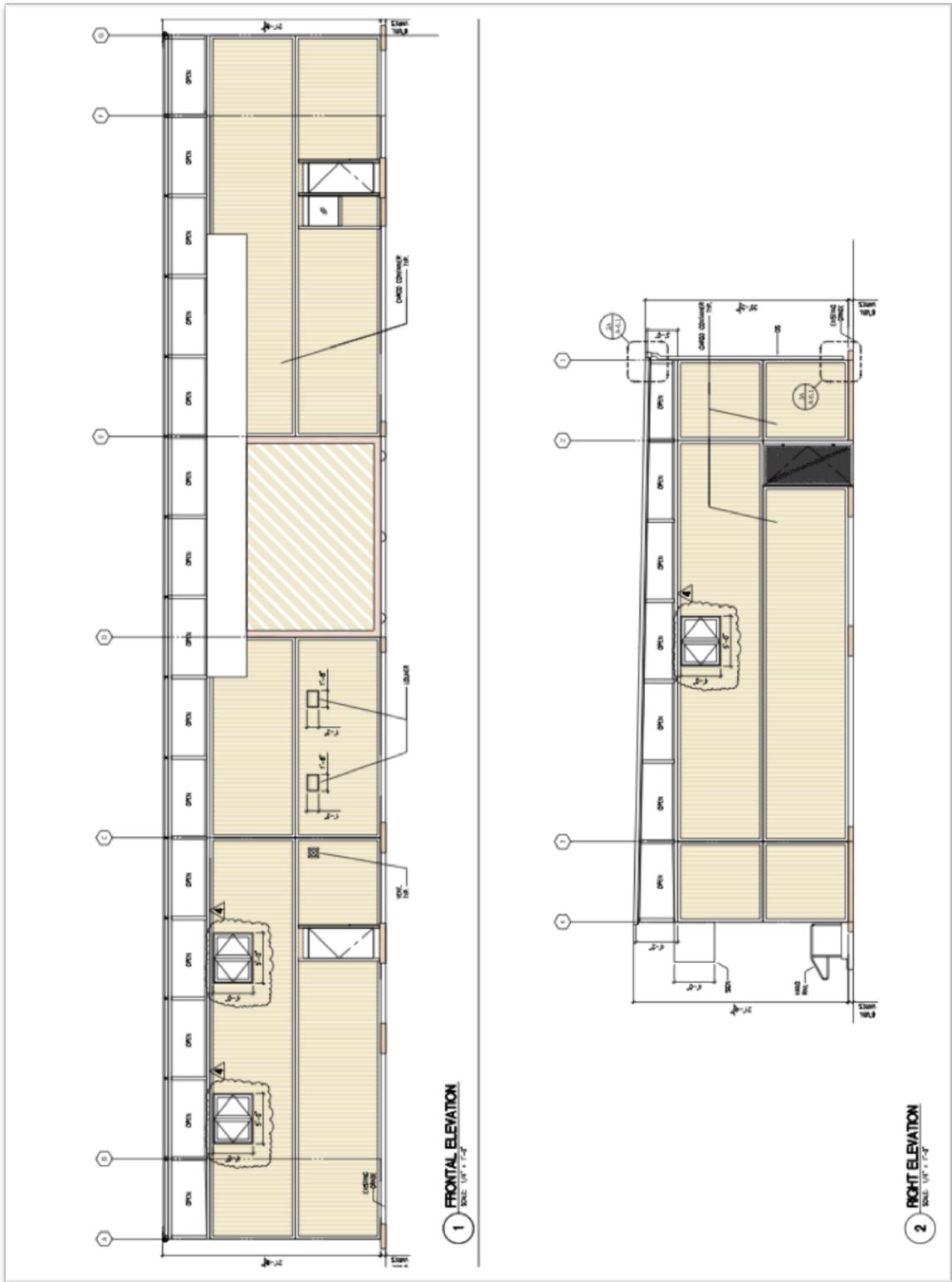
Maintenance Building Floor Plan

Source: Allison-Ide Structural Engineers

Environmental Assessment

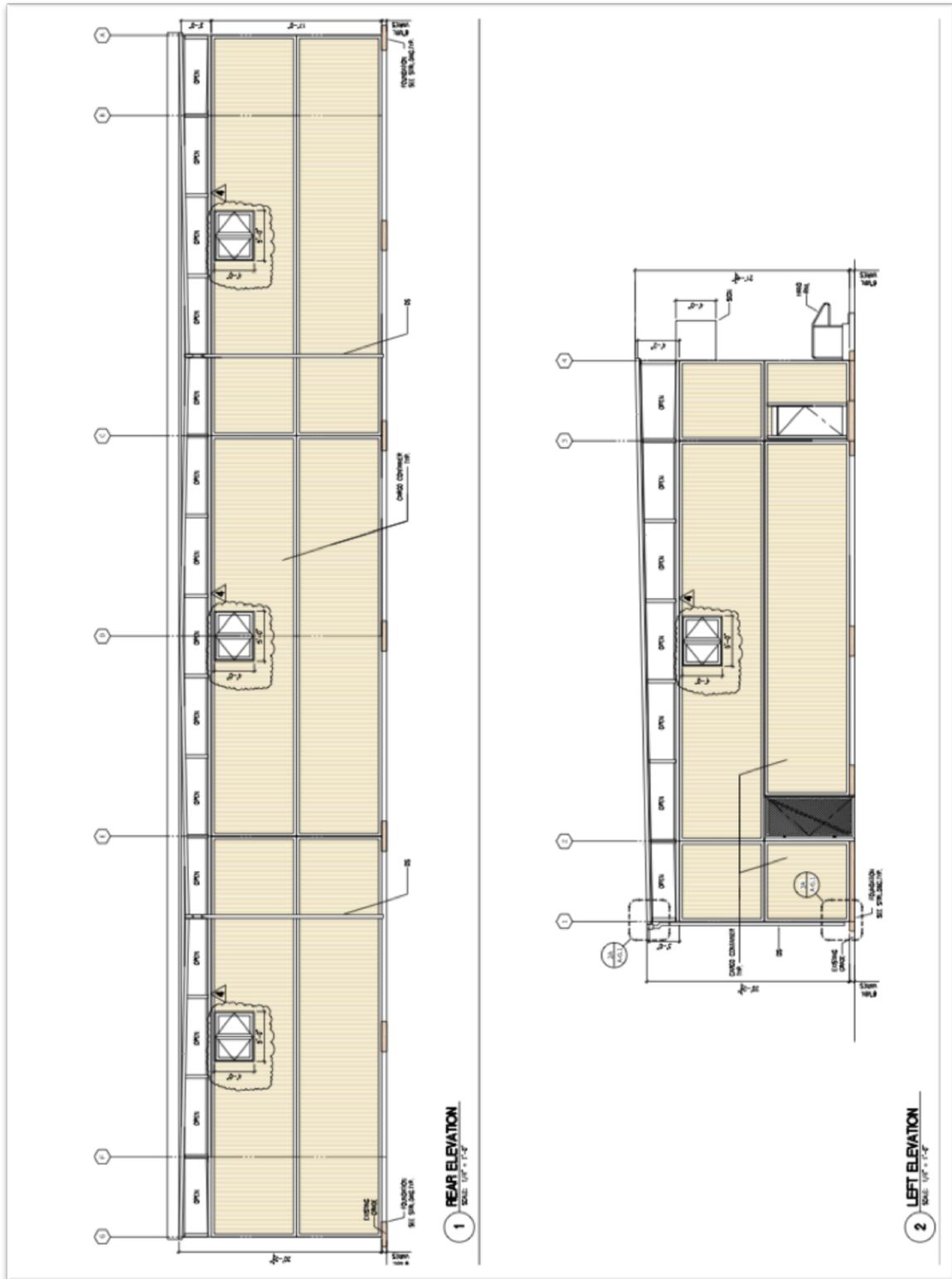
Figure 5

Atlantis Adventures
Maintenance Facility
Honolulu, Hawaii



Front and Right Elevation
 Source: Allison-Ide Structural Engineers
 Environmental Assessment

Figure 6
 Atlantis Adventures
 Maintenance Facility
 Honolulu, Hawaii



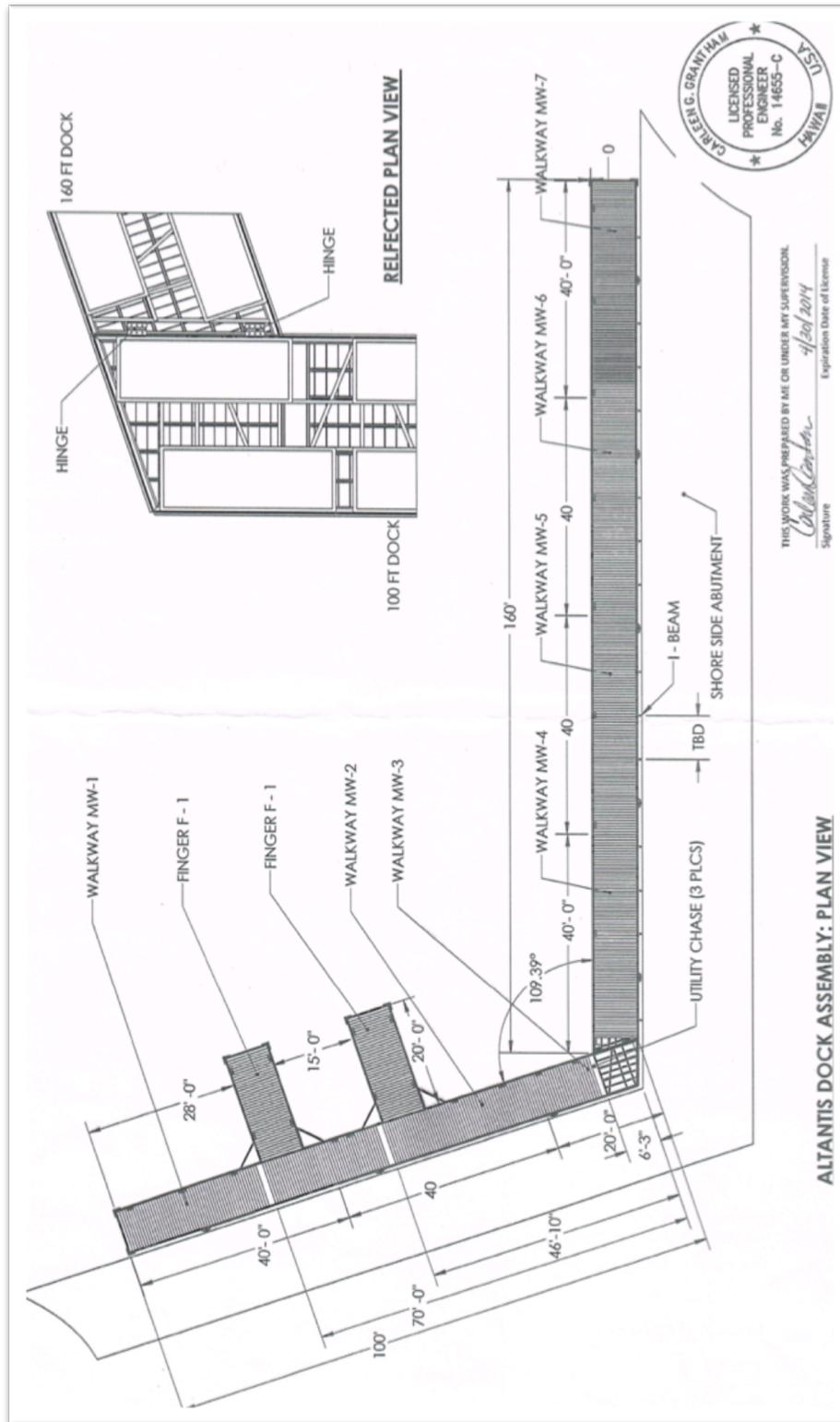
Rear and Left Elevation

Source: Allison-Ide Structural Engineers

Environmental Assessment

Figure 7

Atlantis Adventures
 Maintenance Facility
 Honolulu, Hawaii



Dock Plan

Source: Grantham Engineering, Inc.

Environmental Assessment

Figure 9

Atlantis Adventures
Maintenance Facility
Honolulu, Hawaii

III. AFFECTED ENVIRONMENT AND POTENTIAL CONSEQUENCES

A. Environmental Setting

The project site consists of a portion of a 25.299 acre site of Waterfront Industrial (I-3) zoned lands located makai of the intersection of Nimitz Highway and Pacific Street. Land based improvements will be located between Piers 26 and 27 while a large open container stacking yard is located in the mauka direction. The area is characterized by its heavy industrial uses.

Typical uses in the project vicinity consist of industrial, shipping, packaging and storage warehouses, fuel tank farms and automobile storage lots. This working environment is not readily accessible to the general public and the project site is subject to monitoring and security measures including a security check point located near the Nimitz Highway and Pacific Street entry.

The project site is not a scenic resource nor does it serve as a natural resource. The area is not well suited for residential or retail use nor are these uses allowed by the zoning code. Across Nimitz Highway lie other similar uses and some commercial uses that are more accessible to the public.

B. Surrounding Uses

The area surrounding the project site is characterized by industrial and waterfront uses. Further to the north lie the Iwilei and Kalihi industrial areas. Notable landmarks to the north across Nimitz Highway include Hilo Hattie and a Zippy's restaurant. Directly south across the channel lays Sand Island which also contains industrial, public facilities and recreational uses. In the westerly direction lie a large warehouse complex, and further west the Chevron fuel tank farm. Industrial silos and a warehouse facility lie farther east adjacent to Piers 22 and 23. Chinatown and downtown Honolulu lie to the east across Nuuanu Stream. The proposed use is consistent with the immediate surroundings as well as the general character of the entire district.

C. Environmental Conditions and Impacts

1. Geological Characteristics

Topography

The project improvement area is flat and open, as it had been previously cleared, graded and paved. The area of the site that will contain the warehouse, office

trailers and parking is paved with asphalt. The site is devoid of any flora or fauna and is relatively clear of any debris as the site is completely open and exposed.

The proposed improvements will not require the relocation of any utilities or services. The proposed warehouse addition will not result in the loss of any open space nor will it result in the loss of any scenic views from public access points since the area was previously designated for container storage. The site is in industrial use and warehouse structures are normative for this use. The existing open space areas did not serve as a visual resource.

A minimal amount of trenching will be required for footings for the main building as well as electrical lines and the sanitary sewer system. The existing power supply is located in a hand hole located adjacent to the main building. Overhead lines will be used in areas that are concrete topped. The remainder of all improvements will occur above grade. All structures aside from fence posts will be rolled or lifted in to place.

Climate

The geography of the Honolulu District is typically warm and dry in climate. Prevailing trade winds arrive from the northeast. According to the National Weather Service Honolulu Office, over a period of 30 years, normal monthly high temperatures range from 80 degrees in January to a high of 89 degrees in August for an average of 84 degrees. Normal month low temperatures range from a low of 65 degrees in February and a high of 74 degrees in August for a monthly average of 70 degrees. Precipitation typically ranges from 0.44 inches in August to a high of 3.8 inches in December. The annual average rainfall in Honolulu is 70 inches per year.

USDA Soil Survey Report

According to panel 62 of the *Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii* by the US Department of Agriculture Soil Conservation Service, the project site is located primarily on soils classified as Fill Lands, Mixed (FL). This land type occurs primarily near Pearl Harbor and Honolulu. It consists of dredged material, garbage and general excess material. This land type is used for urban development including industrial facilities.

Air Quality

The ambient air quality of the project site is typical of the industrial nature of the site. No point source pollution sources have been identified in the general area and typical trade winds ensure that air quality remains within acceptable standards as recorded by the Department of Health air quality monitors. No odors were noted during on site and the site is well ventilated and well exposed to prevailing winds.

Air quality impacts from the construction and operation of the new maintenance facility are expected to be insignificant to non-existent as no grading will be required and construction primarily consists of the configuration of existing storage containers to form the structure of the new maintenance building. During the construction period, gasoline or diesel powered heavy equipment will be required to transport and erect the building. Air quality degradation from the operation of this equipment will be negligible and temporary. In the long-term, the maintenance facility will not be a point source generator. Private vehicles owned by employees will generate minimal amounts of air-borne emissions as would be typical of any parking lot and deliveries to the site by larger vehicles is minimal. Large semi-trailer vehicles will no longer be accessing the site for storage container use resulting in lower overall emissions. No long-term air quality impacts should occur from the operation of the new warehouse.

Noise Environment

The noise environment will be minimally affected by the new maintenance facility. Storage and moving activities occur primarily indoors or within the confines of the warehouse complex. The addition of the new warehouse will ensure that noise levels are attenuated even further as the new warehouse will contain the eastern boundary of the site and will prevent any activity noise from traveling further east. Operation of the adjacent Sause Brothers surface vessel maintenance operations are configured similarly to the proposed project and have not created any noise generation issues or complaints. All activities will continue to adhere to State Department of Health community noise standards.

According to the noise studies prepared for the *Kapalama Draft Environmental Impact Statement*, the closest residential noise receptor is the Harbor Village Apartments which is located approximately 2,500 feet from the project site. Typical impacts for the proposed maintenance operations are less noise invasive than the activities addressed in the *Kapalama Draft Environmental Impact Statement* particularly since noise generation from the maintenance operations will primarily occur indoors within the workshops of the maintenance facility.

2. Water Resources

Hydrologic Hazards and Resources

According to Panel 15003C0361G of the Federal Emergency Management Agency Flood Insurance Rate Map dated January 11, 2011, the entire land based portion of the project area is located in Zone X, an area where flood hazards are undetermined. Submerged lands where the floating dock will be located is in Zone AE (EL 5), an area where the base flood elevation has been determined.

Special Management Area

The project site is not located within the Special Management Area (SMA).

Water Quality

The project will not adversely affect water quality as the purpose of the project is to provide stored goods and equipment with environmental protection. No hazardous materials will be stored in the open area of the warehouse. The large open area within the warehouse will be used for weather protection of large parts and tools that need to be a dry area. Items stored within the warehouse include but are limited to crated engine parts, spare diesel engines, rigging equipment, and wood products. Any oils, paint or other such materials will be stored in containers per the applicant's general BMP's that are integral with the applicant's NPDES General Permit.

Site drainage will not be affected as the existing site is already completely paved. A stormwater management plan for Honolulu Harbor was prepared in 2009 for the State of Hawaii Department of Transportation Harbors Division. This report encompassed the entirety of Honolulu Harbor including the current Pier 40 site as well as the proposed Pier 27 site. The general findings and recommendations are applicable to the proposed project and in turn, the proposed improvements are consistent with the stormwater management plan. The site will not result in any additional runoff nor will it result in the loss of any impermeable surfaces and the runoff produced on-site will be essentially the same as the current conditions.

Dockside, basic loading and unloading functions, battery charging and other watercraft related activities subject to all applicable Federal and State laws and regulations. The applicant has a BMP manual developed for its NGPC that was reissued in December 2013 and will be in force until December 2017. The applicant will obtain the same permit for Pier 27 upon final execution of the lease agreement with the State of Hawaii Harbors Division. All proposed activities are considered normal and typical maritime activities allowed within the limits of Honolulu Harbor.

3. Archaeological, Cultural, Botanical and Faunal Resources

Archaeological Resources

As stated earlier, the project site is located on mixed fill lands that consist entirely of materials that were brought to the current location. As such no archaeological or historic materials are expected to exist on the project site.

In the unlikely event that any archaeological artifacts are uncovered, all work will cease and the Department of Land and Natural Resources State Historic Preservation Division (SHPD) will be notified for appropriate action.

Cultural Resources

The Honolulu Harbor area has historically been a heavily used seaport and trade center. This is well recorded and documented but specific to the project site, no cultural activities are known to have occurred on the subject area. As stated in the preceding paragraph, the site was created by introduced fill material and cultural activities, if any, have not occurred on the site since the time the site was hardened and used for industrial use. The site is also in a secured area that does not allow public access.

Flora

The entire surface of the project site is covered with concrete or asphalt paving. The site is completely devoid of any flora and fauna subsequently, no rare, threatened or endangered species of flora were observed within the project site. Invasive species from flora or fauna are not expected to have any impact as the operations of the facility do not trade related activities.

Fauna

The site does not serve as an endangered wildlife habitat. No land based fauna was observed during site visits and no rare or endangered species of avifauna were identified. The proposed improvements will not result in the increase in any ocean going activities therefore no additional impacts are expected to any near shore or marine life.

Aquatic resources were surveyed by AECOS Inc. for the project dock locations. The impact findings of this survey, entitled *Marine biological surveys for Pier 27 Improvements, Honolulu Harbor, Oahu* are summarized below. The survey report can be found in its entirety in the Appendices.

Direct impacts to marine biological resources off Pier 27 would result from installation of I-beams on the pier face. The I-beams will be attached to the existing pier above the high tide line (HTL) with anchor bolts and epoxy glue. Below the HTL, there will be a 4-in (10-cm) gap between the I-beam and the concrete pier, meaning that most of the corals in the “footprint” of the I-beams will not be directly affected because they have an encrusting growth form (e.g., *Leptastrea* spp. and *Porites* sp.). However, to ensure a conservative analysis of direct impacts, the study assumed all colonies within the footprint would be directly impacted. The entire “lip” on the west pier was surveyed, for total survey area of 21 m² (230 ft²), while the actual direct impact area is only a small fraction (2.6%) of this survey area (direct impact area of 0.5355 m²; 5.85 ft²). The appropriate proportion was then taken into account in assessing direct impacts.

Coral colonies in the direct impact areas of the south and west pier are generally small (<10 cm across). No colonies of *M. patula*, a species currently proposed for

listing under the federal Endangered Species Act, were observed in the direct impact areas on either pier face.

Indirect impacts to marine biological resources off Pier 27 in Honolulu Harbor would result from vibrations during installation of the I-beams, shading from the floating dock and I-beams, and a local increase in boat traffic. Shading impacts to corals under the structures are likely to be highly variable and may occur after project completion. The amount of available light is an important factor affecting survival, growth, and depth distribution of corals. Reduced light availability to coral zooxanthellae (symbiotic microalgae) can result in increased coral mortality. There can be positive effects from the limited shading produced from the floating docks. Shading may cause a slight decrease in the water temperature, which may reduce thermal stress on corals. Thermal stress can lead to the disruption of normal photosynthetic processes in the coral zooxanthellae (i.e., bleaching) and coral disease.

An assessment was made of all coral on the pier faces in the area determined to be potentially at risk for indirect impacts. All corals listed in this table will not necessarily be impacted negatively. Shading may have a positive impact on some coral colonies.

South pier — Total shaded area² from the floating dock at the south pier is 209 m² (2237.5 ft²). Live coral on the pier face in the shaded area is estimated to be 3.4%, for a maximum total impact of 1.97 m² (370.3 ft²) of corals shaded.

West pier — Total shaded area² from the floating dock at the west pier is 98 m² (1058 ft²). Coral cover on the pier face in the shaded area is estimated to be 0.76%, for a total direct impact of 0.75 m² (8.1 ft²) of coral shaded.

No listed (endangered or threatened; USFWS, 2013) species were encountered in the November 2013 surveys.

Mitigation for impacts to marine resources caused by the project includes avoiding impacts, minimizing impacts, and compensating for unavoidable impacts. The first step is to avoid impacts through project design decisions. The second step, after avoidance measures have been incorporated, is to minimize remaining impacts. If unavoidable impacts still exist after avoidance and minimization, then replacement of lost ecosystem functions and values is appropriate. This last step is called compensatory mitigation. Project design has sufficiently mitigated for impacts to marine resources through avoidance and minimization efforts and compensation is not proposed.

Atlantis Submarines proposes to avoid and minimize impacts to waters of the U.S. in the following ways:

- Construction of floating docks rather than pile-supported piers that might require fill;
- The number of I-beams proposed is the minimum number needed, reducing impact to coral colonies on the pier face;
- The location of the I-beams has been selected to minimize impact to existing coral colonies (large, existing colonies located by *AECOS* biologists on the south pile cap have been avoided);
- The width of the floating dock is the minimum width required by the Americans with Disabilities Act (ADA);
- During drilling into concrete over the water, a plastic sheet will be deployed to prevent debris from falling on to the water; a large shop vacuum will be used to catch dust.

During pier improvements, indirect impacts to the surrounding waters could include construction runoff and suspension of fine sediments into the water column. Construction best management practices (BMPs) must be implemented to avoid runoff and inputs of chemicals, including fuels, and sediments into the harbor. Additionally, BMPs should be in place that minimize disturbance of the bottom sediments and if needed, by deployment of silt curtains to limit the spread of disturbed fine sediment where bottom disturbance cannot be avoided. BMPs including environmental protection specifications and endangered species protection, as described below, may be applicable.

Environmental Protection Specifications – A detailed environmental protection specification document should be developed for the construction contractor. Site-specific BMPs are generally a requirement of nation-wide permit (NWP) verifications, either directly or by state water quality certification conditions, which are incorporated by reference. To the extent applicable, the following BMPs should be considered to minimize degradation of water quality and avoid adverse impacts to fishes, corals, and other aquatic resources (modified from USACE, 2012):

- Turbidity and sediment from project-related work must be minimized and contained to the immediate vicinity of the authorized activity through the appropriate use of effective sediment containment devices (for examples, turbidity curtains in the water, silt fences on land);
- To the extent practicable, work in the marine environment must be scheduled to avoid coral spawning and recruitment periods; Coordination with federal resource agencies (U.S. Fish and Wildlife Service and/or NOAA) can assist in identifying these time periods;

- All project-related materials and equipment (dredges, barges, backhoes, etc.) to be placed in the marine environment should be inspected and cleaned of pollutants, organic matter, and invasive species prior to use in any aquatic environment;
- Project-related materials (reinforcing steel bars, clamps, etc.) are not to be stockpiled in the marine environment or in close proximity such that materials could be carried into the water by wind, rain, or high surf;
- Any construction debris and material removed from the marine environment should be disposed of at an approved upland or alternative disposal site;
- No contamination (by trash, debris, sediment, non-native species introductions, attractions of non-native pests, etc.) of adjacent waters of the United States, including special aquatic sites, shall result from Project-related activities. Special attention must be paid to fouling on barges, vessels, and equipment to minimize transport and potential introduction and spread of aquatic non-native species.
- Fueling of project-related vehicles and equipment should take place away from the water and a contingency plan to control petroleum products accidentally spilled during Project activities should be developed; Absorbent pads and containment booms should be stored where and as appropriate to facilitate the clean-up of accidental petroleum releases.

4. Infrastructure and Utilities

The proposed improvements are not expected to have a significant impact on existing infrastructure and utilities.

Vehicular Access and Traffic Conditions

A Traffic Access Analysis Report was conducted for the proposed improvements by The Traffic Management Consultant and is attached in its entirety in the Appendices. The report is summarized below.

Nimitz Highway is a two-way, eight-lane, divided, arterial highway, with a posted speed of 35 miles per hour (mph) in the vicinity of the proposed project. Nimitz Highway continues as Ala Moana Boulevard in the Koko Head (east) direction. Ewa of Pacific Street, the left lane on Ewa bound Nimitz Highway merges into the second through lane, reducing the Highway from four lanes to three lanes. As a result, the left lane on Ewa bound Nimitz Highway at Pacific Street operated as an exclusive left-turn lane during the peak hours of traffic.

Pacific Street is a two-way, two- to four-lane, roadway between Iwilei Road and Honolulu Harbor. Pacific Street is signalized at its four-legged intersections with the Koko Head (east) bound and Ewa (west) bound segments of Nimitz Highway.

The existing AM peak hour of traffic occurred from 6:45 AM to 7:45 AM. Nimitz Highway carried about 6,300 vph, total for both directions. The AM peak direction of traffic on Nimitz Highway was in the Koko Head bound direction, carrying about 4,400 vph. Pacific Street carried about 400 vph, total for both directions. Both intersections of Nimitz Highway and Pacific Street operated at LOS "C", during the existing AM peak hour of traffic. The left-turn movement on makai (south) bound Pacific Street at Koko Head bound Nimitz Highway operated at LOS "E". The other traffic movements on Pacific Street at Koko Head bound Nimitz Highway operated at LOS "D". Koko Head bound Nimitz Highway operated at LOS "B". Mauka (north) bound Pacific Street operated at LOS "E" at Ewa bound Nimitz Highway. The other traffic movements at the intersection of Ewa bound Nimitz Highway and Pacific Street operated at LOS "C" or better.

The existing PM peak hour of traffic occurred from 4:15 PM to 5:15 PM. Nimitz Highway carried about 6,300 vph, total for both directions. The PM peak direction of traffic on Nimitz Highway was in the Koko Head bound direction, carrying about 3,400 vph. Pacific Street carried about 350 vph, at Nimitz Highway. Both intersections of Nimitz Highway and Pacific Street operated at LOS "B", during the existing PM peak hour of traffic. Mauka bound through movement and the makai bound left-turn movement on Pacific Street at Koko Head bound Nimitz Highway operated at LOS "D". The other traffic movements at the intersection of Pacific Street and Koko Head bound Nimitz Highway operated at LOS "B". Both approaches on Pacific Street operated at LOS "D" at Ewa bound Nimitz Highway. The traffic movements on Ewa bound Nimitz Highway operated at LOS "B" or better.

The traffic analysis without the proposed project is based upon the Year 2014 traffic conditions without the proposed project. The purpose of this traffic analysis is to establish the baseline conditions from which to measure the traffic impacts of the proposed Atlantis Adventures Pier 27 Maintenance Facility.

The intersections of Nimitz Highway and Pacific Street are expected to continue to operate at LOS "C", during the AM peak hour of traffic without the proposed project. The left-turn movement from makai bound Pacific Street onto Koko Head bound Nimitz Highway is expected to operate at LOS "E". Mauka bound Pacific Street at Ewa bound Nimitz Highway also is expected to operate at LOS "E".

The traffic movements at the Pacific Street intersections at Nimitz Highway are expected to continue to operate at LOS "D" or better, during the PM peak hour of traffic without the proposed project.

The trip generation characteristics for the proposed project were based upon the total of 57 employees at the Pier 27 facility. The proposed project is expected to

generate totals of 25 vph and 24 vph, during the AM and PM peak hours of traffic, respectively. Because of the day and evening work shift changes, the site traffic was split between entering traffic and exiting traffic, during the AM and PM peak hours of traffic.

The trip generation characteristics are considered to be conservative because the shift changes are expected to occur before the AM peak hour of traffic and after the PM peak hour of traffic. Furthermore the Navatek and Atlantis Submarine crews start their workdays in the mid-afternoons and end their workdays after the PM peak hour of traffic.

The proposed project is not expected to significantly impact the intersections of Nimitz Highway and Pacific Street, during the AM peak hour of traffic. Koko Head bound Nimitz Highway is expected to operate at LOS "C". The other traffic movements at both intersections are expected to operate at the same Levels of Service as the AM peak hour of traffic without the proposed project.

The proposed project is not expected to significantly impact the intersections of Nimitz Highway and Pacific Street, during the PM peak hour of traffic. The traffic movements at both intersections are expected to operate at the same Levels of Service as the PM peak hour of traffic without the proposed project.

The proposed Atlantis Adventures Pier 27 Maintenance Facility is not expected to impact peak hour traffic operations at the Nimitz Highway intersections at Pacific Street. The peak traffic generated by the proposed project is expected to increase peak hour traffic at study intersections by less than one (1) percent.

Water

The proposed improvements will have minimal impact on municipal potable water resources. Separate men's and women's restrooms, and a handicap accessible toilet will be included in the maintenance facility.

Wastewater

Wastewater for the project site will be accommodated by the existing municipal wastewater system. The total wastewater demand for the proposed action is limited to the restrooms included within the scope of the proposed improvements.

Drainage

The site is paved and is very flat. The proposed action will not result in the loss of any permeable surfaces as the site is already paved. Stormwater is collected and will enter an existing drainage inlet located approximately mid-site immediately south of the maintenance building. Drainage is not directed onto other properties.

Solid Waste

Solid waste disposal will be collected by a private hauler and disposed of at an approved County refuse site.

Telephone and Electrical Services

Telephone and electrical services are available for the project via mainlines located along Nimitz Highway. The demand for telephone and electrical service is not expected to be significant. General energy conservation practices will be implemented wherever practicable including natural ventilation and natural lighting of the central maintenance building.

5. Public Facilities

The proposed project will not have any significant impact on public facilities including schools, police, and fire or emergency medical services.

Kalihi Kai Fire Station Number 31 provides fire protection and first response emergency and rescue service to the project area. The station is located at 1334 Nimitz Highway, approximately one mile from the project site. Response time to the site is approximately 5 minutes. An engine, ladder and rescue company serve this station.

Ambulance service for the project vicinity is provided by City and County of Honolulu Emergency Medical Service Unit Charlie-1 located at Kuakini Medical Center. Response time to the project area is approximately 5 to 10 minutes.

Police service in the project area is part of the Honolulu Police Department's District 5. The district's administrative offices are located at the Kalihi Police Station.

D. Social and Economic Characteristics

The proposed action will not have significant social impact to the surrounding area. The project consists of a simple maintenance/warehouse building, office trailers and storage containers that will be used for general maintenance and storage in a weather proof structure.

The project will have beneficial economic impacts. The construction of the facility will create short-term employment, the purchase of goods and services, the generation of excise and income taxes, and other secondary and tertiary effects as a result of the project expenditures.

The long-term operations of the facility will provide a safe and secure work environment for the maintenance and service functions of the Atlantis Adventures

business. Atlantis Adventures through its Navatek and Submarine operations, is a major tourism employer and is recognized as one of the Hawaii's prime tourism activities and holds the Hawaii Tourism Association's Gold Certification.

E. Relationship to Plans, Codes and Ordinances

The project site is also zoned I-3 waterfront industrial use as specified under the City and County of Honolulu Zoning Map. Under the prevailing industrial and port related uses are permitted.

The proposed action is consistent with sections of the City and County of Honolulu General Plan. Notable are Section II. Economic Activity Objective A to promote employment opportunities that will enable all the people of Oahu to attain a decent standard of living, Objective B to maintain the viability of Oahu's visitor industry, and Objective D to make full use of the economic resources of the sea. Section III. Natural Environment Objective A is also supported by the project improvements which will help protect and preserve the natural environment, and Objective B to preserve and enhance the natural monuments and scenic views of Oahu for the benefit of both residents and visitors. The project is also important is supporting Section X. related to Culture and Recreation as the Atlantis Adventures is considered a significant recreational resource.

The State Land Use Boundary Maps show the project locations to be in Urban use. The project is not located within the Special Management Area (SMA).

The project is also consistent with the objectives of the Hawaii State Plan particularly with respect to the objectives and policies of the economy. The provided services support trade, visitor and transportation industries and are a critical service to Hawaii.

The proposed improvements will require City and County of Honolulu Building, Electrical and Plumbing Permits. The project will require a National Pollutant Discharge Elimination System Permit (NPDES) from the State of Hawaii Department of Health Clean Water Branch. The floating dock will require a Section 404 permit from the US Department of the Army Corps of Engineers in compliance with Section 10 of the Rivers and Harbors Act. Lastly, a resolution from the Hawaii State Legislature is required for the use of submerged lands.

Work on the proposed improvements will not commence until building permits and the environmental assessment process are completed.

F. Impacts on the Environment

The proposed improvements will result in a more intensive use of the existing unused space. While the proposed use is greater than its current non-use, the subject property is zoned for industrial development and is also designated as an urban site on the State Land Use Map. As such, reasonable development of the site must be expected.

Construction and operation of the new maintenance and warehouse facility will continue the general character of the area. Redevelopment of the Kapalama area where the maintenance functions are presently located, requires that existing tenants secure new operating sites and the proposed site offer the best readily available site for the applicant. Impacts associated with the future development of the current site are addressed in the Kapalama Container and Tenant Relocations Environmental Impact Statement. Impacts specific to the proposed action will result in vacating the current location where no adverse impacts will occur.

When the proposed action is complete, a similar decrease in activity at the current Pier 40 location will result effectively resulting in no overall change in the general harbor vicinity. Other offsetting construction related impacts are the creation of short-term employment both on property and off-property, the generation of additional tax revenues to the State of Hawaii and the lessee and the resultant secondary and tertiary spending and tax collections that will likely be experienced in the community.

G. Adverse Impacts Which Cannot be Avoided

Adverse impacts that cannot be avoided are generally related to short-term construction activities. These impacts can be minimized by sound construction practices, adherence to applicable construction regulations as prescribed by the Department of Health, and coordination with applicable State and County agencies (e.g. the Department of Transportation Harbors Division's newly developed Construction Site Runoff Control Program).

No grading work will be required for the construction of the project improvements. Erection of the maintenance facility may create some dust, noise and a minor traffic nuisance during the course of construction. No paving will be required nor is it part of the proposed improvements. Heavy vehicles will be required to assemble and configure the containers to form the main building but no traffic control measures will be required during the construction period.

The harbor port area is industrial in nature and there remains a possibility that some contaminated soils remain within the project site. No excavation is required for the project however in the event that any contaminated materials are discovered during the course of construction, work will cease, the Department of

Transportation Harbors Division will be notified, and appropriate assessment and remediation measures will be taken.

H. Alternatives to the Proposed Action

Alternatives locations considered for the project are limited to I-3 zoned properties located within the Honolulu Harbor area. The selected project site was made by the applicant and the State of Hawaii Department of Transportation Harbors Division which controls all qualified alternative sites. Improvements proposed under the subject scope of development essentially replicate functions that are conducted at Pier 40 and do not represent any new functions, and consequently, any new impacts.

The applicant was a participant in the Hawaii Harbors Project that employed the KPFF Consulting Engineers and included Aloha Cargo, Hawaii Pilots Association, Hawaii Flour Mills, Iwilei District Participating Parties, Pacific Shipyards Int., Sause Brothers and the US Coast Guard. During the planning of the Hawaii Harbor Project, several locations were considered and a consensus was reached that the Pier 24 to 29 area would best suited for the needs of the participants and the Harbors Division.

The Hawaii Harbors Project was disbanded after the final report was issued in June 2010. Subsequently, the *Kapalama Container Terminal and Tenant Relocation Draft EIS*, which is based on the Hawaii Harbors Project findings, recommends that Atlantis be relocated to Pier 27.

The no-action alternative is not viable as the activities conducted at the maintenance and warehouse facility are crucial to the operations of the Atlantis Adventures watercraft. All current and proposed activities must be conducted dockside or near dockside and Honolulu Harbor represents the only practicable and suitable location for the applicant.

I. Mitigation Measures

Long-term impacts resulting from the proposed improvements are expected to be minimal or non-existent based upon the subject environmental assessment. Long-term air and noise impacts are not expected to change significantly after improvements are completed. Traffic conditions will only minimally change, as there will not be any net increase in traffic from the current Pier 40 location to the new Pier 27 location. Short-term construction-related noise and air quality impact mitigation measures include general good housekeeping practices and scheduled maintenance to avoid a prolonged construction period. The contractor will be directed to use best management practices (BMP) wherever applicable.

Examples of BMPs that may be implemented include watering during any dust generating activities and the containment of any runoff during the construction

period. All waste materials will be securely contained and appropriately disposed.

J. Irreversible and Irretrievable Commitment of Resources

Implementation of the proposed project will result in the irreversible and irretrievable commitment of resources in the use of non-recyclable energy expenditure and labor. Materials used for new construction may have salvage value; however, it is unlikely that such efforts will be cost-effective. The expenditure of these resources is offset by gains in construction-related wages, increased tax base and tertiary spending.

IV. REASONS SUPPORTING FINDING OF NO SIGNIFICANT IMPACT

As stated in Section 11-200-12, EIS Rules, Significance Criteria: in determining whether an action may have a significant effect on the environment, every phase of a proposed action shall be considered. The expected consequences of an action, both primary and secondary, and the cumulative as well as the short-term and long-term effects must be assessed in determining if an action shall have significant effect on the environment. Each of the significance criteria is listed below and is followed by the means of compliance or conflict (if extant).

- Involves the loss or destruction of any natural or cultural resource.

The proposed action will not involve the loss or destruction of any natural or cultural resource. The project site was previously completely developed and is devoid of any natural or cultural resources.

- Curtails the range of beneficial uses of the environment.

The proposed installation will not curtail any beneficial uses of the environment. The project area is not generally used by the public nor is it used as a recreational or cultural resource. Public access to the site is, in fact, restricted for safety and security reasons.

- Conflicts with the State's long-term goals or guidelines as expressed in Chapter 343, Hawaii Revised Statutes.

The proposed action is consistent with the goals and guidelines expressed in Chapter 343, Hawaii Revised Statutes. The proposed action is triggered by the use of State of Hawaii lands owned by the Department of Transportation. The subject Environmental Assessment has been developed in compliance with the Chapter 343.

- Substantially affects the economic or social welfare of the community or state.

The proposed action will make a positive contribution to the welfare of the County and State by creating employment during the construction period and will also benefit the State through increased tax revenue.

- Substantially affects public health.

The proposed improvements will not have a significant effect on public health. The project may promote health indirectly by providing a safe and secure area to store goods which may include consumables.

- Involves substantial or adverse secondary impacts, such as population changes or effect on public facilities.

The proposed action will not produce substantial secondary impacts resulting in population changes or significantly increase use of public facilities.

- Involves substantial degradation of environmental quality.

The proposed improvements will not involve the substantial degradation of environmental quality. The improvements proposed will have short-term impact on the environment; however, this is temporary in nature.

- Cumulatively have a considerable effect upon the environment or involve a commitment for larger actions.

The proposed action is not a first phase of any larger action nor will it have a considerable effect on the environment. The project is expected to remain for the long-term and is not designed for larger expansion or other related development.

- Affect rare, threatened or endangered species, or their habitats.

The proposed action will not affect any rare, threatened or endangered species of flora or fauna. The project site is not located near any wildlife refuge or sensitive environmental area.

- Detrimentially affect air or water quality or ambient noise levels.

The proposed action is not expected to impact air or water quality. Long-term noise levels may increase slightly due to the increased level of activity on the site. This impact is expected to be within acceptable levels of the surrounding industrial area.

Minimal impacts on air quality and noise are anticipated during construction. These impacts will be limited by normal construction practices and compliance with Department of Health construction mitigation standards.

Water quality will not be affected by the proposed action.

- Affect scenic vistas and viewplanes identified in County or State plans or studies.

The proposed action will not affect any scenic vistas or view planes identified by the County or State.

- Require substantial energy consumption.

The project will not increase energy consumption. Energy utilization during the construction phase will increase through the use of fossil fuels used by construction vehicles. Operations of the facility will have minimal energy consumption. Skylights will provide lighting for the building and roof vents will be used for temperature control. Recharge of electrical equipment for battery charging will occur during non-peak hours.

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

The project is not located in an area that will be adversely affected by hydrological hazards nor is the project anticipated to create any hazards to surrounding lands. Best Management Practices will be implemented to minimize or prevent erosion.

Anticipated Finding of No Significant Impact

Based on the above stated criteria, the applicant anticipates that the Department of Transportation (DOT) will determine that the proposed project will not have any significant adverse environmental impacts and that an Environmental Impact Statement will not be required for the proposed action. This Draft Environmental Assessment will be subject to public review and prescribed by Chapter 343 Hawaii Revised Statutes.

V. LIST OF PARTIES CONSULTED PRIOR TO DEVELOPMENT OF THE DRAFT ENVIRONMENTAL ASSESSMENT

Agencies with ministerial or specific interests regarding the proposed project were contacted for their early comments regarding the proposed project.

Department of Transportation
Harbors Division
State of Hawaii

Department of Planning and Permitting
City and County of Honolulu

Fire Department
City and County of Honolulu

Planning Department
City and County of Honolulu

Police Department
City and County of Honolulu

VI. LIST OF AGENCIES, ORGANIZATIONS AND INDIVIDUALS TO BE CONSULTED DURING THE DRAFT ENVIRONMENTAL ASSESSMENT PROCESS

Federal

1. Department of the Army, Corps of Engineers
2. Environmental Protection Agency
3. National Ocean and Atmospheric Administration, National Marine Fisheries Service
4. US Fish and Wildlife Service

State of Hawaii Agencies

1. Dept. of Agriculture
2. Dept of Business, Economic Development and Tourism, Office of Planning
3. Dept of Health, Environmental Planning Office
4. Dept of Health, Clean Air Branch
5. Dept of Health, Clean Water Branch
6. Dept of Health, Noise, Radiation and Indoor Noise Branch
7. Dept. of Health, Office of Hazard Evaluation and Emergency Response
8. Dept. of Land and Natural Resources
Historic Preservation Division
9. Dept. of Land and Natural Resources
Division of Aquatic Resources
10. Dept. of Land and Natural Resources
District Land Office
11. Dept. of Land and Natural Resources
Office of Conservation and Coastal Lands
12. Dept. of Transportation
13. Office of Environmental Quality Control
14. Office of Hawaiian Affairs
15. University of Hawaii, Environmental Center

City and County of Honolulu Agencies

1. Board of Water Supply
2. Department of Environmental Services
3. Department of Planning and Permitting
4. Department of Transportation Services
5. Fire Department
6. Police Department

Libraries

1. Hawaii State Library
2. Kalihi Public Library

Other Parties

1. Aloha Cargo Transport
2. Harbors Police
3. Iwilei District Participating Parties LLC
4. Pacific Shipyards
5. Pendelton Flour Mill
6. Sause Brothers

Appendices

Marine biological surveys for Pier 27 Improvements, Honolulu Harbor, O'ahu



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Prepared for
Atlantis Submarines

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Marine biological surveys for Pier 27 Improvements, Honolulu Harbor, O‘ahu¹

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Draft

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¹ Report prepared for Atlantis Submarines for use in project permitting. This document will become part of the public record for the project.

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Appendix A: Inventory of marine biota observed in the Pier 27 Project area.

Introduction

Atlantis Submarines Hawai’i is proposing improvements to Pier 27 (“Project”) located in Honolulu Harbor. On November 12, 2013, AECOS, Inc. biologists conducted a biological survey to inventory marine resources on and around Pier 27. The purpose of the survey and this report is to identify marine biota present at the site and determine if sensitive biological resources might be impacted by the Project.

Site description

The Project site is located on industrial lands owned by the State of Hawai’i, Department of Transportation, Harbors Division (DOT Harbors) within the waterfront industrial complex identified as TMK 1-5-038: 001, Lot 6 and Lot 17. The area immediately west of the project site is a paved lot used as a container yard. Located further west is a fuel tank farm. The Sause Brothers maintenance facility is located to the immediate southeast. A triangular piece of land to the northeast of the project site is used by Sause Brothers for their land-based operations (Atlantis Adventures, 2013).

Project description

DOT is in the process of creating a new master plan and expanding shipping operations at Pier 40. The purpose of the Atlantis Project is to relocate their submarines maintenance facility from its present location at Pier 40 to a new facility at Pier 27, a move being required by DOT Harbors. The Project will install approximately 300 linear feet of 8-ft wide dock walkways to the west and south faces of Pier 27. Project design, as it pertains to marine impacts, is as follows:

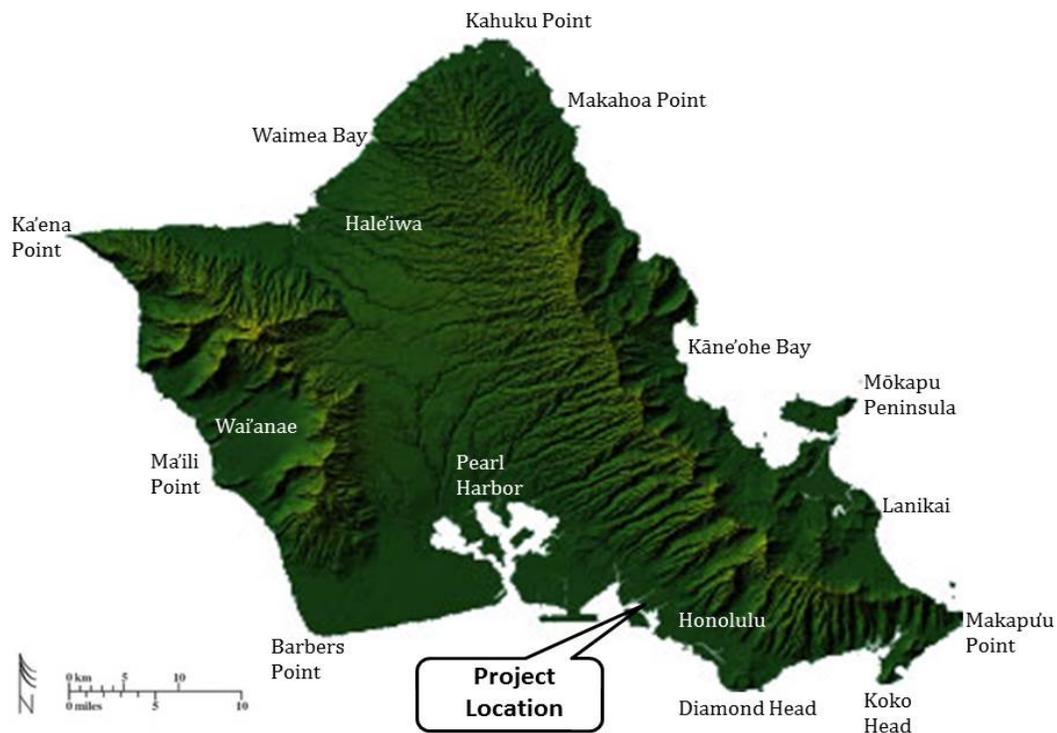


Figure 1. Project location on the Island of O'ahu.

South pier (see Fig. 2)

- Attach 5 I-beams (0.15 m or 0.5 ft width) to existing pier face, attach floating dock to slides (see Fig. 2) on I-beams;
- I-beams on protruding section of pier face will extend from ground-level to approximately 12 in (0.30 m) below lower low water (LLW);
- Attach an 8-ft x 160-ft (1.4-m x 48.8-m) floating dock.

completed a rapid assessment and quantitative survey of marine community composition and coral size class distribution in the Project area on November 12, 2013. The survey began at 9:45 AM, 140 minutes before the predicted high tide of +1.53 ft (relative to MLLW; Honolulu, HI. Station ID: 1612349; NOAA, 2013). The survey area comprised two locations South pier and West pier (Fig. 3). Maximum water depth recorded in the survey area was 5.2 m (17 ft).

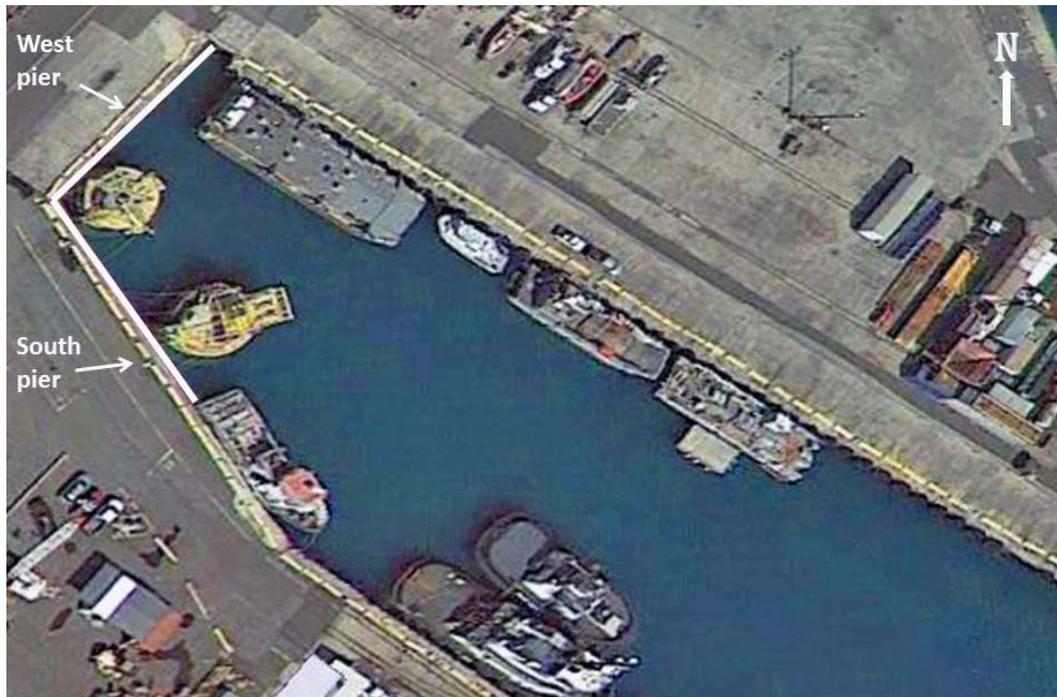


Figure 3. Survey locations in waters around Pier 27.

Biologists surveyed each of 8 I-beam footprints (here termed the direct impact area) and randomly-selected areas adjacent as the indirect impact areas. The following parameters were recorded for coral colonies observed: species name, maximum diameter measured to the closest 5 cm, morphology, and health. Coral colony size was assigned to one of the following size-classes: 1 to 5 cm, 6 to 10 cm, 11 to 20 cm, 21 to 40 cm, 41 to 80 cm, 81 to 160 cm, and ≥ 160 cm). Live coral cover within the direct and indirect impact areas was calculated as follows: (1) The widest diameter of each coral was used to determine the area of each coral using the formula πr^2 where $r = 0.5 \times \text{diameter}$; (2) the area of each coral head was then multiplied by the percent live tissue; and (3) the sum of the measured area of individual corals (= total live coral) was divided by the total area surveyed to obtain percent live coral cover.

South pier — Five I-beams are to be attached to the existing south pier, extending from pier level to approximately 12 in (30 cm) below lower low water (LLW). The footprint of each I-beam has an area of 0.18 m² (1.95 ft²), for a total direct impact area of 0.91 m² (9.75 ft²). Indirect impact area includes the area on the pier face that will be shaded from the floating dock or possibly impacted during installation of the floating dock (30 cm or 12 in below LLW to seafloor in locations with I-beams; high tide line to sea floor in locations without I-beams). Total indirect impact area for the south pier is calculated as 209 m² (2238 ft²).

West pier — Three I-beams are to be attached to the existing west pier, extending from ground level to approximately 12 in (30 cm) below lower low water level. The footprint of each I-beam has an area of 0.18 m² (1.95 ft²), for a total direct impact area of 0.54 m² (5.85 ft²). Indirect impact area for the west pier face includes the remaining area of the protruding pier face and recessed concrete pile (3.5 m²; 11.5 ft²) along the length of the pier (28 m or 92 ft). Total indirect impact area is 98 m² (321.5 ft²).

The seafloor in the slip area was surveyed, but found to be a silt bottom providing minimal habitats for marine biota, so was not considered in our calculation of indirect impacts.

Relative abundances of marine plants, fishes, and macro-invertebrates were assessed during the survey. Protected or proposed for listing species were noted and sighting information recorded. Marine biota were identified in the field and verified with various resource texts: algae (Huisman et al., 2007; Abbott, 1999; Abbott and Huisman, 2004), macroinvertebrates (Hoover, 1999), and fishes (Hoover, 2008). A species list is presented in Appendix A.

Results

South pier face

General observations — The south pier has a solid concrete face (with protruding support sections; see Fig. 4, upper). During the survey, large oil transfer buoys were located adjacent to the pier and the derelict vessel, “Judy,” was tied up to the east end of the pier, extending approximately 3 m (10 ft) into the Project Area (see Fig. 4, lower). Debris—including tires, rope lines, and concrete—litters the silt bottom. No corals were observed on the harbor bottom near Pier 27. Debris (plastic wrappers and bags affixed to urchins, wrapped around coral heads, etc.; see Fig. 5) also occurs on the biota of the pier.

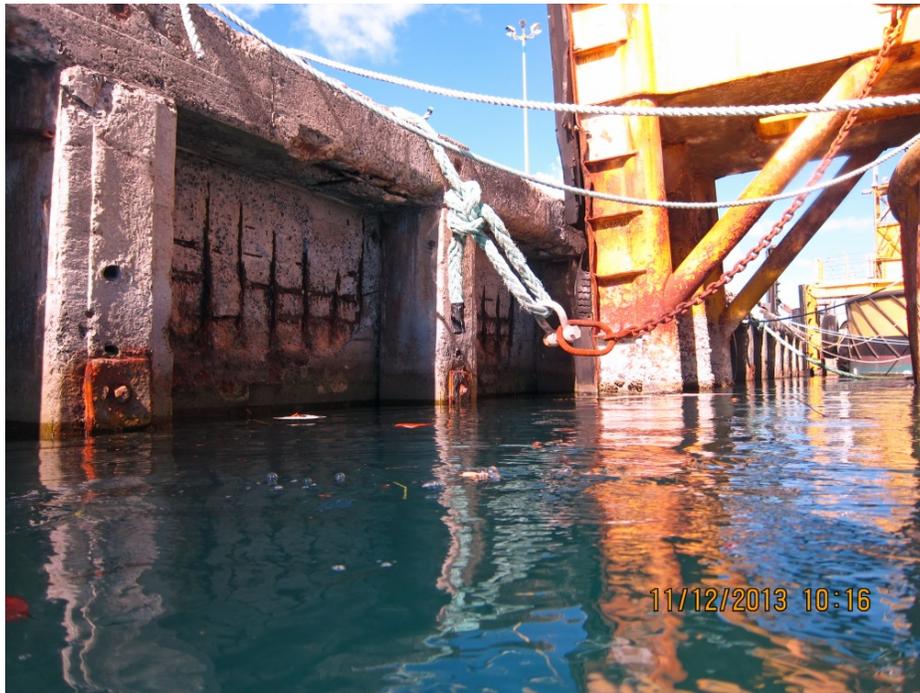


Figure 4. The concrete protruding and recessed sections of the south pier are shown in both photos. Large oil transfer buoys are adjacent to the pier face (upper). The vessel "Judy" occupies approximately 10 ft of the Project area (lower).



Figure 5. Representative community on the south pier face of Pier 27. Small corals (*M. capitata* and *M. patula*) occur (left) along with urchins (*Echinothrix calamaris*) and debris (right).

The concrete face of the south pier hosts a littoral community of abundant oysters (*Parahyotissa numisma* and *Dendostrea sandvicensis*) and purse shells (*Isognomon californicum*). Thin shelled rock crab (*Grapsus tenuicrustatus*) and isopods are common at the waterline. The sublittoral fouling community includes bryozoans (*Crisina radians*, *Amathia distans*, *Schizoporella errata*, and *Bugula dentata*), sponges (*Dysidea* cf. *avara*, *Stylinos* sp., *Biemna fistulosa*), and tunicates (*Botryllus* spp., *Polycarpa* spp., *Ascidea* spp., *Phallusia nigra*, *Herdmania momus*). Nudibranchs (*Chromodoris albopustulosa*, *Thoruna kahuna*, *Tambja morose*) and urchins (*Diadema paucispinum*, *Echinometra mathaei*, *Echinothrix calamaris*, *Tripneustes gratilla*) are uncommon. Encrusting red algae (Rhodophyta) is common on the pier face; species observed include *Peyssonnelia* sp., *Sporolithon episorredion*, *Hydrolithon onkodes*, and *Mesophyllum* sp.

Fishes closely associated with the pier face are mangrove blenny (*Omobranchus obliquus*), moorish idol (*Zanclus cornutus*), goldring surgeonfish (*Ctenochus strigosus*), threadfin butterflyfish (*Chaetodon auriga*), ringtail surgeonfish (*Acanthurus blochii*), orangespine unicornfish (*Naso lituratus*), convict tang (*Acanthurus triostegus*), Hawaiian white-spotted toby (*Canthigaster jactator*), stripbelly pufferfish (*Arothron hispidus*), Hawaiian green lionfish (*Dendrochirus*

barberi), and spotted boxfish (*Ostracion meleagris*). In general, fishes are present in low numbers.

Coral size class —A total of 305 coral colonies of at least 7 different taxa was identified and measured on the south pier face (Table 1 and Fig. 6). The most common corals here are *Leptastrea* spp. (85.2% of total) and *Porites* sp. (*Porites lobata/lutea*, herein as *Porites* sp.; 7.9% of total). Also occurring are *Montipora capitata*, *Pavona maldivensis*, and *Pavona varians* (each 2% of total), *Pocillopora damicornis* (0.7% of total), and *Montipora patula* (0.3% of total). Of the 305 coral colonies observed along the south pier, 79% are in the 1- to 5- cm size class; most of these smallest colonies are *Leptastrea* spp. Corals in the 6- to 10- cm size class are common (17% of total). Corals in the 11- to 20- cm and 21- to 40- cm size classes are uncommon (2.6% and 3.9%, respectively). One colony (*M. capitata*) in the 41- to 80- cm size class was observed. No coral colonies greater than 80 cm were observed.

Table 1. Number of coral colonies in each size class for coral species observed on the south pier of Pier 27.

Taxa	Size class (cm)							Total	Percent of total
	1 to 5	6 to 10	11 to 20	21 to 40	41 to 80	81-160	>160		
<i>Leptastrea</i> spp.	225	35	0	0	0	0	0	260	85
<i>Porites</i> spp.	0	7	2	6	0	0	0	24	8
<i>M. capitata</i>	1	0	3	1	1	0	0	6	2
<i>Pav. maldivensis</i>	2	0	1	3	0	0	0	6	2
<i>Pav. varians</i>	0	2	2	2	0	0	0	6	2
<i>Poc. damicornis</i>	2	0	0	0	0	0	0	2	0.7
<i>M. patula</i>	1	0	0	0	0	0	0	1	0.4
Total count	240	44	8	12	1	--	--	305	
Percent of total	79	14	3	4	0.3	--	--		

West pier face

General observations — The west pier has a solid concrete face with a concrete “lip” with a depth of 0.75 m (2.5 ft). The “lip” is lined with large tire fenders. Below this “lip” is a recessed concrete face. The bottom adjacent to the pier is silt with debris (e.g., tires, concrete slabs). No corals were observed on the harbor bottom near Pier 27. A storm drain outlet is located at the north corner. The concrete face of the west pier hosts a similar littoral community as that on the south pier (see above). On the upper “lip” of the pier face, banded

coral shrimp (*Stenopus hispidus*), small encrusting corals (*Leptastrea* spp.), and coralline algae are common (Fig. 7, left). The concrete face below the “lip” hosts large plating *Montipora capitata* and *M. patula* corals (Fig. 7, right).

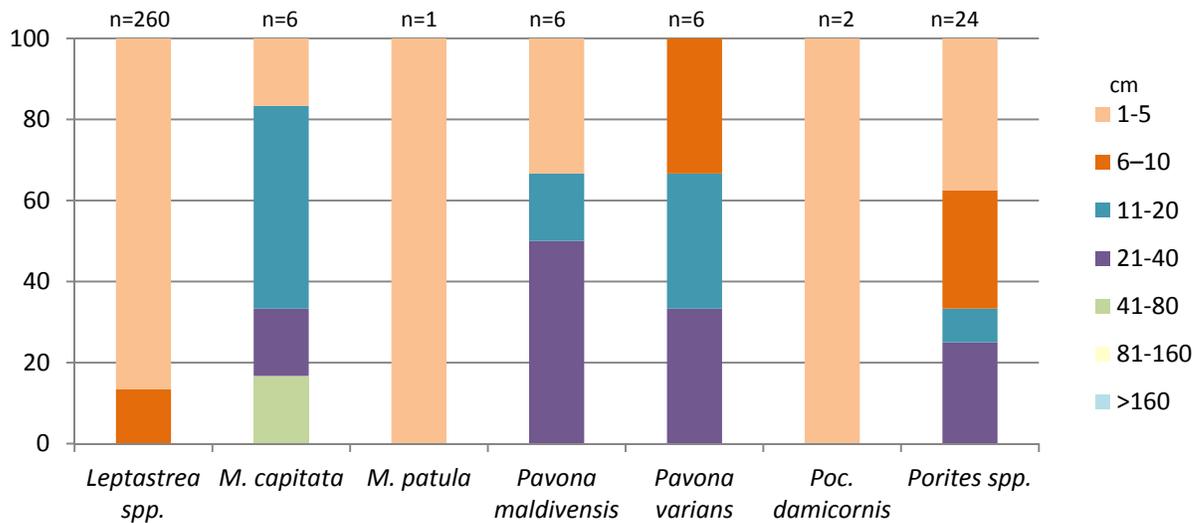


Figure 6. Coral size class distribution on south pier of Pier 27.

Coral size class —A total of 198 coral colonies of at least 7 different taxa was identified and measured on the west pier face (Table 2 and Fig. 8). The most common corals present are *Leptastrea* spp. (74% of total) and *Porites* sp. (17%). Also occurring are *Montipora capitata* (6%), *Pavona maldivensis*, *Pavona varians*, and *Poc. damicornis* (each 1% of total), and *M. patula* (0.5%). Of the 198 coral colonies observed on the west pier face, 73% are in the 1- to 5- cm size class and 21% are in the 6- to 10- cm size class; most of these smallest colonies are *Leptastrea* spp. Corals in the 11- to 20- cm and 21- to 40- cm size classes are uncommon (4% and 1%, respectively). Three colonies (all *M. capitata*) in the 41- to 80- cm size class were observed. No coral colonies greater than 80 cm were observed.



Figure 7. Concrete “lip” on the west pier of Pier 27 is encrusted with coralline red algae and small coral colonies (left).The concrete face on the west pier of Pier 27 hosts plating corals: *M. patula* and *M. capitata*(right).

Table 2. Number of coral colonies in each size class for coral species observed on the west pier of Pier 27.

Taxa	Size class (cm)							Total	Percent of total
	1 to 5	6 to 10	11 to 20	21 to 40	41 to 80	81-160	>160		
<i>Leptastrea</i> spp.	118	28	0	0	0	0	0	146	74
<i>Porites</i> spp.	24	9	1	0	0	0	0	34	17
<i>M. capitata</i>	1	3	4	0	3	0	0	11	6
<i>Pav. maldivensis</i>	0	1	0	1	0	0	0	2	1
<i>Pav. varians</i>	0	1	0	1	0	0	0	2	1
<i>Poc. damicornis</i>	2	0	0	0	0	0	0	2	1
<i>M. patula</i>	0	0	1	0	0	0	0	1	0.5
Total count	145	42	6	2	3	0	0	198	
Percent of total	73	21	3	1	2	0	0		

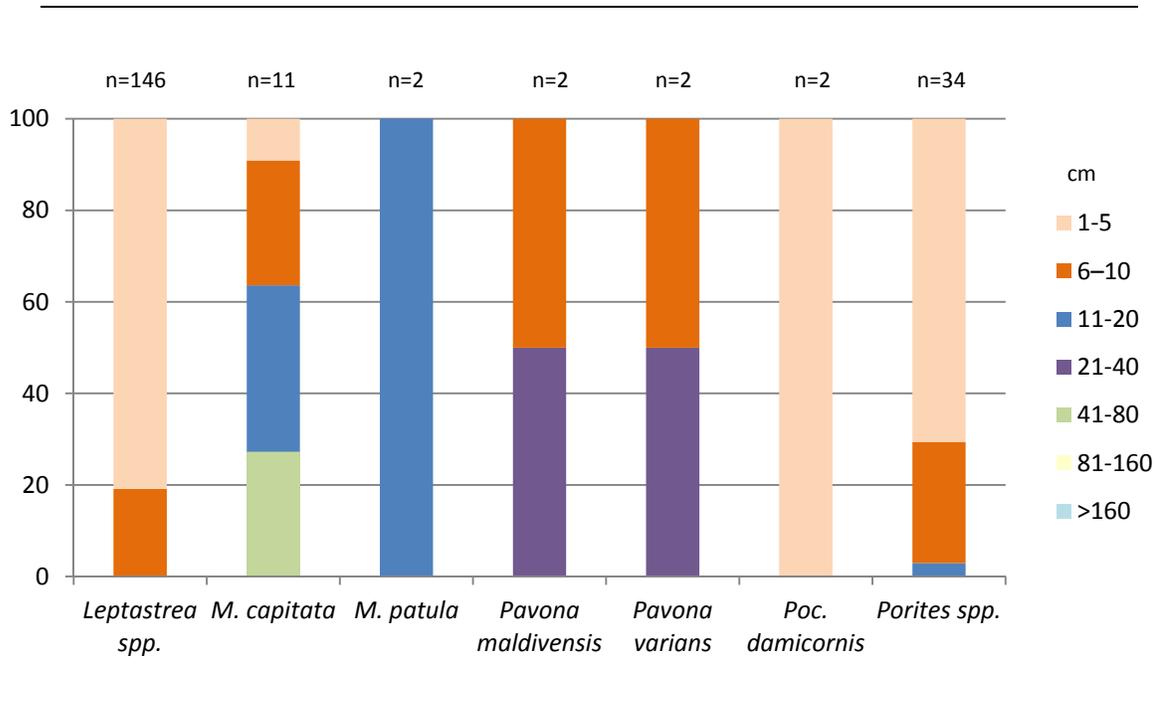


Figure 8. Coral size class distribution on west face at Pier 27.

Direct Impacts

Pier Impacts

Direct impacts to marine biological resources off Pier 27 would result from installation of I-beams on the pier face. The I-beams will be attached to the existing pier above the high tide line (HTL) with anchor bolts and epoxy glue. Below the HTL, there will be a 4-in (10-cm) gap between the I-beam and the concrete pier, meaning that most of the corals in the “footprint” of the I-beams will not be directly affected because they have an encrusting growth form (e.g., *Leptastrea* spp. and *Porites* sp.). However, to ensure a conservative analysis of direct impacts, we assumed all colonies within the footprint would be directly impacted. Predicted direct impacts at both the south and west pier are presented in Table 3 and described following. The entire “lip” on the west pier was surveyed, for total survey area of 21 m² (230 ft²), while the actual direct impact area is only a small fraction (2.6%) of this survey area (direct impact area of 0.5355 m²; 5.85 ft²). The appropriate proportion was then taken into account in assessing direct impacts.

Table 3. Predicted direct impacts* to corals off Pier 27.

Area	Direct intertidal and subtidal impact area (m ²)	Area surveyed (m ²)	Live coral cover (%)	Corals /m ²	Area of coral directly impacted (m ²)	# of coral colonies directly impacted
South	0.762	0.762	11	32.8	0.09	25
West	0.5355	21	2.4	0.2	0.02	6

* Predicted impacts are conservative, as most coral colonies in direct impact area are encrusting, and will survive installation of I-beams

Coral colonies in the direct impact areas of the south and west pier are generally small (<10 cm across; Table 4 and Table 5). No colonies of *M. patula*, a species currently proposed for listing under the federal Endangered Species Act (NOAA-NMFS, 2010a; NOAA-NMFS, 2013b), were observed in the direct impact areas on either pier face.

Table 4. Number of coral colonies in each size class for coral species observed in the direct impact areas (total of 0.91 m²; 9.75 ft²) on the south face of Pier 27.

Taxa	Size class (cm)							Total	Percent of total
	1 to 5	6 to 10	11 to 20	21 to 40	41 to 80	81-160	>160		
<i>Leptastrea</i> spp.	14	1	0	0	0	0	0	15	60
<i>Porites</i> spp.	6	2	1	0	0	0	0	9	36
<i>M. capitata</i>	0	1	0	0	0	0	0	1	4
Total count	20	3	2	0	0	0	0	25	
Percent of total	80	12	8	0	0	0	0		

Table 5. Number of coral colonies in each size class for coral species observed in the direct impact areas (total of 0.54 m²; 5.85 ft²) on the west face of Pier 27.

Taxa	Size class (cm)							Total	Percent of total
	1 to 5	6 to 10	11 to 20	21 to 40	41 to 80	81-160	>160		
<i>Leptastrea</i> spp.	4	1	0	0	0	0	0	5	83
<i>Porites</i> spp.	1	0	0	0	0	0	0	1	17
Total count	5	1	0	0	0	0	0	6	
Percent of total	83	17	0	0	0	0	0		

Indirect impacts

Indirect impacts to marine biological resources off Pier 27 in Honolulu Harbor would result from vibrations during installation of the I-beams, shading from the floating dock and I-beams, and a local increase in boat traffic. Shading impacts to corals under the structures are likely to be highly variable and may occur after project completion. The amount of available light is an important factor affecting survival, growth, and depth distribution of corals (Osinga et al., 2008). Reduced light availability to coral zooxanthellae (symbiotic microalgae) can result in increased coral mortality. There can be positive effects from the limited shading produced from the floating docks. Shading may cause a slight decrease in the water temperature, which may reduce thermal stress on corals. Thermal stress can lead to the disruption of normal photosynthetic processes in the coral zooxanthellae (i.e., bleaching) and coral disease (Jones et al., 2004; Bally and Garrabou, 2007; Bruno et al., 2007; Rodriguez and Croquer, 2008; TNC, 2014).

Pier Face Shading

Table 6 presents data for all corals on the south and west pier faces (no corals exist on the harbor bottom here) in the area determined to be potentially at risk for indirect impacts. All corals listed in this table will not necessarily be impacted negatively. Shading may have a positive impact on some coral colonies.

Table 6. Maximum potential indirect impacts to corals off Pier 27.

Location	Indirect impact area on pier (m²)*	Area surveyed (m²)	Corals/m²	Area of coral potentially indirectly impacted (m²)
South	209	57.9	4.90	1.97
West	98	98	0.35	0.74

* Indirect area = total Project area – direct impact area

South pier — Total shaded area² from the floating dock at the south pier is 209 m² (2237.5 ft²; Table 6, above). Live coral on the pier face in the shaded area is estimated to be 3.4%, for a maximum total impact of 1.97 m² (370.3 ft²) of corals shaded.

² Assumes entire pier face will be shaded from floating dock, but actual area will be much smaller

West pier — Total shaded area² from the floating dock at the west pier is 98 m² (1058 ft²; Table 6, above). Coral cover on the pier face in the shaded area is estimated to be 0.76%, for a total direct impact of 0.75 m² (8.1 ft²) of coral shaded.

Boat Traffic

Indirect impacts would be caused by increased boat traffic in this part of Honolulu Harbor. Indirect impacts from boat traffic include resuspension of fine bottom sediment and increased damage to coral heads from boat-strikes (i.e., propeller scarring).

Other Impacts

Other indirect impacts that may result from the Project include increased pollutant loading and freshwater run-off, vibration disturbances, and potential invasive species introduction. Polluted surface runoff (fine sediments, soap, oil, fuel, and other chemicals), chemical contamination from treated wood surfaces, and fuel and oil leakage may impact coral reef resources at Pier 27, and could increase with the Project, although no data exists to compare past with future uses at this location. Installation of the I-beams may result in temporary vibration impacts to the coral community on the pier faces. Short of observing the impact during installation of the I-beams, there is no reasonable way to predict this potential impact. The introduction of new aquatic invasive species is an unlikely impact because the Atlantis vessels to be docked at Pier 27 are currently stationed in Honolulu Harbor and do not leave state waters.

The fishes observed in the November 2013 survey are common to the Hawaiian Islands. Fishing is prohibited in the Harbor (§HAR 188-34, DLNR, 2007). Frequent dredging, low benthic rugosity, silt bottom, high turbidity, and frequent boat traffic make Honolulu Harbor a generally poor environment for fishes. Impacts to fishes from the project will be minimal and not necessarily adverse because the addition of the floating docks will enhance some fish habitats.

ESA-listed and state protected species

No listed (endangered or threatened; USFWS, 2013) species were encountered in the November 2013 surveys. Sea turtles may occasionally enter the harbor, but seals and whales are far less common. State protected species (hermatypic corals) occur at the Project site and one species of coral (*M. patula*) proposed for listing under the federal Endangered Species Act (NOAA-NMFS, 2010a)

occurs in the general vicinity. DLNR regulates bivalves (for example, oysters; DLNR, 2009), which are present here.

Coral – Coral species are protected under Hawai'i state law, which prohibits “breaking or damaging, with any implement, any stony coral from the waters of Hawai'i, including any reef or mushroom coral” (HAR §13-95-70, DLNR, 2010). It is also unlawful to take, break or damage with any implement, any rock or coral to which marine life of any type is visibly attached (HAR §13-95-71, DLNR, 2002).

In February 2010, 83 species of corals world-wide were petitioned for listing as threatened or endangered under ESA (NOAA-NMFS, 2010a). In response to the petition, National Oceanic and Atmospheric Administration (NOAA) completed a status review report (Brainard et al., 2011) in March 2011 and a draft management report (PIRO-NOAA, 2012) of the candidate species in April 2012. The public review process of the two reports ended on July 31, 2012. A proposed rule was published in December 2012 (NOAA-NMFS, 2012) with public comment extended through April 6, 2013 (NOAA-NMFS, 2013a). Based on comments received during the public comment period, NOAA-NMFS found substantial disagreements regarding the sufficiency and accuracy of the data and analyses relevant to the 68 proposed listing determinations. Consequently, NOAA-NMFS announced on September 9, 2013, a 6-month extension of the deadline for final determinations for all of the 68 proposed corals in order to solicit additional data (NOAA-NMFS, 2013b).

One proposed species, *Montipora patula*, was observed on the pier face in the Project vicinity. *M. patula* is a commonly observed coral species in Hawai'i, sometimes occurring in abundance in somewhat compromised environments such as boat harbors (AECOS, 2012a, 2012b, 2013).

Black-lipped pearl oyster – The pearl oyster (*P. margaritifera*) is protected throughout the State of Hawai'i, and it is prohibited to “catch, take, kill, possess, remove, sell or offer for sale” (HAR §13-83-01, DLNR, 2009). No black-lipped pearl oysters were observed off Pier 27.

Sea turtle — No sea turtles were observed during our survey at the pier. The green sea turtle (*honu* or *Chelonia mydas*) is the most common sea turtle in the Hawaiian Islands (NOAA-PIFSC, 2010b), a species listed as threatened under the Endangered Species Act (ESA) in Hawaiian waters in 1978 (USFWS, 1978, 2001). Since protection, the green sea turtle has become the most common sea turtle in the Hawaiian Islands with a steadily growing population (Chaloupka et al., 2008). Threats to the green sea turtle in Hawai'i include: disease and parasites, accidental fishing take, boat collisions, entanglement in marine

debris, loss of foraging habitat to development, and ingestion of marine debris (NMFS-USFWS, 1998). Green sea turtle nesting mostly occurs on beaches of the Northwestern Hawaiian Islands, with 90% occurring at French Frigate Shoals (Balazs et al., 1992). None of the Hawaiian sea turtles would nest in the Project vicinity.

The green sea turtle diet consists primarily of benthic macroalgae (Arthur and Balazs, 2008), which the shallow reefs of the main Hawaiian Islands provide in abundance. Red macroalgae generally make up 78% of their diet, whereas green macroalgae make up 12% (Arthur and Balazs, 2008). Turbidity (murky water) does not appear to deter green sea turtles from foraging and resting areas and construction projects in Hawai'i have found sea turtles adaptable and tolerant of construction-related disturbances (Brock, 1998a,b).

Monk Seal — The endangered Hawaiian monk seal (*Monachus schauinslandi*) is rarely seen in Honolulu Harbor. The majority of monk seal sighting information collected in the main Hawaiian Islands is reported by the general public and is highly biased by location and reporting effort. Systematic monk seal count data come from aerial surveys conducted by the Pacific Islands Fisheries Science Center (PIFSC). Aerial surveys of all the main Hawaiian Islands were conducted in 2000-2001 and in 2008 (Baker and Johanos, 2004; PIFSC, unpublished data). One complete survey of O'ahu was conducted for each of these years. The 2000 survey was conducted from an airplane and the 2001 and 2008 surveys were both conducted by helicopter. No Hawaiian monk seals were sighted within Honolulu Harbor during any these three surveys (PIFSC, 2009).

Currently, only the remote Northwestern Hawaiian Islands are considered critical habitat for monk seals (50 CFR 226.201, NOAA-NMFS, 2011). The waters surrounding the Main Hawaiian Islands (MHI) have been proposed as monk seal critical habitat, excluding portions of the MHI coastal environments considered hardened shorelines or developed areas (e.g., boat harbors, cliffs, active lava, and large bays with extensive runoff) that do not have the features that would support Hawaiian monk seal use. Honolulu Harbor is an area that would not meet the definition of critical habitat for monk seal. Thus, the area defined as Pearl Harbor to Kapua Channel and delineated by all terrestrial coastlines between Keahi Point (21°18'57.95"N/157°58'42.82"W) east to eastern edge of the Kapua Channel (21°15'28.77" N/157°49'07.51" W; 50 CFR 226, June 2, 2011; NOAA-NMFS, 2011), is not proposed as critical habitat.

Sightings by the general public, which are non-systematic and not representative of overall seal use of main Hawaiian Islands shorelines, have been collected in the main Hawaiian Islands since the early 1980s. A total of three Hawaiian monk seal sightings have been reported for Honolulu Harbor.

These sightings occurred in 2002, 2004, and 2009. One of these sightings was reported as a dead seal floating in the harbor, but the carcass was not recovered (PIFSC, 2009).

Humpback Whale — The humpback whale or *koholā* (*Megaptera novaeangliae*) was listed as endangered in 1970 under the ESA. In 1993 it was estimated that there were 6,000 whales in the North Pacific Ocean, and that 4,000 of those regularly came to Hawai'i annually from November through May (HIHWNMS, 2008). The population is estimated to be growing at between 4 and 7% per year and currently perhaps as many as 10,000 humpback whales visit Hawaiian waters each year. Honolulu Harbor are not within the Hawaiian Islands Humpback Whale National Marine Sanctuary. However, sightings of whales in the harbor have been made. In January 2012, two whales, a mother and calf, were seen at Piers 30, 52, and 53 of Honolulu Harbor (Yamada, 2012).

Mitigation

Mitigation for impacts to marine resources caused by the Project includes avoiding impacts, minimizing impacts, and compensating for unavoidable impacts. The first step is to avoid impacts through project design decisions. The second step, after avoidance measures have been incorporated, is to minimize remaining impacts. If unavoidable impacts still exist after avoidance and minimization, then replacement of lost ecosystem functions and values is appropriate. This last step is called compensatory mitigation (Bentivoglio, 2003). Project design has sufficiently mitigated for impacts to marine resources through avoidance and minimization efforts and compensation is not proposed.

Avoidance and Minimization Efforts

Atlantis Submarines proposes to avoid and minimize impacts to waters of the U.S. in the following ways:

- Construction of floating docks rather than pile-supported piers that might require fill;
- The number of I-beams proposed is the minimum number needed, reducing impact to coral colonies on the pier face;
- The location of the I-beams has been selected to minimize impact to existing coral colonies (large, existing colonies located by *AECOS* biologists on the south pile cap have been avoided);
- The width of the floating dock is the minimum width required by the Americans with Disabilities Act (ADA);

- During drilling into concrete over the water, a plastic sheet will be deployed to prevent debris from falling on to the water; a large shop vacuum will be used to catch dust.

Best management practices

During pier improvements, indirect impacts to the surrounding waters could include construction runoff and suspension of fine sediments into the water column. Construction best management practices (BMPs) must be implemented to avoid runoff and inputs of chemicals, including fuels, and sediments into the harbor. Additionally, BMPs should be in place that minimize disturbance of the bottom sediments and if needed, by deployment of silt curtains to limit the spread of disturbed fine sediment where bottom disturbance cannot be avoided. BMPs including environmental protection specifications and endangered species protection, as described below, may be applicable.

Environmental Protection Specifications – A detailed environmental protection specification document should be developed for the construction contractor. Site-specific BMPs are generally a requirement of nation-wide permit (NWP) verifications, either directly or by state water quality certification conditions, which are incorporated by reference. To the extent applicable, the following BMPs should be considered to minimize degradation of water quality and avoid adverse impacts to fishes, corals, and other aquatic resources (modified from USACE, 2012):

- Turbidity and sediment from project-related work must be minimized and contained to the immediate vicinity of the authorized activity through the appropriate use of effective sediment containment devices (for examples, turbidity curtains in the water, silt fences on land);
- To the extent practicable, work in the marine environment must be scheduled to avoid coral spawning and recruitment periods; Coordination with federal resource agencies (U.S. Fish and Wildlife Service and/or NOAA) can assist in identifying these time periods;
- All project-related materials and equipment (dredges, barges, backhoes, etc.) to be placed in the marine environment should be inspected and cleaned of pollutants, organic matter, and invasive species prior to use in any aquatic environment;
- Project-related materials (reinforcing steel bars, clamps, etc.) are not to be stockpiled in the marine environment or in close proximity such that materials could be carried into the water by wind, rain, or high surf;
- Any construction debris and material removed from the marine environment should be disposed of at an approved upland or alternative disposal site;

- No contamination (by trash, debris, sediment, non-native species introductions, attractions of non-native pests, etc.) of adjacent waters of the United States, including special aquatic sites, shall result from Project-related activities. Special attention must be paid to fouling on barges, vessels, and equipment to minimize transport and potential introduction and spread of aquatic non-native species.
- Fueling of project-related vehicles and equipment should take place away from the water and a contingency plan to control petroleum products accidentally spilled during Project activities should be developed; Absorbent pads and containment booms should be stored where and as appropriate to facilitate the clean-up of accidental petroleum releases;

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Appendix A

Inventory of marine biota observed in the Pier 27 Project area and vicinity, Honolulu Harbor, O‘ahu on November 12, 2013.

PHYLUM, CLASS, ORDER, FAMILY <i>Genus species</i>	Common name, <i>Hawaiian name</i>	Status	Location	
			Direct Impact Area	Indirect Impact Area
ALGAE				
RHODOPHYTA	RED ALGAE			
<i>Mesophyllum</i> sp.		Ind.	C	R
<i>Hydrolithion onkodes</i>		Ind.	C	U
<i>Sporolithon episoredion</i>		Ind.	C	U
INVERTEBRATES				
PORIFERA, DEMOSPONGIAE, DICTYOCERATIDA, THORECTIDAE	SPONGES			
<i>Hyrtios</i> sp.	yellow hyrtios	Ind.	C	C
HADROMERIDA, SUBERITIDAE				
<i>Terpios zeteki</i>		Nat.	--	R
POECILOSCLERIDA, ANCHIONODAE				
<i>Phorbas</i> sp.		Nat.	C	U
HAPLOSCLERIDA, CHALINIDAE				
<i>Sigmatocia</i> sp.	blue sigmatocia	Ind.	C	C
MYCALIDAE				
<i>Stylinos</i> sp.	orange stylinos	Nat.	C	C
CNIDARIA, ANTHOZOA, SCLERACTINIA, ACROPORIDAE	STONY CORALS			
<i>Montipora capitata</i>	rice coral	Ind.	U	O
<i>Montipora patula</i>	spreading rice coral	Ind.	--	U
FAVIIDAE				
<i>Leptastrea purpurea</i>	crust coral	Ind.	U	C
<i>Leptastrea transversa</i>	transverse coral	Ind.	--	O
<i>Pavona maldivensis</i>	Maldive coral	Ind.	--	U
<i>Pavona varians</i>	corrugated coral	Ind.	--	U
<i>Cyphastrea ocellina</i>	ocellated coral	Ind.	--	R

PHYLUM, CLASS, ORDER, FAMILY <i>Genus species</i>	Common name, <i>Hawaiian name</i>	Status	Location	
			Direct Impact Area	Indirect Impact Area
PORITIDAE				
<i>Porites lobata</i>	lobe coral, <i>pōhaku puna</i>	Ind.	U	C
POCILLOPORIDAE				
<i>Pocillopora damicornis</i>	lace coral	Ind.	--	R
<i>Pocillopora meandrina</i>	cauliflower coral	Ind.	--	R
ANNELIDA, POLYCHAETA, SABELLIDAE	WORMS			
<i>Sabellastarte spectabilis</i>	feather duster worm	Ind.	U	U
BRYOZOA, GYMNOLAEMATA, CHEILOSTOMATIDA, SCHIZOPORELLIDAE	BRYOZOANS			
<i>Schizoporella errata</i>	erratic bryozoan	Nat.	R	--
CRISINIDAE				
<i>Crisina radians</i>	tuning fork bryozoan	Ind.	U	U
BUGULIDAE				
<i>Bugula dentata</i>	blue fan bryozoans	Nat.	R	--
CTENOSTOMATIDA, VESICULARIIDAE				
<i>Amathia distans</i>	bushy bryozoan	Nat.	U	U
MOLLUSCA, BIVALVIA, OSTREOIDA, OSTREIDAE	CLAMS			
<i>Dendostrea sandvichensis</i>	Hawaiian oyster	End.	R	--
GRYPHAEIDAE				
<i>Parahyotissa numisma</i>	coin oyster	Ind.	O	--
PTERIOIDA, ISOGNOMONIDAE				
<i>Isognomon californicum</i>	black purse shells, <i>nahawele</i>	End.	O	--
VENEROIDA, CHAMIDAE				
<i>Chama macerophylla</i>	leafy jewelbox	Nat	--	R
MOLLUSCA, GASTROPODA, LITTORINIMORPHA, LITTORINIDAE	SNAILS			
<i>Littoraria pintado</i>	dotted periwinkle	Ind.	U	--
OPISTHOBRANCHIA, unidentified	NUDIBRANCHS nudibranch (eggs)	---	--	R
DORIDACEA				
<i>Chromodoris albopustulosa</i>	white-bump nudibranch	Ind.	--	R
<i>Thoruna kahuna</i>	kahuna nudibranch	Ind.	--	R

PHYLUM, CLASS, ORDER, FAMILY <i>Genus species</i>	Common name, <i>Hawaiian name</i>	Status	Location	
			Direct Impact Area	Indirect Impact Area
<i>Tambja morosa</i>	gloomy nudibranch	Ind.	--	U
NEOTAENIOGLOSSA, CYPRAEIDAE	COWRIES			
<i>Cypraea caputserpentis</i>	snakehead cowry, <i>leho kupa</i>	Ind.	--	R
ARTHROPODA, CRUSTACEA, MALACOSTRACA, ISOPODA	ISOPODS			
unidentified		---	C	--
ARTHROPODA, CRUSTACEA, MALACOSTRACA, DECAPODA, STENOPODIDAE	CORAL SHRIMPS			
<i>Stenopus hispidus</i>	banded coral shrimp	Ind.	R	C
MALACOSTRACA, DECOPODA, GRAPSIDAE	CRABS, LOBSTERS, SHRMIP			
<i>Grapsus tenuicrustatus</i>	thin shelled rock crab, <i>'a'ama</i>	Ind.	O	--
ECHINODERMATA, ECHINOIDEA, DIADEMATIDAE	URCHINS			
<i>Diadema paucispinum</i>	long-spined urchin, <i>wana hālula</i>	Ind.	--	U
<i>Echinometra mathaei</i>	rock-boring urchin, <i>'ina</i>	Ind.	--	R
<i>Echinothrix calamaris</i>	banded urchin, <i>wana</i>	Ind.	--	R
TOXOPNEUSTIDAE				
<i>Tripneustes gratilla</i>	collector urchin	Ind.	---	U
TUNICATA, ASCIDIACEA, STOLIDOBRANCHIA, STYELIDAE	TUNICATES			
<i>Polycarpa</i> sp.	tunicate	Nat.	U	U
PYURIDAE				
<i>Herdmania momus</i>	Herdman's sea squirt	Nat.	O	C
PHLEBOBRANCHIA, ASCIDIIDAE				
<i>Phallusia nigra</i>	black sea squirt	Nat.	O	O
VERTEBRATES				
VERTEBRATA, ACTINOPTERYGII,	BONY FISHES			

PHYLUM, CLASS, ORDER, FAMILY <i>Genus species</i>	Common name, <i>Hawaiian name</i>	Status	Location	
			Direct Impact Area	Indirect Impact Area
PERCIFORMES				
ACANTHURIDAE				
<i>Acanthurus blochii</i>	SURGEONFISH ringtail surgeonfish, <i>pualu</i>	Ind.	--	O
<i>Acanthurus triostegus</i>	convict tang, <i>manini</i>	Ind.	--	O
<i>Ctenochaetus strigosus</i>	goldring surgeonfish, <i>kole</i>	End.	--	O
<i>Naso lituratus</i>	orangespine unicornfish, <i>umaumalei</i>	Ind.	--	R
POMACENTRIDAE				
<i>Abudefduf abdominalis</i>	DAMSELFISH Hawaiian sergeant, <i>mamo</i>	End.	--	U
<i>Dascyllus albisella</i>	Hawaiian dascyllus, <i>ālo'ilo'i</i>	Ind.	--	U
LUTJANIDAE				
<i>Lutjanus fulvus</i>	blacktail snapper, <i>to'au</i>	Ind.	--	U
TETRAODONTIDAE				
<i>Arothron hispidus</i>	stripebelly puffer, <i>'o'opu hue, kēkē</i>	Ind.	--	R
<i>Canthigaster jacator</i>	Hawaiian whitespotted toby	End.	--	O
BLENNIIDAE				
<i>Omobranchus obliquus</i>	Mangrove blenny	Ind.	--	U
CHAETODONTIDAE				
<i>Chaetodon auriga</i>	threadfin butterflyfish, <i>kākapu</i>	Ind.	--	O
CARACANTHIDAE				
<i>Dendrochirus barberi</i>	Hawaiian green lionfish, <i>nohu pinao</i>	End.	--	R
CARANGIDAE				
<i>Caranx melampygus</i>	bluefin trevally, <i>'ōmilu</i>	Ind.	--	U
ZANCLIDAE				
<i>Zanclus cornutus</i>	moorish idol	Ind.	--	O
OSTRACIIDAE				
<i>Ostracion meleagris</i>	spotted boxfish	Ind.	--	R

KEY TO SYMBOLS USED:

Abundance categories:

R - Rare - only one or two individuals observed.

U - Uncommon - several to a dozen individuals observed.

O - Occasional - seen irregularly in small numbers

C - Common - observed everywhere, although generally not in large numbers.

A - Abundant - observed in large numbers and widely distributed.

Status categories:

End. - Endemic - species found only in Hawai'i

Ind. - Indigenous - species found in Hawai'i and elsewhere

Nat. - Naturalized - species were introduced to Hawai'i intentionally, or accidentally.

DRAFT TRAFFIC ACCESS ANALYSIS REPORT
FOR THE PROPOSED
ATLANTIS ADVENTURES
PIER 27 MAINTENANCE FACILITY
TAX MAP KEY: 1-5-038: PORTION OF 001

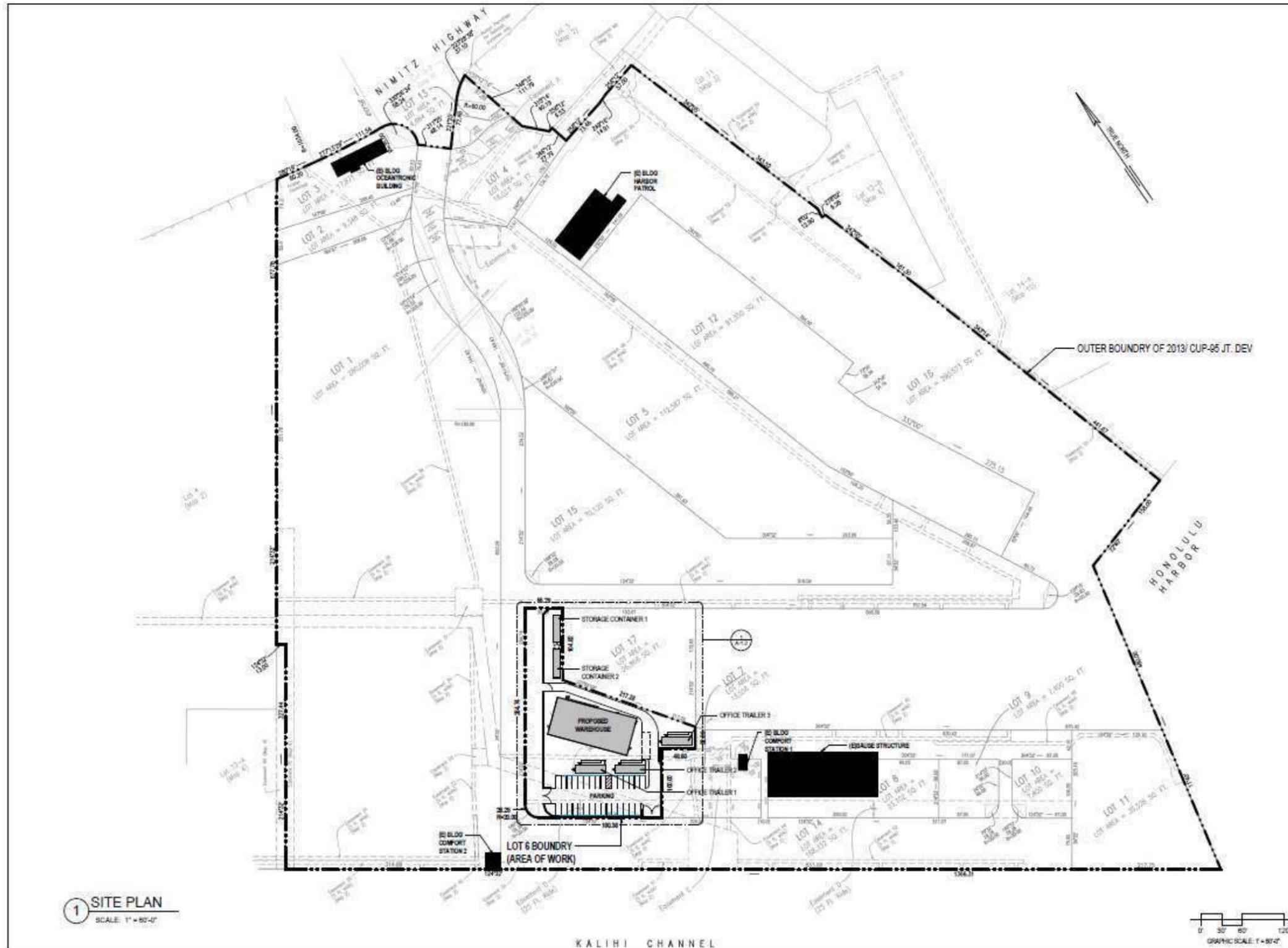
I. Introduction

A. Project Description

Atlantis Adventures proposes to relocate its maintenance operations at Honolulu Harbor from Pier 6 to Pier 27. The project site is identified as Tax Map Key: 1-5-038: Portion of 001. The Atlantis Adventures fleet of watercraft includes the Atlantis Submarines and the Navatek cruise vessel. The proposed Pier 27 maintenance facility will provide maintenance, service, and support functions to the Atlantis Adventures fleet.

The maintenance staff consists of 32 employees, which is split into the day shift (6:00 AM to 7:00 PM) and the evening shift (7:00 PM to 6:00 AM). Twenty-five (25) members of the Navatek and Atlantis Submarine crews will report at 2:00 PM and will end their workdays at 8:30 PM at the proposed Pier 27 facility. Atlantis Adventures' customers currently board and disembark at Pier 6 and will continue to do so after the maintenance operations are relocated to Pier 27.

The project site will include a total of 29 parking stalls. Parking will be reserved from employees only. The proposed structures include a two-story warehouse, totaling 10,130 square feet of gross floor area (SFGFA), three office trailers, totaling 1,539 SFGFA, two storage sheds totaling 640 SFGFA. The proposed structures will total 12,309 SFGFA. The Atlantis Adventures Maintenance Facility at Pier 27 is expected to be fully operational by the summer of 2014. Figure 1 depicts the Atlantis Adventures Maintenance Facility site map.



1 SITE PLAN
SCALE: 1" = 87'-0"

AISE
ALLISON - IDE
ELECTRICAL ENGINEER
100 Fort Street, Suite 1075
Honolulu, HI 96813-0717
Tel: 808 521-1818 Fax: 808 521-1888
www.aiseid.com

Professional Engineer
Honolulu, HI 96813
No. 13023
Date: 09/04/13

PROJECT:
**ATLANTIS ADVENTURES
AT PIER 27
HONOLULU, HI 96813**

DRAWING TITLE:
SITE PLAN

REVISIONS:

No.	Date	Description
1	11-04-13	ISSUE FOR PERMITS

Project Engineer: JSA
Drawn By: HYHW
Job No.: 13.023
Date: 09/04/13

SHEET NUMBER:
A-1.1

Figure 1. Site Plan



B. Purpose and Scope of the Study

The purpose of this study is to analyze the traffic access impacts that may result from the proposed project at Pier 27. This report presents the findings and recommendations of the study, the scope of which includes:

1. Description of the proposed project.
2. Evaluation of existing roadways and traffic conditions.
3. Analysis of future traffic conditions without the proposed project.
4. Development of trip generation characteristics of the proposed project.
5. Identification and analysis of traffic impacts resulting from the proposed project.
6. Recommendations of improvements, which would mitigate the traffic impacts identified in this study.

C. Methodologies

1. Capacity Analysis Methodology

The highway capacity analysis, performed for this study, is based upon procedures presented in the Highway Capacity Manual (HCM), published by the Transportation Research Board. HCM defines Level of Service (LOS) as "a quality measure describing operational conditions within a traffic stream". Several factors may be included in determining LOS, such as: speed, travel time, freedom to maneuver, traffic interruptions, driver comfort, and convenience.

LOS's "A", "B", and "C" are considered satisfactory Levels of Service. LOS "D" is generally considered a "desirable minimum" operating level of service. LOS "E" is an undesirable condition, and LOS "F" is an unacceptable condition. Intersection LOS is primarily based upon delay. Worksheets for the capacity analysis performed throughout this report are compiled in the Appendix. Table 1 summarizes the LOS criteria.



Table 1. Level of Service Criteria (HCM)		
LOS	Signalized Control Delay d (sec/veh)	Description
A	$d \leq 10$	Few stops, little or no delay
B	$10 < d \leq 15$	Good progression, short cycle lengths
C	$15 < d \leq 25$	Cycle failures begin to occur, i.e., vehicles stop at more than one red phase
D	$25 < d \leq 35$	Noticeable number of cycle failures, unfavorable progression
E	$35 < d \leq 50$	Frequent cycle failures, poor progression, long delays
F	$d > 50$	Over saturation, many cycle failures, high delays

2. Trip Generation Methodology

The trip generation methodology is based upon generally accepted techniques developed by the Institute of Transportation Engineers (ITE) and published in Trip Generation, 8th Edition. ITE trip rates for a waterport/marine terminal were developed by correlating the total vehicle trip generation data with various land use characteristics, such as the vehicle trips per day per berth. However, ITE did develop peak hour trip rates for waterport/marine terminal. The ITE weekday trip rate for light industrial uses were comparable to the ITE waterport/ marine terminal weekday trip rate. Therefore, the ITE peak hour trip rates for light industrial uses were used to analyze the trip generation for the proposed project.

II. Existing Conditions

A. Roadways

Nimitz Highway is a two-way, eight-lane, divided, arterial highway, with a posted speed of 35 miles per hour (mph) in the vicinity of the proposed project. Nimitz Highway continues as Ala Moana Boulevard in the Koko Head (east) direction. Ewa of Pacific Street, the left lane on Ewa bound Nimitz Highway merges into the second through lane, reducing the Highway from four lanes to three lanes. As a result, the left lane on Ewa bound Nimitz Highway at Pacific Street operated as an exclusive left-turn lane during the peak hours of traffic.

Pacific Street is a two-way, two- to four-lane, roadway between Iwilei Road and Honolulu Harbor. Pacific Street is signalized at its four-legged intersections with the Koko Head (east) bound and Ewa (west) bound segments of Nimitz Highway.



B. Existing Peak Hour Traffic Volumes and Operating Conditions

1. Field Investigation and Data Collection

Turning movement traffic count surveys were conducted at the intersections of Nimitz Highway and Pacific Street on October 23, 2013, during the peak periods of weekday traffic – from 5:00 AM to 9:00 AM and from 3:00 PM to 6:00 PM. Pedestrian and truck traffic at the intersections were included in the survey.

2. Existing AM Peak Hour Traffic

The existing AM peak hour of traffic occurred from 6:45 AM to 7:45 AM. Nimitz Highway carried about 6,300 vph, total for both directions. The AM peak direction of traffic on Nimitz Highway was in the Koko Head bound direction, carrying about 4,400 vph. Pacific Street carried about 400 vph, total for both directions.

Both intersections of Nimitz Highway and Pacific Street operated at LOS "C", during the existing AM peak hour of traffic. The left-turn movement on makai (south) bound Pacific Street at Koko Head bound Nimitz Highway operated at LOS "E". The other traffic movements on Pacific Street at Koko Head bound Nimitz Highway operated at LOS "D". Koko Head bound Nimitz Highway operated at LOS "B".

Mauka (north) bound Pacific Street operated at LOS "E" at Ewa bound Nimitz Highway. The other traffic movements at the intersection of Ewa bound Nimitz Highway and Pacific Street operated at LOS "C" or better. Figure 2 depicts the existing AM peak hour traffic volumes.

3. Existing PM Peak Hour Traffic

The existing PM peak hour of traffic occurred from 4:15 PM to 5:15 PM. Nimitz Highway carried about 6,300 vph, total for both directions. The PM peak direction of traffic on Nimitz Highway was in the Koko Head bound direction, carrying about 3,400 vph. Pacific Street carried about 350 vph, at Nimitz Highway.

Both intersections of Nimitz Highway and Pacific Street operated at LOS "B", during the existing PM peak hour of traffic. Mauka bound through movement and the makai bound left-turn movement on Pacific Street at Koko Head bound Nimitz Highway operated at LOS "D". The other traffic movements at the intersection of Pacific Street and Koko Head bound Nimitz Highway operated at LOS "B".

Both approaches on Pacific Street operated at LOS "D" at Ewa bound Nimitz Highway. The traffic movements on Ewa bound Nimitz Highway operated at LOS "B" or better. The existing PM peak hour traffic volumes are depicted on Figure 3.

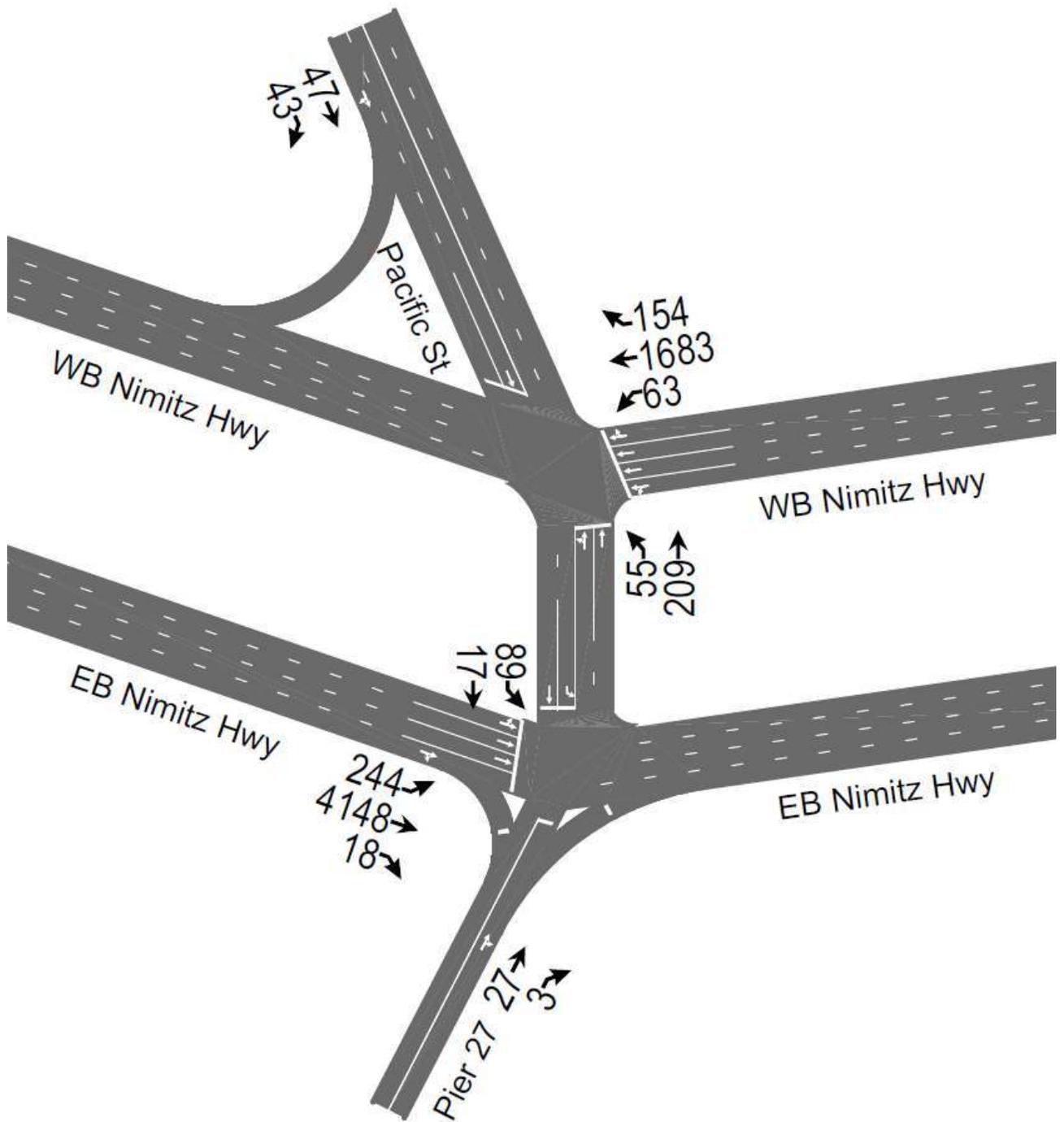


Figure 2. Existing AM Peak Hour Traffic

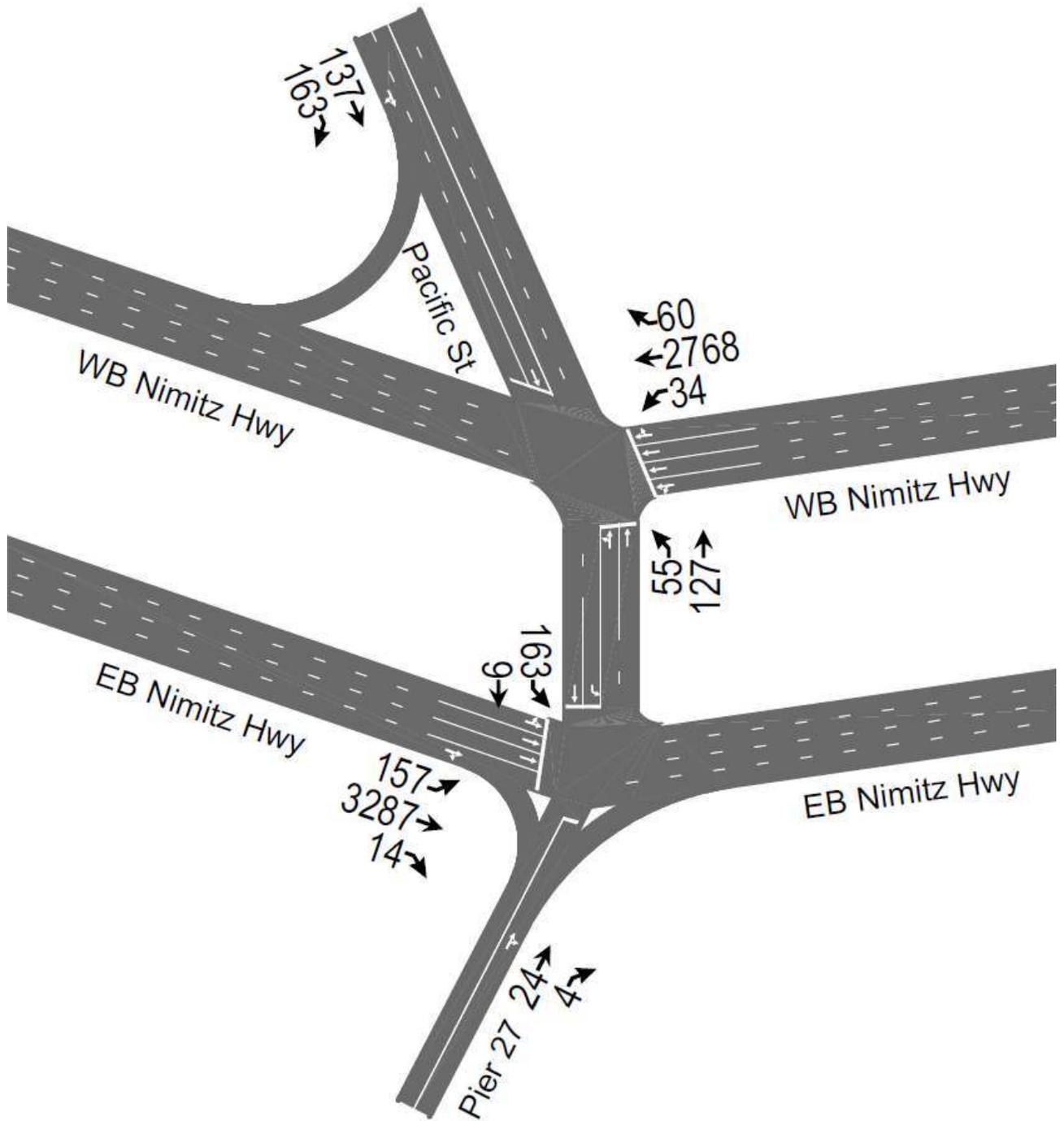


Figure 3. Existing PM Peak Hour Traffic



III. Future Traffic Conditions

A. Background Growth in Traffic

The background growth in peak hour traffic is based upon the screenline traffic forecasts presented in the Transportation Technical Report for the Honolulu High-Capacity Transit Corridor Project, dated August 15, 2008. The screenline is a mauka-makai boundary along Kapalama Stream that crosses all major roadways from School Street to Nimitz Highway. The Years 2013 and 2014 traffic forecasts were derived through interpolation between the Base Year 2005 and the Planning Horizon 2030 forecasts.

The AM and PM peak hour screenline totals for the Years 2013 and 2014 were combined to develop growth factor of 1.005, which was uniformly applied to the existing traffic data at the intersections of Nimitz Highway and Pacific Street to estimate the Year 2014 peak hour traffic. Table 2 summarizes the peak hour traffic forecasts at the Kapalama Stream screenline.

Table 2. Peak Hour Kapalama Stream Screenline Volumes					
Peak Hour	Direction	Base Year	Traffic Forecasts		
		2005	2013	2014	2030
AM	Ewa Bound	11,870	12,300	12,350	13,210
	Koko Head Bound	18,970	19,980	20,110	22,140
	Totals	30,840	32,280	32,460	35,350
PM	Ewa Bound	15,170	15,670	15,730	16,720
	Koko Head Bound	14,940	15,560	15,640	16,880
	Totals	30,110	31,230	31,370	33,600

B. Traffic Analysis Without Project

The traffic analysis without the proposed project is based upon the Year 2014 traffic conditions without the proposed project. The purpose of this traffic analysis is to establish the baseline conditions from which to measure the traffic impacts of the proposed Atlantis Adventures Pier 27 Maintenance Facility.

1. AM Peak Hour Traffic Analysis Without Project

The intersections of Nimitz Highway and Pacific Street are expected to continue to operate at LOS "C", during the AM peak hour of traffic without the proposed project. The left-turn movement from makai bound Pacific Street onto Koko Head



bound Nimitz Highway is expected to operate at LOS "E". Mauka bound Pacific Street at Ewa bound Nimitz Highway also is expected to operate at LOS "E". Figure 4 depicts the AM peak hour traffic volumes without the proposed project.

2. PM Peak Hour Traffic Analysis Without Project

The traffic movements at the Pacific Street intersections at Nimitz Highway are expected to continue to operate at LOS "D" or better, during the PM peak hour of traffic without the proposed project. The PM peak hour traffic volumes without the proposed project are depicted on Figure 5.

IV. Traffic Impact Analysis

A. Trip Generation Characteristics

The trip generation characteristics for the proposed project were based upon the total of 57 employees at the Pier 27 facility. The proposed project is expected to generate totals of 25 vph and 24 vph, during the AM and PM peak hours of traffic, respectively. Because of the day and evening work shift changes, the site traffic was split between entering traffic and exiting traffic, during the AM and PM peak hours of traffic.

The trip generation characteristics are considered to be conservative because the shift changes are expected to occur before the AM peak hour of traffic and after the PM peak hour of traffic. Furthermore the Navatek and Atlantis Submarine crews start their workdays in the mid-afternoons and end their workdays after the PM peak hour of traffic. Figure 6 and 7 depict the AM and PM peak hour site traffic assignments, respectively.

B. Peak Hour Traffic Analysis With Project

1. AM Peak Hour Traffic Analysis With Project

The proposed project is not expected to significantly impact the intersections of Nimitz Highway and Pacific Street, during the AM peak hour of traffic. Koko Head bound Nimitz Highway is expected to operate at LOS "C". The other traffic movements at both intersections are expected to operate at the same Levels of Service as the AM peak hour of traffic without the proposed project. Figure 8 depicts the AM peak hour traffic with the proposed project.

2. PM Peak Hour Traffic Analysis With Project

The proposed project is not expected to significantly impact the intersections of Nimitz Highway and Pacific Street, during the PM peak hour of traffic. The traffic movements at both intersections are expected to operate at the same Levels of Service as the PM peak hour of traffic without the proposed project. The PM peak hour traffic with the proposed project is depicted on Figure 9.

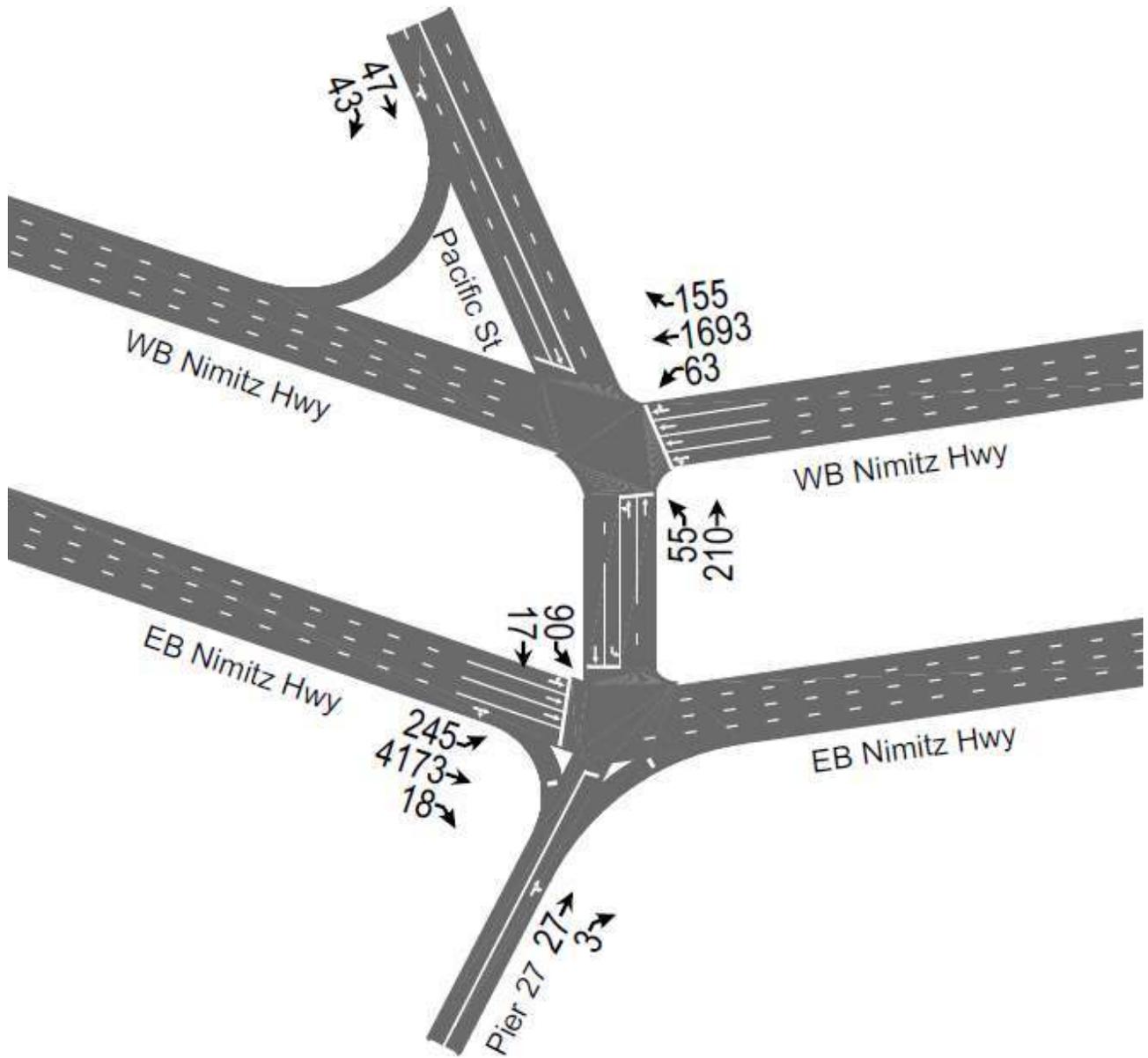


Figure 4. AM Peak Hour Traffic Without Project

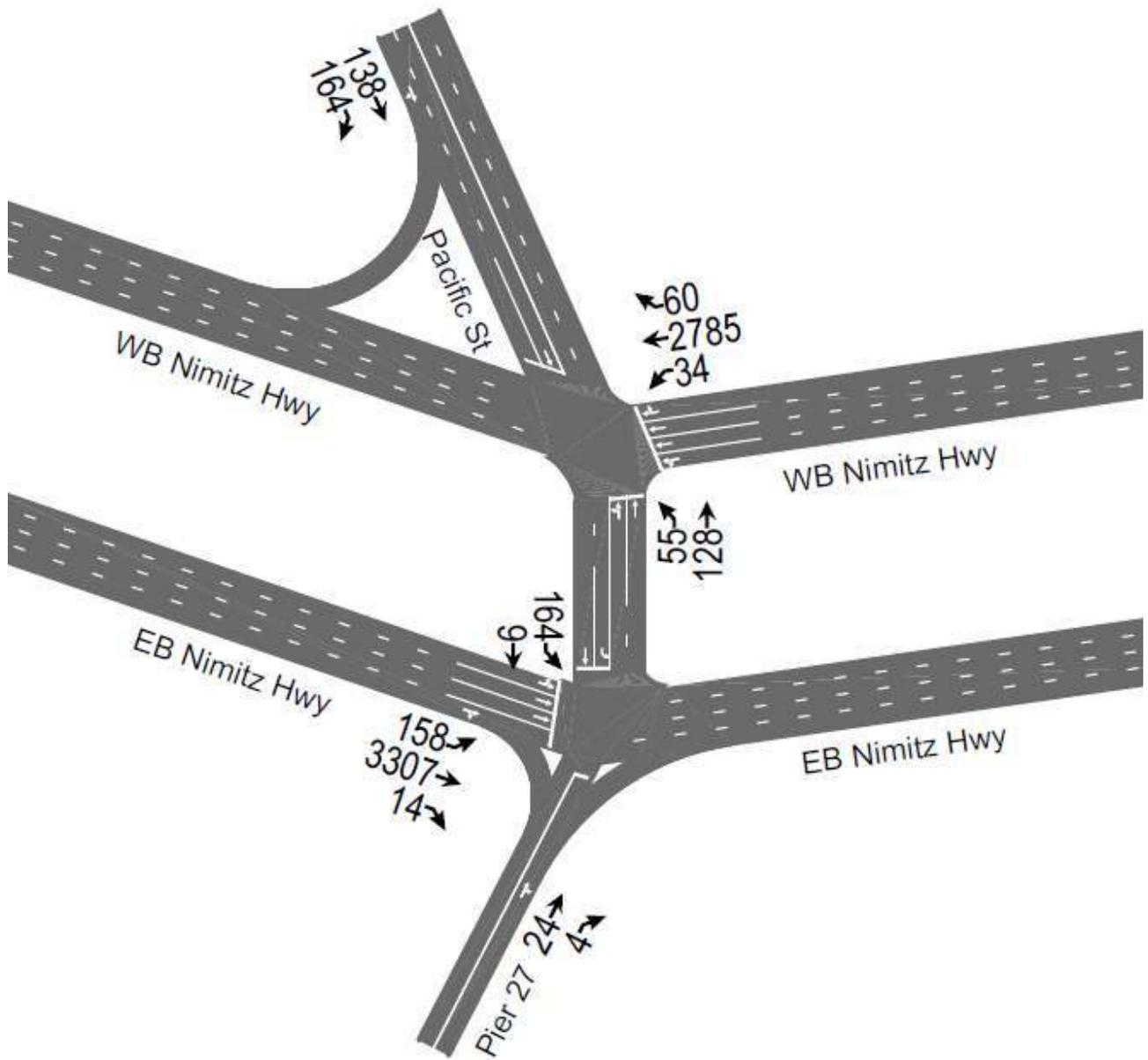


Figure 5. PM Peak Hour Traffic Without Project

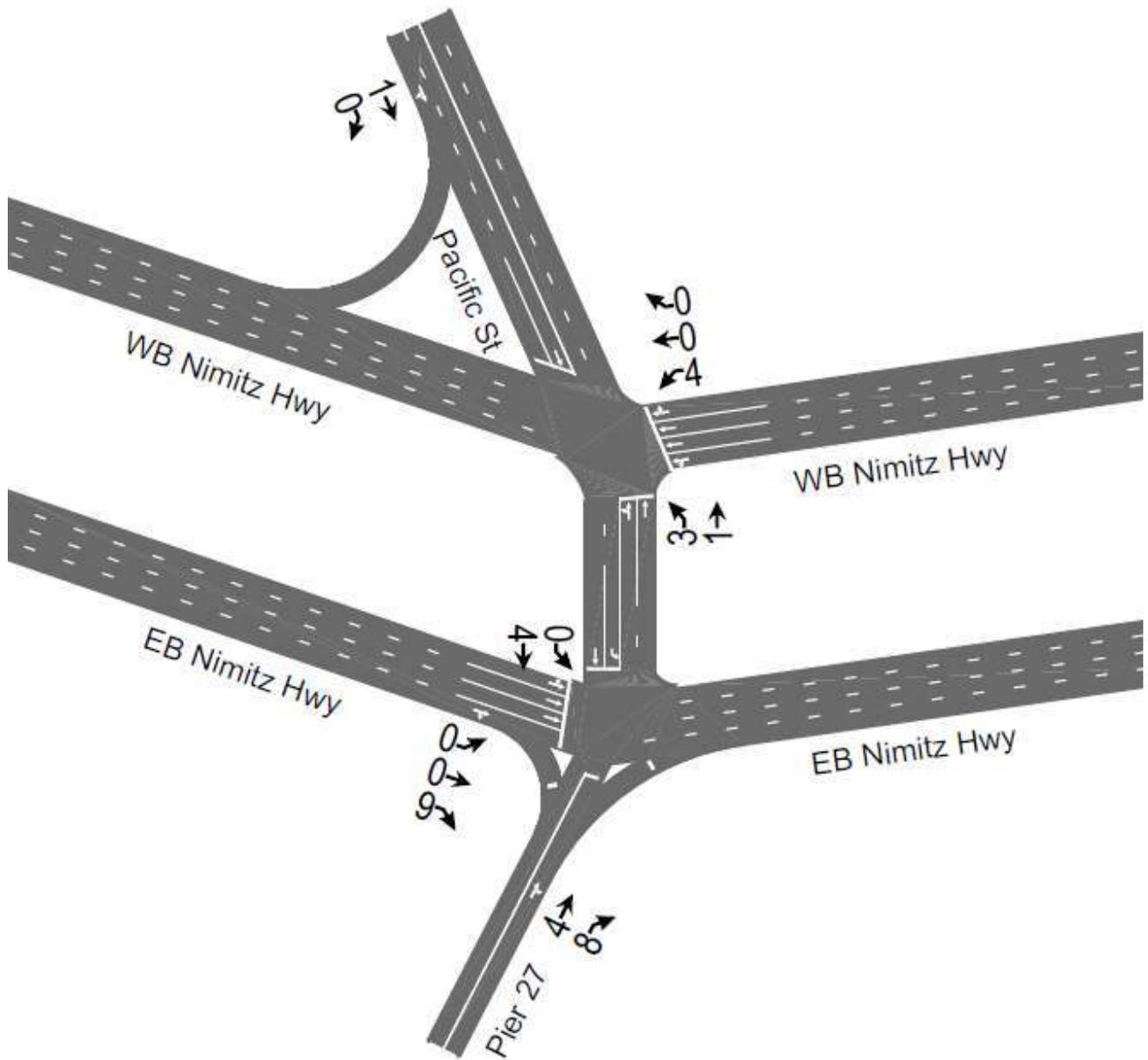


Figure 6. AM Peak Hour Site Traffic

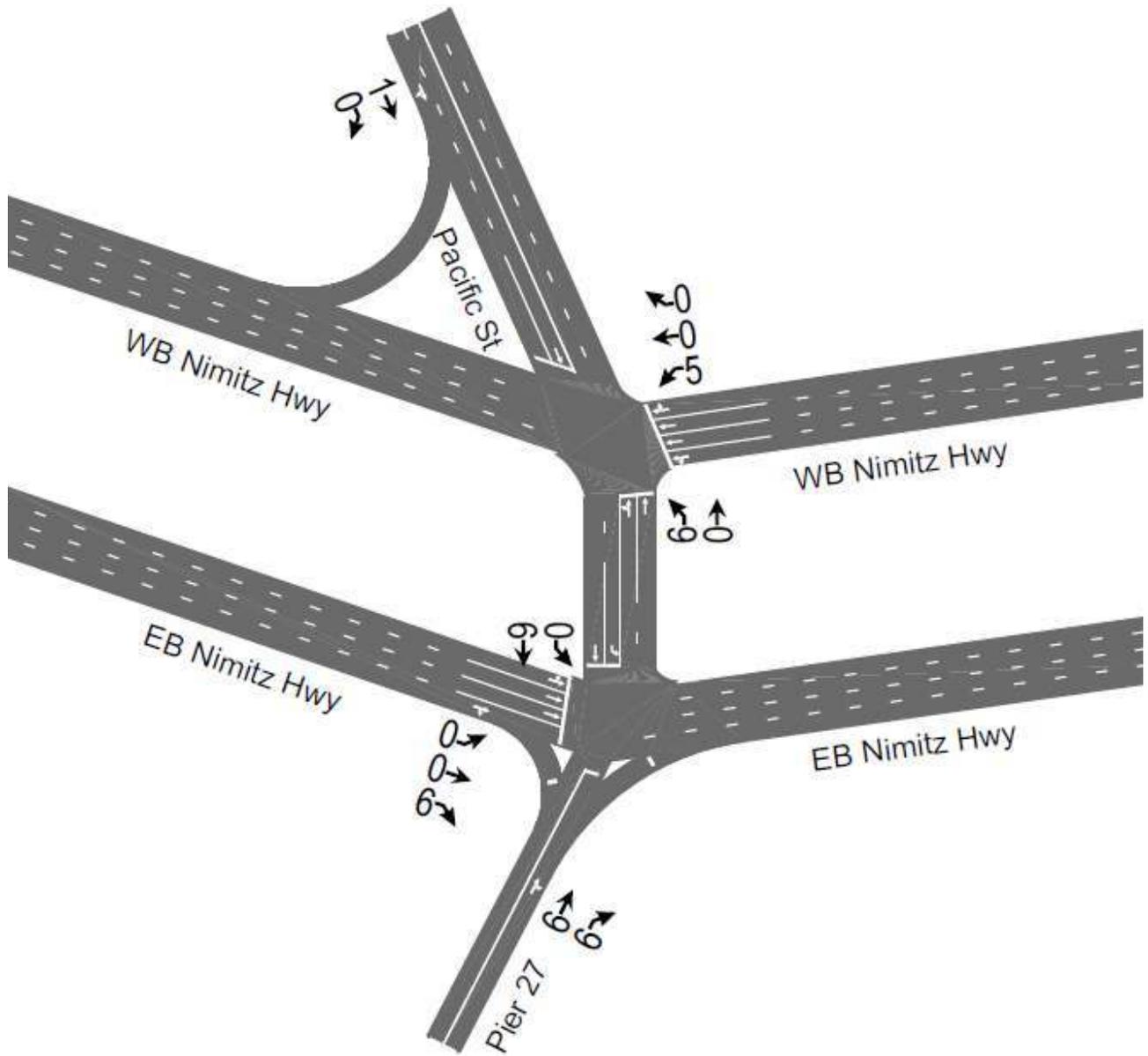


Figure 7. PM Peak Hour Site Traffic

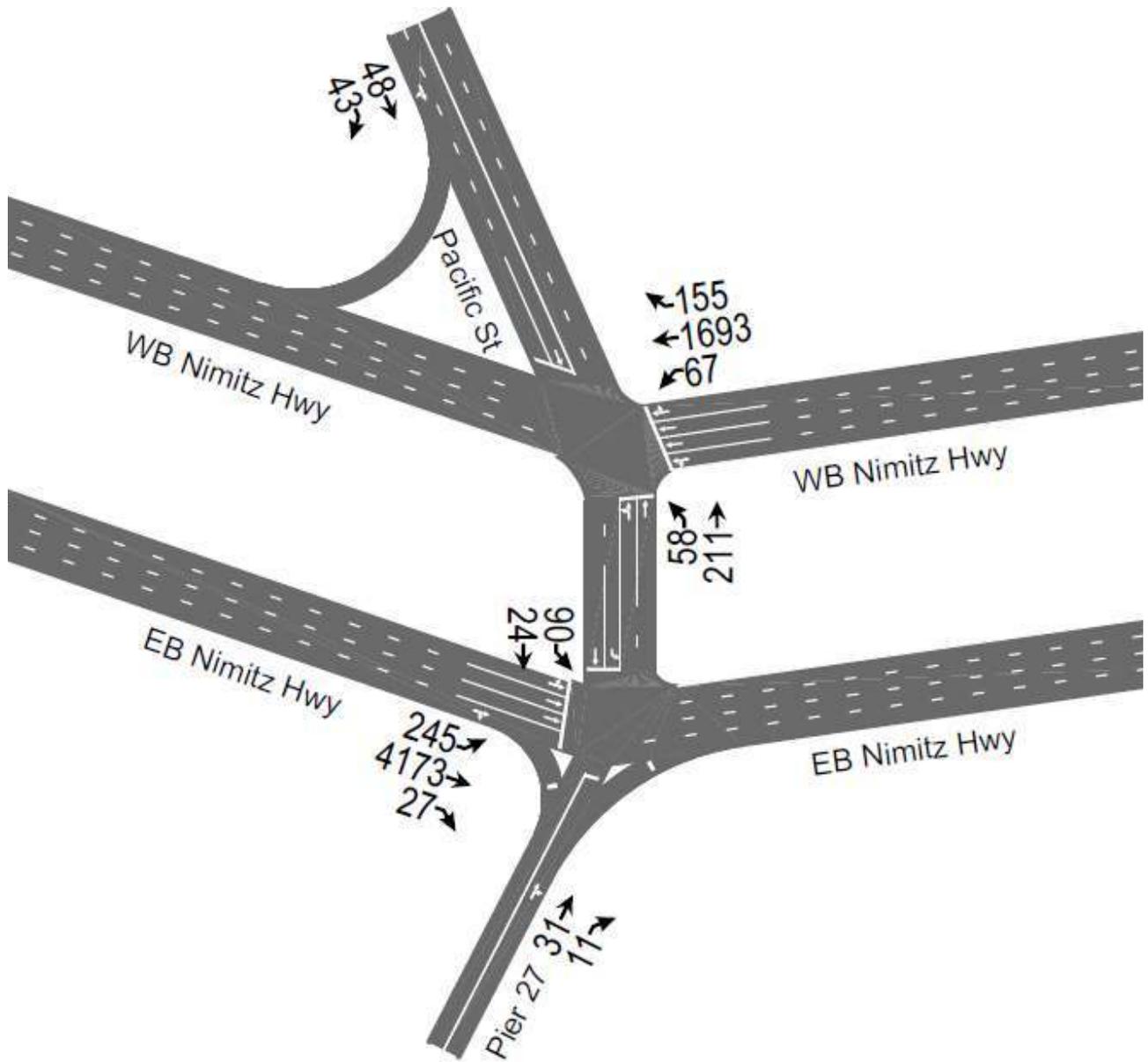


Figure 8. AM Peak Hour Traffic With Project

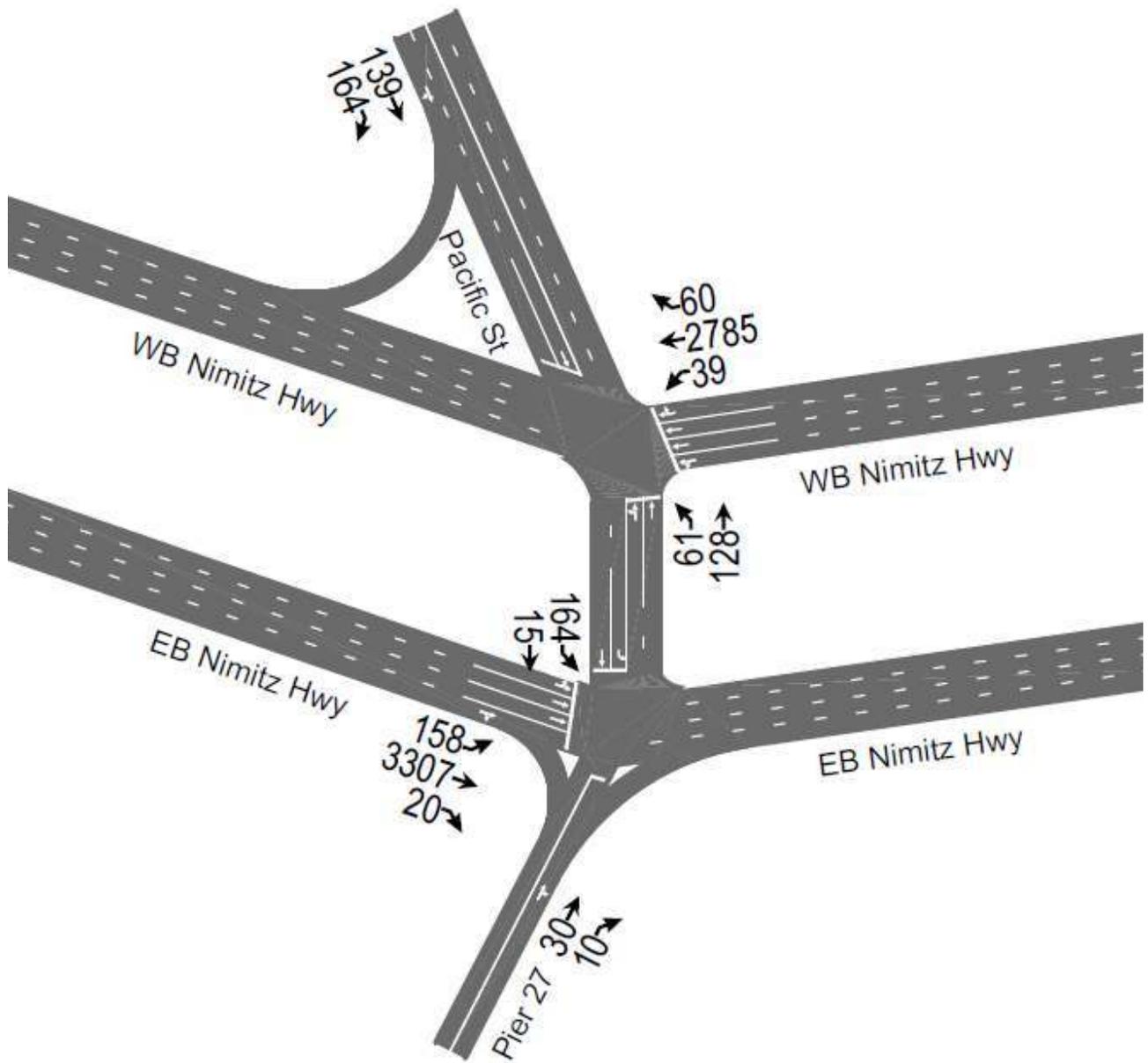


Figure 9. PM Peak Hour Traffic With Project



V. Conclusions

The proposed Atlantis Adventures Pier 27 Maintenance Facility is not expected to impact peak hour traffic operations at the Nimitz Highway intersections at Pacific Street. The peak traffic generated by the proposed project is expected to increase peak hour traffic at study intersections by less than one (1) percent. Table 3 summarizes the capacity analysis of the Nimitz Highway intersections at Pacific Street.



Table 4. Summary of Capacity Analysis															
Peak Hour	Intersection	MOE	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Intersection
Existing AM Peak Hour	Koko Head Bound Nimitz Highway and Pacific Street	LOS	B			N/A	N/A	N/A	N/A	D		E	D	N/A	C
		Delay	19.1			N/A	N/A	N/A	N/A	50.7		68.4	41.8	N/A	20.6
		v/c	0.95			N/A	N/A	N/A	N/A	0.19		0.69	0.09	N/A	0.95 (max)
	Ewa Bound Nimitz Highway and Pacific Street	LOS	N/A	N/A	N/A	A	B		E		N/A	N/A	C		C
		Delay	N/A	N/A	N/A	7.5	12.8		68.2		N/A	N/A	30.0		20.6
		v/c	N/A	N/A	N/A	0.06	0.63		0.49		N/A	N/A	0.15		0.63 (max)
Existing PM Peak Hour	Koko Head Bound Nimitz Highway and Pacific Street	LOS	B			N/A	N/A	N/A	N/A	D		D	B	N/A	B
		Delay	12.9			N/A	N/A	N/A	N/A	42.8		49.9	18.9	N/A	15.2
		v/c	0.80			N/A	N/A	N/A	N/A	0.15		0.84	0.06	N/A	0.84 (max)
	Ewa Bound Nimitz Highway and Pacific Street	LOS	N/A	N/A	N/A	A	B		D		N/A	N/A	D		B
		Delay	N/A	N/A	N/A	5.4	14.3		51.2		N/A	N/A	49.3		19.6
		v/c	N/A	N/A	N/A	0.03	0.81		0.50		N/A	N/A	0.58		0.81 (max)
AM Peak Hour Without Project	Koko Head Bound Nimitz Highway and Pacific Street	LOS	B			N/A	N/A	N/A	N/A	D		E	D	N/A	C
		Delay	20.0			N/A	N/A	N/A	N/A	50.7		68.9	41.7	N/A	21.5
		v/c	0.95			N/A	N/A	N/A	N/A	0.19		0.7	0.09	N/A	0.95 (max)
	Ewa Bound Nimitz Highway and Pacific Street	LOS	N/A	N/A	N/A	A	B		E		N/A	N/A	C		C
		Delay	N/A	N/A	N/A	7.5	12.8		70.5		N/A	N/A	30.3		21.0
		v/c	N/A	N/A	N/A	0.06	0.63		0.49		N/A	N/A	0.15		0.63 (max)
PM Peak Hour Without Project	Koko Head Bound Nimitz Highway and Pacific Street	LOS	B			N/A	N/A	N/A	N/A	D		D	B	N/A	B
		Delay	13.1			N/A	N/A	N/A	N/A	42.2		40.8	17.6	N/A	14.8
		v/c	0.80			N/A	N/A	N/A	N/A	0.12		0.80	0.03	N/A	0.80 (max)
	Ewa Bound Nimitz Highway and Pacific Street	LOS	N/A	N/A	N/A	A	B		D		N/A	N/A	D		C
		Delay	N/A	N/A	N/A	5.3	14.5		51.9		N/A	N/A	50.3		20.2
		v/c	N/A	N/A	N/A	0.03	0.82		0.51		N/A	N/A	0.62		0.82 (max)



Table 4. Summary of Capacity Analysis (Cont'd.)															
Peak Hour	Dillingham Blvd Intersection	MOE	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Intersection
AM Peak Hour With Project	Koko Head Bound Nimitz Highway and Pacific Street	LOS	C			N/A	N/A	N/A	N/A	D		E	D	N/A	C
		Delay	20.3			N/A	N/A	N/A	N/A	53.6		70.8	42.5	N/A	22.0
		v/c	0.96			N/A	N/A	N/A	N/A	0.28		0.71	0.13	N/A	0.96 (max)
	Ewa Bound Nimitz Highway and Pacific Street	LOS	N/A	N/A	N/A	A	B		E		N/A	N/A	C		C
		Delay	N/A	N/A	N/A	7.5	12.8		67.7		N/A	N/A	30.4		20.7
		v/c	N/A	N/A	N/A	0.06	0.63		0.50		N/A	N/A	0.16		0.63 (max)
PM Peak Hour With Project	Koko Head Bound Nimitz Highway and Pacific Street	LOS	B			N/A	N/A	N/A	N/A	D		D	B	N/A	B
		Delay	13.1			N/A	N/A	N/A	N/A	43.2		44.0	18.3	N/A	15.1
		v/c	0.80			N/A	N/A	N/A	N/A	0.18		0.82	0.05	N/A	0.82 (max)
	Ewa Bound Nimitz Highway and Pacific Street	LOS	N/A	N/A	N/A	A	B		D		N/A	N/A	D		C
		Delay	N/A	N/A	N/A	5.3	14.5		50.2		N/A	N/A	50.4		20.1
		v/c	N/A	N/A	N/A	0.03	0.82		0.53		N/A	N/A	0.62		0.82 (max)