

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU

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NOV 23 2015

KIRK CALDWELL
MAYOR



GEORGE I. ATTA, FAICP
DIRECTOR

ARTHUR D. CHALLACOMBE
DEPUTY DIRECTOR

2015/ED-12(MS)

November 10, 2015

Mr. Scott Glenn, Interim Director
Office of Environmental Quality Control
Department of Health, State of Hawaii
235 South Beretania Street, Room 702
Honolulu, Hawaii 96813

Dear Mr. Glenn:

SUBJECT: Chapter 343, Hawaii Revised Statutes (HRS)
Draft Environmental Assessment (EA)

Project: Redevelopment of the Diamond Head Theater
Applicant: Diamond Head Theater
Landowner: State of Hawaii
Agent: HHF Planners (Scott Ezer)
Location: 520 Makapuu Avenue – Diamond Head
Tax Map Keys: 3-2-30: 1
Proposal: To allow the demolition of the existing theater and construction of a new theater building on State of Hawaii-owned land.

OFFICE OF ENVIRONMENTAL
QUALITY CONTROL

15 NOV 10 P 1:14

RECEIVED

With this letter, the Department of Planning and Permitting hereby transmits the DEA and anticipated finding of no significant impact (DEA-AFONSI) for the Diamond Head Theater project located on Tax Map Key Parcel 3-2-30: 1 in the Honolulu District on the island of Oahu, for publication of the project summary of the Draft Environmental Assessment (DEA) in the next edition of "The Environmental Notice" on **November 23, 2015**.

We respectfully request publication. Enclosed are two hard copies and one electronic copy of the DEA and the Publication Form. The Publication Form, including project summary, was also sent via electronic mail to your office.

Should you have any questions, please contact Malynne Simeon at 768-8023 or via email at msimeon@honolulu.gov.

Very truly yours,

George I. Atta
George I. Atta, FAICP
Director

Enclosure: DEA, two hard copies and one disk
One copy of OEQC Publication Form

APPLICANT ACTION SECTION 343-5(e), HRS PUBLICATION FORM

FILE COPY

NOV 23 2015

Project Name: Redevelopment for Diamond Head Theatre
HRS §343-5 Trigger(s): Use of State Land
Island: Oahu
District: Honolulu
TMK: (1) 3-2-030: 001
Permits: Zoning Height Variance, Diamond Head Special District Minor Permit, Minor Modification to Existing Use Permit No. 83/CUP-11

Approving Agency: City and County of Honolulu Department of Planning and Permitting
Address: 650 South King Street, 7th Floor
City, State, Zip: Honolulu, Hawaii 96813
Contact and Phone: Malynne Simeona, (808) 768-8023

Applicant: Diamond Head Theatre
Address: 520 Makapuu Avenue
City, State, Zip: Honolulu, Hawaii 96816
Contact and Phone: Deena Dray (808) 733-0277

Consultant: HHF Planners
Address: 733 Bishop Street, Suite 2590
City, State, Zip: Honolulu, Hawaii 96813
Contact and Phone: Scott Ezer/Corlyn Orr (808) 457-3168

DEPT OF ENVIRONMENT & NATURAL RESOURCES
QUALITY CONTROL

15 NOV 17 11:51

RECEIVED

Status (check one only):

- X DEA-AFNSI
FEA-FONSI
FEA-EISPN
Act 172-12 EISPN
DEIS
FEIS
Section 11-200-23 Determination

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
Détermination

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):

Diamond Head Theatre (DHT) proposes to construct a new theatre to replace its existing theatre, which was originally built in 1933 as the Army's Fort Ruger movie house.

The new theatre would be constructed to the north of the existing theatre. It would have the same number of seats as the existing 500-seat theatre, with approximately 34% more floor area (adding about 6,200 SF to the current floor area of 18,230 SF) to accommodate DHT's existing programs and better serve theatre patrons. The existing theatre would be demolished upon completion of the new theatre to allow operations to continue uninterrupted during construction. Following demolition, an open lawn would be installed in the footprint of the existing theatre. Long-term plans call for the installation of interpretive features that highlight the site's historic significance.

A fly loft—considered a standard feature in modern theatres that safely and efficiently moves and stores sets above the stage—is an important element of the new theatre. At roughly 60 feet in height, the fly loft would be the tallest part of the new theatre and would require a zoning height variance. Other county land use approvals required for the proposed project include a Diamond Head Special District Minor Permit and a Minor Modification to an Existing Use Permit. A Finding of No Significant Impact (FONSI) is anticipated.



DIAMOND HEAD THEATRE REDEVELOPMENT

DRAFT \ ENVIRONMENTAL ASSESSMENT

OCTOBER 2015

prepared for



**Diamond
Head
Theatre**

prepared by



HHF PLANNERS
places for people



DIAMOND HEAD THEATRE REDEVELOPMENT

DRAFT \ ENVIRONMENTAL ASSESSMENT

OCTOBER 2015

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ACRONYMS

AIS	architectural inventory survey
AAQS	ambient air quality standards
BLNR	State of Hawai'i Board of Land and Natural Resources
BMPs	best management practices
C4	Christ Centered Community Church
DBEDT	State Department of Business, Economic Development and Tourism
DPP	City and County of Honolulu Department of Planning and Permitting
CFR	Code of Federal Regulations
cfs	cubic feet per second
CUP	Conditional Use Permit
DHT	Diamond Head Theatre
DOH	State of Hawai'i Department of Health
EA	environmental assessment
EUP	Existing Use Permit
°F	degrees Fahrenheit
gpd	gallons per day
gpm	gallons per minute
HABS I	Historic American Building Survey, Level I
HABS II	Historic American Building Survey, Level II
HECO	Hawaiian Electric
HCT	Honolulu Community Theatre
HFD	City and County of Honolulu Fire Department
HIOSH	Hawai'i Division of Occupational Safety and Health
HPD	City and County of Honolulu Police Department
HRS	Hawai'i Revised Statutes
KCC	Kapiolani Community College
LUO	City and County of Honolulu Land Use Ordinance
mg/cm ²	milligram per square centimeter
mph	miles per hour
NPDES	National Pollutant Discharge Elimination System
OSHA	Occupational Safety and Health Administration
PUCDP	Primary Urban Center Development Plan
psi	pounds per square inch
SF	square feet
TMK	Tax Map Key
PCB	polychlorinated biphenyl
PM ₁₀	less than 10 microns
PM _{2.5}	less than 2.5 microns
TIAR	traffic impact assessment report
USDA	United States Department of Agriculture

PROJECT SUMMARY

Diamond Head Theatre (DHT) is proposing to construct a new 500-seat theatre on the property it leases from the State of Hawai'i in Kaimukī along the northern edge of Diamond Head Crater. The existing theatre building, which has housed DHT for more than 60 years, was originally built in the 1930s as an Army movie house and has aged beyond its useful life. As proposed, the new theatre would be constructed in the vacant, undeveloped area adjacent to the existing theatre building, allowing for theatre productions and activities to continue uninterrupted during construction. Upon completion of the new theatre, the existing theatre would be demolished and replaced with a landscaped garden and open space.

This draft environmental assessment (EA) is being prepared in accordance with the requirements of Chapter 343, Hawai'i Revised Statutes (HRS), as amended, and Hawai'i Administrative Rules, Title 11, Department of Health (DOH), which set forth the requirements for the preparation of environmental assessments. The proposed project is subject to the environmental review process under Chapter 343, HRS because it involves the use of state land (HRS § 343-5(a)(1)).

The project is an "applicant action" under the State's environmental review regulations. HHF Planners is serving as the "authorized agent" on behalf of DHT (the "applicant") in the preparation of this EA, with the City and County of Honolulu Department of Planning and Permitting (DPP) serving as the "approving agency" responsible for processing the environmental assessment document. Under the provisions of Title 11, Chapter 200, HAR, it is anticipated that the direct, indirect, and cumulative effects of the proposed project will not have a significant adverse effect on the environment and that a Finding of No Significant Impact will be issued.

Project Name:	Diamond Head Theatre Redevelopment
Applicant/Lessee:	Diamond Head Theatre
Landowner:	State of Hawai'i
EA Preparer:	HHF Planners 733 Bishop Street, Suite 2590 Honolulu, HI 96813 Phone: (808) 545-2055 extension 168 Contact: Scott Ezer / Corlyn Orr
Approving Agency:	City and County of Honolulu Department of Planning and Permitting
Project Location:	Diamond Head Theatre 520 Makapu'u Avenue Honolulu, Hawai'i 96816
Tax Map Key Parcel:	(1) 3-2-030: 001
Project Area:	2.74 acres

Proposed Action:	Demolition of existing theatre and construction of a new theatre building
Landowner:	State of Hawai'i
Chapter 343, HRS "EA Trigger":	Use of state lands
Existing Use:	The southwestern portion of the project site houses the existing theatre building and parking lot. The northern portion is currently undeveloped.
State Land Use District:	Urban
Primary Urban Center Development Plan Land Use Map:	Lower-Density Residential
City and County of Honolulu Zoning District:	R-5 Residential
Required Permits and Approvals:	<p>Chapter 343, HRS Environmental Review and Determination</p> <p>Zoning Height Variance</p> <p>Diamond Head Special District Minor Permit</p> <p>Minor Modification to Existing Use Permit No. 83/CUP-11</p> <p>Construction Permits (building, electrical, plumbing sewer connection, grading and sign permits)</p> <p>National Pollutant Discharge Elimination System (NPDES) Individual Permit – Construction Activities</p> <p>Construction Noise Permit</p>
Anticipated Determination:	Finding of No Significant Impact

1. DESCRIPTION OF PROPOSED PROJECT AND ALTERNATIVES

Founded in 1915, DHT has the distinction of being the oldest live theatre company in Hawai'i, and the third-longest, continuously operated community theatre in the United States. With a history of entertaining and inspiring hundreds of thousands of people for nearly a century, DHT has gained a reputation for staging quality musical productions and theatre arts educational programs, and is enjoying celebrating its 100-year anniversary in 2015.

The presence of a thriving arts sector is an indicator of a prosperous, well-diversified community. In Honolulu, DHT is one of the leading performing arts centers on the island, serving as a valuable civic and artistic asset that supports the community's cultural vibrancy and also contributing to Honolulu's desirable quality of life. As a community gathering place, DHT brings together individuals with a shared interest in the performing arts and promotes civic engagement and social networking. As a venue for live theatre experiences and educational opportunities, DHT is proud of the social and educational value that their programs and productions have on enriching the lives of participants outside of the theatre. Besides promoting individual creativity, innovation and intelligence, the performing arts provides a number of intrinsic benefits for individuals that participate in such programs, including better academic performance, greater self-confidence and sense of self-worth, stronger communication skills, and improved health and wellness.

In support of its mission to serve "Broadway" musical interests and to advance educational opportunities in the performing arts, DHT's current calendar of events includes six different shows per season, year-round dance, voice and acting classes, and a youth performing arts troupe called the Shooting Stars. Through these productions, DHT entertains over 40,000 patrons per year and provides performing arts instruction to more than 1,000 teens, children and adults yearly. As a community-based theatre where productions are made by, with and for the community, DHT operates as a non-profit organization with a large cast of committed volunteers who contribute to productions as actors, musicians, production and stage crew members, ushers and box office staff. The company, which seeks to actively engage people of all ages in music and the arts, receives more than 15,000 hours of volunteer support each season from roughly 600 volunteers, employs a staff of almost 20 employees and is overseen by a 40-member board of directors.

DHT's MISSION STATEMENT

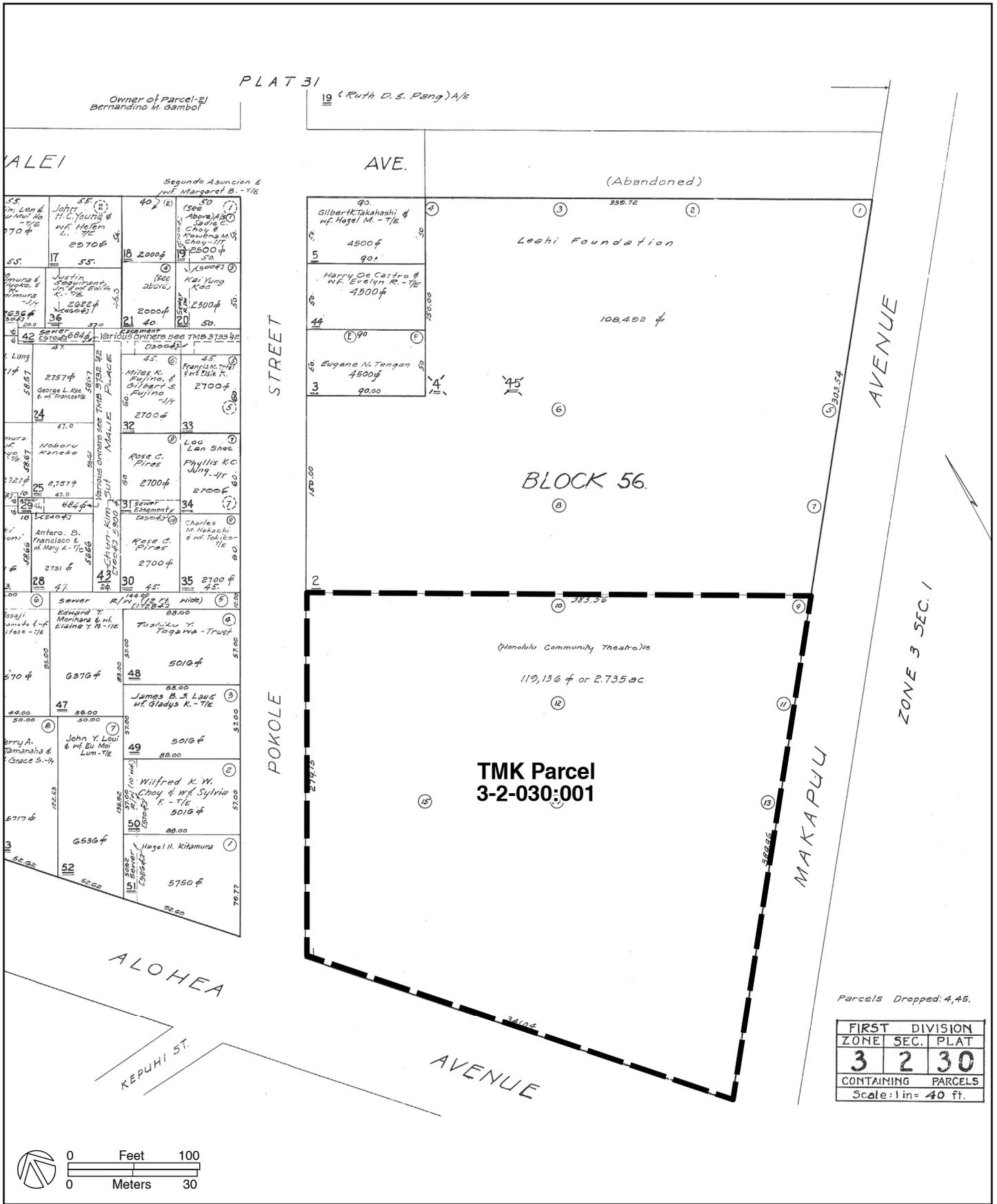
Established in 1915, Diamond Head Theatre is the Broadway of the Pacific, producing the best live community theatre entertainment and advancing the theatre arts through education in Hawai'i.

The existing theatre building that has housed DHT for the past 60+ years old was originally built in the 1930s as a movie house for the U.S. Army. Due to its age and condition, the theatre building is desperately in need of major renovation and utility upgrades to accommodate the stage elements that are essential to modern-day theatre production. As part of its commitment to better serve its constituency and meet its mission of maintaining a vibrant community theatre program and performing arts educational opportunities, DHT is proposing to construct a new theatre building with the technical advancements and amenities that audiences have come to expect from a 21st-century performing arts facility. The current theatre building and supporting facilities occupy a developed area of roughly 0.6 acres within Tax Map Key (TMK) parcel 3-2-030: 001, which has a total land area of 2.74 acres. As proposed, the new theatre building would be constructed in the vacant, undeveloped area to the north of the existing theatre building followed by demolition of the old theatre, allowing the existing theatre to operate during construction. Figure 1 presents a vicinity map showing the general location of DHT. Figure 2 presents the TMK parcel map.



Diamond Head Theatre Redevelopment
 Draft Environmental Assessment
 Kaimuki, O'ahu, Hawai'i

Figure 1
Vicinity Map



Diamond Head Theatre Redevelopment
 Draft Environmental Assessment
 Kaimuki, O'ahu, Hawai'i

Figure 2
TMK Parcel Map

1.1 HISTORY OF DIAMOND HEAD THEATRE

DHT began in 1915 as a group of theatre enthusiasts known as “The Footlights.” Founded by some of Honolulu’s most prominent women (among them Mrs. Walter F. Dillingham, Helen Alexander, Margaret Center and Gerrit Wilder), The Footlights staged their first performance on April 28, 1915 at the Honolulu Opera House (located where the post office building now stands at the corner of Merchant and Richards Streets in downtown Honolulu). In 1934, The Footlights formalized and changed its name to Honolulu Community Theatre (HCT). Under its new name, HCT continued to perform at various available venues in Honolulu, and also entertained thousands of troops during World War II with over 300 performances throughout the Pacific. For 37 years—from 1915 when it first formed through 1952—the company did not have a permanent stage and performed at different locations in Honolulu. Some of the locations included the Honolulu Opera House, San Souci (the former home of Robert Louis Stevenson), Hawai’i Theatre, Central Union Church, Dillingham Hall at Punahou School, the Moana Hotel and the Hilton Hawaiian Village.



Figure 3. Past Performances of The Footlights and Hawai’i Community Theatre

In 1951, HCT began to perform at the Fort Ruger Theatre (DHT's current location), which was originally constructed as the movie house for the U.S. Army's Fort Ruger Military Installation. In the following year (1952), the Army no longer had a need for the movie house and gave HCT the exclusive rights to use the theatre building, allowing HCT to establish a permanent home at the Fort Ruger location. Subsequently, in 1966, HCT received a long-term lease for the property from the State of Hawai'i. The name of the theatre company (HCT) remained in effect until 1990, when the name was changed to Diamond Head Theatre to better reflect the company's association with the Fort Ruger location.

1.2 PROJECT NEED AND OBJECTIVES

The proposed project is intended to reinforce the continued success of DHT as the "Broadway of the Pacific," and also allow the organization to continue to ensure broad access to live theatre entertainment and performing arts education/outreach programs. The proposed project, which provides the technical advancements and building elements that are standard features among modern theatre buildings, is needed to address the physical inadequacies and space limitations of the existing theatre building and provide facility upgrades to better serve theatre patrons.

DHT's MAJOR MILESTONES

1915: The Footlights stage their first performance

1934: The Footlights re-organize as the Honolulu Community Theatre

1952: HCT finds a permanent home at Fort Ruger Theatre

1966: HCT receives a 50-year lease from the State of Hawai'i

1990: HCT re-named to Diamond Head Theatre

2008: DHT receives a new 65-year lease from the State of Hawai'i

2014: DHT announces 100th anniversary season

The current theatre building was designed and built as a USO 1930's-era movie house. Although building modifications over time have allowed for the staging of live Broadway shows, DHT staff has found that the physical limitations of the existing theatre—including its dilapidated physical condition, its small size, and lack of technical advancements—are increasingly limiting the range of productions that are staged and the efficiency of backstage operations. While DHT is able to continue in the existing theatre for the near-term, facility upgrades and improvements are needed to ensure the organization's long-term survival. Facility deficiencies that constrain DHT's current operations include:

- a shortage of space in the costume shop and stage shop
- a lack of permanent storage space in the building (temporary storage containers are used/stored in the parking lot)
- inadequate, undersized dressing rooms and administrative office spaces
- need for expanded, separate rehearsal and classroom spaces
- lack of a formal lobby area for patrons
- difficulties with loading and unloading sets and building materials due to the non-conventional design and height of the existing loading dock, and
- difficulties with safe and efficient set management due to the lack of a fly system.

The addition of a “fly” system with a fly loft is considered the single-most important element that underscores the need for a new theatre building. A “fly” system is a theatrical rigging system of ropes, pulleys and weights that enables stage crews to quickly, quietly and safely raise and lower set pieces (e.g., curtains, scenery, lights, stage effects, and performers) between the audience’s view of the stage and the large, open vertical space directly above the stage known as the fly loft. In addition to creating space to store set pieces, the fly loft typically contains the equipment for crew members to operate the fly system, including rigging equipment, one to two catwalks, and light ladders. With modern theatrical sets typically designed for stages with fly systems, the fly loft is regarded to be a necessary architectural feature of a contemporary theatre building that allows for greater flexibility in the use of backdrops, curtains and lighting effects, more graceful entrances and exits, and safer, more efficient scenery changes. Because the existing DHT facility does not have a fly loft space to hang scenery and other set pieces, the sets are designed sideways and are rolled on- and off-stage, requiring considerable effort to house the moving pieces off-stage in the wings of the theatre and creating restrictions on how productions are staged.



Source: www.moonlightstage.com/venues/moonlight.cfm



Source: *Theatrical Rigging System Design Guidelines*.
JR Clancy, 2010



Source: bose.infopop.cc/eve/forums/a/tpc/f/3976055944/m/7581047745

Figure 4. Examples of Fly Systems and Fly Loft Spaces

1.3 DESCRIPTION OF THE PROPOSED PROJECT

1.3.1 Project Location and Land Ownership

DHT is located on the southern side of O‘ahu along the northern edge of Diamond Head Crater. It sits at the intersection of Makapu‘u Avenue and Alohea Avenue in the shadows of Diamond Head Crater, within the Waikīkī ahupua‘a, in the traditional *moku* or district of Kona (see Figure 1 for general location). The City-owned roadways of Pōkole Street, Alohea Avenue and Makapu‘u Avenue form the western, southern and eastern boundaries of the property, and an asphalt parking lot used by the neighboring Lē‘ahi Hospital sits along the northern boundary. The 2.7-acre property occupies the boundaries of TMK parcel 3-2-030: 001 (see Figure 2 for TMK parcel map). It is a trapezoid-shaped parcel owned by the State of Hawai‘i under lease to DHT.

The property was acquired by the United States in 1923 as part of the U.S. Army’s Fort Ruger Military Installation, with the theatre constructed in 1933 as the army post’s movie house to provide for soldiers’ entertainment. The theatre was used to show movies until 1952, when the Army no longer had a need for the movie house and gave HCT (the predecessor to DHT) exclusive rights to use the theatre. The Federal Government conveyed the property to the State of Hawai‘i as Federal surplus in 1964 (Land Office Deed S-21125, dated May 19, 1964). Two years later, in 1966, HCT received authorization from the State of Hawai‘i Board of Land and Natural Resources (BLNR) to purchase a 50-year lease by public auction for the theatre property (General Lease 3997, April 15, 1966 Land Board Meeting). DHT’s current lease agreement from the State of Hawai‘i—General Lease S-5954—was issued in 2008 with a 65-year lease term and termination date of August 17, 2073.

1.3.2 Proposed Project

DHT is proposing to replace the existing 500-seat theatre with construction of a new theatre building. The new theatre would be constructed in the vacant, undeveloped portion of the project site to the north of the existing theatre, thus allowing existing theatre operations to continue while construction is underway. Upon occupancy of the new theatre, the existing theatre building would be demolished and an open lawn would be created in the footprint of the former theatre. The proposed conceptual site plan is presented in Figure 5. Proposed floor plans are presented in Figures 6 and 7. The current plans are preliminary and conceptual in nature, and are subject to change during the design process.

A portion of an existing rock retaining wall along the northwestern boundary of the existing theatre building and parking lot, as well as mature trees and an existing lawn and cactus garden, would be demolished to allow for the new building footprint. The parking lot would continue in its current location within the southwestern corner of the site, and additional overflow parking at the Kapi‘olani Community College (KCC) campus would continue to be available for theatre functions. The front entrance and main lobby of the new theatre would be oriented towards Alohea Avenue, allowing patrons to enjoy Diamond Head views. Additional secondary entrances to the theatre would be located along Makapu‘u Avenue and at the rear of the building facing the parking lot. Two designated passenger drop-off areas—one within the main parking lot near the front entrance to the theatre and a second along Makapu‘u Avenue—would accommodate theatre patrons being dropped-off/picked-up at curbside. A complementary marquee would be oriented towards Makapu‘u Avenue.

The new theatre is targeted to have the same number of seats as the existing 500-seat theatre to maintain the intimate, community-ambience currently experienced during performances. The new theatre would consist of two main levels, including a higher volume fly loft centered above the stage.

With a total floor area of roughly 24,440 square feet (SF), the new theatre would provide approximately 34% more floor area than the existing theatre (adding about 6,210 SF to the current theatre floor area of 18,230 SF). The additional floor area is to accommodate existing DHT programs that have been operating in substandard, crowded facilities. No new functional spaces or uses are planned, and no changes in overall land use or intensity of use are anticipated.

Table 1 presents the total floor area and the floor area associated with each building element. While the proposed uses are not expected to change, the allotted floor areas and the individual components of the site plan may be adjusted as the project moves through the design phase.

TABLE 1: PROPOSED BUILDING ELEMENTS AND FLOOR AREAS¹

PROPOSED BUILDING ELEMENT	Floor Area (SF)
Main Floor	
Two-tiered, 500-seat audience chamber (upper tier accessible from second floor)	4,693
Stage/Performance area	3,315
Box office/concession	300
Public restrooms	701
Scene shop	3,200
Costume shop	1,950
Dressing rooms	980
Showers	270
House manager	120
Second (Upper) Floor	
Rehearsal room	1,444
Education room	1,201
Green room	340
Business Office	1,433
Technical production systems (lighting, video, audio controls)	655
Crew/staff restroom	56
Production office	240
Storage	199
Electrical room	261
Circulation	
Stairs, hallways, upper lobby	3,080
TOTAL SF (subject to change)	24,438
PROPOSED NUMBER OF PARKING STALLS	
	100²

1. Subject to change

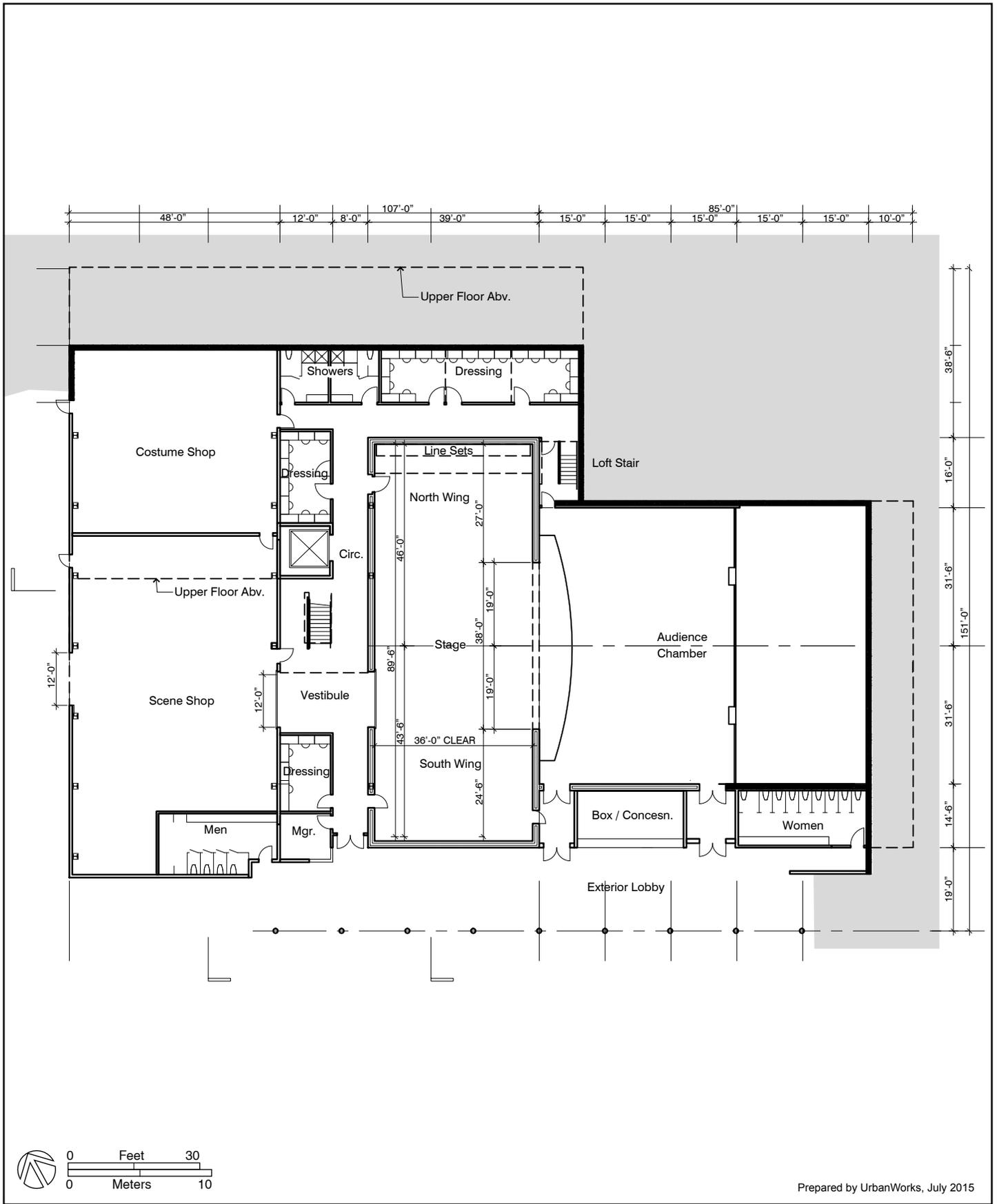
2. Per LUO Table 21-6.1 (Section 21-6.30, ROH), the off-street parking requirement for a theatre is 1 parking stall per 75 SF of assembly area or 1 parking stall per 5 fixed seats, whichever is greater. The requirement for 100 parking stalls is the greater of the two formulas: (500 proposed seats/5 fixed seats = 100 parking stalls vs. 4,693 SF of assembly area /75 SF = 62.6 parking stalls).

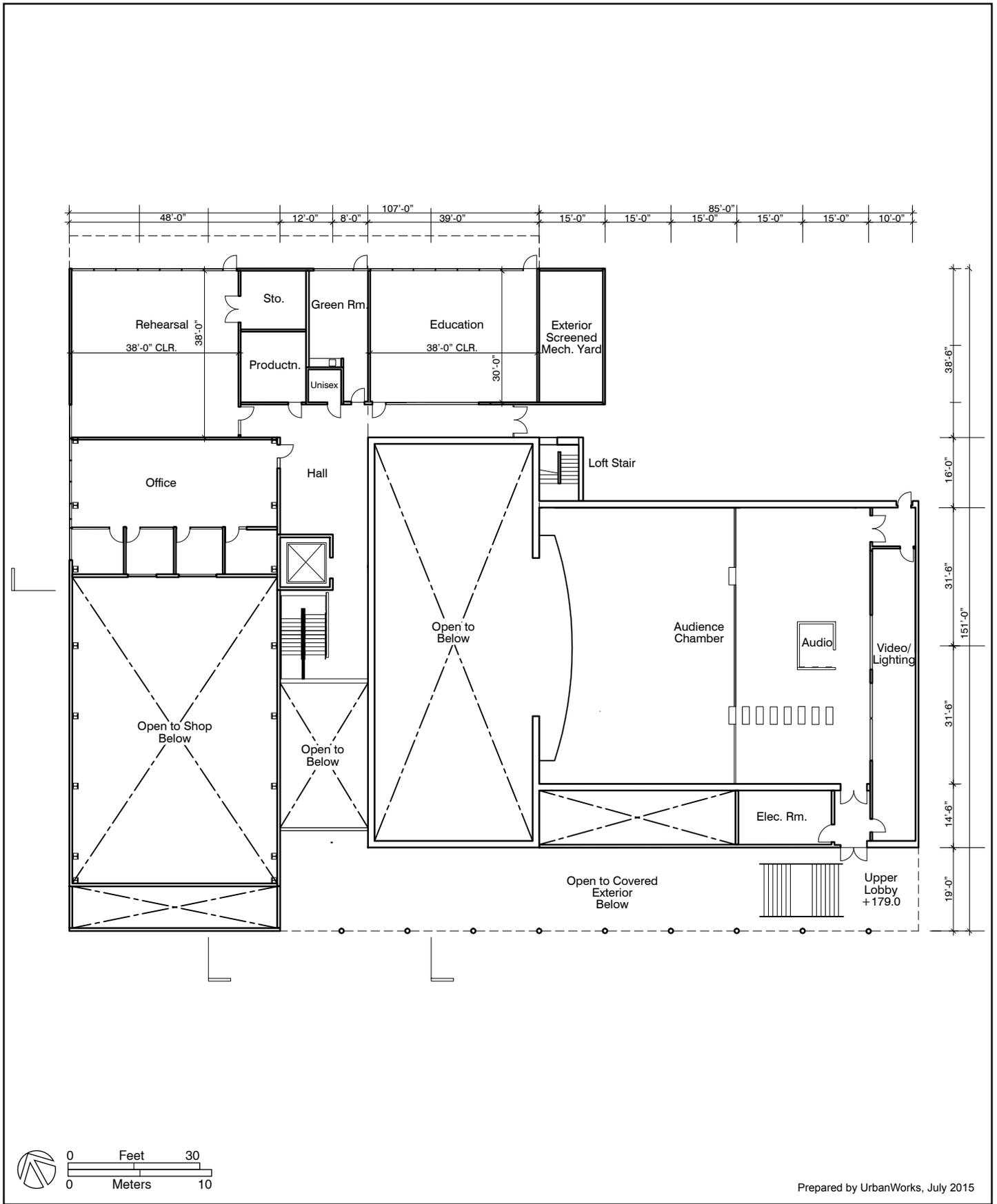
Per Section 21-6.100, ROH, the off-street loading requirement for places of public assembly is 2 loading spaces for buildings with 10,000-50,000 SF of floor area.



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Figure 5
Proposed Conceptual Site Plan





Proposed building elements include a stage/performance area with side wings, rehearsal room, additional classroom to accommodate existing educational programs, modernized scene and costume shops, and ancillary production spaces. The new rehearsal room would be as large as the stage to simulate accurate staging/cues, while the new classroom studio would allow for classes and rehearsals to be scheduled concurrently. Specialized sound and lighting operating systems, additional dressing rooms, and larger storage and office spaces would enhance theatrical productions. Larger restrooms with handicapped-accessible units and a first-ever covered exterior lobby would enhance the audience experience.

The most prominent feature of the new theatre is the fly loft, which would be the tallest part of the building. The fly loft would provide roughly 60 feet of vertical capacity above the stage to retract and store set pieces during productions (see Section 1.2). The 60-foot height requirement for the fly loft is based on technical theatrical design ratios/standards that take into account the size of the stage and the height needed to safely and smoothly operate the fly system.¹ With siting that orients the building within the property's natural slope and site excavation work that pushes the stage 10 feet below the uphill grade, the height of the fly loft would extend—at its tallest point—roughly 30 feet above the allowable 30-foot building height envelope. Approval of a zoning height variance will be required.

Siting and design of the proposed improvements would complement the surrounding neighborhood, and comply with the City's Diamond Head Special District Design Controls. The proposed theatre would integrate existing patterns and textures of the surrounding area, using building materials and earth tones to match the slopes of Diamond Head in the summer. Roofing materials would also be earth-toned, although some roofing areas may be covered in reflective materials or photovoltaic panels consistent with energy and sustainable building design practices. To commemorate the history and tradition of DHT's association with the existing theatre, building materials and interior elements from the existing theatre would be salvaged and integrated into the new theatre, to the extent feasible.

Landscaping elements would be designed to create a park-like setting that offers an inviting outdoor space for the community. Large canopy trees (such as monkeypods) would be planted along the edges of the property, and smaller canopy trees (such as Queen's Hospital white shower trees) would be added in the existing parking lot to complement the trees at the adjacent KCC campus. A hedge along the perimeter of the parking lot would screen parked cars. Coconut palms, which provide vertical landscape elements to soften the massing of the fly loft, would decorate the front and rear of the new theatre and the Makapu'u Avenue frontage. A mix of native plants such as kukui, hala, kou, na'u, and ti planted on the north side of the property would complement the on-going native plant restoration projects along Diamond Head Road.

Following demolition of the existing theatre, the footprint of the former theatre building would be transformed into a large, open lawn of approximately one-half acre (roughly 22,500 SF). This landscaped space in front of the theatre's main entrance would be an outdoor lobby for patrons attending performances, and also to stage special events and receptions. The existing walkways would remain, and would eventually become part of an interpretive pathway designed to relate the site's historic significance.

¹ The tower height of the fly loft is typically between 2-3 times the height of the proscenium arch (defined as the archway surrounding the stage opening). The vertical height allows a full-size curtain or large set piece to be located completely out of sight of the audience and out of the way of other stage effects. For example, a theatre with a 20 foot tall proscenium arch would ideally have a 40-60 foot high fly loft.

Potable water, wastewater and electrical service to the project site are currently provided by the Board of Water Supply, the City and County of Honolulu and Hawaiian Electric (HECO), respectively. Existing utility connections and services would be maintained; no additional upgrades or improvements to existing utility connections are currently anticipated. Drainage improvements that reduce storm water runoff to pre-development conditions and provide for either biofiltration or retain the runoff on-site would be constructed. To meet the City's drainage standards for runoff and water quality, low-impact development measures and best management practices (BMPs) would be employed, including grading to slope immediate grades away from the theatre building; the construction of vegetated swales and bioretention basins to collect and treat stormwater runoff; and downspout disconnections systems to redirect roof runoff to a vegetated area in a dispersed manner.

1.3.3 Description of Activities

The proposed redevelopment project is intended to accommodate DHT's existing program, and no changes in the types of uses, the intensity of use, or existing activity levels would be expected. All proposed uses would be consistent with existing uses occurring on the site, and no new uses would be introduced. DHT anticipates that current programming and staffing levels, as well as the frequency of activities and the number of participants, would remain relatively unchanged.

DHT currently produces six different shows each season running from September to August of the following year. Each show is allotted between six to eight weeks in the theatre, based on a standard calendar cycle of 13 performances (both evening and matinee events) over the course of a four-week run.² Shows are frequently extended (i.e., additional performances are added) to accommodate audience demand, with typical extensions increasing the total number of performances to 15-17 performances per show. Evening performances run Thursdays, Fridays, and Saturdays at 8:00 pm, and matinees run Saturdays at 3:00 pm (for the second and third weekends only) and Sundays at 4:00 pm. The box office opens one hour before curtain time; the theatre doors open and patrons are allowed into the theatre 30 minutes before curtain time.

Although the shows and the activities/events related to staging the shows (i.e., auditions, rehearsals, opening night receptions and gala events) are given the highest priority, DHT maintains a schedule of educational programs and offers the theatre for community use/rental as a means to supplement the production calendar. The educational program includes a year-round schedule of dance, voice and acting classes for adult and child performers, and a youth performing troupe known as the Shooting Stars. The current class schedule consists of roughly 25 classes offered at various times, although 80% (or 21) of the classes are held during afternoons, evenings and weekends.

Facility, equipment and costume rentals are a valuable revenue stream that generates additional funds for DHT. These rentals are typically short-term, temporary engagements that are generally encouraged, as long as they do not conflict with or disrupt productions. One such organization that has an on-going agreement to use DHT's facility on a regular basis is C4 Christ Centered Community Church (C4)³. In service to its 1,500-member congregation, C4 uses the DHT facility as an auditorium to host regular Sunday worship services (two services at 9:00 am and 11:00 am), and occasional special functions. This arrangement is beneficial for both C4 and DHT, since the theatre does not operate on Sunday mornings.

² DHT staff has indicated that the utilization rate of the stage and theatre is currently at capacity. Even if desired, additional shows could not be added because production crews still need time to construct sets.

³ New Hope Diamond Head Church was established in 2004, and started utilizing the DHT facility in 2005. In 2014, New Hope Diamond Head Church changed its name to C4 Christ Centered Community Church.

1.3.4 Estimated Construction Phasing and Project Costs

The cost of the proposed redevelopment project is estimated at \$22 million. DHT is initiating a major capital fundraising campaign to fund the theatre construction, with a goal of groundbreaking in roughly three years (December 2018). Proposed improvements would be initiated once the environmental review process and applicable permit application processes are approved. With the EA and required permit approvals anticipated to take 18 months to complete, construction activity could start as early as April 2017, depending on the success of the fundraising campaign and the availability of funding. Once groundbreaking is initiated, construction is projected to take one year to complete. All construction would be completed in accordance with the requirements and conditions established by the City and County of Honolulu.

1.3.5 Listing of Permits and Approvals

Table 2 provides a summary of the required permits and approvals anticipated for the proposed project.

TABLE 2: REQUIRED PERMITS AND APPROVALS

Approval Required	Authority
Chapter 343, HRS Environmental Review and Determination	City and County of Honolulu Department of Planning and Permitting
Zoning Height Variance	City and County of Honolulu Department of Planning and Permitting
Diamond Head Special District Permit	City and County of Honolulu Department of Planning and Permitting
Minor Modification to Existing Use Permit No. 83/CUP-11	City and County of Honolulu Department of Planning and Permitting
Construction Permits (Building, Electrical, Plumbing, Sewer Connection, Grading and Sign Permits)	City and County of Honolulu Department of Planning and Permitting
National Pollutant Discharge Elimination System (NPDES) Individual Permit – Construction Activities	State of Hawai'i Department of Health
Construction Noise Permit	State of Hawai'i Department of Health

1.4 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

An in-depth building assessment was conducted in 2008-2009 to substantiate the physical condition of the existing theatre building and consider options for renovation and repair. Based on the findings of the building assessment, construction of a new theatre was deemed to be a more financially prudent, cost-effective solution than renovation and repair due to the age of the existing theatre, the extent and cost of the necessary facility improvements and utility upgrades, and the site constraints associated with the existing structure. Three alternatives, including the Renovation with New Construction Alternative

and the Demolition with New Construction Alternative described below, were considered during preliminary planning discussions that led to the selection of the Preferred Alternative (i.e., the proposed project). The No Action Alternative discussed below provides a baseline for assessing potential impacts resulting from the proposed project.

1.4.1 No Action Alternative

The No Action Alternative would preserve the status quo and maintain current conditions associated with the existing theatre. Under this scenario, DHT would remain in the existing theatre, and no facility improvements or upgrades would be provided. Programs would continue to operate in cramped, substandard facilities; operations would continue to be challenged by the lack of space; productions would be designed and staged without the benefit of a fly system and fly loft; and the need for modern amenities—such as a formal lobby, concession area, new restrooms and new theatre seats—to better serve theatre patrons would remain. In general, the No Action Alternative would hinder the productivity and efficiency of existing operations, ultimately jeopardizing the long-term viability of DHT. The No Action Alternative was considered unacceptable for these reasons.

1.4.2 Renovation with New Construction

This alternative would reuse the theatre’s steel-framed annex that was added in 1983, and build a smaller new facility on the mauka (northeastern) side of the annex. The new facility would be designed to accommodate all of the performance-related functions, while the existing two-story annex, which currently houses the scene shop, costume shop, green room, and rehearsal/classroom hall, would be renovated for DHT’s educational and administrative functions. Upon occupation of the new theatre, the existing theatre would be demolished and replaced with a new driveway from Makapu’u Avenue and a new parking circle at the front entrance.

This alternative met DHT’s primary objective of being able to remain in operation during construction of the new theatre. It was eliminated from consideration because under this alternative, the footprint of the new theatre would extend too far into the parking lot and the remaining stalls would be inadequate to meet the City’s parking requirement.

1.4.3 Demolition with New Construction in the Same Location

This alternative would involve demolition of the entire theatre building, followed by construction of a new facility in the footprint of the former theatre. The new facility would be designed to optimize productivity and efficiency between the functional uses, and constructing the new theatre in the footprint of the former theatre would concentrate the development footprint within the previously-developed area of the site, allowing the open, undeveloped area to the north of the existing theatre to remain in its undeveloped state.

This alternative was eliminated from consideration because it did not meet DHT’s primary objective of being able to remain in operation during construction of the new theatre. Given that there is no other facility in the area that could temporarily house DHT during the construction phase, DHT would be forced to shut down productions and stop offering classes for one or two seasons, while construction is taking place. For a small, community-based, non-profit organization like DHT that serves the community, the financial stability of the organization would be seriously impaired without the ability to generate income. Furthermore, the lapse in scheduling performances and educational opportunities would hamper DHT’s ability to meet its mission of serving the community.

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2. AFFECTED ENVIRONMENT

2.1 EXISTING AND SURROUNDING LAND USES

The DHT facility has provided entertainment to military personnel (in the form of movies) and the general public (in the form of stage productions) in this location since 1933. Since the building was first constructed in 1933, the neighborhood surrounding the theatre has changed drastically. Historically occupied by the U.S. Army as part of the Fort Ruger Military Installation, the neighborhood is today characterized by public institutional and residential uses. The upper limits of Kapahulu's residential district sits to the south and west of the project site, KCC to the east, and Lē'ahi Hospital to the north. Other uses in the vicinity of the DHT property include the Hawai'i Film Studio, Diamond Head Memorial Park, Diamond Head Bark Park, American Red Cross Headquarters, Hawai'i National Guard facilities and the future site of KCC's Culinary School. These uses are identified in Figure 8.

Figure 9 presents site photos of the existing theatre and project site. The existing theatre building sits within the southeastern corner of the project site near the Makapu'u Avenue and Alohea Avenue intersection, and an asphalt parking lot with roughly 100 parking spaces occupies the southwestern portion of the project site, leaving the northern half of the project site as a rocky, undeveloped hillside that slopes towards Pōkole Street. A low, lava-rock wall that defines the developed area of the site runs along most of the property boundary and the northern edge of the parking lot. The theatre building is oriented in an east-west direction, with the marquee and main entrance (i.e., box office and lobby) facing Makapu'u Avenue. An outdoor seating area and adjacent manicured lawn that functions as an extended lobby/reception area stretches along the southern wall of the theatre. A second manicured lawn extends outward from the northern wall of the theatre towards the parking lot and adjoining cactus garden. Two driveways provide vehicular access to the site: one on Alohea Avenue near the back of the theatre building and a second, smaller driveway on Pōkole Street at the north end of the parking lot.

The existing theatre building accommodates 500 seats and has a current floor area of roughly 18,200 SF. The current building stands roughly 35 feet in height, with a maximum height of 43 feet for the building's mechanical equipment. The original theatre building was constructed in 1933 as an Army movie house to show films, and has since undergone extensive interior and exterior improvements to adapt the venue for live stage performances. Modifications to accommodate the specific elements of live theatre include:

- installation of modern air conditioning, lighting and sound systems
- improvements to plumbing systems and restroom facilities
- removal of the original wood-louver ventilation openings along the front and sides of the building
- construction of a two-story, steel-framed addition at the back of the building to house a scene/stage shop, costume shop and rehearsal/classroom space (completed in 1983)
- alteration of the front façade and extension of the building's canopy to enhance the lobby entrance
- renovations and new walls in the interior lobby
- expansion of an interior mezzanine at the front of the building to provide for additional office and storage space
- interior renovations to accommodate dressing room spaces modern seating, and
- lengthening of the original stage area and addition of an orchestra pit.



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Figure 8
Surrounding Land Uses



1. Front entrance of theatre.



2. Landscaped seating area near corner of Makapu'u Avenue and Alohea Avenue.



4. Rear of theatre building and parking lot, with bus stop on Alohea Avenue shown to the right.



6. Mature kiawe tree near the center of the project site.



3. Lawn and parking lot/container storage on mauka (north-eastern) side of theatre, with cactus garden in the background.



5. Parking lot and theatre building from western corner of project site.



7. Retaining rock wall defines the parking lot and the undeveloped portion of the site.



2.2 GEOGRAPHY, TOPOGRAPHY AND SOILS

The project site is situated on the lower northerly facing slope of Diamond Head. According to the *Soil Survey of the Island of O‘ahu* (U.S. Department of Agriculture, Soil Conservation Service), the site is primarily identified as Moloka‘i silty clay loam (MuB and MuD) with various percent slopes. The soil has slow to medium runoff; the erosion hazard is moderate within the flatter slopes and severe within the steeper slopes. Moloka‘i silty clay loam (MuB), 3 to 7 percent slope, is found on the western 50% portion of the property, where erosion hazard is slight to moderate and runoff is slow to medium. Moloka‘i silty clay loam (MuD), 7 to 15 percent slope, is found on the eastern 50% portion of the property (see Figure 10). In this area, runoff is medium, and the erosion hazard is moderate (USDA, 1972). Workability is slightly difficult due to the slope and abundant rock inclusions, which are particularly evident amidst vegetated areas on the *mauka* portion of the property in the vicinity of the cactus garden, which is where the new theatre building is proposed for construction.

The project site slopes in a westerly direction from about 200 feet above mean sea level at the northeastern corner along Makapu‘u Avenue to about 160 feet at the southwestern corner (nearest to the intersection of Pökole Street and Alohea Avenue). The average slope within the developed area of the site is roughly 4%, and up to 20% on the undeveloped hillside. Developed areas of the site are relatively level to mildly sloped to accommodate pedestrian use and vehicular access.

2.3 CLIMATE AND AIR QUALITY

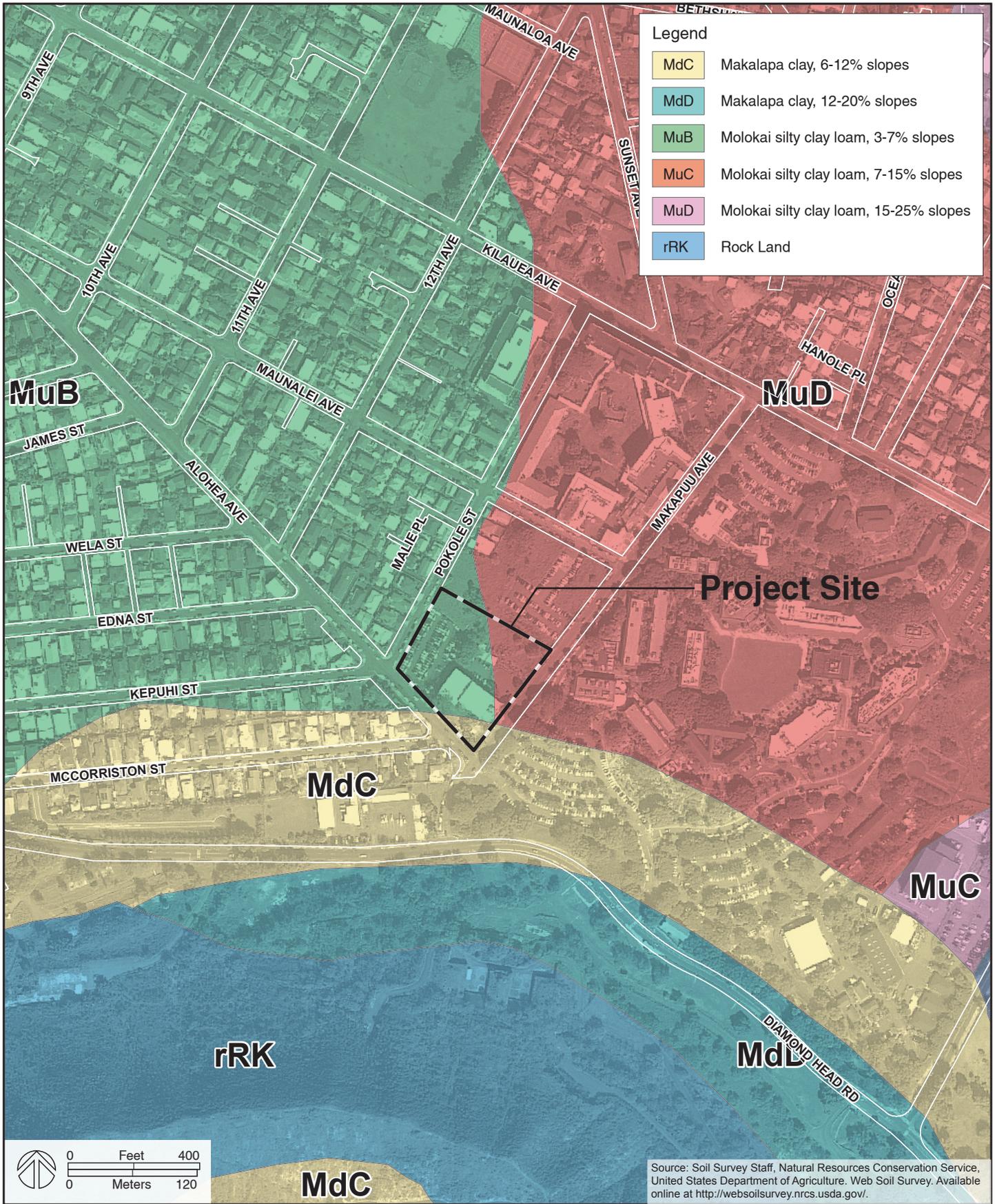
2.3.1 Climate

Located at the northern edge of the tropics, the Hawaiian Islands enjoy a moderate climate with almost continual trade winds. Generally, the islands’ climate has little day-to-day and month-to-month variability. Situated on the southern side of O‘ahu, the Kona District is the dry side of the island. The project site receives approximately 24 inches of rain annually; by comparison, downtown Honolulu receives approximately 21 inches. Temperatures range from the warmest month in August with an average temperature of 78 degrees fahrenheit (°F) to the coldest month of February averaging 72°F. Temperatures above 95°F are rare.

The most prominent feature of the air circulation is the northeast trade wind flow toward the southwest. Trade winds averaging more than 14 miles per hour (mph) dominate the flow of air across wide reaches of the lowlands. Light trade winds permit a diurnal cycle of land and sea breezes. The trade winds prevail 80 to 90% of the time between May and September. From October through April, the trades blow across the entire island chain approximately 50 to 80% of the time. Extremely high winds occur only occasionally and then only as a result of a major storm, which are chiefly events of the winter season and may yield high winds from any direction.

2.3.2 Air Quality

Ambient air quality pertains to the purity of the general outdoor atmosphere, external to buildings, to which the general public has access. Ambient concentrations of air pollution are regulated by both National and State ambient air quality standards (AAQS). National AAQS are specified in Section 40, Part 50 of the Code of Federal Regulations (CFR), while State of Hawai‘i AAQS are defined in Chapter 11-59 of the Hawai‘i Administrative Rules. National and State AAQS have been established for six criteria pollutants: carbon monoxide, nitrogen dioxide, sulfur dioxide, lead, ozone and



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Figure 10
Soil Survey Map

concentrations of airborne particulate matter (less than 10 microns (PM₁₀) and less than 2.5 microns (PM_{2.5})⁴). In addition, the State has also established a standard for hydrogen sulfide.

The two types of national standards are primary and secondary standards. Primary standards define limits to protect public health with an “adequate margin of safety,” including the health of sensitive populations such as asthmatics, children and the elderly. Secondary standards define limits to protect public welfare from “any known or anticipated adverse effects of a pollutant,” which includes protection against decreased visibility, diminished comfort levels, and damage to animals, crops, vegetation and the man-made environment. State AAQS, which are designed “to protect public health and welfare and to prevent the significant deterioration of air quality,” are generally more stringent than national standards.

Each of the regulated air pollutants has the potential to create or exacerbate some form of adverse health effect or to produce environmental degradation when present in sufficiently high concentration for prolonged periods of time. The AAQS specify a maximum allowable concentration for a given air pollutant for one or more averaging times to prevent harmful effects. Averaging times vary from one hour to one year depending on the pollutant and type of exposure necessary to cause adverse effects. In the case of the short-term (i.e., 1- to 24-hour) AAQS, both National and State standards allow a specified number of exceedances each year.

The State DOH collects data on selected gaseous and particulate air pollutants from a statewide network of monitoring stations. There are currently four air quality monitoring stations on O’ahu. The Honolulu monitoring station, located in downtown Honolulu on the roof of the DOH building, is the closest monitoring station to the DHT project site (roughly 4.5 miles to the west). This station is located in a busy urbanized area, and collects and monitors airborne particulates (PM₁₀ and PM_{2.5}), carbon monoxide and sulfur dioxide. In 2013, the Honolulu station recorded criteria pollutant levels that were below state and federal AAQS standards. Excluding exceedances due to the volcano on Hawai’i Island, the State of Hawai’i was in attainment of all NAAQS in 2013 (DOH 2013).

Air pollution is caused by many different man-made and natural sources, including industrial sources such as power plants and refineries; mobile sources such as vehicles, trucks and boats; agricultural sources such as cane burning; and natural sources such as windblown dust and volcanic activity. Present air quality at the project area is mostly affected by air pollutants from vehicular and natural sources.

2.4 NATURAL HAZARDS

2.4.1 Flood Hazard

The Federal Emergency Management Agency classifies flood hazard zones as part of the Flood Insurance Program for the City and County of Honolulu. As shown in Figure 11, the project site is designated as Zone X on the Flood Insurance Rate Map, Map Number 15003C0369H (November 5, 2014). This zone is determined to be outside the 500-year flood plain.

2.4.2 Earthquake Hazard

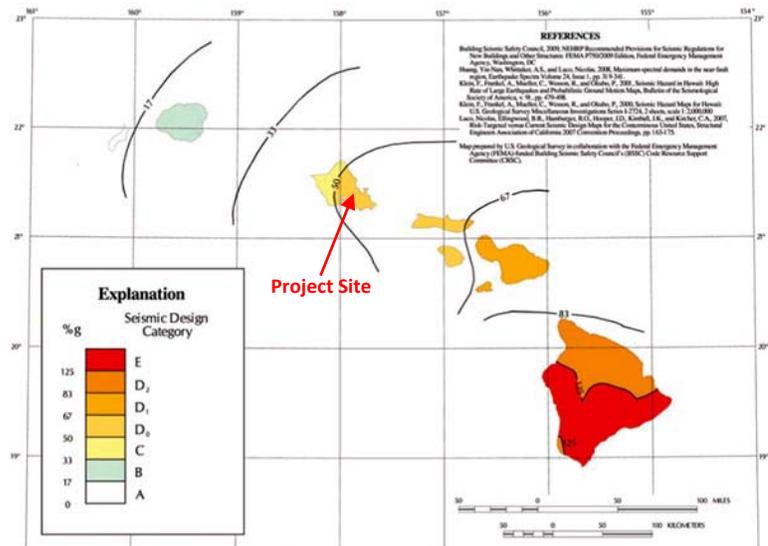
An earthquake is the sudden, rapid shaking of the ground caused by the breaking and shifting of rock beneath the Earth's surface. Such events can cause extensive property damage and endanger lives,

⁴ PM₁₀ are particulates between 2.5 and 10 micrometers in size; PM_{2.5} are smaller than 2.5 micrometers.



with earthquake-related injuries resulting from collapsing buildings and bridges, fire from broken gas and power lines, flooding from ruptured water and drainage systems, landslides and debris falls, and tsunamis (<http://www.fema.gov/earthquake/why-earthquakes-occur>). In Hawai'i, earthquakes are mainly associated with volcanic eruptions resulting from the movement of magma reservoirs beneath the earth's surface. Historically, earthquakes in Hawai'i have been concentrated within the southeastern portion of the state around Hawai'i Island where volcanic activity is highest, with the intensity and occurrence of earthquakes decreasing in the central region of the state and farther northwest across the island change (Insurance Journal 2009).

The U.S. Geological Survey's National Seismic Hazard Maps denote earthquake hazards as the likelihood of experiencing earthquake shaking of various intensities, and specify "seismic design categories" to determine the level of seismic resistance required for building construction. The maps indicate seven seismic design categories (A, B, C, D₀, D₁, D₂ and E), ranging from Category A where the risk of experiencing damaging earthquake effects is very small, to Category E "near major active faults capable of producing the most intense shaking," where the risk of earthquake and the potential effects of shaking are the greatest



Source: <http://www.fema.gov/earthquake/earthquake-hazard-maps>

Figure 12. Seismic Hazard Map for Hawai'i

(<http://www.fema.gov/earthquake/earthquake-hazard-maps>). The entire eastern half of O'ahu (where the project site is located) is designated within Seismic Design Category D₀ (see Figure 12). The earthquake hazard in Category D₀ is medium, where very strong shaking could be experienced and damage is likely.

2.4.3 Hurricane Hazard

Hurricanes are one type of tropical cyclone affecting the State that also include tropical storms and tropical depressions. Hurricanes are tropical storms with winds equal to or greater than 74 miles per hour. They form in areas of enhanced thunderstorms over warm, tropical oceans, and are the most destructive storms on Earth. The destructive fury of hurricanes have affected every island in the state, resulting in major damage and injury resulting from a combination of high winds, abnormally high waves and coastal flooding, heavy rains, and other intense small-scale winds and high waves. Records show that strong wind storms have struck all major islands in the Hawaiian Island chain since the beginning of history. Fortunately, hurricanes are relatively rare events in the Hawaiian Islands. The first officially recognized hurricane in Hawaiian waters was Hurricane Hiki in August 1950. Since 1950, five hurricanes or tropical storms have caused serious damage in Hawai'i. Hurricane Nina (1957) produced record winds in Honolulu; Hurricane Dot (1959) caused damage to Kaua'i; and Hurricane Estelle (1986)

produced very high surf on Hawai'i and Maui and flooding on O'ahu. In November 1982, Kaua'i received the brunt of Hurricane Iwa, which resulted in an estimated \$234 million in damage. Nearly 10 years later, on September 11, 1992, Kaua'i was hit by Hurricane Iniki, which brought sustained winds of 130 mph and caused over \$2.3 billion in property damage. More commonly, near-misses generating large swells and moderately high winds causing varying degrees of damage are the result of hurricanes passing close to the islands. The greatest threat related to hurricanes is due to water-level rise from wave forces rather than wind forces. All coastal areas of the State are equally vulnerable to hurricane impacts, and the only mitigating variables are local in nature (e.g. slope, elevation, geology, offshore barriers). <http://www.soest.hawaii.edu/met/Faculty/businger/poster/hurricane/>

2.5 BIOLOGICAL RESOURCES

The project site is distinguished between: (1) the developed/landscaped portion of the site which contains the existing theatre, asphalt parking lot and associated landscaped areas, and; (2) the undeveloped portion of the site which is predominantly covered by wild grass and trees. An inventory of the trees and plants found within the project site was conducted by HHF Planners on August 19, 2014, and is presented in Appendix A. In general, botanical resources on the site are mostly introduced species. The only native plants found in the existing landscape at the theatre is milo (*Thespesia polulnea*) and kauna'oa or Hawaiian Dodder (*Cuscuta sandwichiana*), which is a stringy parasitic vine, and not of botanical significance.

Vegetation within the developed portion of the site is confined to the edges of the theatre building and the landscaped areas that flank the sides of the theatre. The rear wall of the theatre and the asphalt parking lot are unvegetated and bare. Dominant landscape elements adjacent to the theatre building include manicured lawns at the front entrance and halfway down the sides of the theatre, a tall cluster of mature eucalyptus trees (*Eucalyptus citriodora*) at the southwest/rear corner of the building, and a cluster of large milo trees (*Thespesia polulnea*) at the northeast/front corner of the building. The southeast corner of the project site closest to Makapu'u and Alohea Avenues is a mix of plantings that includes a clutter of brassia trees (*Schefflea actinophilla*) and african tulip trees (*Spathodea campanulata*), with a single milo tree (*Thespesia polulnea*) at the corner of the property boundary. A cactus/succulent garden has been planted adjacent to the manicured lawn on the east side of the theatre. Some smaller trees—including blue latan palms (*Latania loddigesii*), manila palms (*Vietchia merrillii*), coconut palm (*Cocos nucifera*), areca palm (*Dyopsis lutescens*), be-still tree (*Thevetia peruviana*), and plumeria (*Plumeria rubra*)— and other common plant materials (such as bird of paradise, *Strelitzia reginae*; bromeliads, *Vriesia spp.*; bougainvillea; *Bougainvillea sp.*; hibiscus, *Hibiscus sp.*; red ti, *Cordyline fruticosa cv*; and wauke, *Broussonetia papyrifera*, etc.) also grow within the landscaped portion of the site (see Appendix A for detailed inventory). Three royal poinciana trees (*Delonix regia*) grow along the property boundary fronting Alohea Avenue.

The undeveloped portion of the project site is predominately dry and grassy, with some rocky sections and mature, non-native trees intermittently dispersed among the dry, grassy sections. Vegetation in this area includes kiawe brush and trees (*Prosopis pallid*), a single horseradish tree (*Moltinga oleifera*) in the northeast section of the property, and a haole koa tree (*Leucaena leucocephala*) in the northwest corner of the site. A large kiawe tree (*Prosopis pallid*), which has become embedded in the retaining wall, grows near the center of the project site.

Introduced fauna commonly found in urbanized areas of Honolulu are likely to be found on the project site. These include introduced bird species and feral mammal species including dogs (*Canis familiaris familiaris*), cats (*Felis catus*), mongoose (*Herpestes auro punctatus*), rats (*Rattus sp.*), house mice (*Mus*

musculus) and chickens (*Gallus gallus*). No rare, threatened or endangered species are expected to be found, given the urban nature and extent of disturbance within the project site.

2.6 SCENIC AND VISUAL RESOURCES

There are two elements of perspective when considering the visual and scenic resources associated with the proposed project. The first element relates to the relationship of DHT to the overall appearance of Diamond Head Crater. The second element relates to the relationship of the project site to its immediate neighborhood.

Diamond Head Crater. Diamond Head Crater (also known as Lē‘ahi) is arguably the most famous natural landmark in the State of Hawai‘i. It has been memorialized in pictures, postcards, posters and print ads for generations, and has served as a backdrop for millions of visitors in vacation photographs. It can be viewed from the ocean, the shoreline across the southern coastline of O‘ahu, the heights surrounding urban Honolulu and from airplanes en route to and from Honolulu. Diamond Head is an internationally-recognized iconic visual landmark for all O‘ahu residents and visitors. It is forever instilled as part of the local geography, as directions are given by telling someone to go in a “Diamond Head” direction.

In the early 1970’s, development of mid-rise apartment buildings now known as the “Gold Coast” began spreading eastward from the Natatorium toward Diamond Head, threatening the integrity of its visual profile. As a result, a Historic, Cultural and Scenic District (the “City and County of Honolulu’s Diamond Head Special District”) was adopted to protect prominent public views of Diamond Head and preserve the park-like character of its immediate slopes. The project site is within the Diamond Head Special District, outside the District’s core area boundary. A description of the land use and zoning requirements for the proposed project related to the Diamond Head Special District are discussed in Section 4.2.4.

The Diamond Head Special District Standards (Section 21-9.40-2 of the City’s Land Use Ordinance (LUO)) identify prominent public vantage points from which significant public views of Diamond Head exist. DHT is not presently visible from any of the public streets or public viewing sites listed:

Public Streets

- (1) Ala Wai Boulevard from McCully Street to Kapahulu Avenue
- (2) Pakī Avenue from Kapahulu Avenue to Diamond Head Road
- (3) Diamond Head Road
- (4) Date Street from the Mānoa-Pālolo Drainage Canal to Kapahulu Avenue
- (5) Campbell Avenue from Kapahulu Avenue to Monsarrat Avenue
- (6) Kalākaua Avenue from Kapahulu Avenue to Coconut Avenue
- (7) Kapahulu Avenue in the vicinity of the intersection of Date Street and Campbell Avenue
- (8) Monsarrat Avenue
- (9) 12th Avenue from Maunaloa Avenue to Alohea Avenue
- (10) 18th Avenue from Kīlauea Avenue to Diamond Head Road
- (11) Kīlauea Avenue from ‘Elepaio Street to 12th Avenue

Public Viewing Sites

- (1) Ala Moana Beach, including Magic Island
- (2) The beaches extending from the Ala Wai Yacht Harbor to Sans Souci Beach
- (3) Kapi‘olani Park
- (4) Honolulu Zoo
- (5) Ala Wai Golf Course

- (6) Ala Wai Park
- (7) Kapāolono Field
- (8) Fort Ruger Park (Kahala Triangle Park)
- (9) Ala Wai Elementary School
- (10) Jefferson Elementary School
- (11) Waikīkī Elementary School
- (12) Kīlauea Playground
- (13) Kaimukī Intermediate School
- (14) H-1 Freeway near the Kapahulu Avenue overpass
- (15) Punchbowl lookouts
- (16) Pu‘u ‘Ualaka‘a State Park lookout

Immediate Neighborhood. DHT is situated in an area that was formerly occupied by Fort Ruger, which was established in 1906 as the first military reservation in the Territory of Hawai‘i (see Section 2.7 for a fuller description of Fort Ruger). The immediate neighborhood is currently a mix of institutional uses and single-family residences. Among the institutional uses within 0.75 miles of the theatre are:

- Lē‘ahi Hospital
- Kapi‘olani Community College
- Hawai‘i Film Studio
- Kaimukī Middle School
- Diamond Head Memorial Park
- American Red Cross
- ARC in Hawai‘i (a school for developmentally disabled children)
- Variety School of Hawai‘i
- State of Hawai‘i Civil Defense Division and Hawai‘i Army National Guard

With the exception of Lē‘ahi Hospital which is located less than 0.1 miles to the north of DHT, all of these facilities are located east of the theatre (see Figure 8). Residential development characterized by single-family dwellings on small lots (averaging close to 5,000 square feet in area) is located immediately to the southwest and west of the theatre.

The existing theatre has a building height that ranges between 35 and 43 feet, which is more than 10 feet higher than the allowable 25-foot building height limit for the R-5 Residential Zoning District. The theatre is an important landmark in the neighborhood and is visible on approach from Makapu‘u and Alohea Avenues, from Kepuhi Street and from the residences facing the theatre along Pōkole Street. An inventory of these views is provided in Figure 13 and described in the following section.

The development pattern of the institutional uses has created a sense of open space within the neighborhood, with many large mature trees fronting Diamond Head Road and the KCC frontage along Makapu‘u Avenue across from the project site (see Figure 13, Photos 1, 2, 3 and 8). Similarly, the frontage of DHT’s property along Makapu‘u Avenue provides an attractive view, resulting from the landscaped open space and the grouping of large, mature trees on the southern side of the theatre (see Figure 13, Photo 4). This is in sharp contrast to the view from the north looking at the rear of the theatre property. With the exception of the Makapu‘u Avenue frontage and the landscaped open space at the corner of Alohea Avenue (i.e., the first 180 feet along Alohea Avenue), the majority of the project site—including DHT’s parking lot frontage on Pōkole Street—can best be characterized as lacking a



1. View looking west on Diamond Head Road approaching Makapu'u Avenue. Note mature trees.



2. View looking north on Diamond Head Road across KCC parking lot towards DHT. DHT is in the background behind trees.



3. View looking north on Makapu'u Avenue at Diamond Head Road. Note mature trees. DHT is in the background behind trees.



4. View looking west toward Alohea Avenue across Makapu'u Avenue. DHT is at right mid-ground behind trees.



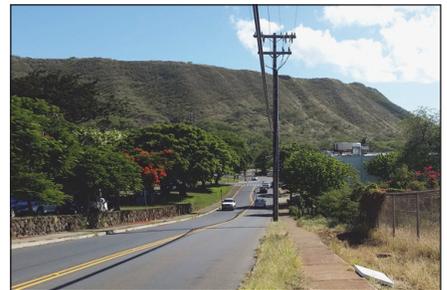
5. View looking east on Pōkole Street across DHT parking lot, with backdrop of Diamond Head. Note absence of trees and landscaping in theatre parking lot.



6. View looking east on Alohea Avenue. View is dominated by single-family dwellings. DHT roof is barely visible at rear-left of photo.



7. View looking east on Alohea Avenue, near intersection with Kepuhi Street. Single-family dwellings to the right; DHT to the left. Note absence of landscaping in theatre parking lot.



8. View looking south on Makapu'u Avenue near the intersection with Maunalei Avenue. DHT is barely visible below the right (northwest slope) of Diamond Head Crater.



pleasant appearance. The rear of the theatre along Pōkole Street appears industrial in character, with this portion of the project site dominated by the approximate 0.5-acre parking lot. With no internal landscaping or peripheral screening, the asphalt parking lot appears monotonous and uninviting (see Figure 13, Photos 5 and 7).

When approaching the theatre on Alohea Avenue and Kepuhi Street from the west and south, respectively, the experience is similar. Views are dominated by single-family dwellings, with the theatre appearing as a long-range view (see Figure 13, Photo 6). Upon getting closer to the project site, the rear of the theatre building becomes apparent along with the bleak character of the theatre parking lot (see Figure 13, Photo 7).

The view from Makapu‘u Avenue looking south towards the project site is dominated by the large mature trees fronting KCC and the bleak, poorly-maintained exterior of Lē‘ahi Hospital and its adjacent parking lot. From this vantage point on Makapu‘u Avenue, traveling in a southerly direction from Kīlauea Avenue near Lē‘ahi Hospital towards DHT, the theatre is not visible until reaching the vicinity of Maunalei Avenue where the topography begins to slope down toward the theatre (see Figure 13, Photo 8). At this point, the theatre appears partially concealed by trees and the roof of the theatre is visible below the northeastern flank of Diamond Head Crater. The building does not interfere with the profile of the crater, and Diamond Head remains the prominent feature of the view shed. Moving farther south on approach towards Alohea Avenue, the roof of the theatre continues to be visible, and the lack of street trees along the western side of Makapu‘u Avenue is readily apparent after passing Maunalei Avenue, particularly in contrast to the generous collection of street trees along the KCC frontage.

2.7 CULTURAL, HISTORICAL AND ARCHAEOLOGICAL RESOURCES

The English name of “Diamond Head” was given by British sailors in the early 1800s, in reference to the calcite crystals that were found on the mountain and mistaken for diamonds. The Hawaiian name for Diamond Head is Lē‘ahi in reference to the brow of the yellow-fin tuna fish.

The traditional use of Lē‘ahi is not well known. The only myth ascribed to the crater is Pele’s brief sojourn through the crater in her attempt to find a new home along the island chain. There are unsubstantiated accounts of human sacrifices into the crater and burials within the crater walls, however no physical evidence of human remains has been encountered there (PBR Hawai‘i 2003). Several major *heiau* (religious temples and shrines) associated with the Native Hawaiians were located some distance from the project site. Papa‘ena‘ena Heiau, located on the western slopes of Lē‘ahi, was used as a *luakini heiau* (sacrificial *heiau*) by Kamehameha I after the Battle of Nu‘uanu, but was leveled following the demise of Hawaiian religious practices. Other *heiau*—Makahuna which was dedicated to the gods Kāne and Kanaloa, and Pahu-a-Maui, were situated along the *makai* side of Diamond Head (PBR Hawai‘i 2000; McAllister 1933). *Ko‘a* (fishing shrines) dedicated to the god Ku‘ula, are known to mark the rich fishing grounds along the southern slope of Lē‘ahi. McAllister recorded two other *heiau* in Kaimukī that had been destroyed including Maumae, a *luakini heiau* situated on Wilhelmina Rise and Kukuionapeha Heiau, located west of Kaimukī Hill. During a study of Kaimukī in the 1970s, Mr. Bob Hanohano of Kaimukī related there was once a *heiau* in the parking lot at Lē‘ahi Hospital, however there has been no confirmation of this (PBR Hawai‘i 2000; Takasaki 1976).

Dr. George Kanahale offered his analysis of the traditional Hawaiian use of Lē‘ahi in the following summary:

“...From a Hawaiian cultural point of view, Diamond Head’s importance is mythological, i.e. rooted in Pele. It was kapu. The most kapu place was the crater or pit (or lua as luakini), where Pele resided. Hence, no Hawaiian would think of living, working, or even visiting there, just as no Hawaiians would think of living, working, or visiting a leina a ka uhana (leaping off place). This explains why no evidence of pre-Cook human habitation has been found in the crater. Besides, what thinking Hawaiian would want to live or work in that inaccessible and harsh environment.

We can safely conclude that the kapu on Diamond Head and the crater was broken years ago, when Papa’ena’ena heiau lost its mana and when people ceased to worship there (unlike Halema’uma’u where Hawaiian practitioners still worship and conduct ceremonies and rituals)...In any case, the crater’s importance, then, would be in its geological and botanical environment. In other words, the Hawaiian cultural importance of Diamond Head is to be found on its flanks rather than the crater.” (PBR Hawai’i 2000: 68)

During the Native Hawaiian period, the DHT property was part of a land division known as Kapahulu, within the Waikīkī ahupua’a in the district of Kona, O’ahu. As a result of the 1848 Māhele, 2,184 acres within Kapahulu—which included the project site—were given to William Lunalilo (ruler of the Hawaiian Kingdom from 1873 to 1874). The project site was incorporated into Daniel Paul Rice Isenberg’s Waialae Ranch during the late 1880s and 1890s when Isenberg acquired much of Lunalilo’s land. The dry lands comprising Wai’alae Ranch, which were characterized by cactus, kiawe and lantana, were used for cattle ranching, growing alfalfa and raising race horses (PBR 2003). In the early 1900s, as one of the first subdivisions in Hawai’i was being planned at Kaimukī, the Magoon Estate acquired a small 3.8-acre parcel along Alohea Avenue, which was subsequently transferred to the U.S. Government in 1923 for use by Fort Ruger. In 1933, approximately 2.5 acres were developed as the Fort Ruger Theatre, while the remaining portion of the 3.8-acre parcel was sold for residential development.

The Fort Ruger Theatre (DHT’s current building) was constructed in 1932-1933 as a movie house to entertain soldiers and their families stationed at the U.S. Army Post. It was centrally located on the post, across from the barracks on Alohea Avenue and in close proximity to the Officers and NCO quarters. The architectural style was based off of typical civilian movie theatres of the period, including simple wooden constructions with a storefront style, minimal detailing, and stepped front and rear parapets (Mason Architects 2010). The theatre also had a small exterior lobby and vents to provide air flow and ventilation, which took advantage of the pleasant climate of Hawai’i (see Figures 14 and 15). Fort Ruger Theatre served as a movie house until 1952 when it was transferred to Honolulu Community Theatre (DHT’s predecessor). DHT has made its home at this theatre since then. Between 1952 and the present, several modifications have been made to the theatre to accommodate live performances, such as constructing a large building addition at the rear of the theatre, covering/removing the original ventilation openings and remodeling the façade with hollow pilasters and altering the front entrance (see Section 2.1).

Fort Ruger is significant in the history of the military in Hawai’i as the first coastal defense fortification established by the U.S. Army in the Islands. Between 1909 and 1921, Fort Ruger served as the headquarters for the Coast Defenses of O’ahu. Of the forts which comprised the Artillery District of Honolulu (i.e., Ruger, DeRussy, Kamehameha and Armstrong), Fort Ruger remains the most intact and is considered the best reflection of this aspect of the military’s presence in Hawai’i. The Fort Ruger Historic District, Site No. 80-14-1350, was placed on the National Historic Register of Historic Places on July 14, 1983 and on the Hawai’i Register of Historic Places on November 19, 1982. The historic district, which is noncontiguous, encompasses approximately 287.5 acres within and adjacent to Diamond Head

Crater, including five batteries, seven fire control stations, two tunnels and a guardhouse constructed between 1909 and 1921.



Figure 14. Fort Ruger Theatre in 1934 soon after completion. The wood detailing and side vents are visible from Makapu'u Avenue. (Source: Hawai'i State Archives, PA 83)



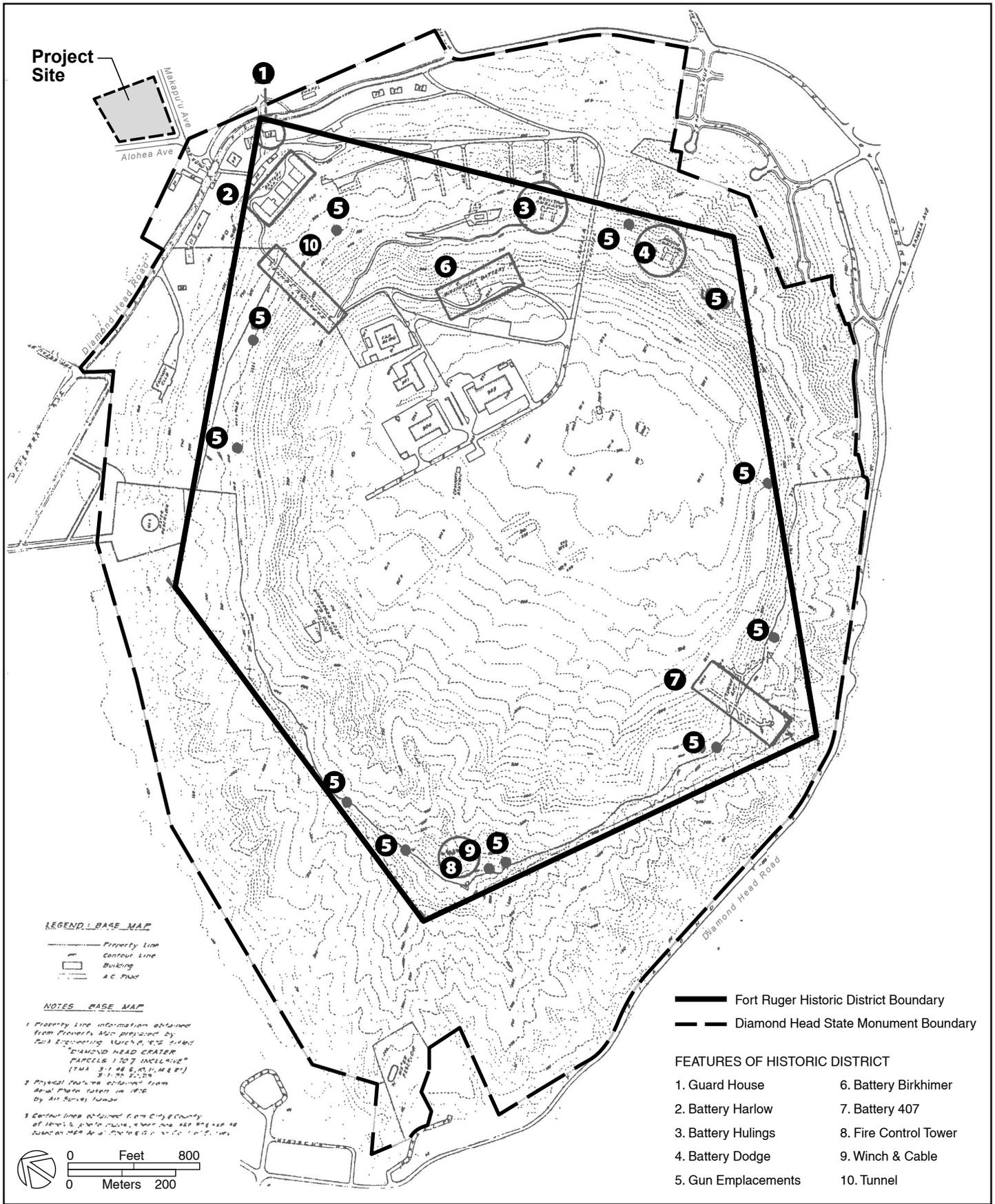
Figure 15. Construction of Fort Ruger Theatre parking lot in 1933-1934. (Source: Hawai'i State Archives, PA 83)

These structures are associated with the role of Hawai'i's first coastal artillery system on O'ahu, and are tangible reminders of the U. S. Army's presence at Diamond Head crater. The boundaries of the Fort Ruger Historic District are shown in Figure 16.

Although the Fort Ruger Theatre was originally part of the army post, the theatre has been excluded from the historic district and is outside the district's boundaries. As indicated in the nomination form: "The structures included in this nomination are those immediately associated with the coastal defense fortification. A number of buildings have been excluded from this nomination, including a late 1930s chapel and theatre, several NCO quarters, a parade grounds and several officers' quarters which are isolated from the defense works in the district..." (Hibbard and Napoka 1980).

Following statehood in 1959, American tourists were drawn to Waikiki and its iconic backdrop of Diamond Head. As tourism spawned a boom of new hotels and apartment towers along Waikiki's shoreline, concerns that future development would spoil the famous landmark led to the designation of the Diamond Head State Monument in 1962 and the designation of the Diamond Head National Natural Landmark in 1968. The Diamond Head State Monument is comprised of 498 acres administered by the State Department of Land and Natural Resources, State Parks Division. The monument includes lands considered "essential to the unimpaired preservation of the visual and historic aspects of Diamond Head" and lands "for recreational purposes and to increase public access and enjoyment of the monument" (HRS Section 6E-32, 2013), and is popularly known for its summit hiking trail, stunning coastal views and military history. The boundaries of the Diamond Head State Monument are presented in Figure 16. As shown, the project site is located just outside the boundary of the Diamond Head State Monument.

With the exception of the Fort Ruger Historic District, there are no known archaeological resources or historic sites in the vicinity of the project site. Since the U.S. Army's establishment of the Fort Ruger Post in the early 1900s and the construction of the Fort Ruger Theatre in the 1930s, much of the project site has been heavily modified. Only the northern portion of the project that is currently overgrown with drought-tolerant vegetation and dry grasses remains undeveloped.



Diamond Head Theatre Redevelopment
Draft Environmental Assessment
Kaimuki, O'ahu, Hawaii

Figure 16
Historic District Boundaries

2.8 NOISE

Noise levels in the vicinity of the project area are relatively low, consistent with the character of the surrounding residential community and the institutional uses of nearby KCC and Lē'ahi Hospital. Vehicular and pedestrian traffic along the surrounding roadways, and traffic and activities associated with the adjacent KCC campus are the main sources of noise in the vicinity of the project site.

The primary source of noise from within the project site results from activities associated with the existing theatre. Noise sources include power tools used for set construction, landscaping maintenance equipment, stationary equipment, people enjoying performances and scheduled events on the theatre property, and vehicular noise from cars, buses and delivery trucks. Vegetation rustling in the wind is considered a minor noise source.

2.9 HAZARDOUS MATERIALS

EnvironMETeo Services Inc. conducted an Environmental Due Diligence Survey of DHT in August of 2007 for asbestos-containing materials, lead paint, PCB-containing ballasts in fluorescent light fixtures and mercury-containing lamps. The inspection consisted of a site walk-through, visual inspection, sample collection and laboratory analyses. A summary of the survey findings is presented below. The complete report is attached as Appendix B.

Asbestos-containing materials primarily associated with vinyl floor tiles and mastic were found in various locations throughout the theatre, including the kitchen, rehearsal room, green room, costume shop, stage area and the mezzanine level. Vinyl floor tiles were removed from the kitchen in 2010.

Lead-based paint (covered painted surfaces containing lead content in excess of 1.0 mg/cm²) was detected on all four exterior walls of the building and within the interior, including the costume shop, the rehearsal room, basement level hallways, stage area, box office, kitchen, mezzanine level and attic space.

Based on a visual inspection of typical PCB-containing ballasts in fluorescent light fixtures, it was determined that “no PCB” labeling was present on the lower level, the stage level or the mezzanine level. Based on visual inspection of typical lamps within fluorescent light fixtures, it was determined that mercury-containing lamps were present at all light fixtures.

2.10 SOCIAL AND ECONOMIC CHARACTERISTICS

O'ahu is the most populous and urbanized island within the state of the Hawai'i. In 2010, O'ahu's resident population was approximately 953,000 persons, representing roughly 70% of the State's total population (State of Hawai'i DBEDT 2014, Table 1.01). There were a total of 311,047 households with 26.9% of all households having children under the age of 18, and the average household size was 2.95 persons per household (State of Hawai'i DBEDT 2014, Table 1.48). In 2014, the median age was 36.7 and the majority of residents (62.6% of the total population) were between the ages of 18 and 64. Roughly 21.7% of the population was under the age of 18, while 15.8% was 65 years and older (State of Hawai'i DBEDT 2014, Tables 1.34 and 1.32). In the long term, the State Department of Business, Economic Development and Tourism (DBEDT) projects O'ahu's total resident population to increase at an annual growth rate ranging from 0.3-0.6% between 2010 and 2040. This equates to an increase from approximately 953,000 persons in 2010 to roughly 1.087 million residents in 2040 (State of Hawai'i DBEDT 2014, Table 1.26).

Hawai'i's creative industries are comprised of a broad range of artistic activities, including the performing and creative arts, applied design, film, interactive media, visual arts, and literary arts and publishing. In 2014, the creative industries in the state of Hawai'i accounted for 49,403 total jobs and 3,525 businesses, representing 5.9% of all civilian jobs in the state. This accounted for a 11.1% job growth rate from 2004 to 2014, compared to the statewide job growth rate of 11.5%. The average annual earnings in the creative industries sector were \$46,662, which is slightly lower than the statewide average annual earnings of \$51,875. Within the state's creative industries sector, the marketing and photography group was the largest industry group in 2014, employing 10,693 individuals. The performing and creative arts group was the second largest industry group (employing 8,879 individuals), and the arts education group was the smallest (704 jobs). Overall, from 2004 to 2014, the marketing and photography group experienced a 0.5% increase in statewide employment, the performing and creative arts group experienced a slight decline (-0.1%), and the arts education group experienced a 3.6% increase (State of Hawai'i DBEDT March 2015).

In its Quarterly Statistical and Economic Report for the 3rd quarter of 2015, the State DBEDT indicated that Hawai'i's economy is expected to continue positive growth for the remainder of 2015 and into 2016. Overall, Hawai'i's economy is projected to show a 1.9% increase in real gross domestic product for 2015, and the unemployment rate is projected to continue to decline (from 4.0% in 2015 to 3.7% in 2016). Visitor arrivals are expected to increase 4.3% in 2015, and visitor expenditures are forecast to grow upward of 3.8%. Beyond 2015, DBEDT expects that the economy will continue to expand into 2017, with continued growth projected for all economic indicators and a steady decline in the unemployment rate (State of Hawai'i DBEDT 3rd Quarter 2015).

According to long-term occupational projections for 2010-2020 prepared by the State of Hawai'i Department of Labor and Industrial Relations (September 2013), employment in the Honolulu Metropolitan Statistical Area is projected to grow by 10.5% between 2010 and 2020, resulting in a net overall gain of 49,970 jobs (from 477,290 jobs, to 527,260 jobs). The construction industry is expected to experience the fastest job growth (31.4%), growing almost three times as fast as the average for all industries combined. Professional and business services occupations are also expected to experience sizable growth (16%), followed by education and health services occupations (13.1%) and trade, transportation and utilities (12.4%). Leisure and hospitality (which includes arts, entertainment and recreation occupations), is expected to also grow (12.3%). Small contractions in government occupations (-0.9%) and information occupations (-3.2%) are projected.

2.11 TRANSPORTATION AND ROADWAYS

A traffic impact assessment report (TIAR) was prepared by Phillip Rowell and Associates in September 2014 to quantify and document the potential traffic-related impacts of the proposed project. The TIAR, which is presented in Appendix C and summarized in this section and Section 3.11, analyzed the unsignalized intersections in the vicinity of the project site and the driveways that provide access to the project site. Study intersections include the following:

1. Diamond Head Road with Makapu'u Avenue
2. Makapu'u Avenue with Alohea Avenue
3. Alohea Avenue with Pökole Street
4. Kīlauea Avenue with Makapu'u Avenue
5. Alohea Avenue with Project Main Driveway
6. Pökole Street with Project Driveway

Level of service analyses of traffic operations at study intersections was based on the operations method described in the *Highway Capacity Manual*. Level-of-service (LOS) is a qualitative measure of traffic conditions based on a number of factors which include space, speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience. There are six LOS values, which relate to the driving conditions from best to worst, respectively. In general, LOS values for unsignalized intersections range from LOS A which represents conditions with little or no delay to LOS F which represents severe congestion with extreme delays. LOS D is typically considered an acceptable level-of-service for any major controlled lane groups, such as left turns from a major street to a minor street. Side street approaches may operate at LOS E or LOS F for short periods of time.

Corresponding to each LOS is a volume/capacity ratio, which is the ratio of either the existing or projected traffic volumes to the capacity of the intersection. Capacity, defined as the maximum number of vehicles that can be accommodated by the roadway during a specified period of time, is dependent upon the roadway's physical characteristics such as the number of lanes, the operational characteristics of the roadway (one-way, two-way, turn prohibitions, bus stops, etc.), the type of traffic using the roadway (trucks, buses, etc.) and turning movements.

Existing Roadway System

Primary vehicular access to the project site is from a driveway on Alohea Avenue and a secondary driveway on Pōkole Street, with the front entrance and lobby of the theatre facing Makapu'u Avenue. Alohea Avenue is a two-lane collector road that connects Makapu'u Avenue to 6th Avenue with a posted speed limit of 25 miles per hour (mph). It is a typical improved residential street lined on both sides by residences and driveways, off-street parking, and sidewalks with curbs, gutters and planting strips. Pōkole Street is a one-way local roadway that runs from Alohea Avenue in a *mauka* (northerly) direction to Kīlauea Avenue. Street parking is allowed on the DHT side of the road, which narrows the roadway to one lane. Makapu'u Avenue is a standard two-way, two-lane major collector road with a posted speed limit of 25 mph, and no additional roadway width to accommodate on-street parking. Diamond Head Road is a two-way, two-lane major collector road that provides access around and into Diamond Head Crater. The intersection of Makapu'u Avenue and Alohea Avenue is the only intersection with a striped crosswalk (located on the north side of the intersection between KCC's parking lot and DHT). All of these roads are under the jurisdiction of the City and County of Honolulu.

There are no designated bicycle facilities on any of the roadways surrounding the project site, nor are there bicycle storage facilities (i.e., racks) available at the theatre. Future bike lanes are proposed for Makapu'u Avenue and Diamond Head Road, and a future bike route is proposed for Alohea Avenue. An accessible multi-use path was recently constructed on the mauka side of Diamond Head Road between Monsarrat Avenue and 22nd Avenue.

Figure 17 presents a schematic drawing of the intersections that were evaluated in the TIAR. The four roadway intersections are as follows:

- **Diamond Head Road with Makapu'u Avenue.** This intersection is an unsignalized T-intersection. The eastbound and westbound approaches of Diamond Head Road are both uncontrolled: the eastbound approach is one lane (an optional left turn or through lane) and the westbound approach is two lanes (one through lane and one right turn lane). Makapu'u Avenue forms the southbound approach of the intersection and is controlled by a STOP sign. This southbound approach consists of two lanes (one left turn lane and one right turn lane).

- **Makapu‘u Avenue with Alohea Avenue.** This is a four-way unsignalized intersection. Makapu‘u Avenue forms the northbound and southbound approaches, Alohea Avenue forms the eastbound approach, and the driveway to KCC’s parking lot forms the westbound approach. All approaches are STOP sign controlled and are one lane each. The southbound approach from Makapu‘u Avenue is stripped as one lane, but is wide enough to operate as two lanes when there is a vehicle turning left into KCC.
- **Alohea Avenue with Pōkole Street.** The intersection of Alohea Avenue and Pōkole Street is a four-way unsignalized intersection. Alohea Avenue forms the eastbound and westbound approaches; both approaches are uncontrolled and one lane each. In the north-south direction, there is only one approach in the northbound direction from Pōkole Street, which is a one-lane, controlled approach. There is no southbound approach because Pōkole Street north of Alohea Avenue is a one-way road that travels north away from the intersection.
- **Kīlauea Avenue with Makapu‘u Avenue.** This is a three-legged unsignalized intersection. The eastbound and westbound approaches of Kīlauea Avenue are uncontrolled approaches with one lane in each direction. The northbound approach of Makapu‘u Avenue is one-lane, STOP sign controlled.

The two existing driveway intersections that provide access to the project site were also evaluated in the TIAR to estimate the amount of traffic generated by the theatre. These include:

- **Alohea Avenue with Project Main Driveway.** The intersection of Alohea Avenue and the theatre’s main driveway is located along the north side of Alohea Avenue approximately 165 feet east of Pōkole Street. The theatre driveway forms the southbound approach of the intersection and is the controlled approach.
- **Pōkole Street with Project Driveway.** The intersection of Pōkole Street and the theatre’s second driveway is located along the east side of Pōkole Street approximately 225 feet north of Alohea Avenue. Pōkole Street is a one-way road in the northbound direction so there is only a northbound approach (i.e., no southbound approach). The theatre driveway forms the westbound approach and is the controlled approach.

Existing Traffic Volumes and Level-of-Service

Traffic counts were taken at the study intersections to determine existing traffic operations during weekday morning and afternoon peak hours and Sunday mornings. Weekday counts were performed on one Tuesday or Thursday from 6:30 am to 8:30 am, and from 3:30 pm to 6:00 pm. Sunday counts were performed from 8:00 am to 12:30 pm. The traffic counts included buses, mopeds, motorcycles, trucks and other large vehicles.

Analysis of the study intersections was conducted for existing conditions based upon the traffic data collected. The results of this analysis are summarized in Table 3. The control delays and LOS for each controlled lane group are shown, along with the 95th percentile queue for the controlled approaches. Delays and LOS were not calculated for uncontrolled, or free flow, movements.

All except for one of the study intersections and lane groups operate at LOS A or B, which implies good operating conditions. At the intersection of Diamond Head Road and Makapu‘u Avenue, the southbound to eastbound left turn operates at LOS C during the morning peak hour, LOS F during the afternoon peak hour and LOS E during the Sunday peak hour. During the afternoon peak hour, the delay

is so long that the southbound left turn movement operates at LOS F and the queue is eight vehicles (the available queue space is sufficient for only 10 vehicles). With this movement, the overall intersection level-of-service falls to LOS C during the afternoon peak.

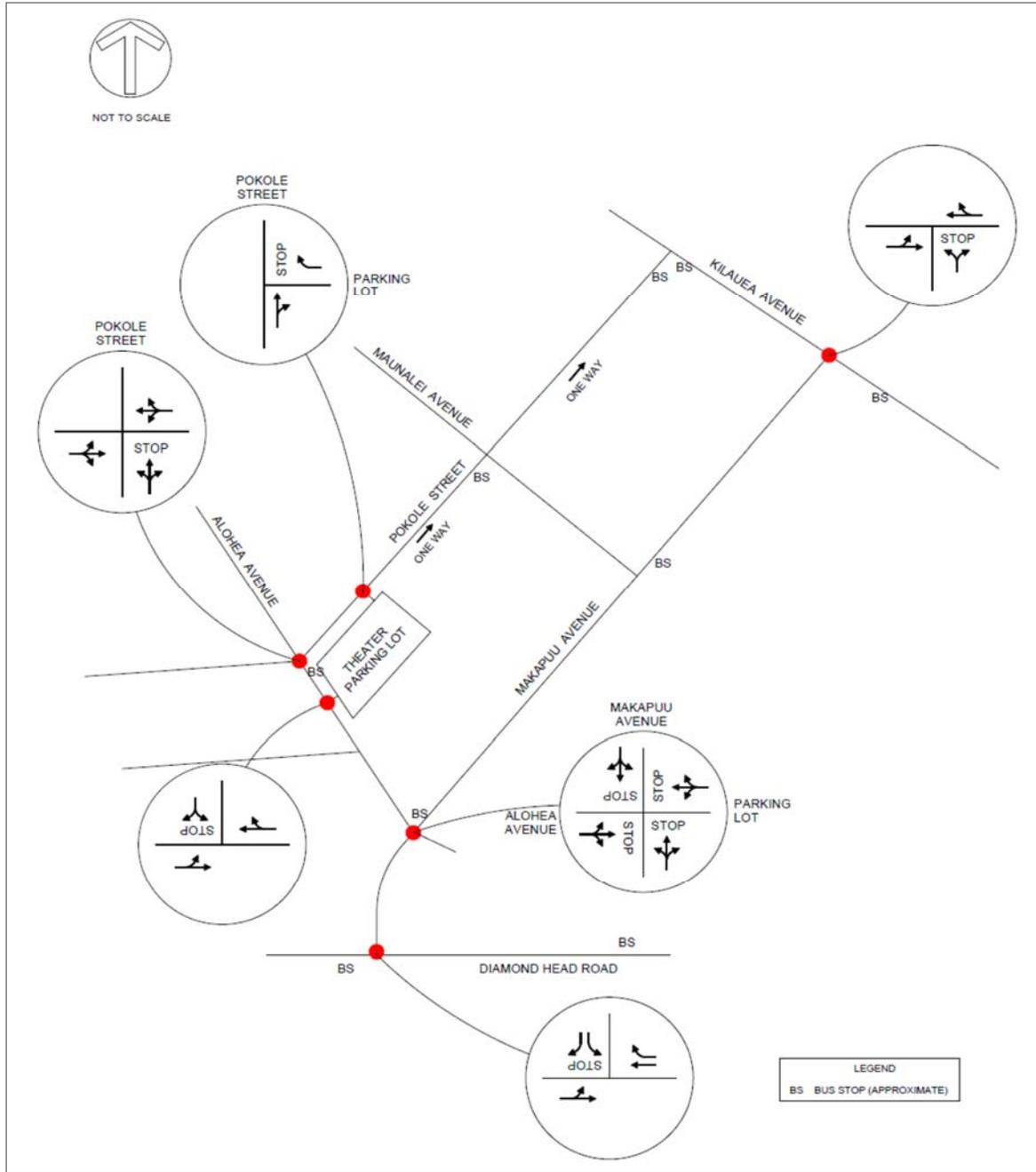


Figure 17. Existing Roadway System and Intersection Configurations

TABLE 3: EXISTING LEVELS-OF-SERVICE ANALYSIS (UNSIGNALIZED INTERSECTIONS)⁽⁴⁾

Intersection and Movement	AM Peak Hour			PM Peak Hour			Sunday Peak Hour		
	Delay ⁽¹⁾	LOS ⁽²⁾	Queue ⁽³⁾ (vehicles)	Delay	LOS	Queue (vehicles)	Delay	LOS	Queue (vehicles)
<i>Diamond Head Rd at Makapu'u Ave</i>	<i>3.6</i>	<i>A</i>	<i>NC</i>	<i>15.8</i>	<i>C</i>	<i>NC</i>	<i>3.8</i>	<i>A</i>	<i>NC</i>
Eastbound Left & Thru	2.1	A	<1	3.6	A	<1	2.0	A	<1
Southbound Left	18.3	C	<1	86.1	F	<8	37.1	E	<2
Southbound Right	11.6	B	<1	12.3	B	<2	11.4	B	<1
<i>Makapu'u Ave at Alohea Ave</i>	<i>10.7</i>	<i>B</i>	<i>NC</i>	<i>9.7</i>	<i>A</i>	<i>NC</i>	<i>8.7</i>	<i>A</i>	<i>NC</i>
Eastbound Left, Thru & Right	11.4	B	NC	9.3	A	NC	9.0	A	NC
Westbound Left, Thru & Right	8.8	A	NC	8.8	A	NC	8.0	A	NC
Northbound Left, Thru & Right	9.8	A	NC	10.4	B	NC	8.6	A	NC
Southbound Left, Thru & Right	10.8	B	NC	9.5	A	NC	8.8	A	NC
<i>Alohea Ave at Pōkole St</i>	<i>1.3</i>	<i>A</i>	<i>NC</i>	<i>1.5</i>	<i>A</i>	<i>NC</i>	<i>1.3</i>	<i>A</i>	<i>NC</i>
Eastbound Left, Thru & Right	0.2	A	<1	0.4	A	<1	0.6	A	<1
Westbound Left, Thru & Right	1.3	A	<1	0.6	A	<1	0.1	A	<1
Northbound Left, Thru & Right	11.7	B	<1	12.4	B	<1	10.6	B	<1
<i>Kīlauea Ave at Makapu'u Ave</i>	<i>4.8</i>	<i>A</i>	<i>NC</i>	<i>8.4</i>	<i>A</i>	<i>NC</i>	<i>5.5</i>	<i>A</i>	<i>NC</i>
Westbound Left & Thru	5.3	A	<1	6.0	A	<1	5.0	A	<1
Northbound Left & Right	14.7	B	<2	18.1	C	<4	12.3	B	<2
<i>Pōkole St at Theatre Prkg Lot</i>	<i>0.5</i>	<i>A</i>	<i>NC</i>	<i>1.1</i>	<i>A</i>	<i>NC</i>	<i>2.0</i>	<i>A</i>	<i>NC</i>
Westbound Right	8.7	A	<1	8.6	A	<1	8.1	A	<1
<i>Alohea Ave at Theatre Prkg Lot</i>	<i>1.5</i>	<i>A</i>	<i>NC</i>	<i>1.3</i>	<i>A</i>	<i>NC</i>	<i>1.6</i>	<i>A</i>	<i>NC</i>
Eastbound Left & Thru	2.2	A	<1	2.1	A	<1	2.0	A	<1
Southbound Left & Right	10.1	B	<1	9.9	A	<1	9.5	A	<1

NOTES:

- (1) Delay in seconds per vehicle.
- (2) LOS denotes Level-of-Service calculated using the operations method described in Highway Capacity Manual. Level-of-Service is based on delay.
- (3) 95th percentile queue in vehicles as reported by Synchro
- (4) Refer to TIAR in Appendix C for Level-of-Service Worksheets.

Public Transit Facilities

Existing municipal bus routes that provide service to this area and the project site include Route 2 Waikiki-School-Middle Streets, Route 3 Kaimuki-Salt Lake, Route 9 Kaimuki-Pearl Harbor, Route 23 Hawai'i Kai-Sea Life Park, Route 24 Kapahulu-Aina Haina. The bus operates along Makapu'u Avenue, Pōkole Street, Diamond Head Road, Alohea Avenue and Kīlauea Avenue. Two bus stops are located adjacent to the project site, including Stop No. 3309 on Makapu'u Avenue near the front entrance of the theatre and Stop No. 3326 on Alohea Street to the north of the project main driveway. Other bus stops in the vicinity of the project site are located: on Pōkole Street at the southeast corner of the intersection with Maunalei Avenue; on the east side of Makapu'u Avenue to the northeast of the Maunalei Avenue intersection; and on Diamond Head Road (see Figure 17 for bus stop locations).

2.12 INFRASTRUCTURE

2.12.1 Drainage

Drainage analysis and recommendations for mitigation (see Section 3.12.1) are based on a Preliminary Engineering Report prepared by Sam O. Hirota Inc (see Appendix D for the full preliminary engineering report).

CRM (concrete rubble masonry) walls bordering the northwest, southwest and southeast sides of the project site prevent runoff from entering the site from these directions. The main source of runoff to the project site comes from the property on the northeastern site (e.g., the Lē'ahi Hospital parking lot).

Runoff calculations are based on the City & County of Honolulu Drainage Standards using the Rational Method for a 10-year, 1-hour storm event. The existing runoff generated from the project site is 5.61 cubic feet per second (cfs). The runoff generated on the site enters the City & County of Honolulu's drainage system via an existing catch basin located along Alohea Avenue near the western corner of the property.

The majority of the runoff (4.72 cfs Drain Area 1) that is generated on the site sheet flows in a southwesterly direction from the northeastern corner along Makapu'u Avenue towards the western corner of the project site (nearest the intersection of Pōkole Street and Alohea Avenue). The runoff exits the project site in this area through an opening in the CRM wall, then enters into the City & County of Honolulu's drainage system via an existing catch basin located along Alohea Avenue. A small amount of runoff generated on the southern side of the theatre building (0.76 cfs, Drain Area 2) exits the project site in a southerly direction towards Alohea Avenue. This runoff follows Alohea Avenue in a westerly direction and enters the City & County of Honolulu's drainage system via an existing catch basin located on Alohea Avenue. The remainder of the runoff generated along the front of the theatre building (0.13 cfs, Drain Area 3) exits the project site towards the east on Makapu'u Avenue. This runoff also enters the City's existing catch basin on Alohea Avenue.

2.12.2 Potable Water

Potable water service is currently provided by the Board of Water Supply through an 8-inch cast iron main on Makapu'u Avenue, which is fed by a 12-inch main running along Diamond Head Road. The existing water meter (Meter Number 01600027) is a 1½-inch Sensus water meter with a 2-inch lateral. Under existing conditions, DHT produces a demand of 65 gallons per minute (gpm), based on a total fixture count of 94.5 fixture units (Hirota 2014, see Appendix D for the preliminary engineering report).

DHT is serviced by Fire Hydrant M-1373 located on Makapu'u Avenue just north of the existing theatre. Theoretical pressure and flow data has been provided by the Board of Water Supply. According to the Board of Water Supply, the existing fire hydrant has residual pressure of 70 pounds per square inch (psi) and a flow of 2,000 gpm (letter dated April 29, 2014). Both of these values are within the required values established in the 2002 State of Hawai'i Water System Standards, such that the existing fire hydrant is adequate to serve the existing theatre.

2.12.3 Wastewater

Wastewater from the existing theatre is directed to the City's wastewater collection system via a 4-inch gravity flow subsurface piping system that connects to an 8-inch sewer main along Alohea Avenue. Wastewater flow values have been calculated using the values and methodology from the Uniform Plumbing Code. Under existing conditions, DHT produces wastewater flow of 2,825 gallons per day (gpd) (Hirota 2014, see Appendix D for the preliminary engineering report).

2.12.4 Electrical Power and Communications

Electrical power to the project site is provided by HECO. The HECO main power lines for this area are routed along Makapu'u and Alohea Avenues. Overhead distribution from electrical utility poles on Makapu'u Avenue is provided to the project site.

Land-line telephone service and cable television for the area is provided by Hawaiian Telcom and Oceanic Time Warner Cable, respectively. Cellular telephone and internet connectivity are available through a variety of providers.

2.13 PUBLIC SERVICES AND FACILITIES

2.13.1 Solid Waste

Solid waste collected on O‘ahu is disposed of at the Waimānalo Gulch Sanitary Landfill and at the James Campbell Industrial Park H-Power energy recovery incinerator, both of which are located in the ‘Ewa District of O‘ahu. Construction and demolition waste may also be disposed of at the privately-owned PVT Landfill in Nānākuli (owned by PVT Land Company, Ltd.). The landfill is a licensed construction and demolition material solid waste landfill. In addition to operating the landfill, PVT Land Company, is also licensed to accept asbestos-containing material and petroleum-contaminated soil.

Solid waste generated by existing DHT operations is currently removed by a private solid waste collector under contract to DHT.

2.13.2 Police Protection

The City and County of Honolulu Police Department (HPD) provides police protection to the project site and surrounding areas. The project site falls within the jurisdiction of the HPD’s District 7, which encompasses the area of East Honolulu from Makapu‘u Point (the easternmost point of O‘ahu) to Punahou Street in Makiki. Although the district substation is located in Hawai‘i Kai about six miles from the project site, the closest police substation is the Waikīkī substation on Kalākaua Avenue. District 6 and District 7 Criminal Investigations Bureau maintains an office on Diamond Head Road near the intersection with 22nd Avenue.

2.13.3 Fire and Emergency Services

The City and County of Honolulu Fire Department (HFD) Battalion 2 provides fire protection services for East Honolulu. The Kaimukī Fire Station Number 5 is located at the intersection of Koko Head Avenue and Pāhoa Avenue, approximately 0.8 miles from the project site. The next closest station is the Waikīkī Fire Station Number 7, located roughly 1.2 miles from the project site. Station 5 is equipped with both an engine and ladder company. Station 7 serves as headquarters for Battalion 2, and is also equipped with an engine and ladder company.

The State of Hawai‘i contracts with the City and County of Honolulu Department of Emergency Services to provide emergency medical services and emergency medical ambulance services on O‘ahu. The ambulance unit closest to the project site is based at the Wailupe Fire Station Number 23. The nearest emergency hospital is the Queen’s Medical Center, located approximately 5.2 miles to the west of the project site.

2.13.4 Parks and Recreation Areas

DHT is located near many recreation areas and facilities, the largest of which is the Diamond Head State Monument. The Diamond Head State Monument consists of roughly 500 acres managed by the State Department of Land and Natural Resources, State Parks Division. The park—located within the interior of the crater—includes a visitors’ center and hiking trails that lead to an observation area at the peak of Diamond Head with panoramic views of the ocean, urban Honolulu and the Wai‘anae Mountain Range. The main entrance to the park/crater interior is located on the southern side of Diamond Head Road, approximately 0.3 miles to the east of Makapu‘u Avenue. As one of the State’s most popular visitor attractions, the Monument has experienced a steady growth in visitors in recent years, with attendance

growing from 627,000 in 2003 (State of Hawai'i DBEDT 2004, Table 7.40) to 920,000 in 2013 (State of Hawai'i DBEDT 2014, Table 7.43). The boundaries of the Diamond Head State Monument are shown in Figure 16. As shown, the project site is located just outside the bounds of the Diamond Head State Monument.

Queen Kapi'olani Park is located roughly one mile to the west of DHT adjacent to Waikiki. It is a 300-acre regional park managed by the City and County of Honolulu, with many active recreational facilities (e.g., tennis courts, an archery range, playing fields for soccer, lacrosse, softball, an amphitheater (the Waikiki Shell), and bicycle/pedestrian paths) and passive facilities for picnicking and outdoor gatherings. Kapi'olani Park is one of the most popular venues in urban Honolulu for outdoor activities and large festivals.

In the immediate vicinity of the project site, Diamond Head Road is a popular route for walkers, joggers and recreational cyclists. Besides a shaded, multi-use pathway and public comfort station fronting KCC, there are wide sidewalks and other recreational amenities along Diamond Head Road, including exercise stations and the Millennium Peace Garden on the crater side, and a dog park at the corner of 18th Avenue. A number of smaller parks also serve the surrounding residential neighborhoods: Kapāolono Community Park is located roughly 0.6 miles northwest of the project site; Kīlauea District Park is approximately 0.7 miles to the northeast; and Fort Ruger Mini Park (or Triangle Park) is approximately 0.9 miles to the southeast. In addition, there are many beach parks in the region, including the beaches below Diamond Head and the famous beaches of Waikiki.

3. ENVIRONMENTAL IMPACTS AND PROPOSED MITIGATION MEASURES

3.1 LAND USE COMPATIBILITY

The proposed project would result in a new and improved theatre facility to support the cultural and recreational interests of the community. Redevelopment of the site would not change the use of the property or drastically alter the general character of the surrounding neighborhood. Proposed improvements would be designed for the facility requirements of existing programs to enhance current operations, such that the intensity of use would remain consistent with current programming. As a result of the proposed redevelopment, the project site—which housed the Fort Ruger Military Installation movie house from 1933 to 1951 before becoming affiliated with the Honolulu Community Theatre (DHT’s predecessor) in 1952—would continue to support DHT and the property’s long-standing function as an entertainment/performing arts venue.

Given DHT’s lengthy association with the site and the neighboring community, representatives of DHT are sensitive to the quality of the surrounding residential neighborhood and are conscientious about maintaining positive relationships with adjacent property owners. Redevelopment of the site would provide improvements to enhance the appearance of the property and improve the overall aesthetic quality of the neighborhood. Landscaping improvements would include treatments along the perimeter of the property to screen the paved parking lot, new trees to shade and beautify the interior of the parking lot, and an open lawn for public enjoyment near the corner of Alohea Avenue and Makapu’u Avenue. More importantly, the undeveloped portion of the project site facing Lē’ahi Hospital which currently evokes the appearance of a vacant, abandoned property would be transformed and beautified by the new theatre.

3.2 GEOGRAPHY, TOPOGRAPHY AND SOILS

The proposed redevelopment would not have a significant impact on the existing topography or soils associated with the project site. Some grading would be necessary for the new theatre, however, the natural topographic features of the site would not be significantly altered. Preliminary structural design estimates earthwork quantities of roughly 4,970 cubic yards (CY) of cut and 540 CY of fill, both of which would consist of exported and imported material, respectively. These earthwork quantities are preliminary estimates, subject to future soils sampling and evaluation of subsurface conditions.

Due to the likelihood of encountering significant boulder or rock benches at a shallow distance below grade on the north side of the project site, the new theatre would be set back away from the northern property boundary. Siting within the central portion of the project site would minimize the need for excessive excavation.

3.3 CLIMATE AND AIR QUALITY

3.3.1 Climate

The proposed redevelopment would improve the micro-climate in the immediate vicinity of the theatre and the surrounding streets. New shade trees and landscaping features that add to the permeable surfaces within the project site would aid in the reduction of surface temperatures in and around the theatre parking lot, which is currently exposed asphalt. Reflective roofing surfaces on a portion of the theatre roof would also aid in reducing surface temperatures.

3.3.2 Air Quality

Existing air quality in the vicinity of the project site is impacted by vehicular emissions, and to a lesser extent fugitive dust. Based on observations from the DOH's Air Quality Monitoring Honolulu Station, recorded criteria pollutant levels were below state and federal standards. Anticipated impacts associated with the project can be broken into two phases: (1) short-term effects associated with construction and demolition activities; and (2) long-term effects associated with the operation of the theatre.

Short-term direct and indirect impacts on air quality could potentially occur due to project demolition and construction activities. Two types of emissions that could directly affect short-term air quality are anticipated: (1) exhaust fumes from on-site construction equipment and trucks; and (2) fugitive dust from vehicle movement, soil excavation and demolition activities. Additional short-term impacts may also result from an increase in vehicular emissions due to: (1) slow-moving construction equipment traveling to and from the project site; (2) a temporary increase in daily traffic from construction workers commuting to and from work; and (3) temporary traffic delays from demolition and construction activities obstructing the normal flow of traffic for short periods of times.

Fugitive dust emissions would likely arise during demolition of the theatre, and from grading activities associated with site clearing and ground preparation work for the new theatre. The rate for fugitive dust emissions from these activities is difficult to estimate accurately because it depends upon soil type, amount and type of activity, moisture content of exposed soil in work areas, and wind speed. However, the EPA has provided a rough estimate for uncontrolled fugitive dust emissions from construction activity of 1.2 tons per acre per month under conditions of "medium" activity. In addition, State regulations (Chapter 11-60, 1-33, HAR) prohibit visible emissions of fugitive dust from construction activities at the property line.

To minimize potential impacts to air quality, contractors would be required to comply with the Air Pollution Control, Fugitive Dust regulations (Chapter 11-60, 1-33, HAR) to minimize dust emissions. The establishment of an effective dust control plan for the project demolition and construction phases would help to control the dust generated from the construction site; such a plan would be incorporated into design plans for implementation by the contractor. Standard construction and erosion control techniques, such as the use of dust control measures, frequent watering of exposed soil, and the use of windscreens, would be used. Other control measures—such as limiting the area disturbed at any given time, applying chemical soil stabilizers, mulching and covering haul trucks when transporting loose materials—would be implemented, as necessary, to keep bare-dirt surfaces from becoming significant sources of dust. Driveway cleaning and/or tire washing may be appropriate to prevent trucks from tracking excessive amounts of dirt onto paved streets. To minimize the amount of vehicular emissions generated by construction-related traffic delays, the contractor would be required to coordinate deliveries and the movement of heavy equipment during off-peak traffic hours.

During the operational phase, air quality conditions associated with the new theatre would be similar to the existing situation. The new theatre would support existing theatre operations, such that future activities and uses would remain relatively unchanged from current levels. Emissions from vehicular sources would continue to be the primary source of pollutants. Given that the new theatre would not introduce any new activities that serve as major sources of air pollutants, no significant long-term impacts to air quality are anticipated.

3.4 NATURAL HAZARDS

3.4.1 Flood Hazard

The project site is designated as Zone X on the Flood Insurance Rate Map (Map Number 15003C0369H, November 5, 2014). This zone is determined to be outside the 500-year flood plain. As such, it is unlikely that the proposed project would result in any significant impacts associated with flooding.

3.4.2 Earthquake Hazard

The eastern half of O'ahu is located within Seismic Design Category D₀, which is characterized as being susceptible to earthquakes that may cause considerable damage to ordinary substantial structures. Nevertheless, earthquakes cannot be avoided or predicted with any degree of certainty, and an earthquake of sufficient magnitude (greater than 5.0 on the Richter Scale) may cause structural or other damage to the project improvements.

In general, the vulnerability to earthquake damage for the new theatre would be no different from other structures or buildings present on O'ahu. However, building improvements would be structurally designed and constructed in accordance with applicable building codes to minimize potential damage from an earthquake. Built to current design standards with modern materials, the new theatre would likely be structurally stronger than the existing theatre and would be capable of withstanding a higher degree of earth movement than the existing theatre, such that the potential for property damage and earthquake-related injuries would be less with the new theatre.

3.4.3 Hurricane Hazard

A hurricane of significant strength with intense winds and rains passing directly over or close to Honolulu could cause damage to proposed improvements and other existing uses in the surrounding area. To minimize potential damage from high winds and flooding, the new theatre and associated site improvements would be designed and constructed in conformance with applicable building codes.

3.5 BIOLOGICAL RESOURCES

The proposed redevelopment would not significantly impact biological resources. There are no known rare, threatened, or endangered species or significant natural habitats known to exist within the project site. Existing vegetation is composed almost exclusively of introduced plants, most of which are common, cultivated plants or noxious invasive species. Fauna likely to frequent the project site consists of introduced species typically found in other urbanized area.

Most of the existing trees and vegetation presently found on the project site would be displaced by the redevelopment project, with the exception of two milo trees (*Thespesia populnea*) which would remain in place (including one milo at the southeastern corner of the property (i.e., at the corner of Alohea and Makapu'u Avenues) and a second along the western (i.e., Makapu'u Avenue) boundary. A cluster of three blue latan palms (*Latania loddigesii*) growing adjacent to the southern wall of the existing theatre would be relocated. None of the displaced materials are rare, threatened or endangered species, nor known to have historic significance (i.e., associated with historical figures or events).

Proposed landscaping treatments would be consistent with the Diamond Head Special District and the City's LUO. In general, the proposed redevelopment would replace dry, scrubby vegetation and

introduced species with a mixture of native Hawaiian and Polynesian-introduced plants tolerant of the site conditions. Large canopy trees (i.e., monkeypod trees) are proposed at the perimeter of the site, as recommended in the Diamond Head Special District Design Guidelines. Coconut palms would also be intermixed with the canopy trees, as is prevalent in the makai areas of the neighborhood. Other treatments would include new shade trees planted within parking medians, new native plant elements along the north side of the new theatre, and a large, open lawn and landscaped garden at the front entrance of the theatre.

3.6 SCENIC AND VISUAL RESOURCES

The existing DHT building is a well-recognized structural landmark in the Diamond Head/Fort Ruger neighborhood. While the front of the theatre (facing Makapu‘u Avenue and facing the intersection of Makapu‘u and Alohea Avenues) is neatly landscaped, the “back of the house” (facing Pōkole Street) is an uninviting, bleak environment dominated by the asphalt parking lot and the industrial appearance of the rear of the theatre. The proposed redevelopment would replace the existing theatre with a new one and provide landscaping improvements that would improve the appearance of the site, resulting in an overall positive impact on the neighborhood.

Proposed landscaping improvements would also provide visual relief to improve the property’s appearance and soften the appearance of the building. The open lawn and additional trees proposed along the property boundary would mask the building and extend the park-like, tree-lined streetscape fronting KCC on both Makapu‘u Avenue and Diamond Head Road (see sample rendering below).

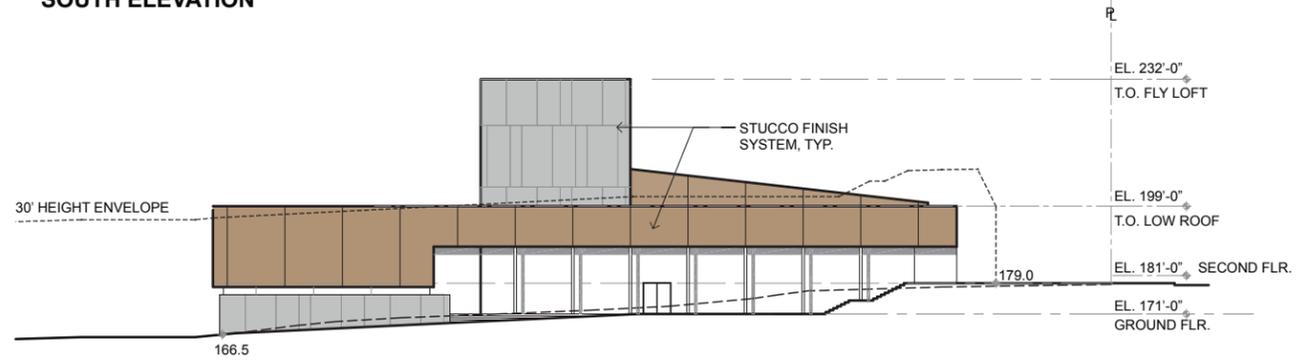


Architectural Rendering: Looking Northwest from KCC’s Main Driveway on Makapu‘u Avenue

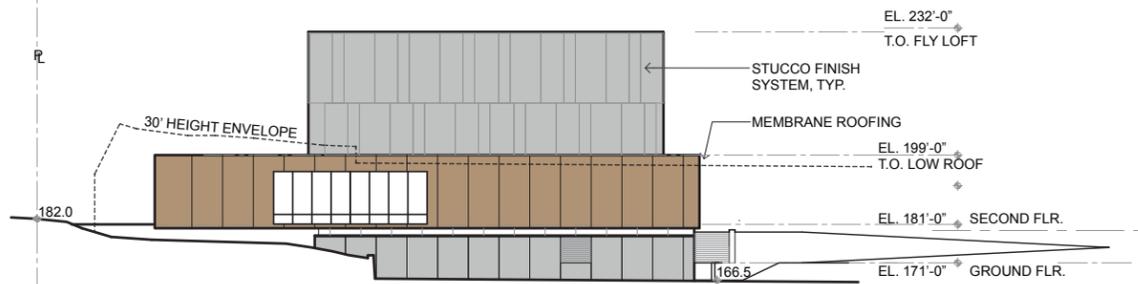
On the western (Pōkole Street) side of the property, the addition of shade trees to the parking lot would have several positive effects, including improving the industrial appearance of the parking lot, providing screening to mask the theatre’s blank rear wall, and introducing shade to reduce the reflective heat from the parking lot.

Preliminary elevation drawings and related architectural renderings are shown in Figure 18. Although the new theatre would have a larger building footprint and some sections would be taller than the existing theatre, the overall design approach for the new theatre would integrate the new building into the natural contours of the site to minimize its appearance. Design elements and building colors would reflect the character and integrity of Diamond Head and siting would place the new theatre farther back from all four property boundaries, such that the profile of the new theatre would appear less obtrusive than the existing theatre.

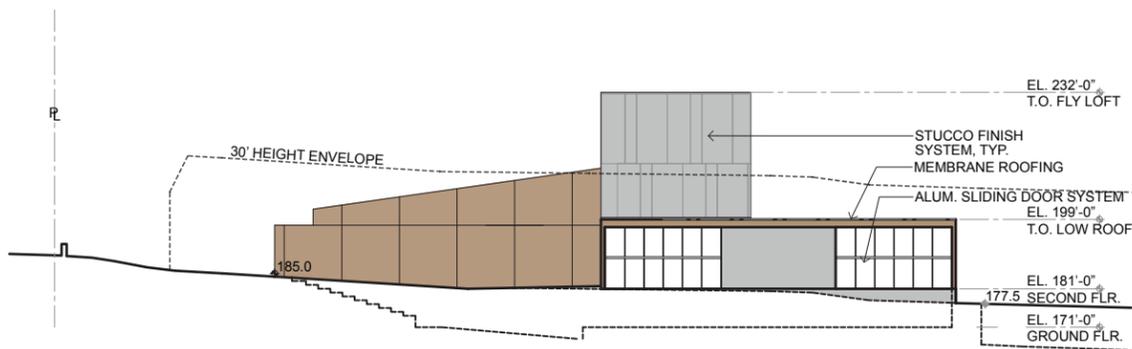
SOUTH ELEVATION



WEST ELEVATION



NORTH ELEVATION



Toward Mauka, view facing from the corner of Aloha Avenue and Makapu'u Avenue



View facing from the corner of Pokole Street and Aloha Avenue



Looking Makai toward Diamond Head along Aloha Avenue

Prepared by UrbanWorks, July 2015

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The fly loft would stand about 60 feet in height above the stage elevation, and would be the most prominent feature of the new theatre. At its highest point, the proposed theatre would be nearly 18 feet higher than the existing theatre's highest point of 43 feet. While the majority of the building's volume would remain below the allowable maximum height envelope, the fly loft and a small portion of the audience chamber would protrude above the height envelope (requiring approval of a zoning height variance; see Section 4.2). Centering the fly loft in the middle of the building mass with the lobby and other program spaces wrapped around the fly loft, as well as orienting the fly loft's long face to follow the natural slope of the site, would help to minimize the perceived height of the new theatre. Embedding the stage level ten feet below the uphill grade and planting tall palms around the theatre would further soften the architecture of the fly loft and offset its visual impact.

By day, the theatre would project a quiet and somber presence, in context with the visual texture, color tones and character to match the adjacent slopes of Diamond Head in the summer. By evening, the theatre would emit a soft, lantern-like glow appropriate to a neighborhood theatre, with sun shading scrim screening lighting glare from the residential streets. A system of sun shading elements would be layered around the upper floor of the theatre to help shade the building and reduce cooling load. Roofing materials would be earth-toned and the primary roof visible from Makapu'u Avenue would be clad in a metal roofing color consistent with the Diamond Head Special District, although some areas may be covered in reflective materials or photovoltaic panels to be consistent with energy and sustainable practices. A marquee envisioned for the Makapu'u Avenue frontage would be minimal, without illumination, and designed to meet applicable building and design requirements.

Even with the higher building height needed for the fly loft space, the new theatre is not expected to obstruct any significant views of Diamond Head or alter any views from the prominent public vantage points and viewing sites specified in the Diamond Head Special District Guidelines, including along Diamond Head Road and Kilauea Avenue. From distant views, the new theatre would blend with the existing development pattern and tree canopy along the lower slopes of Diamond Head. On Diamond Head Road, views of DHT would continue to be obscured by the numerous mature monkeypod trees bordering both Diamond Head Road and Makapu'u Avenue (see Figure 13, Photos 1 and 2). In addition, the curved path of Makapu'u Avenue between Diamond Head Road and Alohea Avenue and the mature trees on Makapu'u Avenue fronting KCC further limit full views of the theatre from Diamond Head Road. Likewise, the new theatre would not obstruct or alter views towards Diamond Head from Kilauea Avenue in the vicinity of Lē'ahi Hospital. The project site is not visible at this intersection and only becomes visible in the vicinity of Maunalei Avenue, due to the presence of the hospital and the descending slope of Makapu'u Avenue towards the theatre (see Figure 13, Photo 8).

3.7 CULTURAL, HISTORICAL AND ARCHAEOLOGICAL RESOURCES

An architectural inventory survey (AIS) completed in 2010 by Mason Architects, Inc. concluded that the historic integrity of the theatre building has been lost or diminished due to the numerous structural and interior modifications to the building, particularly in the areas of design, materials and workmanship. Integrity has also been compromised in the areas of setting, feeling and association due to the change in the building's original use from a movie house to a live theatre, the closure of and alterations to Fort Ruger and the surrounding area, and the construction of KCC. The report determined that the theatre has lost much of its historic integrity, is not significant under National Register criteria, and is not considered eligible for listing on the National Register of Historic Places.

Despite the conclusion of the AIS that the Fort Ruger theatre has lost much of its historic integrity, the State Historic Preservation Division (SHPD) indicated that the building should continue to be eligible for listing on the Hawai'i Register of Historic Places under Criteria A (Events) as one of the rare structures remaining from the original Fort Ruger and for its continued dedication to community entertainment (SHPD written communication dated June 28, 2010). SHPD also indicated that the proposed redevelopment would adversely impact the theatre, and requested documentation of the theatre in the form of a Historic American Building Survey, Level I (HABS I) report. As part of the pre-assessment consultation process conducted for the Draft EA, Historic Hawai'i Foundation indicated support to document the history of the structure, including a specific request to tailor the HABS documentation to provide content for historic interpretation and educational opportunities (Historic Hawai'i Foundation written communication dated May 28, 2014, see Appendix E). DHT continues to consult with SHPD regarding the level of HABS documentation (SHPD's recommendation for HABS I mitigation is pending request for a HABS II).

A portion of the rock wall that borders the parking lot within the central portion of the project site would be demolished and replaced by the new theatre building. SHPD has been informed of the need to demolish these walls (Mason Architects, Inc. written communication to SHPD dated July 28, 2009). The HABS report would include documentation of these walls as mitigation for demolition.

Although the theatre has been excluded from the Fort Ruger Historical District (State (11/19/1982) and National (7/14/1983) Registers of Historic Places) and is not a contributing feature to the historical district, DHT values its association with the military history of Fort Ruger and intends to memorialize its history. As a long-term future endeavor (planned as part of a second phase as funding becomes available), DHT envisions using the existing theatre walkways to create a landscaped interpretive pathway that complements the open lawn. This interpretive pathway would inform visitors about the significance of Fort Ruger, the theatre group's role in the community, and the natural history of the area. At this juncture, neither the landscaping features nor the interpretive component of the pathway has been finalized, although it is likely that raised placards and signage containing historic photos and information would be dispersed at various points or vistas along the pathway. In addition, it is possible that building elements and objects from the original theatre would be incorporated into the interpretive display as "site furniture." DHT would consult with SHPD and Historic Hawai'i Foundation regarding the interpretive component of the landscaped area.

The project site is also outside the boundary of the Diamond Head State Monument. Regardless, the design of the proposed theatre would support preservation and protection of the monument due to its compliance with the City's Diamond Head Special District Guidelines. The use of appropriate design elements that enhance the character of site would minimize any visual impacts to the monument. For example, building materials and earth tones that complement the natural landscape of the area and the character of Fort Ruger would be used, siting would orient the new theatre parallel to the view plane, and landscaping improvements would augment existing open space features along Diamond Head Road.

The proposed redevelopment would not be expected to have significant adverse impacts on archaeological resources. The project site has been previously disturbed, and is not expected to contain any archaeological or Native Hawaiian cultural resources. In the event that any significant archaeological resources or deposits are found during the development of the project, construction would be halted and immediate consultation with the SHPD would be sought in accordance with applicable regulations.

3.8 NOISE

Temporary, short-term noise impacts would be expected during the construction phase. The dominant sources of noise during project construction and demolition of the existing theatre would be from site preparation and demolition activities requiring the use of earth-moving and material-handling equipment, such as tractors, drills and trucks. The actual noise levels produced would relate to the methods employed during each stage of the construction and demolition process. With the noise level of typical construction equipment estimated to range between 75-95 dBA at a distance of 50 feet (U.S. EPA, 1971), nearby homes would probably be inconvenienced by the construction noise due to their proximity to the project site. The closest homes to the project site are across the street from the property at the corner of Alohea Avenue and McCorrison Street, at a distance of roughly 100 feet from the existing theatre. Likewise, the closest building on the KCC campus is directly across the street from the project site (at a distance of roughly 150 feet). Noise disturbances to Lē'ahi Hospital would be minimized by the project site's location downwind of the hospital, and the distance between the two properties.

Compliance with the State of Hawai'i, Department of Health standards for allowable noise levels (Chapter 11-46, HAR, Community Noise Control) would help to minimize construction-related noise impacts. The use of appropriate measures, such as scheduling activities during specific times of the day, installing mufflers on construction equipment and vehicles with exhaust systems, and installing noise barriers, would further minimize potential noise impacts to surrounding neighbors.

During the operational phase, the new theatre would generate noise consistent with current activities and uses. Since no new activities or increases in current levels of use would be introduced, noise levels would be expected to be similar to the present situation. Activities associated with theatre programs would continue to be the primary source of noise. Vehicular noise from traffic arriving and departing the theatre would occur with performances and events scheduled on the property, in line with the current levels of use. The new theatre would be constructed with soundproofing effects in the performance hall and an enclosed lobby/reception area to reduce noise disruptions to neighboring properties. The addition of landscaping and trees in the parking lot would also provide an additional buffer to screen noise. More importantly, the new theatre would be sited farther north on the property, which ultimately increases the distance between the theatre and the homes on Alohea Avenue.

3.9 HAZARDOUS MATERIALS

An inspection performed by EnvironMETeo Services Inc. identified the presence of asbestos-containing materials, lead-based paint and mercury containing lamps in the existing theatre. These are considered hazardous materials and must be properly removed before the existing theatre can be demolished to avoid impacts to health and public safety impacts. Removal of such materials would be conducted, handled and disposed of by qualified personnel in conformance with applicable regulations.

The following materials would require special handling and disposal during demolition:

1. Asbestos. Asbestos-containing materials would be removed prior to demolition activity to minimize the likelihood of exposure. All removal would be completed by a certified asbestos abatement contractor under controlled conditions in accordance with Federal EPA and State DOH regulations. Project monitoring by an independent industrial hygiene professional would ensure compliance with regulatory standards.

1. Lead. The EPA does not require that lead paint/coatings/materials be removed prior to demolition activity. However, the requirements of the Occupational Safety and Health Administration (OSHA) and Hawai'i Division of Occupational Safety and Health (HIOSH) would apply in regards to worker exposure. The contractor would be responsible for informing employees that materials identified for removal or disturbance contained lead. In addition, these employees would be required to complete training prescribed by OSHA 29 CFR 1926.62 Lead and HIOSH 12-148.1.
2. Mercury. Mercury-containing lamps found in light fixtures would be collected and recycled or disposed of at an approved waste disposal facility.

3.10 SOCIAL AND ECONOMIC CHARACTERISTICS

Redevelopment of DHT would not have any negative impacts to socio-economic conditions. The proposed project is not expected to result in an increase in the County's or State's resident or visitor populations. Likewise, the proposed project would not affect demographics, change the demand for housing, or alter the island's housing inventory.

The proposed project would reinforce the continued success of DHT and support the organization's efforts to create quality live theatre entertainment and educational programs. By upgrading the condition of existing theatre operations, the proposed project would allow DHT to improve its program offerings and better serve its patrons, ultimately improving the long-term economic viability of the organization.

Beneficial short-term benefits for the State's economy are anticipated, due to the temporary increase in construction-related jobs. In the long-term, the proposed redevelopment would provide positive benefits for the creative industries by serving as a supporting venue for individuals seeking educational/training opportunities and exposure to the performing arts. No long-term effects to the island's economic base are expected. In general, the proposed project would accommodate DHT's existing programs, such that existing uses and activities, employment and economic levels would remain relatively unchanged. There would be no interruptions in programs/services offered by the theatre or any major disruptions to current employment levels during construction because the existing theatre would remain operational during the construction phase. With no program expansion or growth planned, there would be no major increases in the number of permanent jobs associated with the theatre, or any major changes in revenues and economic activities that could have a significant impact on the island's economy.

3.11 TRANSPORTATION AND ROADWAYS

The year 2020 was used as the horizon year representing the anticipated build-out and occupancy of the new theatre. Future background traffic conditions for the year 2020 (without the project) were projected by expanding existing traffic volumes based on a growth rate of 1.0% per year between 2014 and 2020. Future project-related traffic conditions (with the project) were assumed to be the same as the future background traffic conditions (without the project). Since the proposed improvements would support existing theatre operations and the seating capacity of the new theatre would not change, existing traffic patterns and volumes would remain unchanged and no new trips would be generated. The results of the LOS analysis for future 2020 conditions (both without and with the project) are summarized in Table 4.

Using LOS D as an acceptable level-of-service standard for unsignalized intersections, all the study intersections would operate at acceptable levels-of-service (LOS A or LOS B) in the future (both without and with the project), except for the intersection of Diamond Head Road and Makapu‘u Avenue. At this intersection, the southbound to westbound left turn movement during the weekday afternoon peak hour would experience a very long delay (206.2 seconds per vehicle) and operate at LOS F, causing the overall intersection to operate at LOS D. Signalizing this intersection would improve individual lane group operations to LOS A and/or LOS B and also improve overall intersections operations to LOS A. However, because the poor level-of-service is the result of future traffic associated with KCC and not the proposed project (i.e., trips generated by the new theatre would be consistent with current levels), the intersection improvements should not be considered a requirement to accommodate the proposed project. No roadway mitigation measures should be recommended.

TABLE 4: 2020 PROJECTED LEVELS-OF-SERVICE ANALYSIS (UNSIGNALIZED INTERSECTIONS)⁽⁴⁾

Intersection and Movement	AM Peak Hour			PM Peak Hour			Sunday Peak Hour		
	Delay ⁽¹⁾	LOS ⁽²⁾	Queue ⁽³⁾ (vehicles)	Delay	LOS	Queue (vehicles)	Delay	LOS	Queue (vehicles)
<i>Diamond Head Rd at Makapu‘u Ave</i>	4.0	A	NC	34.2	D	NC	3.9	A	NC
Eastbound Left & Thru	2.3	A	<1	4.0	A	<1	2.5	A	<1
Southbound Left	21.6	C	<2	206.2	F	<13	27.7	D	<2
Southbound Right	12.3	B	<1	13.3	B	<2	12.1	B	<1
<i>Makapu‘u Ave at Alohea Ave</i>	11.7	B	NC	10.3	B	NC	9.0	A	NC
Eastbound Left, Thru & Right	11.7	B	NC	9.8	A	NC	9.3	A	NC
Westbound Left, Thru & Right	9.1	A	NC	9.1	A	NC	8.2	A	NC
Northbound Left, Thru & Right	11.0	B	NC	11.2	B	NC	8.9	A	NC
Southbound Left, Thru & Right	12.5	B	NC	10.0	B	NC	9.1	A	NC
<i>Alohea Ave at Pōkole St</i>	1.2	A	NC	1.4	A	NC	1.2	A	NC
Eastbound Left, Thru & Right	0.2	A	<1	0.3	A	<1	0.5	A	<1
Westbound Left, Thru & Right	1.2	A	<1	0.6	A	<1	0.1	A	<1
Northbound Left, Thru & Right	12.2	B	<1	13.3	B	<1	10.8	B	<1
<i>Kīlauea Ave at Makapu‘u Ave</i>	5.2	A	NC	10.5	B	NC	5.9	A	NC
Westbound Left & Thru	5.6	A	<1	6.2	A	<1	5.1	A	<1
Northbound Left & Right	16.8	C	<2	23.5	C	<5	13.4	B	<2
<i>Pōkole St at Theatre Prkg Lot</i>	0.5	A	NC	1.1	A	NC	2.0	A	NC
Westbound Right	8.7	A	<1	8.6	A	<1	8.1	A	<1
<i>Alohea Ave at Theatre Prkg Lot</i>	1.5	A	NC	1.2	A	NC	1.5	A	NC
Eastbound Left & Thru	2.1	A	<1	2.0	A	<1	1.8	A	<1
Southbound Left & Right	10.7	B	<1	10.5	B	<1	9.6	A	<1

NOTES:

- (1) Delay in seconds per vehicle.
- (2) LOS denotes Level-of-Service calculated using the operations method described in Highway Capacity Manual. Level-of-Service is based on delay.
- (3) 95th percentile queue in vehicles as reported by Synchro
- (4) Refer to TIAR in Appendix C for Level-of-Service Worksheets.

Redevelopment of the theatre would improve both the condition of the parking lot and on-site vehicular circulation. The main driveway on Alohea Avenue would continue to operate as a two-way entrance and exit, but would be relocated approximately 20 feet to the east. The second driveway on Pōkole Street would be retained as a one-way exit to discourage theatre-related traffic on Pōkole Street. Although the general layout and capacity of the existing parking lot would remain intact, parking spaces would be reconfigured and minimal lighting would be installed for the security and safety of theatre patrons. The number of parking spaces would remain unchanged to meet the parking requirements prescribed in the LUO. On-site drainage patterns would be improved, and landscaped parking planters, new pavement surfaces and striping would help to better define circulation.

Proposed circulation improvements would also accommodate patron drop-off and pick-up in designated areas, unlike the existing theatre layout which does not have a safe, convenient location for passenger loading/unloading. Currently, elderly and handicapped patrons who require curbside drop-off typically will stop and load/unload in the traffic lane on Makapu'u Avenue, which is unsafe and contributes to traffic congestion. Two drop-off locations are proposed to address safety and accessibility, including a curbside apron on Makapu'u Avenue to service the upper level, and an interior drop-off area accessible via the Alohea Street driveway (located in the vicinity of the main theatre entrance).

On-site parking would continue to be sufficient for daily operations, which includes production and administrative staff, and individuals attending theatre classes and rehearsals. During weekdays when KCC is in session, excess parking not needed for daily operations is made available to KCC students. Since the proposed use would not introduce any new activities and the current use and activity levels would remain relatively unchanged, the demand for on-site parking would be similar to current conditions.

DHT would continue its informal arrangement to use KCC's parking lot for overflow parking during theatre performances and special events (including facility rentals such as C4 Community Centered Christ Church) as a means to minimize demand for on-street parking in the surrounding residential community. Since performances and events are scheduled during evening and weekend hours when KCC students and faculty are not competing for parking, KCC's parking lot is typically available for DHT use (see Section 1.3.3 for description of activities). Because the availability of parking is a factor that contributes to patron satisfaction, DHT staff conscientiously strives to schedule performances and events during non-peak hours. In the rare circumstance when there are conflicts between DHT's schedule and KCC functions, DHT staff typically informs patrons of the parking situation and encourages patrons to carpool or use alternate modes of transportation.

Temporary, short-term traffic impacts would be expected during the construction phase due to the addition of large trucks and construction equipment in the neighborhood, the daily arrival and departure of construction workers at the start and end of the workday, the movement of construction equipment and materials, and the removal of demolition debris. Contractors would be responsible for providing traffic controls and precautions to maintain traffic safety and to minimize potential conflicts and disruption on neighboring streets. A construction management plan prepared in consultation with the appropriate City agencies would be implemented, with the following measures included:

- Scheduling deliveries and transportation of construction related materials and equipment during non-peak hours (when traffic is expected to be less). Typically, deliveries of construction materials are only allowed before 6:30 am and between 9:00 am and 3:00 pm. Delivery hours would be confirmed as part of the construction management plan.
- Discouraging construction-related vehicles from using on-street parking. Construction workers would be encouraged to park on-site or in a designated parking area.
- Limiting the length and frequency of street lane closures to minimize disruptions to bus service and vehicular and pedestrian circulation.
- Conducting necessary sidewalk closures in consultation with the appropriate City agencies.
- Informing the public of any potential delays in and around the project site.

Short-term impacts to public transportation would be likely during the construction phase. This may include temporary traffic congestion which could delay bus schedules and the temporary relocation of the two bus stops adjacent to the project site. Construction activities that could affect public

transportation facilities and services would be coordinated with the DTS Public Transit Division and O’ahu Transit Services. No long-term impacts to public transportation are anticipated.

3.12 INFRASTRUCTURE

3.12.1 Drainage

The preliminary engineering report prepared by Sam O. Hirota, Inc. (presented in Appendix D) indicates that the proposed redevelopment would result in an increased amount of stormwater runoff generated from the project site. Table 5 presents the runoff calculations for the existing theatre and the proposed theatre. (Runoff calculations are based on the City and County of Honolulu Drainage Standards using the Rational Method for a 10-year, 1-hour storm event.) Runoff generated by the proposed improvements would amount to 7.53 cfs, which is an additional 1.92 cfs over existing conditions.

TABLE 5: DRAINAGE CALCULATIONS			
Scenario	Existing Theatre	Proposed Theatre	Proposed Theatre, with Drainage Improvements
Runoff Value	5.61 cfs	7.53 cfs	0.42 cfs (Qbmp)

Proposed drainage improvements would be designed and constructed in compliance with the requirements of the City’s drainage standards, which requires that (1) future runoff from the site be reduced to pre-development levels of 5.61 cfs (the existing runoff value), and (2) all runoff generated from the project site be either bio-filtered (vegetated swale) or retained (bioretention basin) onsite. In satisfying both requirements for flow and water quality, proposed drainage improvements would reduce runoff to a total of 0.42 cfs (Qbmp⁵). Redevelopment of the project site would improve surface runoff conditions and result in a positive beneficial impact to drainage facilities due to the detention and overall reduction in runoff.

The following source-control BMPs and low impact development measures are proposed to mitigate the increased runoff resulting from the redevelopment, based on recommendations identified in the preliminary engineering report (Hirota 2014) (refer to Appendix D, Exhibit 5).

- **Vegetated swales.** A vegetated swale is a shallow channel with vegetation covering the side slopes and bottom designed to collect and slowly convey storm water runoff to downstream discharge points. Swales are either natural or man-made, and are designed to filter runoff through the vegetation in the channel and the subsoil matrix or by infiltration into the underlying soils. Swales trap particulate pollutants (suspended solids and trace metals), promote infiltration, and reduce the flow velocity of runoff.

Four vegetated swales are proposed:

1. The first swale would be constructed parallel to the eastern face of the proposed theatre (along Makapu’u Avenue). This swale would require a 9-foot width and a depth of 8 inches with a 1.5% longitudinal slope. The runoff would be diverted in a southeasterly direction away from the theatre to discharge onto Makapu’u Avenue.

⁵ Qbmp is the predicted flow resulting from the implementation of recommended BMPs.

2. The second swale would follow the northeastern corner of the proposed theatre to route runoff in an easterly direction. The swale would require a 9-foot width and a depth of 8 inches with a 2% longitudinal slope, and would route runoff to discharge onto Makapu‘u Avenue.
 3. The third swale would run parallel along the entire length of the project site’s northern boundary. The swale would be 7-½ feet wide with a depth of 8 inches and a 2% longitudinal slope, and would convey onsite runoff and any additional offsite runoff entering from Lē‘ahi Hospital parking lot. Runoff would be routed to discharge onto Pōkole Street.
 4. The fourth swale area would be located within the theatre’s parking lot, consisting of a swale along the length of the parking lot’s Pōkole Street boundary and a swale within the parking median. The swales would require a 5-foot width and depth of 8 inches, and would route runoff in a southerly direction to discharge onto Alohea Avenue.
- **Bioretention basins.** A bioretention basin is a landscaping feature adapted to provide onsite treatment of storm water runoff. These vegetated areas are designed to capture and temporarily store runoff, as the runoff passes through the vegetation and soils for filtration. Bioretention basins provide groundwater recharge, pollutant removal, and runoff detention, and are an effective solution in parking lots or urban areas where green space is limited.

The first bioretention basin would be located as part of the open lawn proposed for the southeastern corner of the project site. Based on preliminary engineering, this bioswale would require a minimum of 2,300 SF. The second bioretention basin would be located within the parking lot to the west of the main driveway. The preliminary engineering requirement for this bioretention feature is estimated at roughly 1,510 SF.

- **Downspout disconnections.** Sometimes referred to as rooftop disconnection or downspout dispersion, downspout disconnection is the practice of redirecting rainwater runoff from rooftops to drain into vegetated areas instead of the street or the storm sewer. Downspout disconnection stores storm water and/or allows storm water to infiltrate into the soil.

Downspout disconnections would be constructed at the northern and eastern faces of the proposed theatre building to route rooftop runoff through the landscaped areas.

- **Loading dock containment.** Loading docks are a potential source of toxic compounds, oil and grease, heavy metals, nutrients, suspended solids and other pollutants that may enter the storm water system. Preventative measures to prevent polluted runoff from entering the storm water system typically include the use of overflow containment structures and dead-end sumps.

The loading dock would be paved with concrete instead of asphalt and would be designed to preclude run-on and runoff from entering the loading area.

- **Trash storage area containment.** Outdoor trash storage areas can generate polluted storm water runoff, and loose trash and debris can be easily transported by water or wind into nearby storm drain inlets, channels, and/or streams. Preventive measures that are typically used to prevent polluted runoff from entering the storm water system include installing enclosures, containment structures and impervious pavements.

Paving the trash storage area with impervious surface, and using lidded containers to prevent rainfall from entering the trash containers would mitigate spills and reduce the likelihood of contamination.

Additional soil erosion and runoff is likely during the demolition and construction phases. To minimize runoff and sediment discharged from the project site, all demolition and construction activities would utilize appropriate erosion control measures, including limiting the site area cleared for construction, installing silt fences and perimeter enclosures to keep runoff from exiting the site, collecting demolition debris as it is created, and reestablishing ground cover as soon as possible.

3.12.2 Potable Water

The proposed redevelopment would not significantly increase demand for potable water or impact existing potable water sources or transmission systems. Under proposed conditions, the new theatre would generate domestic water demand of 72.5 gpm, based on 122.5 total fixture units. This represents an increase of 7.5 gpm over the existing demand of 65 gpm. The existing 1½ inch water meter, which is the minimum size recommended for the proposed demand, is adequate for the proposed flow (Hirota 2014, see Appendix D for preliminary engineering report). Likewise, it was determined that the existing fire hydrant servicing the project site is adequate for proposed conditions based on the theoretical values provided by BWS.

As part of the pre-consultation assessment to prepare the Draft EA, the BWS indicated that the existing water system is adequate to accommodate the proposed theatre based on current data (BWS written communication dated May 28, 2014, see Appendix E). Design and construction of the water system and fire protection system would meet all the requirements of the BWS and the HFD. These requirements, including the availability of water to meet the project demands, would be confirmed when building permits are submitted for approval. The proposed redevelopment would be subject to BWS Cross-Connection Control and Backflow Prevention requirements prior to approval of the building permit, and the applicable Water System Facilities Charges for resource development, transmission and daily storage would be paid when water is made available.

3.12.3 Wastewater

The proposed redevelopment would not generate any additional demand for wastewater services or significantly impact existing wastewater collection or treatment systems. Under proposed conditions, wastewater demand generated by the new theatre would remain unchanged from the existing demand of 2,825 gpd. (Wastewater demand is determined by the capacity of the site. Given that the capacity of the new theatre would not change, the projected wastewater demand remains unchanged.) The existing sewer connection is adequate for existing and proposed flows (Hirota 2014, see Appendix D for preliminary engineering report).

3.12.4 Electrical Power and Communications

The proposed redevelopment would result in an increased demand for electrical power. HECO would continue to provide the necessary electrical power for the proposed project. As part of the pre-consultation assessment to prepare the Draft EA, HECO indicated that they had no objections to the project (HECO email communication dated June 12, 2014, see Appendix E). Project design and construction would be coordinated with HECO to identify any electrical system improvements needed to accommodate the increased demand and to ensure sufficient electrical power for the new theatre.

Sustainable design elements that encourage energy efficiency and energy conservation would be incorporated, as feasible and practical. Such elements may include:

- a layer of exterior solar shading fins on the window openings to reduce solar heat gain
- energy-efficient lighting fixtures and mechanical systems
- solar water heating and rooftop photovoltaic panels (pending funding availability), and
- the use of natural ventilation in some interior spaces (e.g., the scene shop) to minimize air conditioning load.

No impacts to communications facilities or services are expected, since existing uses and activities associated with the theatre would remain relatively unchanged and the demand for communications facilities and services would not change. Telephone, cable and internet service would continue to be provided by existing sources, and the respective utility providers would be consulted to coordinate installation and modification to any connections and services.

3.13 PUBLIC SERVICES AND FACILITIES

3.13.1 Solid Waste

Demolition of the existing theatre and proposed redevelopment activities, including site preparation and clearing, would generate solid waste typical of construction-related activities. Demolition and deconstruction of the existing theatre building would occur upon completion and occupancy of the new theatre. The generation of construction waste would be a short-term effect, and would consist primarily of materials such as concrete, vegetation, rocks, soil and other debris created during demolition, clearing, excavation and building construction. Analysis of the existing as-built drawings indicates that demolition would generate an approximate 150 CY of concrete and 45 tons of structural steel.

Hazardous materials found within the existing theatre would be properly removed before demolition of the theatre occurs. For example, asbestos-containing materials and items containing mercury would be removed prior to demolition activity to minimize the likelihood of exposure (see Section 3.9 for discussion of hazardous materials). All removal would be conducted, handled and disposed of by qualified personnel in accordance with applicable Federal and State regulations. Vegetation removed from the site for the new theatre would be reused on-site as part of the new landscaping or processed as green waste at an appropriate facility. A solid waste management plan would be developed as part of the project's design phase prior to the start of construction and demolition activities. The waste management plan would describe planned recycling and reuse procedures, and would specify the quantity and form of anticipated waste and recyclable materials.

Other materials generated by demolition deemed to be recyclable—such as uncontaminated steel, asphalt and concrete—would be taken for recycling to reduce the amount of waste delivered to the landfill. In addition, furnishings, fixtures and theatre equipment deemed salvageable with reuse potential would be deconstructed and saved for future use. Besides reducing the waste stream and diverting materials from the landfill, reuse of interior design elements (such as the autographed dressing room wall) would memorialize the theatre's long-standing history and provide historic interpretive value to the new theatre.

Since the proposed use would be similar to the current use of the site, and there would be no changes to the current use or existing activity levels, the composition and volume of solid waste generated during operation of the new theatre would be similar to current conditions. Solid waste would continue to be collected by a private company for disposal, with recycling as feasible to minimize waste volumes.

3.13.2 Police Protection

As part of the pre-consultation assessment to prepare the Draft EA, the Honolulu Police Department indicated that the proposed project would have no significant impact on the services or operations of the HPD (HPD written communication dated May 21, 2014, see Appendix E). HPD also indicated the possibility of short-term traffic impacts around Alohea and Makapu‘u Avenue during the construction phase of the project.

3.13.3 Fire and Emergency Services

The proposed redevelopment would not significantly impact the operations, facilities or services provided by the City and County of Honolulu for fire and emergency services. Existing operations are currently served by the City and County of Honolulu, and local demands for such services would not be significantly affected as a result of the proposed project since the current use and activity levels would remain relatively unchanged.

Construction of the proposed project would include the necessary fire protection facilities to serve the new facilities. The fire protection system would be designed and constructed to meet the requirements of the BWS and the HFD.

3.13.4 Parks and Recreational Areas

The demand for parks or recreational areas would not increase as a result of the proposed project. The project would replace the existing theatre with a new theatre of the same seating capacity, such that the current density and intensity of use would not change. No new residential units, or commercial or industrial facilities would be constructed, and there would be no increase in residents to the neighborhood or visitors to the island as a result of the project. As such, there would be no increase in use of park and recreational facilities in the region associated with the proposed project.

Proposed landscaping improvements, including the large, open lawn fronting the theatre entrance and the addition of large canopy trees, would create a park-like setting at the southwest corner of the property (at the intersection of Alohea and Makapu‘u Avenues). It would complement existing pocket parks/open space amenities and passive recreational areas at KCC and along Diamond Head Road, and also add to the passive outdoor recreational amenities available to the surrounding neighborhood.

3.14 SECONDARY AND CUMULATIVE IMPACTS

3.14.1 Secondary Impacts

Secondary impacts are defined as “effects which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rates, and related effects on air and water and other natural systems, including ecosystems” (HAR Section 11-200-2). For example, a new housing development would have a secondary impact on nearby schools by increasing student enrollments.

The proposed redevelopment would not change the land use or level of activity currently occurring at the project site; it is intended to address the physical inadequacies and space limitations of the existing theatre building and provide facility upgrades to better serve theatre patrons. In the long-term, the

improvements would support the continued success of DHT and reinforce the long-term viability of the organization. By enhancing DHT's ability to provide educational/training opportunities and exposure to the performing arts, the proposed redevelopment would have a minor beneficial secondary impact on the growth of the performing arts and creative industries in Hawai'i.

The project does not include any residential, tourism-related or commercial/industrial development or economic growth that could increase population and subsequently increase the demand for public facilities and services. Since there are no growth-inducing effects, no changes in the pattern of land use and no increases in population density and growth rates associated with the proposed redevelopment, no adverse secondary impacts to natural resource areas or public facilities and services are expected.

3.14.2 Cumulative Impacts

Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (HAR Section 11-200-2).

The analysis of cumulative impacts takes into account other future developments planned for the Diamond Head region. For the most part, the region is not expected to undergo significant development as future growth in the area is generally regulated by the limited availability of land and the community's desire to maintain the current pattern of land use and existing densities. In this instance, KCC's Culinary Institute of the Pacific project is the only development proposal within the region that is likely to be initiated and/or completed within the timeframe of the proposed theatre redevelopment (DHT has a groundbreaking goal of December 2018, pending the approval of necessary permits and the success of on-going fundraising efforts).⁶ KCC is planning to construct the Culinary Institute of the Pacific on the 7.9-acre, former Fort Ruger Cannon Club site which sits southwest of the DHT property on the slopes of Diamond Head (see Figure 6). Intended to be an international-level culinary training facility for KCC's food service and hospitality education department, the Culinary Institute would feature nine new buildings with a total net interior floor area of roughly 40,150 SF. Facilities would include a teaching restaurant, administration/faculty building, auditorium, classroom building, multi-function lab buildings, and exterior educational and open space areas (PBR Hawai'i 2009). Construction of the first phase began in September 2015, and is expected to be completed by December 2016.

Potential cumulative impacts from the combined undertaking of the proposed project and KCC's Culinary Institute of the Pacific project would be limited to construction-period impacts and an overall increased demand for electrical power and utility services. Construction-period impacts (such as increased noise levels, dust and air quality impacts, traffic and construction/demolition waste materials) would be temporary, and would only occur if construction activities were scheduled concurrently. During the long-term operational phase, increased demand for electrical power and other utility services would be an unavoidable, cumulative impact occurring as a result of the new facilities. No other cumulative impacts are associated with this project, as current theatre operations and levels of use would remain relatively unchanged for the foreseeable future.

⁶ The Film and Digital Media Center Project proposed for the State of Hawai'i Film Studio property (near the corner of Diamond Head Road and 18th Avenue) was excluded from the cumulative impacts analysis because of the uncertainty with the project's development timeframe. Implementation remains uncertain, as construction would be initiated upon the availability of funding.

Although both development proposals considered in the cumulative impacts analysis involve properties associated with the former Fort Ruger military reservation, no adverse impacts to cultural and historical resources are expected because both projects are located outside the boundaries of the Fort Ruger Historic District and are not contributing factors to the historical district.

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4. CONFORMANCE WITH STATE AND COUNTY PLANS, POLICIES AND CONTROLS

This chapter discusses the project’s conformance with the State Land Use District regulations, the State Environmental Policy (Chapter 344, HRS), and the relevant plans and policies of the City and County of Honolulu, including the City’s General Plan, the Primary Urban Center Development Plan, the Special Management Area (Chapter 205A, HRS), and zoning.

4.1 STATE OF HAWAII’I

4.1.1 State Land Use District

Pursuant to Chapter 205, HRS, all lands in the State of Hawai’i are classified into one of four major land use districts by the State Land Use Commission. The four land use districts are the Urban, Rural, Agricultural and Conservation Districts. Permitted uses within the State Land Use Districts are prescribed under Chapter 205, HRS and the State LUC’s Administrative Rules (Title 13, Chapter 13, HAR).

The project site and the adjacent properties are designated within the State Urban District, which by definition generally includes “lands characterized by ‘city-like’ concentrations of people, structures, streets, urban level of services and other related land uses” (Chapter 15-15-18 (1), HAR). Permitted uses or activities within the Urban District are regulated by the ordinances and land use controls of the county within which the land is situated. On O’ahu, the Urban District is regulated by the City and County of Honolulu. Figure 19 shows the State land use district boundaries in relation to the project site.

4.1.2 Chapter 344, HRS, State Environmental Policy

Chapter 344, HRS establishes the State of Hawai’i Environmental Policy. The purpose of Chapter 344 is to “establish a State policy to encourage productive and enjoyable harmony between people and their environment, promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of humanity, and enrich the understanding of the ecological systems and natural resources important to the people of Hawai’i” (Chapter 344-1, HRS). The following discussion addresses the proposed project’s conformance and consistency with the policies and guidelines prescribed in Chapter 344, HRS.

Chapter 344-3, HRS Environmental Policy

Section 344-3(1) “Conserve the natural resources, so that land, water, mineral, visual, air and other natural resources are protected by controlling pollution, by preserving or augmenting natural resources, and by safeguarding the State’s unique natural environmental characteristics in a manner which will foster and promote the general welfare, create and maintain conditions under which humanity and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of the people of Hawai’i.”

Discussion: Project activities are not expected to have significant negative impacts on natural resources or natural environmental characteristics. The project site is currently developed and has been previously disturbed, and is within a densely urbanized area of Honolulu, such that the site is not associated with any significant natural habitats or resources. Redevelopment activities



would provide improvements to enhance the natural environment, including drainage improvements to manage the volume and rate of stormwater runoff, upgraded plumbing and electrical fixtures to promote electrical and water conservation, and the removal and disposal of hazardous building materials currently found within the existing theatre building. Potential short-term noise and air quality impacts during construction would be temporary and intermittent, and would be minimized through best management practices and other applicable measures.

Section 344-3(2) "Enhance the quality of life by:

- A) Setting population limits so that the interaction between the natural and artificial environments and the population is mutually beneficial;*
- B) Creating opportunities for the residents of Hawai'i to improve their quality of life through diverse economic activities which are stable and in balance with the physical and social environments;*
- C) Establishing communities which provide a sense of identity, wise use of land, efficient transportation, and aesthetic and social satisfaction in harmony with the natural environment which is uniquely Hawaiian; and*
- D) Establishing a commitment on the part of each person to protect and enhance Hawai'i's environment and reduce the drain on nonrenewable resources.*

Discussion: For nearly 100 years since its establishment in 1915, DHT has been inspiring and entertaining audiences with quality musical and theatrical productions. Today, as one of the leading performing arts centers in Honolulu, DHT is a valuable civic and artistic asset that supports the community's cultural vibrancy and contributes to a desirable quality of life. The proposed project would replace the existing theatre building with a new state-of-the-art theatre to reinforce the continued success of DHT and allow the organization to improve the quality of its program offerings, ultimately improving the long-term viability of the organization. No changes to resident or visitor populations are expected as a result of the proposed project. The new theatre would be designed to accommodate DHT's existing programs, such that the current use of the site and intensity of use, as well as current employment levels and economic activities, would remain relatively unchanged.

Chapter 344-4, HRS Guidelines

1) Population

- A) Recognize population impact as a major factor in environmental degradation and adopt guidelines to alleviate this impact and minimize future degradation;*
- B) Recognize optimum population levels for counties and districts within the State, keeping in mind that these will change with technology and circumstance, and adopt guidelines to limit population to the levels determined.*

Discussion: The proposed project would not affect existing or future resident or visitor populations at the local or state level. Proposed improvements do not involve construction of any new homes or visitor units that would result in population increases. Furthermore, since the existing use of the site and current programming and staffing levels would continue with the proposed action, no long-term economic growth which could affect population is expected.

2) *Land, water, mineral, visual, air, and other natural resources.*

- A) *Encourage management practices which conserve and fully utilize all natural resources;*
- B) *Promote irrigation and waste water management practices which conserve and fully utilize vital water resources;*
- C) *Promote the recycling of waste water;*
- D) *Encourage management practices which conserve and protect watersheds and water sources, forest, and open space areas;*
- E) *Establish and maintain natural area preserves, wildlife preserves, forest reserves, marine preserves, and unique ecological preserves;*
- F) *Maintain an integrated system of state land use planning which coordinates the state and county general plans;*
- G) *Promote the optimal use of solid wastes through programs of waste prevention, energy resource recovery, and recycling so that all our wastes become utilized.*

Discussion: The project site, which has been occupied by the theatre building since the early 1930s, does not include any known rare, threatened or endangered species or sensitive natural habitats. Redevelopment of the DHT property would include low impact design and sustainability measures to reduce the use of non-renewable resources and to protect the environment. Low-flow fixtures would promote water and electricity conservation; the use of drought-tolerant landscaping materials would minimize the amount of water required for irrigation; and drainage improvements would be designed to manage and contain stormwater runoff, thereby reducing the amount of runoff generated from the site. In addition, materials generated during the demolition of the existing theatre would be recycled/reused to the extent possible to minimize the amount of demolition debris directed to the landfill.

3) *Flora and fauna.*

- A) *Protect endangered species of indigenous plants and animals and introduce new plants or animals only upon assurance of negligible ecological hazard;*
- B) *Foster the planting of native as well as other trees, shrubs, and flowering plants compatible to the enhancement of our environment.*

Discussion: The project site is an existing urbanized area that has been previously disturbed for development. There are no rare, threatened, or endangered species or habitats known to exist on the project site. It is predominately covered with non-native plants, most of which are common, cultivated plants or noxious invasive species. Likewise, faunal species expected on the site consist primarily of introduced species typically found in other urbanized area. As proposed, landscaping improvements would aim to remove introduced species and utilize native plant materials capable of withstanding the dry climate, to the extent practical.

4) *Parks, recreation, and open space.*

- A) *Establish, preserve and maintain scenic, historic, cultural, park and recreation areas, including the shorelines, for public recreational, educational, and scientific uses;*
- B) *Protect the shorelines of the State from encroachment of artificial improvements, structures, and activities;*
- C) *Promote open space in view of its natural beauty not only as a natural resource but as an ennobling, living environment for its people.*

Discussion: The project site—situated outside the boundary of the Diamond Head State Monument—sits one block removed from the recreational, park-like character of Diamond Head Road. Proposed improvements include a landscaped open lawn of roughly one-half acre near the corner of Makapu‘u Avenue and Alohea Avenue. In addition to serving as an outdoor reception area for the theatre, this

landscaped area would provide a new outdoor recreational space for the general public's enjoyment and complement existing recreational and open space areas along Diamond Head Road.

5) *Economic development.*

- A) *Encourage industries in Hawai'i which would be in harmony with our environment;*
- B) *Promote and foster the agricultural industry of the State; and preserve and conserve productive agricultural lands;*
- C) *Encourage federal activities in Hawai'i to protect the environment;*
- D) *Encourage all industries including the fishing, aquaculture, oceanography, recreation, and forest products industries to protect the environment;*
- E) *Establish visitor destination areas with planning controls which shall include but not be limited to the number of rooms; and*
- F) *Promote and foster the aquaculture industry of the State; and preserve and conserve productive aquacultural lands.*

Discussion: Construction of the new DHT facility would provide short-term economic benefits resulting from the temporary increase in construction-related jobs. In the long-term, the proposed redevelopment would indirectly support the performing arts and creative industries by providing educational/training opportunities and exposure to the performing arts.

6) *Transportation.*

- A) *Encourage transportation systems in harmony with the lifestyle of the people and environment of the State;*
- B) *Adopt guidelines to alleviate environmental degradation caused by motor vehicles;*
- C) *Encourage public and private vehicles and transportation systems to conserve energy, reduce pollution emission, including noise, and provide safe and convenient accommodations for their users.*

Discussion: Since the proposed project is planned to support DHT's existing activities and programs, existing traffic patterns and volumes would be expected to continue. The proposed passenger loading areas along Makapu'u Avenue and within the interior of the parking lot) would provide safe, convenient accommodations for theatre patrons being dropped off or picked up at the theatre.

7) *Energy.*

- A) *Encourage the efficient use of energy resources.*

Discussion: The proposed project would replace existing utility systems with modernized, upgraded utility systems and fixtures that would promote the efficient use of energy and encourage the conservation of natural resources. Sustainable building design elements and landscaping would also be incorporated to further minimize energy demand.

8) *Community life and housing.*

- A) *Foster lifestyles compatible with the environment; preserve the variety of lifestyles traditional to Hawai'i through the design and maintenance of neighborhoods which reflect the culture and mores of the community;*
- B) *Develop communities which provide a sense of identity and social satisfaction in harmony with the environment and provide internal opportunities for shopping, employment, education, and recreation;*
- C) *Encourage the reduction of environmental pollution which may degrade a community;*
- D) *Foster safe, sanitary, and decent homes;*

- E) Recognize community appearances as major economic and aesthetic assets of the counties and the State; encourage green belts, plantings, and landscape plans and designs in urban areas; and preserve and promote mountain-to-ocean vistas.*

Discussion: The project site has been used as a venue for community entertainment for more than 80 years. The Fort Ruger Theatre provided film entertainment to military personnel in this location from 1933 to 1951, followed by DHT's use of the theatre since 1952 to the present (60+ years). The proposed project would construct a modernized theatre facility to support the property's lengthy relationship with the entertainment/performing arts. The use of the property and the general character of the surrounding neighborhood would not change. Redevelopment of the site would provide improvements to enhance the appearance of the property and improve the overall aesthetic quality of the neighborhood.

9) Education and culture.

- A) Foster culture and the arts and promote their linkage to the enhancement of the environment;*
B) Encourage both formal and informal environmental education to all age groups.

Discussion: DHT's current theatre building was originally designed as a 1930's-era movie house, and has been extensively modified to accommodate live performances. Given the age, condition and physical limitations of the existing theatre, major facility upgrades and improvements are needed to allow the organization to increase the quality of its program offerings. The proposed project would foster education, culture and the arts by providing a modern theatre facility for live theatre entertainment and performing arts education/outreach programs.

10) Citizen participation.

- A) Encourage all individuals in the State to adopt a moral ethic to respect the natural environment; to reduce waste and excessive consumption; and to fulfill the responsibility as trustees of the environment for the present and succeeding generations; and*
B) Provide for expanding citizen participation in the decision making process so it continually embraces more citizens and more issues.

Discussion: The EA review process provides opportunity for public input at various stages, including the pre-assessment consultation process and a Draft EA 30-day public comment period during which the public has an opportunity to provide their input on the project. Thirty-one agencies and organizations were consulted as part of the pre-assessment consultation (see Section 7.0). Copies of the Draft EA will be distributed to various agencies and organizations, and notice of the Draft EA's availability will be published in the OEQC *Environmental Notice*.

4.2 CITY AND COUNTY OF HONOLULU

4.2.1 General Plan

The General Plan for the City and County of Honolulu was first adopted in 1977 and has been subsequently amended (most recently in 2002). The Plan is a comprehensive statement of the long-range social, economic, environmental and design objectives for the general welfare and prosperity of the people of O'ahu, including broad policy statements that facilitate the attainment of the Plan's objectives. It is organized into 11 subject areas: population; economic activity; the natural environment; housing; transportation and utilities; energy; physical development and urban design; public safety;

health and education; culture and recreation; and government operations and fiscal management. The growth policy presented in the Plan calls for full development of the Primary Urban Center (including lands between Kahala and Pearl City), development of the secondary urban center at Kapolei and the 'Ewa and Central O'ahu urban-fringe areas, and management of the physical growth and development in the remaining urban-fringe and rural areas to maintain their low densities.

The objectives and policies of the General Plan that are relevant to the proposed project are listed as follows, along with a discussion of the project's consistency with these objectives and policies.

II. Economic Activity

Objective A: To promote employment opportunities that will enable all the people of O'ahu to attain a decent standard of living.

Objective E: To prevent the occurrence of large scale unemployment.

Policy 1: Encourage the training and employment of present residents for currently available and future jobs.

Discussion: The proposed redevelopment would provide short-term economic benefits resulting from the temporary increase in construction-related jobs. Because the existing theatre would remain operational until construction of the new theatre is completed, there would be no layoffs or employment reductions during the construction phase. In the long-term, DHT would be expected to maintain current employment levels, and continue to provide educational and training opportunities for individuals seeking exposure to the performing arts.

III. Natural Environment

Objective A: To protect and preserve the natural environment.

Policy 4: Require development projects to give due consideration to natural features such as slope, flood and erosion hazards, water-recharge areas, distinctive land forms, and existing vegetation.

Policy 7: Protect the natural environment from damaging levels of air, water, and noise pollution.

Policy 9: Protect mature trees on public and private lands and encourage their integration into new developments.

Objective B: To preserve and enhance the natural monuments and scenic views of O'ahu for the benefit of both residents and visitors.

Policy 1: Protect the Island's well-known resources: its mountains and craters; forests and watershed areas; marshes, rivers, and streams; shoreline, fishponds, and bays; and reefs and offshore islands.

Policy 2: Protect O'ahu's scenic views, especially those seen from highly developed and heavily traveled areas.

Policy 4: Provide opportunities for recreational and educational use and physical contact with O'ahu's natural environment.

Discussion: The proposed redevelopment would incorporate low impact and sustainable design measures that minimize impacts on the natural environment. The existing topography and drainage pattern of the project site would not be significantly altered or impacted. The project site, which has been occupied by the theatre building since the early 1930s and is in a highly urbanized area, does not

include any known rare, threatened or endangered species or sensitive natural habitats, and no biological resources or natural ecological processes would be affected. The uses associated with the theatre are not a source of air, noise or water pollution. Existing trees would be incorporated where feasible, although some vegetation would need to be removed to accommodate the new theatre.

Views of Diamond Head from prominent public vantage points and viewing sites would not be obstructed, as the new theatre would appear to blend in with the tree canopy along the lower slopes of Diamond Head. Design of the new theatre would seek to integrate the new building into the natural contours of the site and reflect the character and integrity of Diamond Head. The proposed redevelopment would provide a modern, upgraded facility for existing performing arts education. Likewise, the proposed landscaped garden would enhance existing open space features along Diamond Head Road and provide opportunities for a new public recreational amenity for the surrounding neighborhood.

V. Transportation & Utilities

Objective B: To meet the needs of the people of O‘ahu for an adequate supply of water and for environmentally sound systems of waste disposal.

Policy 4: Encourage a lowering of the per-capita consumption of water and the per-capita production of waste.

Policy 5: Provide safe, efficient, and environmentally sensitive waste-collection and waste-disposal services.

Discussion: Redevelopment of the DHT property would include low impact design and sustainability measures to minimize the demand for water, wastewater and solid waste. Low-flow fixtures would promote water conservation, and an emphasis on drought-tolerant landscaping materials would reduce the amount of water required for irrigation. Materials generated during the demolition of the existing theatre would be recycled/reused to the extent possible to minimize the amount of demolition debris directed to the landfill. Design and construction of the utility system improvements system would be coordinated with and would meet all the requirements of the appropriate County agencies.

VII. Physical Development and Urban Design

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

Policy 1: Plan for the construction of new public facilities and utilities in the various parts of the Island according to the following order of priority: first, in the primary urban center; second, in the secondary urban center at Kapolei; and third, in the urban-fringe and rural areas.

Policy 8: Locate community facilities on sites that will be convenient to the people they are intended to serve.

Policy 9: Exclude from residential areas, uses which are major sources of noise and air pollution.

Objective E: To create and maintain attractive, meaningful, and stimulating environments throughout O‘ahu.

Policy 4: Require the consideration of urban-design principles in all development projects.

Policy 5: Require new developments in stable, established communities and rural areas to be compatible with the existing communities and areas.

Policy 9: Design public structures to meet high aesthetic and functional standards and to complement the physical character of the communities they will serve.

Objective F: To promote and enhance the social and physical character of O'ahu's older towns and neighborhoods.

Policy 1: Encourage new construction to complement the ethnic qualities of the older communities of O'ahu.

Policy 2: Encourage, wherever desirable, the rehabilitation of existing substandard structures.

Discussion: The project site is located within the Primary Urban Center, which is designated as the first priority for construction of new public facilities. The project site has also been occupied by the theatre building since the early 1930s, long before the neighboring residential uses were constructed. The existing theatre is not a major source of noise or air pollution, and is generally compatible with the surrounding residential neighborhood. Since the proposed project is planned to support DHT's existing activities and programs, the current level of activity would remain unchanged and proposed improvements would not impact the existing suburban character of the area. Redevelopment of the site would improve the current condition of the site, with design features that comply with the Diamond Head Special District Guidelines to further enhance the appearance of the surrounding neighborhood.

IX. Public Safety

Objective B: To protect the people of O'ahu and their property against natural disasters and other emergencies, traffic and fire hazards, and unsafe conditions.

Policy 7: Provide adequate fire protection and effective fire prevention programs.

Discussion: No impacts or increased risks to public safety are anticipated. The project site is not in an identified flood hazard area, and is an approximate one mile from the shoreline outside of the tsunami inundation zone. Design and construction would comply with State and City regulations to minimize threat from natural disasters and other hazards.

IX. Health and Education

Objective B: To provide a wide range of educational opportunities for the people of O'ahu.

Policy 1: Support education programs that encourage the development of employable skills.

Policy 2: Encourage the provision of informal educational programs for people of all age groups.

Discussion: Redevelopment of the site would construct a modernized theatre facility to support DHT's mission of advancing educational opportunities in the performing arts. DHT entertains over 40,000 patrons per year and provides performing arts education to more than 1,000 students annually. Given the numerous facility improvements and technological upgrades needed to sustain the theatre, the proposed redevelopment would enable the organization to increase the quality of its programs and services.

X. Culture and Recreation

Objective B: To protect O'ahu's cultural, historic, architectural, and archaeological resources.

Policy 4: Promote the interpretive and educational use of cultural, historic, architectural, and archaeological sites, buildings, and artifacts.

Objective C: To foster the visual and performing arts.

Policy 1: Encourage and support programs and activities for the visual and performing arts.

Policy 2: Encourage creative expression and access to the arts by all segments of the population.

Objective D: To provide a wide range of recreational facilities and services that are readily available to all residents of O’ahu.

Policy 3: Develop and maintain urban parks, squares, and beautification areas in high density urban places.

Policy 10: Encourage the private provision of recreation and leisure-time facilities and services.

Discussion: The existing theatre, which is not significant under National Register criteria and is not considered eligible for listing on the National Register of Historic Places or the Hawai’i Register of Historic Places, is not a contributing feature to the Fort Ruger Historical District. The proposed redevelopment would incorporate interpretive elements that highlight the site’s association with Fort Ruger, including the practical re-use of building fixtures and furnishings and the installation of a landscaped interpretive pathway (planned as part of a second phase as funding becomes available).

The new theatre would provide technical advancements and theatrical elements that are standard features among modern theatre buildings, and would provide facility upgrades to better serve theatre patrons. The modernized facility would provide numerous long-term benefits, which includes strengthening the long-term organizational viability of DHT, improving the quality of theatre productions and fostering interest in arts education.

Proposed landscaping improvements include an open lawn area at the corner of Makapu’u and Alohea Avenue, and new large canopy trees along the perimeter of the project site. In addition to serving as an outdoor reception area for the theatre, this landscaped lawn would function as a passive recreational amenity for the surrounding neighborhood and enhance existing open space features along Diamond Head Road.

4.2.2 Primary Urban Center Development Plan

The City and County of Honolulu’s Development Plan (DP) program provides a conceptual framework for implementing the objectives and policies of the General Plan on a regional basis. Eight geographical DP areas have been established on O’ahu, including the Primary Urban Center DP area where the project site is located. The eight community-oriented plans articulate the long-range future vision and policies for regional land use, and establish policies and guidelines for land use, public facilities and infrastructure improvements over a 20-year period.

The Primary Urban Center Development Plan (PUCDP) was adopted in 2004 and codified as Ordinance No. 04-14, Revised Ordinances of Honolulu (ROH). The Primary Urban Center encompasses O’ahu’s most diverse and populated region, extending from Kāhala to Pearl City along O’ahu’s southern coastline. The PUCDP’s vision statement and implementing policies support retaining the qualities that attract both residents and visitors, while encouraging growth and redevelopment to accommodate the projected increases in jobs and residential population.

This section provides an overview of the vision and guidelines of the PUCDP as it relates to the proposed project. Redevelopment of DHT is consistent with the following concepts expressed in the PUCDP.

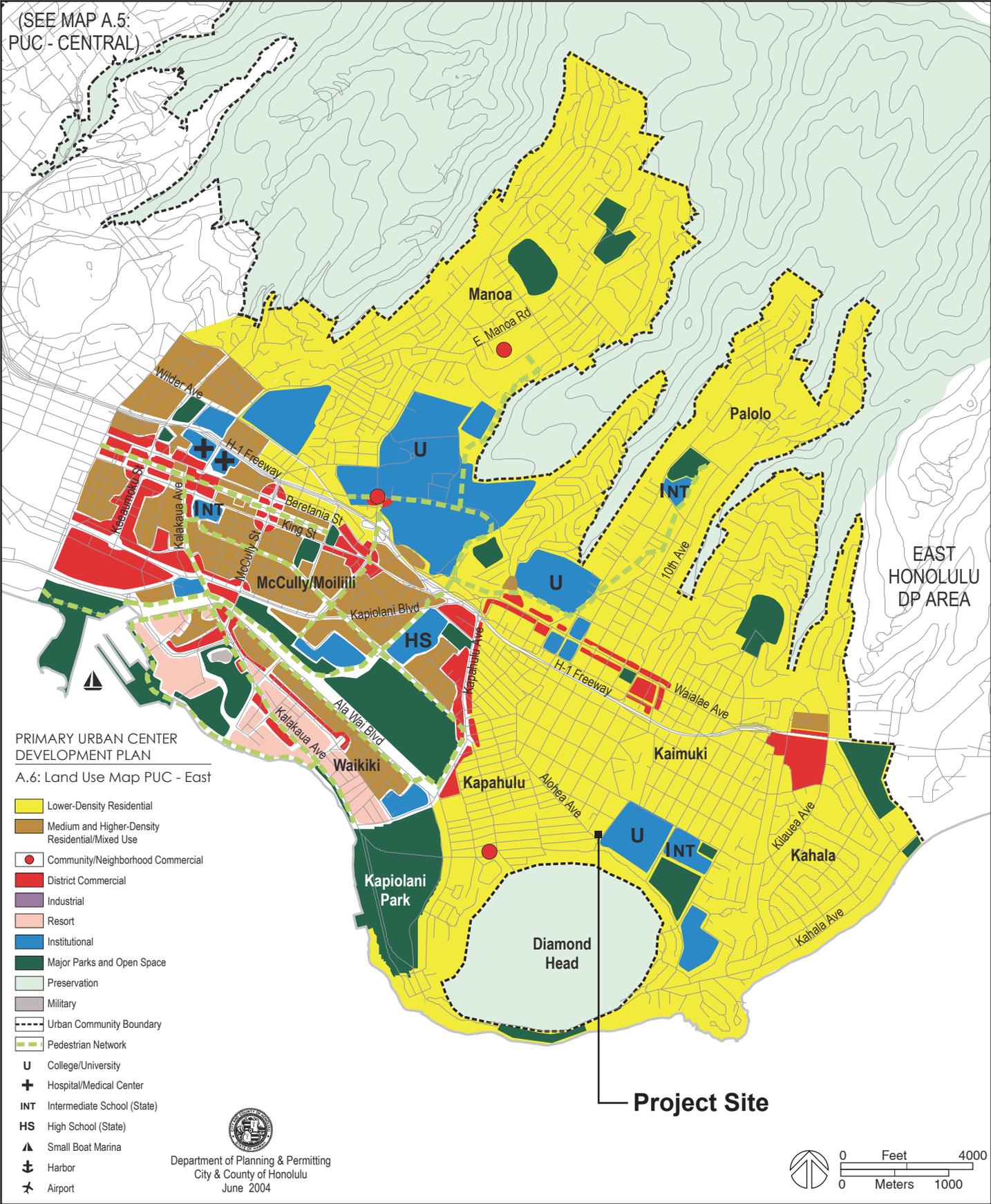
- *Provide parks and active recreation areas. Create or strengthen parks, plazas and other conveniences throughout the PUC, especially in more populated areas as a balance to the built environment, for recreation, social interaction and leisure interludes.*
- *Cultivate existing and new “neighborhood centers.” Develop neighborhood centers as the principal places for people in a neighborhood to gather, shop, dine or play, and to provide a source of community identity.*
- *Promote mixed land uses. Encourage compatible mixtures of land uses for intown PUC neighborhoods and districts to support a variety of urban lifestyle choices and to create vibrant and convenient neighborhoods.*
- *Preserve panoramic views of natural landmarks and the urban skyline. Preserve view corridor of the Ko’olau and Wai’anae Mountain Ranges, Punchbowl, Diamond Head, Pearl Harbor and other natural landmarks. Maintain important view corridors within and across urban Honolulu and keep Downtown as the most prominent feature of the urban skyline.*
- *Develop innovative approaches to make optimum use of existing parks and recreation resources, such as: – Building partnerships between City, State and private, nonprofit organizations for joint use of facilities and complementary recreation programs.*
- *Preserve the architectural character, landscape setting and visual context of historic landmarks through appropriate zoning standards and development controls, as necessary, and public outreach programs such as design guidelines for the maintenance, renovation or expansion of older dwellings.*
- *Preserve and enhance the significant historic and aesthetic features of institutional campuses and campus clusters through zoning permit reviews for campus expansions or modifications.*

The three maps appended to the PUC DP are intended to complement the vision and policy statements described in the plan and graphically demonstrate the desired long-range pattern for land use, open space and public facilities.

The PUCDP Significant Panoramic Views Map (PUCDP Map A:1) identifies the panoramic views of the urban skyline between Diamond Head and Pearl Harbor’s Middle Loch as significant east-west views that should be preserved. Mauka-makai views between Diamond Head, Tantalus and Punchbowl Crater are also identified.

The PUCDP Land Use Map for the PUC-East area is shown in Figure 20. It illustrates the desired long-range land use pattern for the region. The project site is identified as Lower-Density Residential.

Discussion: The proposed redevelopment is not expected to obstruct or impede significant views identified in the PUCDP or panoramic views of Diamond Head from public vantage points. The Land Use Map identifies the project site and the residential area surrounding it as “Lower Density Residential” within the Urban Community Boundary, which is an area that generally consists of single-family homes or townhouses. In general, the proposed project is compatible with the guidelines for urban residential development that require residential neighborhoods are protected from incompatible uses and nuisance-producing activities. The existing theatre, which has occupied its current location long before the neighboring residential uses were constructed, is not a major source of noise or air pollution and is generally compatible with the surrounding residential neighborhood. The proposed project is planned to support DHT’s existing activities and programs, such that the current level of activity would remain unchanged and proposed improvements would not impact the existing suburban character of the area. Redevelopment of the site would improve the appearance of the site and enhance the overall aesthetic quality of the neighborhood.



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Figure 20
Primary Urban Center Development Plan

4.2.3 City and County of Honolulu Zoning

The City and County of Honolulu LUO regulates land use in accordance with adopted land use policies, including the General Plan and Development Plans. The LUO, which is also referred to as the Zoning Ordinance, describes the various zoning districts, the uses allowed within each zoning district, and the applicable development standards for each district. Zoning designations are shown on the zoning maps for the City. Under the current LUO zoning, the project site is zoned R-5 Residential (see Figure 21). According to Section 21-3.70 of the LUO, the purpose of the Residential District is “allow for a range of residential densities.” Although the primary use shall be detached residences, other types of dwellings may also be allowed, and non-dwelling uses “which support and complement residential neighborhood activities shall also be permitted.”

Discussion: Under the current LUO, a theatre is not permitted as a principal or conditional use in the residential district. DHT is able to operate in this zoning district through an Existing Use Permit (EUP) (Permit Number 83/CUP-11 approved May 18, 1983). EUP 83/CUP-11 was approved under the provisions of the Comprehensive Zoning Code (the predecessor to the LUO), which allowed theatres in residential districts as conditional uses. The EUP was issued to recognize the theatre facilities as a conditional use and to allow a rear building addition (i.e., stage shop, costume shop, and rehearsal/classroom space). Pursuant to LUO Section 21-2.20(f), the theatre use may be continued indefinitely pursuant to the EUP; it may be replaced without nonconforming use limitations; and it may be modified; but only to the extent typically allowed as a minor modification. Modification to EUP 83/CUP-11 will be necessary to permit the proposed redevelopment.

DPP has determined that the C4/New Hope Diamond Head Church use of the DHT facility for church use does not require a separate CUP, and that minor modification to EUP 83/CUP-11 would be appropriate. The church use is viewed as a substitute for DHT’s theatre productions, and subsequently does not create a greater impact on surrounding land uses than the theatre (DPP written communication dated March 19, 2014).

A zoning height variance permit will also be required to allow the proposed theatre, as sections of the proposed theatre exceeds the 25-foot building height envelope specified for the R-5 District.

4.2.4 Diamond Head Special District

The purpose of a special district is to provide a means for the physical development and desired character of certain geographic areas. In addition to describing the zoning and permitted land uses associated with each zoning district, the City’s LUO identifies special overlay districts that provide specific design guidelines in addition to the zoning designation. These special districts include: the Hawai’i Capital District, Diamond Head District, Punchbowl District, Chinatown District, Haleiwa District, Thomas Square/Academy of Arts District, Waikīkī District and TOD zones. Each district has their own specific set of design requirements for building height, yard setbacks, landscaping and architectural design, lighting and parking.

The objectives of the Diamond Head Special District are set forth in the LUO Section 21-9.40-1, as follows:

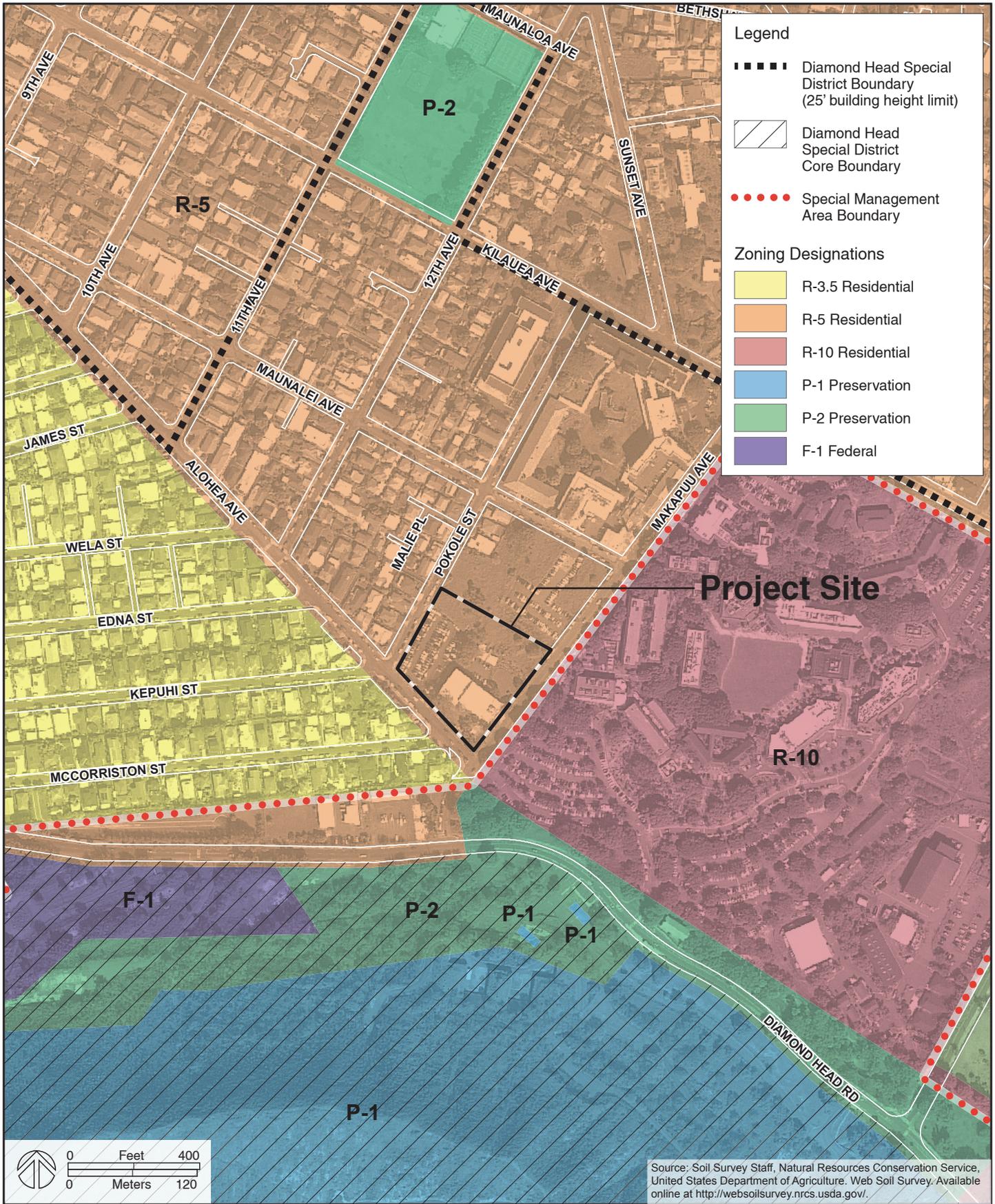
- (a) *To preserve existing prominent public views and the natural appearance of Diamond Head by modifying construction projects that would diminish these resources.*

(b) To preserve and enhance the park like character of the immediate slopes of the Diamond Head monument, which includes Kapi'olani Park.

As shown in Figure 21, the project site is located in the Diamond Head Special District boundaries, outside the District's core area where special design review is required. The proposed project will require a Diamond Head Special District Minor Permit. Conformance with the established design guidelines and landscaping requirements of the Diamond Head Special District would be addressed as part of the permit application process.

4.2.5 Special Management Area

The Hawai'i Coastal Zone Management Program embodied in Chapter 205A, HRS contains the general objectives and policies upon which all counties within the State have structured specific legislation creating Special Management Areas (SMA). The City and County of Honolulu, similar to other counties in Hawai'i, has adopted: (1) boundaries which identify the SMA; and (2) rules and regulations which are consistent with Chapter 205A, HRS that control development within the SMA. Proposed development within the SMA is subject to review and approval in order to ensure adequate access to recreation areas and minimal adverse impacts to water resources, and scenic and recreational amenities. The project site is located outside the boundaries of the SMA, and does not require an SMA Permit (see Figure 21).



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Figure 21
County Land Use Controls

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5. CONSULTED AGENCIES AND ORGANIZATIONS

5.1 PRE-ASSESSMENT CONSULTATION

An informational letter was sent on May 1, 2014 to 31 agencies, organizations and individuals to gather comments on the proposed project during the pre-assessment consultation process to prepare this Draft EA. A total of 12 agencies and organizations provided written comments. Agencies and organizations that were consulted during preparation of the Draft EA are listed as follows. The parties who formally responded during the pre-assessment consultation process are identified by an asterisk (*). Copies of the pre-assessment consultation letter, written comments received in response to the letter, and subsequent response letters addressing those comments are presented in Appendix E.

State of Hawai'i

- * Department of Accounting and General Services
Department of Business, Economic Development & Tourism
DBEDT, Creative Industries Division
- * Department of Health
- * Department of Land and Natural Resources, Land Division
DLNR, State Historic Preservation Division
Office of Hawaiian Affairs
Hawai'i State Foundation on Culture and the Arts
University of Hawai'i Environmental Center
Kapi'olani Community College

City and County of Honolulu

- * Department of Planning and Permitting
- * Department of Community Services
- * Department of Design and Construction
Department of Environmental Services
- * Department of Transportation Services
- * Honolulu Fire Department
- * Honolulu Police Department
Mayor's Office of Culture and the Arts

Utility Companies

- * Board of Water Supply
- * Hawaiian Electric Company

Community Organizations and Others

- Lē'ahi Hospital
Diamond Head Citizen's Advisory Committee
Waialae-Kahala Neighborhood Board No. 3
Kaimukī Neighborhood Board No. 4
Diamond Head/Kapahulu/St. Louis Heights Neighborhood Board No. 5
East Diamond Head Association
- *Historic Hawai'i Foundation

Hawai'i Arts Alliance
Senator Les Ihara, District 10
Representative Bertrand Kobayashi, District 19
Councilmember Stanley Chang

5.2 COMMUNITY CONSULTATIONS

Additional efforts to inform the community about the proposed redevelopment and identify concerns included a community open house event at the theatre on March 3, 2014. Invited guests consisted of neighboring property owners and residents, DHT's active members and donors, and other interested community members. With roughly 50 individuals in attendance, the open house event provided an opportunity for DHT representatives to present preliminary plans and architectural renderings of the proposed theatre. In general, attendees were largely supportive of the proposed project and the need for facility improvements. Questions and concerns were raised about potential traffic and noise impacts to surrounding residences, the visual appearance of the proposed theatre, and the need for a building height variance.

In addition, DHT representatives provided presentations to the various neighborhood boards in the area, as listed below.

Neighborhood Board	Meeting Date
Waialae-Kahala Neighborhood Board No. 3	March 20, 2014
Kaimukī Neighborhood Board No. 4	March 19, 2014
Diamond Head/Kapahulu/St. Louis Heights Neighborhood Board No. 5	April 10, 2014

6. FINDINGS AND ANTICIPATED DETERMINATION

To determine whether a proposed action may have a significant impact on the environment, the approving agency needs to consider all phases of the action, the expected primary and secondary consequences, cumulative effect, and the short- and long-term effects. The agency's review and evaluation of the proposed action would result in a determination of either: 1) the action would have a significant effect on the environment, and an Environmental Impact Statement Preparation Notice should be issued, or 2) the action would not have a significant effect and an anticipated Finding of No Significant Impact should be issued.

Based on the findings presented in this document, the proposed action is not expected to result in a significant impact on the environment. In accordance with Chapter 343, HRS and Section 11-200, HAR, it is anticipated that DPP (the approving agency) will determine that the proposed project will not have a significant environmental impact and an EIS will not be required. A Finding of No Significant Impact is anticipated.

The anticipated determination was based on review and analysis of the significance criteria specified in Section 11-200-12, HAR. An action shall be determined to have a significant effect on the environment if it meets any of the following criteria:

1. Involves an irrevocable commitment or loss of or destruction of natural or cultural resources

The project site encompasses lands that have been previously disturbed and have long been used for urban development. There are no threatened or endangered species of plants or wildlife that inhabit the project site, and there would be no impact to coastal resources. No significant archaeological or cultural resources are anticipated, and Native Hawaiian cultural practices would not be impacted.

The theatre building is not significant under National Register criteria, and is not considered eligible for listing on the National Register of Historic Places or the Hawai'i Register of Historic Places. HABS documentation would mitigate the loss of the theatre building.

2. Curtails the range of beneficial uses of the environment.

The proposed redevelopment allows for the continuation of the existing use on a previously developed site. The project site has a long association with community entertainment, and the proposed redevelopment would ensure that the property will continue to be used for this purpose, resulting in the positive long-term cultural and social benefits associated with the theatre. No significant adverse impacts to the natural environment would result from the proposed development. Construction and operation of the new facilities would be performed in accordance with applicable State and County regulations, thereby minimizing potential impacts to air and water quality and ambient noise levels.

3. Conflicts with the State's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders;

The proposed project would be designed and constructed in conformance with appropriate environmental considerations, and is consistent with the State's long-term environmental policies established in Chapter 344, HRS. Consistency with the policies and guidelines specified in Chapter 344, HRS and Title 11, Chapter 20, HAR is demonstrated in this section and in Section 4.1.2.

4. *Substantially affects the economic welfare, social welfare, and cultural practices of the community or State;*

Redevelopment of DHT would not have any negative impacts to socio-economic conditions or cultural practices. Since there would be no changes in the use of the site or in programming levels, current employment and economic activities would remain unchanged. Positive short-term direct and indirect economic benefits to the State and County would result from the generation of construction-related jobs and the induced effects of spending on the economy. Long-term benefits include an upgraded, modernized theatre to reinforce the continued success and economic viability of the theatre, which supports the cultural and recreational interests of the community and offers performing arts educational opportunities.

5. *Substantially affects public health;*

The proposed project would not substantially affect public health. There would be some typical short-term construction-related impacts (noise, air quality, and traffic) in the area, but these would be temporary. Standard construction best management practices would be used to minimize the temporary impacts. No commercial or industrial activities associated with increased public health risks would take place on the property. Compliance with applicable State and County regulations would ensure that public health concerns are addressed.

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

There would be no changes in current employment levels, island-wide population or population density as a result of the proposed redevelopment. No foreseeable changes in the use and intensity of use, employment levels or performance schedules are anticipated. Existing traffic patterns and volumes would be expected to continue, with the exception of minor short-term impacts construction period impacts. Since the project site is currently served by public utilities and infrastructure, no significant impacts to public facilities are expected. Existing utility connections (water, wastewater, electrical and telephone service) would continue, and increases in utility demands would be minor.

7. *Involves a substantial degradation of environmental quality;*

The proposed redevelopment would not substantially degrade environmental quality. Design and construction activities would be conducted in accordance with applicable development regulations. Long-term impacts to air and water quality, noise levels, and natural resources would be minimal or non-existent. The use of standard construction and erosion control best management practices would minimize anticipated construction-related short-term impacts (i.e., noise, air quality, water quality, solid waste generation and traffic). Proposed improvements, such as drainage improvements to manage stormwater runoff and the addition of native and Polynesian-introduced plants, would enhance the natural environment.

8. *Is individually limited and cumulatively has considerable effect upon the environment or involves a commitment for larger actions;*

The proposed project would not have a significant cumulative impact on the environment when considered collectively with future private and government actions planned in the area. The proposed theatre would be designed with the same number of seats as the existing theatre. The type of use and level of activity associated with the current theatre would remain unchanged, as no programming

changes are anticipated. The proposed project would not result in any potential adverse cumulative impacts since no major foreseeable future actions or regional changes have been identified.

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

The project site is an existing urbanized area that has been previously disturbed for development. There are no threatened, endangered or candidate listed animal or plant species or habitats known to exist on the project site that require protection under Federal or State regulations.

10. *Detrimentially affects air or water quality or ambient noise levels;*

The proposed project would not substantially affect air or water quality or ambient noise levels, as the uses associated with the theatre are not a significant source of air or noise pollutants. Temporary, short-term increases such as noise and dust would be expected during construction. Contractors would be expected to use standard best management practices to minimize construction-related impacts, and the project would comply with applicable State and County regulations and standards. Construction of the proposed improvements, which are limited in scope, would not significantly increase storm water runoff or impact surface water quality. Drainage improvements would seek to reduce the amount and rate of stormwater runoff to below current levels.

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

The project site is in an area with minimal flood hazard risk and is outside of the tsunami evacuation zone. There are no known erosion or subsidence problems, or geological hazards in the area.

12. *Substantially affects scenic vistas and viewplanes identified in County or State plans or studies; or*

Panoramic views of Diamond Head and significant views of Honolulu's skyline identified in the PUC DP and the Diamond Head Special District Guidelines would not be obstructed or impeded by the new theatre. Although a portion of the new theatre would extend above the allowable building height envelope, the new theatre would be sited within the natural contours of the site and oriented to minimize the appearance of the structure.

13. *Requires substantial energy consumption.*

Although the new theatre would result in an increased demand for electrical power, the increase in energy consumption would not be substantial. Modernized, upgraded utility systems and fixtures would promote the efficient use of energy. In addition, sustainable design elements—such as naturally-ventilated spaces, exterior solar shades and landscaping to reduce solar heat gain, and solar water heating—would be employed to further reduce energy demand.

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APPENDIX A

Tree Inventory

Date: August 20, 2014
To: Diamond Head Theatre
From: HHF Planners
RE: Existing Tree and Plant Inventory

The dominant landscape elements of the existing landscape at Diamond Head Theatre are comprised of a tall cluster of mature Eucalyptus trees on the South side, a cluster of large Milo trees on the east side, a dramatic multi-trunk Kiawe tree on the middle-north of the property, and a relatively significant cactus garden on the north/east side of the property. These trees and plants could be considered for saving in place, if not in the way of the new theatre construction and revised parking configuration, but are most likely not significant enough to warrant heroic measures to preserve.

The cactus and succulent garden contains interesting and mature specimens that could have value in another landscape (such as the nearby cactus and succulent garden on the KCC campus). In general, any of the plants in this garden can be relocated with success. None of the plants are particularly significant in terms of botanical rarity. These cactus and succulents are thriving in the arid climate and poor soil of the Diamond Head area, although their use as a landscape theme for Diamond Head Theatre might be questionable.

The large Milo trees are in reasonable condition, and could be considered for relocation on-site, but would need extensive trimming to accomplish moving them. They would be expensive to move, but could be considered for relocation if appropriate for a signature location within the projects new landscaping, if project construction phasing could accommodate the relocation. If considered for relocation, these trees should be re-evaluated for appropriateness for relocation by an arborist prior to incorporation into final construction plans. Milo is considered most likely to be native to Hawai'i, although it might have originated as Polynesian introduction. The only other native plant found in the existing landscape at the theatre is Hawaiian Dodder, which is a stringy parasitic vine, and not of botanical significance.

The large Kiawe tree in the central part of the site is interesting in its form and size. It is presumed that this tree will need to be removed for construction. It would be very difficult to successfully relocate this tree, given the species lack of tolerance for complete root pruning that would be necessary, and the fact that this tree is imbedded in the edge of the retaining wall in this area.

The south/east corner of the property is a clutter of *Brassaia* trees and African Tulip trees, with both species considered to be noxious invasive plants. These trees should not be retained in the new landscape for the theatre.

The tall Eucalyptus trees are currently a signature of the existing landscape. These Eucalyptus trees cannot be relocated. They should either remain in place or be demolished. Botanically, Lemon Scented Gum Eucalyptus trees are not significant or important for preservation, and are notorious for having brittle branches.

Existing smaller trees that might be considered for relocation on site could include the *Plumeria* (various) and the Blue Latan Palms (3). Due to practical limitations, none of the existing large trees on site should be considered of value for potential re-use off-site. Exceptions would include the potential re-location of specimen cactus and succulents to off-site landscapes or nurseries.

In the broader context of the surrounding area, it should be noted that there are recent and ongoing efforts at native plant restoration along Diamond Head Road at the foot of Diamond Head Crater and the entry to Diamond Head Monument Park, directly across the street from Kapiolani Community College.

DIAMOND HEAD THEATRE EXISTING TREE LIST

8/19/2014

Inventory No.	Common Name	Botanical Name	Height (FT)	Spread (FT)	Caliper (FT)	Native / Endangered / Invasive	Notes
AF1	African Tulip Tree	<i>Spathodea campanulata</i>	35	30	2.0	INVASIVE	
AF2	African Tulip Tree	<i>Spathodea campanulata</i>	30	35	2.0	INVASIVE	
AF3	African Tulip Tree	<i>Spathodea campanulata</i>	25	30	1.5	INVASIVE	
AR1	Areca Palm	<i>Dyopsis lutescens</i>	15	10	2.0		
B1	Chinese Banyan	<i>Ficus microcarpa</i>	30	60	3.0		Off site
BL1	Blue Latan Palm	<i>Latania loddigesii</i>	12	10	0.8		
BL2	Blue Latan Palm	<i>Latania loddigesii</i>	8	10	0.8		
BL3	Blue Latan Palm	<i>Latania loddigesii</i>	15	10	0.8		
BS1	Be-Still Tree	<i>Thevetia peruviana</i>	10	15	0.5		
CC1	Coconut Palm	<i>Cocos nucifera</i>	15	10	1.0		
E1	Lemon Scented Gum	<i>Eucalyptus citriodora</i>	30	15	1.0		
E2	Lemon Scented Gum	<i>Eucalyptus citriodora</i>	30	30	1.0		
E3	Lemon Scented Gum	<i>Eucalyptus citriodora</i>	30	30	1.0		
E4	Lemon Scented Gum	<i>Eucalyptus citriodora</i>	30	30	1.0		
E5	Lemon Scented Gum	<i>Eucalyptus citriodora</i>	30	30	1.0		
E6	Lemon Scented Gum	<i>Eucalyptus citriodora</i>	30	30	1.0		
H1	Horse Radish Tree	<i>Moringa oleifera</i>	15	20	2.0		
K1	Kiawe	<i>Prosopis pallida</i>	10	10	1.0		
K2	Kiawe	<i>Prosopis pallida</i>	15	15	2.0		
K3	Kiawe	<i>Prosopis pallida</i>	15	15	1.0		
K4	Kiawe	<i>Prosopis pallida</i>	15	10	0.8		
K5	Kiawe	<i>Prosopis pallida</i>	45	50	5+		Multi-trunk
K6	Kiawe	<i>Prosopis pallida</i>	30	35	2.5		
K7	Kiawe	<i>Prosopis pallida</i>	15	8	0.8		
K8	Kiawe	<i>Prosopis pallida</i>	15	15	0.8		
K9	Kiawe	<i>Prosopis pallida</i>	10	10			Off site
M1	Milo	<i>Thespesia populnea</i>	35	40	2.5	NATIVE	
M2	Milo	<i>Thespesia populnea</i>	35	40	2.5	NATIVE	
M3	Milo	<i>Thespesia populnea</i>	35	40	2.5	NATIVE	

DIAMOND HEAD THEATRE EXISTING TREE LIST

8/19/2014

Inventory No.	Common Name	Botanical Name	Height (FT)	Spread (FT)	Caliper (FT)	Native / Endangered / Invasive	Notes
M4	Milo	<i>Thespesia populnea</i>	25	30	1.5	NATIVE	
MP	Manila Palm	<i>Vietchia merrillii</i>	15	10	1.0		
MP	Manila Palm	<i>Vietchia merrillii</i>	15	10	1.0		
P1	Plumeria	<i>Plumeria rubra</i>	10	5	1.0		Red-Yellow Flower
P2	Plumeria	<i>Plumeria rubra</i>	10	5	1.0		White-Yellow Flower
P3	Plumeria	<i>Plumeria rubra</i>	10	5	1.0		Red Flower
P4	Plumeria	<i>Plumeria rubra</i>	7	4	0.2		
P5	Plumeria	<i>Plumeria rubra</i>	8	8	0.3		
R1	Royal Poinciana	<i>Delonix regia</i>	10	15	0.5		AT R-O-W
R2	Royal Poinciana	<i>Delonix regia</i>	15	15	1.0		AT R-O-W
R3	Royal Poinciana	<i>Delonix regia</i>	10	12	0.9		AT R-O-W
S1	Brassaia Tree	<i>Schefflea actinophilla</i>	30	30	2.0	INVASIVE	
S2	Brassaia Tree	<i>Schefflea actinophilla</i>	30	40	2.5	INVASIVE	
S3	Brassaia Tree	<i>Schefflea actinophilla</i>	30	25	1.5	INVASIVE	
S4	Brassaia Tree	<i>Schefflea actinophilla</i>	30	5	1.0	INVASIVE	
S5	Brassaia Tree	<i>Schefflea actinophilla</i>	10	15	0.5	INVASIVE	
S6	Brassaia Tree	<i>Schefflea actinophilla</i>	10	15	0.5	INVASIVE	
S7	Brassaia Tree	<i>Schefflea actinophilla</i>	10	15	0.5	INVASIVE	
S8	Brassaia Tree	<i>Schefflea actinophilla</i>	10	15	0.5	INVASIVE	
1	Mixed Planting						
	Plumeria (Shrub)	<i>Plumeria sp.</i>					
	Bird of Paradise	<i>strelitzia reginae</i>					
	Yellow Alder	<i>Turnera ulmifolia</i>					
	Achemea (Varieties)	<i>Achemea blanchetiana & sp.</i>					
	Bromeriad (Varieties)	<i>Vriesia spp.</i>					
	African Iris - Cream	<i>Dietes bicolor</i>					
	Boulders						

DIAMOND HEAD THEATRE EXISTING TREE LIST

8/19/2014

Inventory No.	Common Name	Botanical Name	Height (FT)	Spread (FT)	Caliper (FT)	Native / Endangered / Invasive	Notes
2	Mixed Planting						
	Bougainvillea	<i>Bougainvillea sp.</i>					
	Hibiscus	<i>Hibiscus sp.</i>					Non-native
	Elephant Foot Plant	<i>Dioscorea elephantipes</i>					
	Plumeria (Shrub)	<i>Plumeria sp.</i>					
3	Mixed Planting	Makapuu Ave. Street Front					
	Achemea (Varieties)	<i>Achemea blanchetiana & sp.</i>					Bromeliads
	Agave (Varieties)	<i>Agave spp.</i>					
	Aloe	<i>Aloe vera</i>					
	Elephant Foot Plant	<i>Dioscorea elephantipes</i>					
	Crown of Thorns	<i>Euphobia milii</i>					
	Organ Pipe Cactus	<i>Stenocereus thurberi</i>					
	Wauke, Paper Mulberry	<i>Broussonetia papyrifera</i>					
4	Mixed Planting						
	Purple Rubber Vine	<i>Cryptostegia madagascarensis</i>				INVASIVE	
	Bougainvillea	<i>Bougainvillea spp.</i>					
	Chinese Juniper	<i>Juniperus chinensis</i>					
	Exora (Orange)	<i>Exora chinensis</i>					
5	Mixed Planting						
	Achemea (Varieties)	<i>Achemea blanchetiana & sp.</i>					Bromeliads
	Aloe	<i>Aloe vega</i>					
	Bougainvillea	<i>Bougainvillea spp.</i>					
	Bromeliad (Varieties)	<i>Vriesea spp.</i>					
	Agave (Varieties)	<i>Agava spp.</i>					
	Carissa	<i>Carissa macrocarpa</i>					
	Red Ti	<i>Cordyline fruticosa cvs.</i>					

DIAMOND HEAD THEATRE EXISTING TREE LIST

8/19/2014

Inventory No.	Common Name	Botanical Name	Height (FT)	Spread (FT)	Caliper (FT)	Native / Endangered / Invasive	Notes
	Croton (Varieties)	<i>Croton spp.</i>					
	Elephant Foot Plant	<i>Dioscorea elephanitipes</i>					
	Hibiscus (Varieties)	<i>Hibiscus spp.</i>					Non-native
	Spider Lily	<i>Crinum asiaticum</i>					
	Eldorado	<i>Pseuderanthemum carruthersii</i>					
	Rosemary	<i>Rosemarinus sp.</i>					
	Yucca	<i>Yucca sp.</i>					
	Kauna'oa (Dodder)	<i>Cuscuta sandwichiana</i>				NATIVE	
6	Mixed Planting						
	Purple Eldorado	<i>Pseuderanthemum carruthersii atropurpureum</i>					
	Red Ti	<i>Cordyline fruticosa cvs.</i>					
7	Mixed Planting						
	Red Ti	<i>Cordyline fruticosa cv.</i>					
	Red Flowering Jatropha	<i>Jatropha integerrima</i>					
	Aloe	<i>Aloe vega</i>					
8	Mixed Planting						
	Money Tree	<i>Dracaena marginata</i>					
	Mock Orange	<i>Murraya puniculata</i>					
9	Mixed Planting						
	Achemea (Varieties)	<i>Achemea blanchetiana & sp.</i>					
	Red Ti	<i>Cordyline fruticosa cv.</i>					
	Bromeliad (Varieties)	<i>Vriesea spp.</i>					
	Pink Hibiscus	<i>Hibiscus sp.</i>					Non-native

DIAMOND HEAD THEATRE EXISTING TREE LIST

8/19/2014

Inventory No.	Common Name	Botanical Name	Height (FT)	Spread (FT)	Caliper (FT)	Native / Endangered / Invasive	Notes
	Rosemary	<i>Rosemarinus sp.</i>					
10	Haole Koa	<i>Leucaena leucocephala</i>				INVASIVE	
11	Cactus Garden						
	Agave (Varieties)	<i>Agave attenuata, A.variegata, A.americana, Agave spp.</i>					(+/- 13 each) Large one
	Aloe	<i>Aloe vera</i>					
	Dessert Rose	<i>Adenium obesum</i>					
	Elephant Foot Plant	<i>Dioscorea elephantipes</i>					
	Euphorbia	<i>Euphorbia pseudocactus</i>					
	Euphorbia, White Ghost	<i>Euphorbia lectea cv.</i>					
	Euphorbia, Silver Tree	<i>Euphorbia sp.</i>					
	Elephant's ear Kalanchoe	<i>Kalanchoe beharensis</i>					Large Gray Tree, Large Leaf
	Organ Pipe Cactus	<i>Stenocereus thurberi</i>					(+/- 7 each) Large ones
	Prickly Pear Cactus	<i>Opuntia sp.</i>					(+/- 8 each) Large ones
	Yucca	<i>Yucca sp.</i>					
	Carrion Cactus	<i>Stapelia grandiflora</i>					Starshape Flower
	Miniture Pine Shrub	<i>Unidentified</i>					
	Columnar Cereus Cactus	<i>Cereus peruvianus</i>					
	Boulders						(+/- 20 each)
Notes: 1. Plant Sizes are per survey map.							

APPENDIX B

Environmental Due Diligence Survey

Diamond Head Theater - SURVEY OF EXISTING CONDITIONS

ENVIRONMENTAL ASSESSMENT

SCOPE OF WORK

EnvironMETeo Services Inc. (EMET) was retained by Architects Hawaii, Ltd. to conduct a Due Diligence survey, of Diamond Head Theater, located at 520 Makapuu Avenue, Honolulu, Hawaii, for the following:

- asbestos-containing materials
- lead paint
- PCB-containing ballasts in fluorescent light fixtures
- Mercury-containing lamps

PURPOSE

Asbestos

Determine the presence of asbestos-containing material within the facility.

Lead-Containing Paint

Determine the presence of lead in paint within the facility.

Fluorescent Light Fixture PCB-Containing Ballasts

Determine the presence of PCB containing ballasts in fluorescent light fixtures within the facility.

Mercury-containing lamps

Determine the presence of Mercury-containing lamps in fluorescent light fixtures within the facility.

METHODOLOGY AND EXCEPTIONS

EMET conducted an inspection for asbestos-containing materials, lead paint, PCB-containing ballasts in fluorescent light fixtures, and mercury-containing fluorescent lamps. The inspection was conducted on August 20, 2007.

The inspection consisted of a site walk through, visual inspection, sample collection, and laboratory analyses. Random sampling and testing was conducted for suspect asbestos-containing materials (ACM) and lead-containing paint. Random fluorescent light fixtures were inspected for PCB-containing ballasts and mercury-containing lamps.

OBSERVATION AND FINDINGS - ASBESTOS

Sampling of suspect materials was performed by EMET, to confirm the presence and/or absence of asbestos-containing materials.

Based on the laboratory analyses of approximately seventy-three (73) samples collected and on-site visual inspection conducted, asbestos was detected in the following materials:

Summary of Asbestos-containing Materials

Sample Description	Location
Black mastic beneath 12" x 12" beige w/specks VFT	Beneath 12" x 12" beige w/specks VFT found throughout the Green Room and hallway ewa of the Green Room. Also throughout ewa half of Costume & Storage Area
Black mirror mastic	Behind mirrors on walls of Rehearsal Room, Basement Level
Black mastic beneath 12" x 12" beige	Beneath 12" x 12" beige w/specks

Diamond Head Theater - SURVEY OF EXISTING CONDITIONS

w/specks VFT	VFT found throughout Exit Corridor, Basement Level
9" x 9" dark brown VFT	Bottom of two layers of floor tile found throughout Canteen, Stage Level
Black mastic beneath 9" x 9" dark brown VFT	Beneath bottom of two layers of floor tile found throughout Canteen, Stage Level
Beige caulking at window frame	Window frames of Canteen, Stage Level
Beige caulking at door frame	Door frame to Lobby of Canteen, Stage Level
8" x 8" brown speckled VFT	Throughout the two offices (beneath carpet) and hallway adjacent to the top of the stairs, Mezzanine Level
Black mastic beneath 8" x 8" brown speckled VFT	Throughout the two offices (beneath carpet) and hallway adjacent to the top of the stairs, Mezzanine Level
8" x 8" dark green w/white streaks VFT	Throughout the office adjacent to the prop storage area (beneath carpet) and the central hallway, Mezzanine Level
8" x 8" dark green w/white streaks VFT	Throughout the office adjacent to the prop storage area (beneath carpet) and the central hallway, Mezzanine Level

OBSERVATION AND FINDINGS – LEAD PAINT

EMET conducted testing of various painted surfaces for the presence of lead. Testing was conducted using a field portable x-ray fluorescence lead paint analyzer manufactured by NITON Corporation.

Lead-based paint (covered painted surfaces containing lead content in excess of 1.0 mg/cm²) was detected on the following surfaces:

Summary of Lead-based Paint Materials

Sample Description	Location
Wall with plaster substrate	All four exterior walls of the building
Railing with metal substrate	Stair No. 2 and Stair No. 4, exterior
Post with metal substrate	Costume & Storage Area and Rehearsal Room, Basement Level
Beam with metal substrate	Costume & Storage Area, Basement Level
Wall with concrete substrate	Exit Corridor, Stage Level
Wall with canec substrate	Stage Area, Box Office, and Canteen Room, Stage Level
Wall with plaster substrate	Center hallway, Mezzanine Level
Frame with metal substrate	Attic

Covered painted surfaces/building components containing lead but with a content of less than 1.0 mg/cm², were detected on all other surfaces tested and are considered to be lead-containing paint (LCP).

Diamond Head Theater - SURVEY OF EXISTING CONDITIONS

OBSERVATION AND FINDINGS – FLUORESCENT LIGHT FIXTURE PCB CONTAINING BALLASTS

EMET conducted a visual inspection of typical PCB-containing ballasts in fluorescent light fixtures. On the lower level, inspection of typical fluorescent light fixtures of two types of fixtures revealed "no PCB" labeling for both types of fixtures. On the Stage level, typical fluorescent light fixtures on the Stage level inspected had "no PCB" labeling. On the Mezzanine level, inspection of typical fluorescent light fixtures of three different types revealed "no PCB" labeling for each type of fixture.

OBSERVATION AND FINDINGS – MERCURY-CONTAINING LAMPS

EMET conducted a visual inspection of typical lamps within fluorescent light fixtures. Inspection of the fluorescent light fixtures indicates mercury-containing lamps are present at all light fixtures.

APPENDIX C

Traffic Impact Assessment Report

TRAFFIC IMPACT ASSESSMENT REPORT FOR
DIAMOND HEAD THEATER

IN HONOLULU, OAHU, HAWAII

DRAFT REPORT

Prepared For

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September 5, 2014

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1. INTRODUCTION

Phillip Rowell and Associates have completed the following Traffic Impact Assessment Report for the proposed construction of a new Diamond Head Theater. This introductory chapter describes the proposed action in further detail, the study approach and the order of presentation of the report.

Purpose and Objectives of Study

1. Determine and describe the traffic characteristics of the proposed project.
2. Quantify and document the traffic related impacts of the proposed project.
3. If required, identify and evaluate traffic related improvements required to provide adequate access to and egress from the proposed project and to mitigate the project's traffic impacts.

Project Location and Description

The proposed action is the construction of a new theater adjacent to the existing theater and reconfiguration of the existing parking lot.

The existing theater is located in the northeast quadrant of the intersection of Makapuu Avenue and Alohea Avenue. The existing theater has 500 seats.

The existing parking lot is located immediately west of the theater. There are two entrances to the parking lot, one along the north side of Alohea Avenue approximately 165 feet east of Pokole Street and another along the east side of Pokole Street approximately 225 feet north of Alohea Avenue. See [Figure 1](#). The parking lot is used by theater users but is also used by KCC day students.

The new theater will be constructed north of the existing theater and will also have 500 seats. The parking lot will be reconfigured but the driveways to the new lot will be at the same approximate locations as the existing lot. See [Figure 2](#). It is assumed that the new lot will continue to be used by KCC day students.

The existing theater is also used for Church services of Sundays. It is assumed that this will continue.

The existing theater will be demolished upon completion of the new theater.

Study Approach

1. A site reconnaissance was performed to confirm existing roadway cross-sections, intersection lane configurations, traffic control devices, bus stop locations and surrounding land uses.
2. Current peak-hour traffic volumes for the study intersections were obtained and summarized.
3. A level-of-service analysis of the study intersections was performed using the operations method described in the *Highway Capacity Manual*. The purpose of this analysis was to identify any existing traffic operating deficiencies.
4. Future background traffic volumes at the study intersections without traffic generated by the study project were estimated.
5. Based on the project description, the new theater will generate the same number of peak hour trips as the existing since the number of theater seats are the same. Therefore, future traffic projections with project traffic at the study intersections is the same as future traffic projections without project traffic.
6. A level-of-service analysis for future traffic conditions was performed. The purpose of this level-of-service analysis was to confirm that the study intersections will operate at an acceptable level-of-service. Traffic operational deficiencies were identified.

Recommendations, improvements or modifications necessary to mitigate the traffic impacts of the project and to provide adequate access to and egress from the site were identified.

7. Traffic related impacts of traffic generated by the proposed action, including any construction related impacts were identified.
8. A construction traffic management plan has been described.

Order of Presentation

Chapter 2 describes existing traffic conditions, the Level-of-Service (LOS) concept and the results of the level-of-service analysis of existing conditions.

Chapter 3 describes the process used to estimate 2020 background traffic volumes and the resulting background traffic projections.

Chapter 4 describes the methodology used to estimate the traffic characteristics of the proposed project, including 2020 background plus project traffic projections.

Chapter 5 describes the traffic impacts of the proposed project and summarizes the traffic impact study.

Chapter 6 summarizes the report, conclusions of the analyses and recommendations.

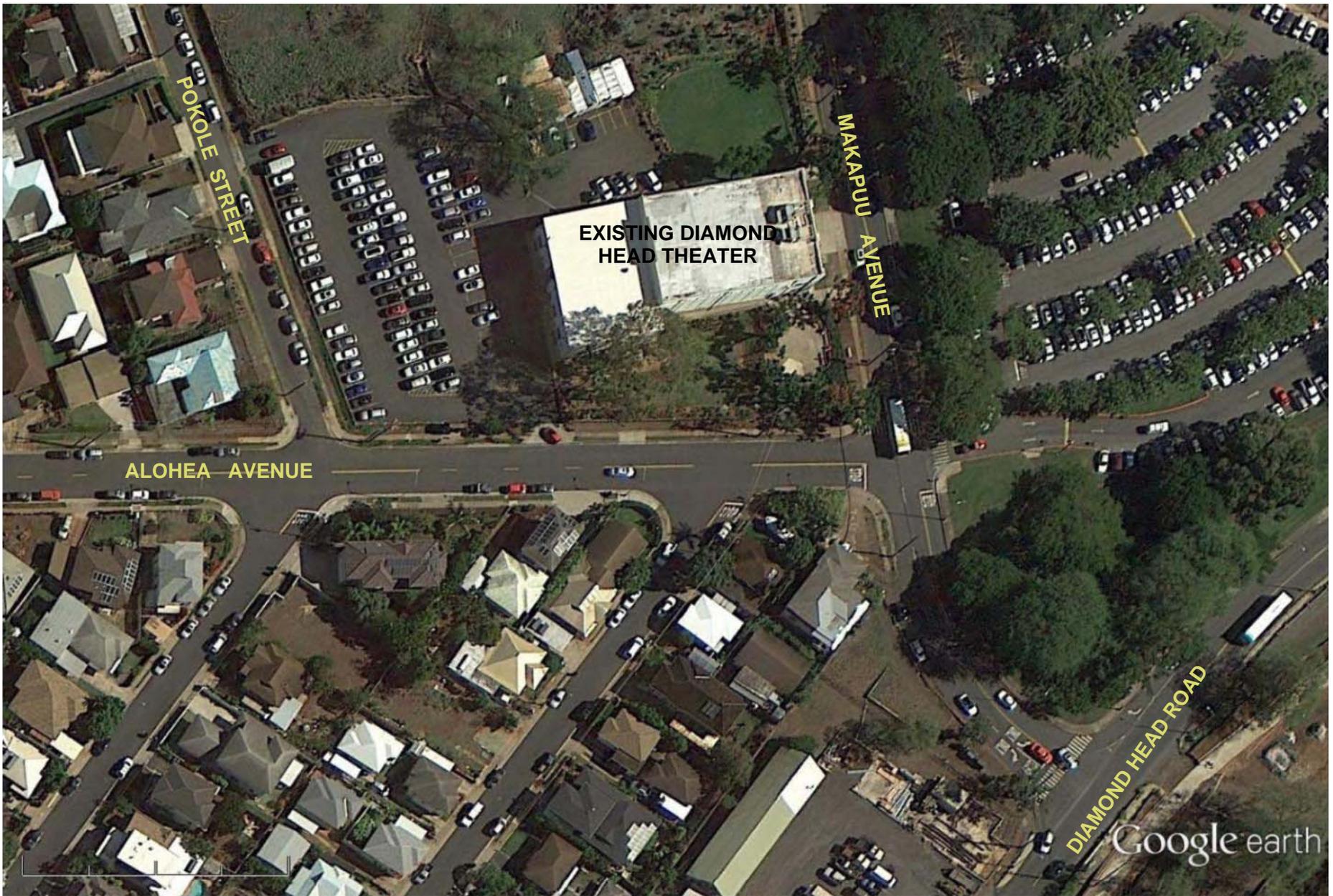


Figure 1
EXISTING SITE CONDITIONS

SOURCE OF MAP: GOOGLE EARTH



DRAWING PROVIDED BY OTHERS

Figure 2
PROPOSED PROJECT SITE PLAN

2. ANALYSIS OF EXISTING CONDITIONS

This chapter describes existing traffic conditions of the study intersections and along the roadways adjacent to the proposed project. The level-of-service (LOS) concept and the results of the Level-of-Service analysis for existing conditions are also presented. The purpose of this analysis is to identify any existing traffic operating deficiencies.

Descriptions of Existing Streets and Intersections

The intersection of Diamond Head Road and Makapuu Avenue is an unsignalized T-intersection. The eastbound and westbound approaches are Diamond Head Road and are the uncontrolled approaches. The eastbound approach is one lane, an optional left turn or through lane, and the westbound approach is two lanes, one through lane and one right turn lane. The southbound approach is Makapuu Avenue and is the controlled approach. The southbound approach is two lanes, one left turn lane and one right turn lane.

The intersection of Makapuu Avenue and Alohea Avenue is a four-way unsignalized intersection. The northbound and southbound approaches are Makapuu Avenue, the eastbound approach is Alohea Avenue and the westbound approach is the exit from the KCC parking lot. All approaches are STOP sign controlled. The northbound, southbound, and westbound approaches are all one lane each. The southbound approach is striped as one lane, but is wide enough to operate as two lanes when there is a vehicle turning left into the project.

The intersection of Alohea Avenue and Pokole Street is a four legged, unsignalized intersection. The eastbound and westbound approaches are Alohea Avenue and are the uncontrolled

approaches. The eastbound and westbound approaches are one lane each. Pokole Street is two way south of Alohea Avenue and in one-way northbound north of Alohea Avenue, so there is only a northbound approach, which is one lane and is the controlled approach.

The intersection of Makapuu Avenue and Kilauea Avenue is a three legged unsignalized intersection. The eastbound and westbound approaches are Kilauea and are the uncontrolled approaches. Each approach is one lane. The northbound approach is Makapuu Avenue and is the STOP sign controlled approach. The northbound approach is one lane.

Two driveway intersection were counted to estimate the amount of traffic that the theater generates. These intersections were along Pokole Street at the theater driveway and along Alohea Avenue at the theater driveway.

The intersection of Pokole Street and the theater driveway is located along the east side of Pokole Street approximately 225 feet north of Alohea Avenue. Pokole Street is one-way northbound so there is no southbound approach. The driveway exit is the westbound approach and is the controlled approach.

The intersection of Alohea Avenue and the theater driveway is located along the north side of Alohea Avenue approximately 165 feet east of Pokole Street. The driveway exit is the southbound approach and is the controlled approach.

[Figure 3](#) is a schematic drawing indicating the lane configurations and right-of-way controls of the study intersections.

Public Transportation

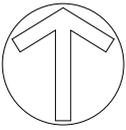
As of the date this report is written, TheBus operates along Makapuu Avenue, Pokole Street, Diamond Head Road, Alohea Avenue (between Makapuu Avenue and Pokole Street) and Kilauea Avenue. Bus stop locations within the study area are also shown on [Figure 3](#).

Existing Peak Hour Traffic Volumes

The study intersections were counted on weekdays and on Sundays. The weekday counts were performed on either a Tuesday or Thursday from 6:30 AM to 8:30 AM and from 3:30 PM to 6:00 PM. The Sunday counts were performed 8:00 AM to 12:30 PM.

The traffic counts include buses, trucks and other large vehicles. Mopeds and motorcycles were counted as vehicles.

The results of the weekday peak hour traffic counts are summarized on [Figures 4 and 5](#). The results of the Sunday counts are summarized on [Figure 6](#).



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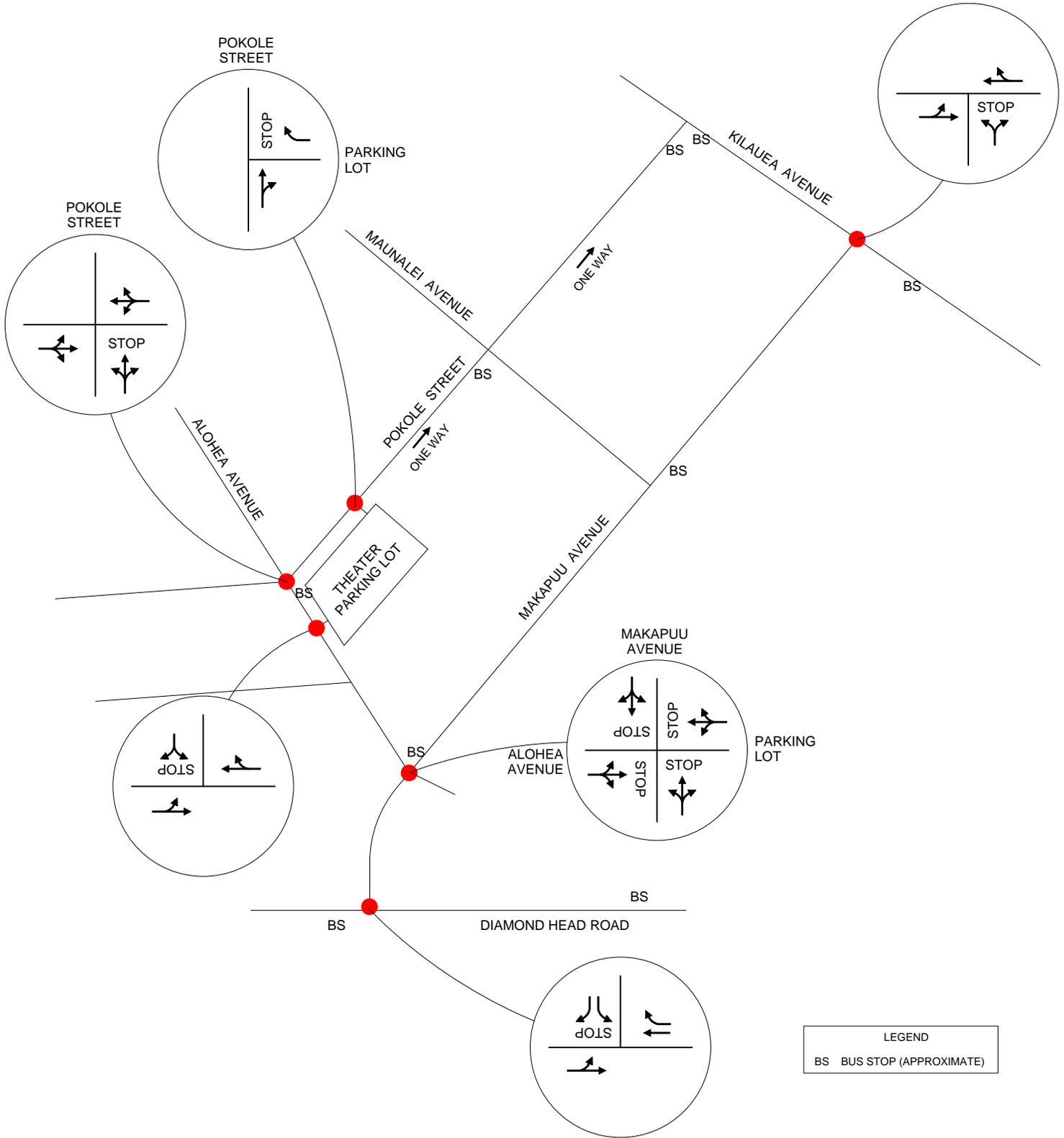
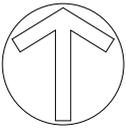


Figure 3
EXISTING (2014) LANE CONFIGURATIONS AND
RIGHT-OF-WAY CONTROLS



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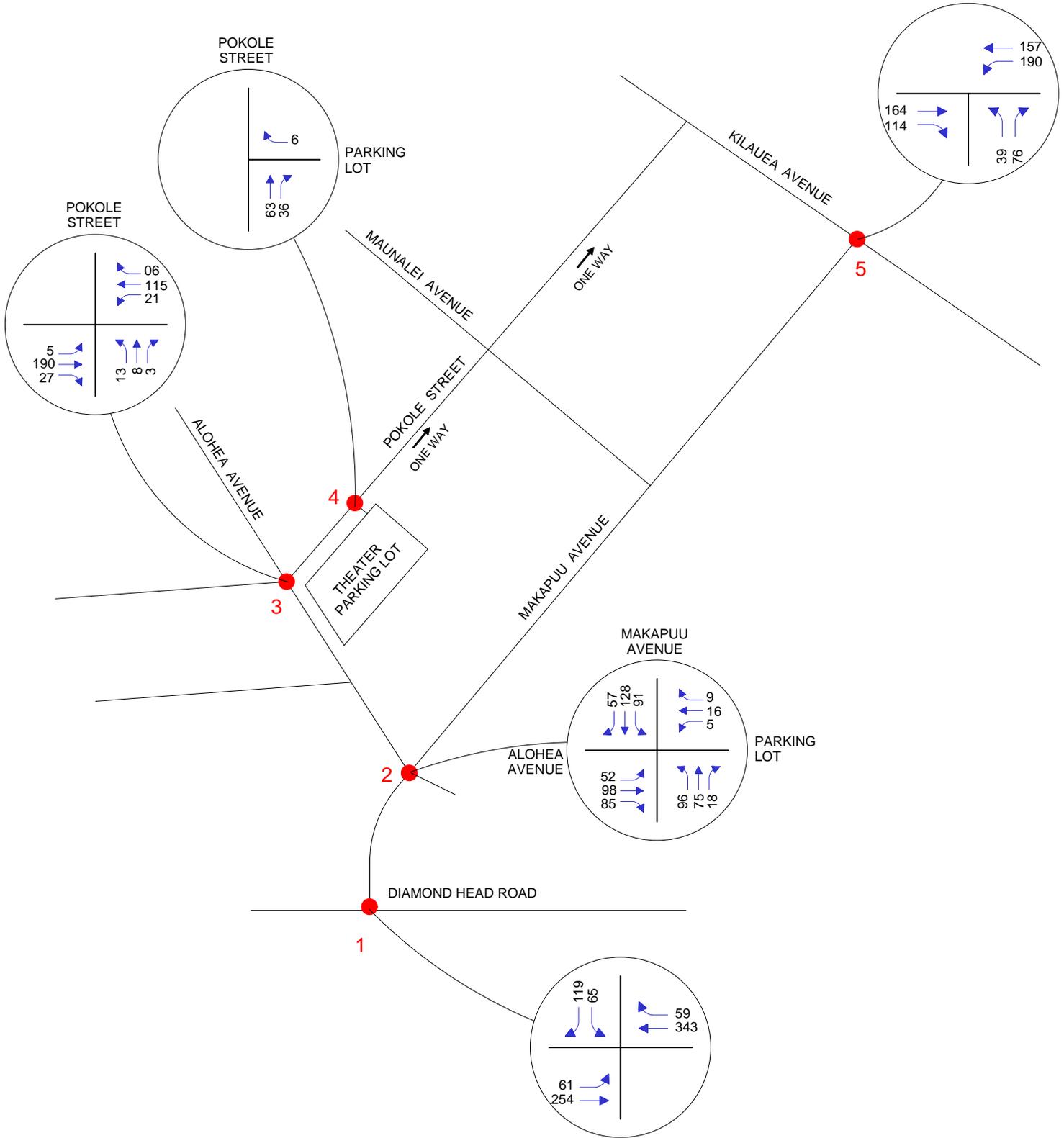
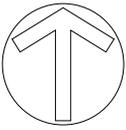


Figure 4
EXISTING (2014) AM PEAK HOUR TRAFFIC VOLUMES



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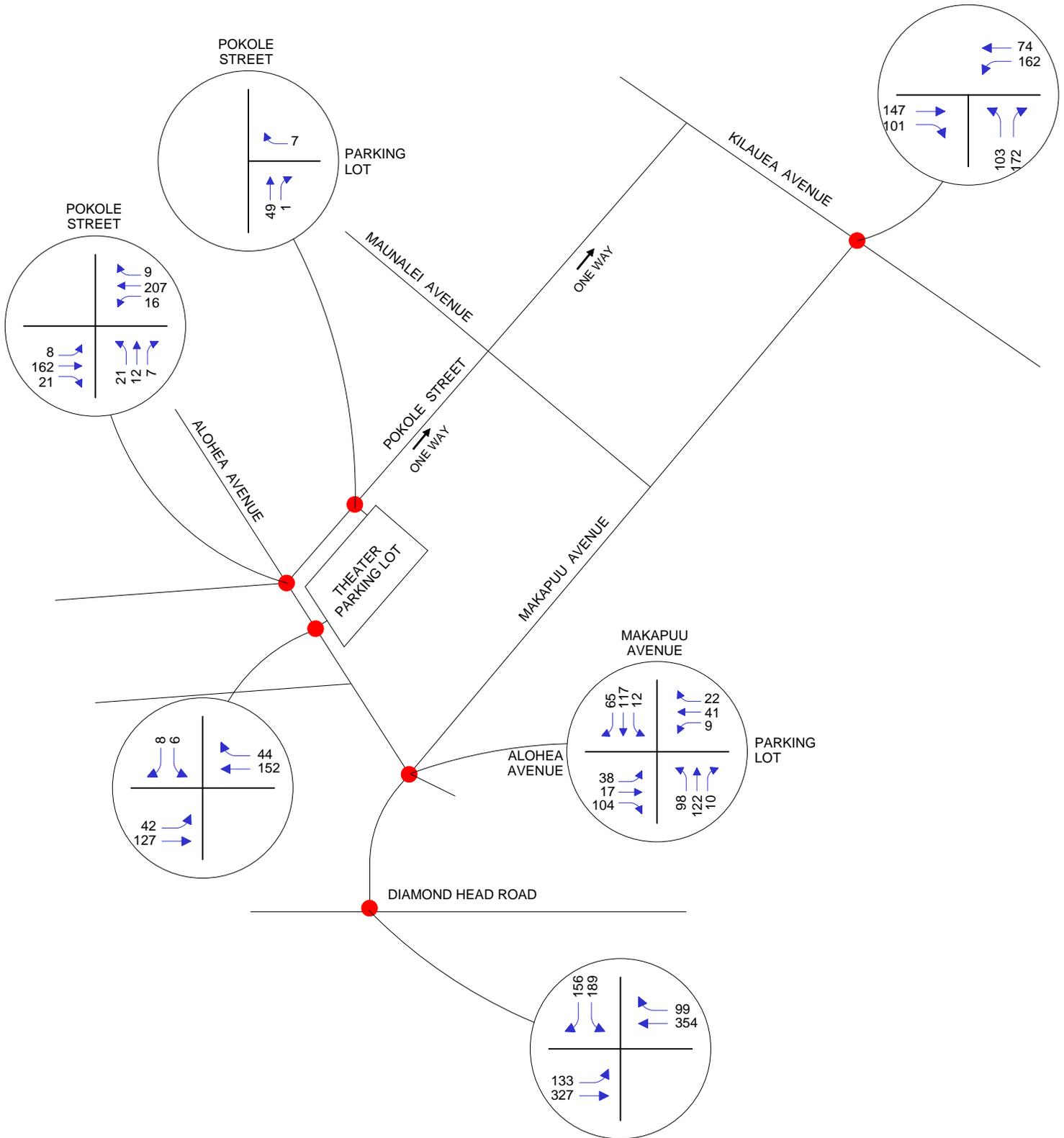


Figure 5
EXISTING (2014) PM PEAK HOUR TRAFFIC VOLUMES

Level-of-Service Concept

Signalized Intersections

"Level-of-Service" is a term which denotes any of an infinite number of combinations of traffic operating conditions that may occur on a given lane or roadway when it is subjected to various traffic volumes. Level-of-service (Level-of-Service) is a qualitative measure of the effect of a number of factors which include space, speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience.

There are six levels-of-service, A through F, which relate to the driving conditions from best to worst, respectively. The characteristics of traffic operations for each level-of-service are summarized in [Table 1](#). In general, Level-of-Service A represents free-flow conditions with no congestion. Level-of-Service F, on the other hand, represents severe congestion with stop-and-go conditions. Level-of-service D is typically considered acceptable for peak hour conditions in urban areas.

Corresponding to each level-of-service shown in the table is a volume/capacity ratio. This is the ratio of either existing or projected traffic volumes to the capacity of the intersection. Capacity is defined as the maximum number of vehicles that can be accommodated by the roadway during a specified period of time. The capacity of a particular roadway is dependent upon its physical characteristics such as the number of lanes, the operational characteristics of the roadway (one-way, two-way, turn prohibitions, bus stops, etc.), the type of traffic using the roadway (trucks, buses, etc.) and turning movements.

Table 1 Level-of-Service Definitions for Signalized Intersections⁽¹⁾

Level of Service	Interpretation	Volume-to-Capacity Ratio ⁽²⁾	Stopped Delay (Seconds)
A	Uncongested operations; all vehicles clear in a single cycle.	0.00-0.700	≤10.0
B			10.1 - 20.0
C	Light congestion; occasional backups on critical approaches	0.701-0.800	20.1 - 35.0
D	Congestion on critical approaches but intersection functional. Vehicles must wait through more than one cycle during short periods. No long standing lines formed.	0.801-0.900	35.1 - 55.0
E	Severe congestion with some standing lines on critical approaches. Blockage of intersection may occur if signal does not provide protected turning movements.	0.901-1.000	55.1 - 80.0
F	Total breakdown with stop-and-go operation	>1.001	>80.0

Notes:

(1) Source: *Highway Capacity Manual*, 2000.

(2) This is the ratio of the calculated critical volume to Level-of-Service E Capacity.

Unsignalized Intersections

Like signalized intersections, the operating conditions of intersections controlled by stop signs can be classified by a level-of-service from A to F. However, the method for determining level-of-service for unsignalized intersections is based on the use of gaps in traffic on the major street by vehicles crossing or turning through that stream. Specifically, the capacity of the controlled legs of an intersection is based on two factors: 1) the distribution of gaps in the major street traffic stream, and 2) driver judgement in selecting gaps through which to execute a desired maneuver. The criteria for level-of-service at an unsignalized intersection is therefore based on delay of each turning movement. [Table 2](#) summarizes the definitions for level-of-service and the corresponding delay.

Table 2 Level-of-Service Definitions for Unsignalized Intersections⁽¹⁾

Level-of-Service	Expected Delay to Minor Street Traffic	Delay (Seconds)
A	Little or no delay	<10.0
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	See note (2) below	>50.1

Notes:

(1) Source: *Highway Capacity Manual*, 2000.

(2) When demand volume exceeds the capacity of the lane, extreme delays will be encountered with queuing which may cause severe congestion affecting other traffic movements in the intersection. This condition usually warrants improvement of the intersection.

Level-of-Service Analysis of Existing Conditions

The results of the Level-of-Service analysis of the unsignalized study inter sections are summarized in Table 3. Shown are the control delays and Levels-of-Service of each controlled lane group. Delays and levels-of-service are not calculated for uncontrolled, or free flow, movements. Also shown are the 95th percentile queue for the controlled approaches as reported by Synchro.

Table 3 Existing (2014) Levels-of-Service Analysis - Unsignalized Intersections ⁽⁴⁾

Intersection and Movement	AM Peak Hour			PM Peak Hour			Sunday Peak Hour		
	Delay ⁽¹⁾	LOS ⁽²⁾	Queue ⁽³⁾ (Vehicles)	Delay	LOS	Queue (Vehicles)	Delay	LOS	Queue (Vehicles)
Diamond Head Rd at Makapuu Ave	3.6	A	NC ⁽⁵⁾	15.8	C	NC	3.8	A	NC
Eastbound Left & Thru	2.1	A	<1	3.6	A	<1	2.0	A	<1
Southbound Left	18.3	C	<1	86.1	F	<8	37.1	E	<2
Southbound Right	11.6	B	<1	12.3	B	<2	11.4	B	<1
Makapuu Ave at Alohea Ave	10.7	B	NC	9.7	A	NC	8.7	A	NC
Eastbound Left, Thru & Right	11.4	B	NC	9.3	A	NC	9.0	A	NC
Westbound Left, Thru & Right	8.8	A	NC	8.8	A	NC	8.0	A	NC
Northbound Left, Thru & Right	9.8	A	NC	10.4	B	NC	8.6	A	NC
Southbound Left, Thru & Right	10.8	B	NC	9.5	A	NC	8.8	A	NC
Alohea Ave at Pokole St	1.3	A	NC	1.5	A	NC	1.3	A	NC
Eastbound Left, Thru & Right	0.2	A	<1	0.4	A	<1	0.6	A	<1
Westbound Left, Thru & Right	1.3	A	<1	0.6	A	<1	0.1	A	<1
Northbound Left, Thru & Right	11.7	B	<1	12.4	B	<1	10.6	B	<1
Kilauea Ave at Makapuu Ave	4.8	A	NC	8.4	A	NC	5.5	A	NC
Westbound Left & Thru	5.3	A	<1	6.0	A	<1	5.0	A	<1
Northbound Left & Right	14.7	B	<2	18.1	C	<4	12.3	B	<2
Pokole St at Theater Parking Lot	0.5	A	NC	1.1	A	NC	2.0	A	NC
Westbound Right	8.7	A	<1	8.6	A	<1	8.1	A	<1
Alohea Ave at Theater Parking Lot	1.5	A	NC	1.3	A	NC	1.6	A	NC
Eastbound Left & Thru	2.2	A	<1	2.1	A	<1	2.0	A	<1
Southbound Left & Right	10.1	B	<1	9.9	A	<1	9.5	A	<1

NOTES:

- (1) Delay in seconds per vehicle.
- (2) LOS denotes Level-of-Service calculated using the operations method described in Highway Capacity Manual. Level-of-Service is based on delay.
- (3) 95th percentile queue in vehicles as reported by Synchro
- (4) See Appendix A for Level-of-Service Worksheets.

Conclusions of the Level-of-Service Analysis

All the study intersections and lane groups, except the intersection of Diamond Head Road and Makapuu Avenue, operate at Level-of-Service A or B, which implies good operating conditions. At the intersection of Diamond Head Road at Makapuu Avenue, the southbound to eastbound left turn operates at Level-of-Service C during the morning peak hour, Level-of-Service F during the afternoon peak hour and Level-of-Service E during the Sunday peak hour. During the afternoon peak hour, the delay is so long that it affects of overall intersection level-of-service. The overall intersection level-of-service is Level-of-Service F and the queue is eight (8) vehicles. The available queue space is sufficient for only 10 vehicles.

Existing Deficiencies

For signalized intersections, the minimum acceptable standard is Level-of-Service D¹ and that criteria is applicable to the overall intersection rather than each controlled lane group. Minor movements, such as left turns, and minor side street approaches may operate at Level-of-Service E or F for short periods of time during the peak hours so that the overall intersection and major movements along the major roadway will operate at Level-of-Service D, or better. All volume-to-capacity ratios must be 1.00 or less.

The Institute of Transportation Engineers has not established a standard for unsignalized intersections. In order to assess the impacts at unsignalized intersections, we have used the signalized intersection standard that Level-of-Service D is an acceptable level-of-service for any major controlled lane groups, such as left turns from a major street to a minor street. Side street approaches may operate at Level-of-Service E or F for short periods of time. This is determined from the delays of the individual lane groups. If the delay of any of the side street approaches appears to be so long that it will affect the overall level-of-service of the intersection, then mitigation measures should be accessed.

Using this standard, the intersections currently operate at acceptable levels-of-service, but the southbound to eastbound left turns at the intersection of Diamond Head Road and Makapuu Avenue affect the overall intersection level-of-service, causing the overall intersection to operate at Level-of-Service C. If the intersection were to be signalized, the overall intersection would operate at Level-of-Service A and all lane groups would operate at Level-of-Service A or B. At present, there is insufficient data to perform a full traffic signal warrant analysis.

¹ Institute of Transportation Engineers, *Transportation Impact Analyses for Site Development: A Recommended Practice*, 2006, page 60

3. PROJECTED BACKGROUND TRAFFIC CONDITIONS

The purpose of this chapter is to discuss the assumptions and data used to estimate 2020 background traffic conditions. Background traffic conditions are defined as future traffic volumes without the proposed project.

Horizon Year

The horizon year represents a date for which future background traffic projections were estimated. These projections include traffic generated by other known development projects within and adjacent to the study area and background traffic growth, for which a future year must be selected.

For projects that will generate less than 500 peak hour trips, the suggested horizon year is the “anticipated opening year, assuming full build-out and occupancy.”² It is our understanding that fund raising for the project is expected to take approximately five years and that construction will take approximately one year. Therefore, 2020 was assumed to be the horizon year.

² Institute of Transportation Engineers, *Transportation and Land Development*, Washington, D.C., 2002, page 3-13

Background Traffic Growth

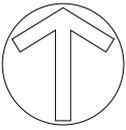
2020 background traffic projections are typically estimated by applying growth rates to estimated traffic volumes. It was assumed that the growth rate along Diamond Head Road, Makapuu Avenue Alohea Avenue and Kilauea Avenue would be 1.0% per year between 2014 and 2020. Growth factors were calculated using the following formula:

$$F = (1 + i)^n$$

where F = Growth Factor
i = Average annual growth rate
n = Growth period in years

2020 Background Traffic Projections

2020 background traffic projections were calculated by expanding existing traffic volumes by the appropriate growth rates. The resulting 2020 background peak hour traffic projections are shown as [Figures 7, 8 and 9](#).



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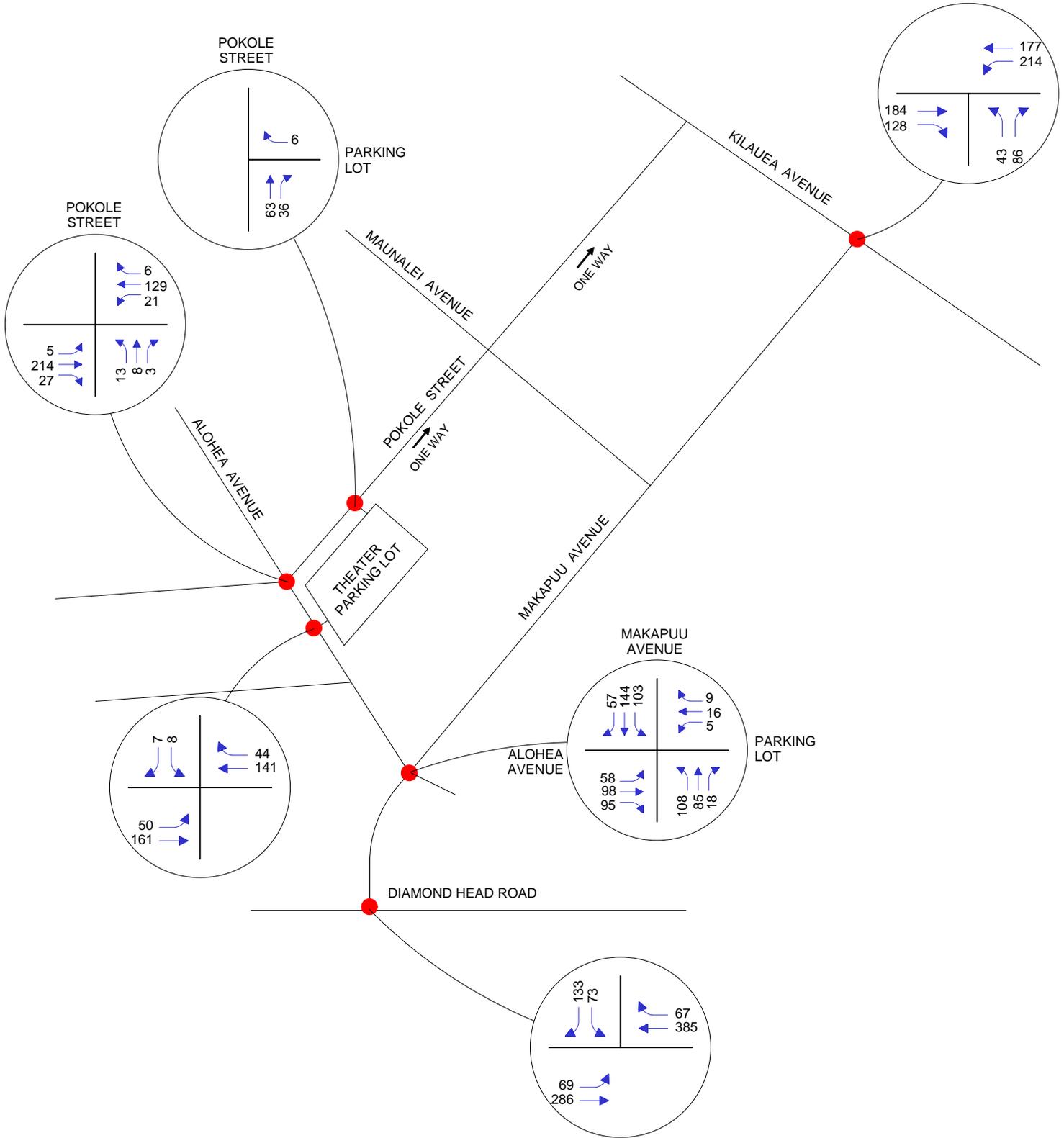
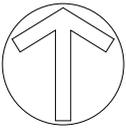


Figure 7
2020 BACKGROUND AM PEAK HOUR TRAFFIC PROJECTIONS



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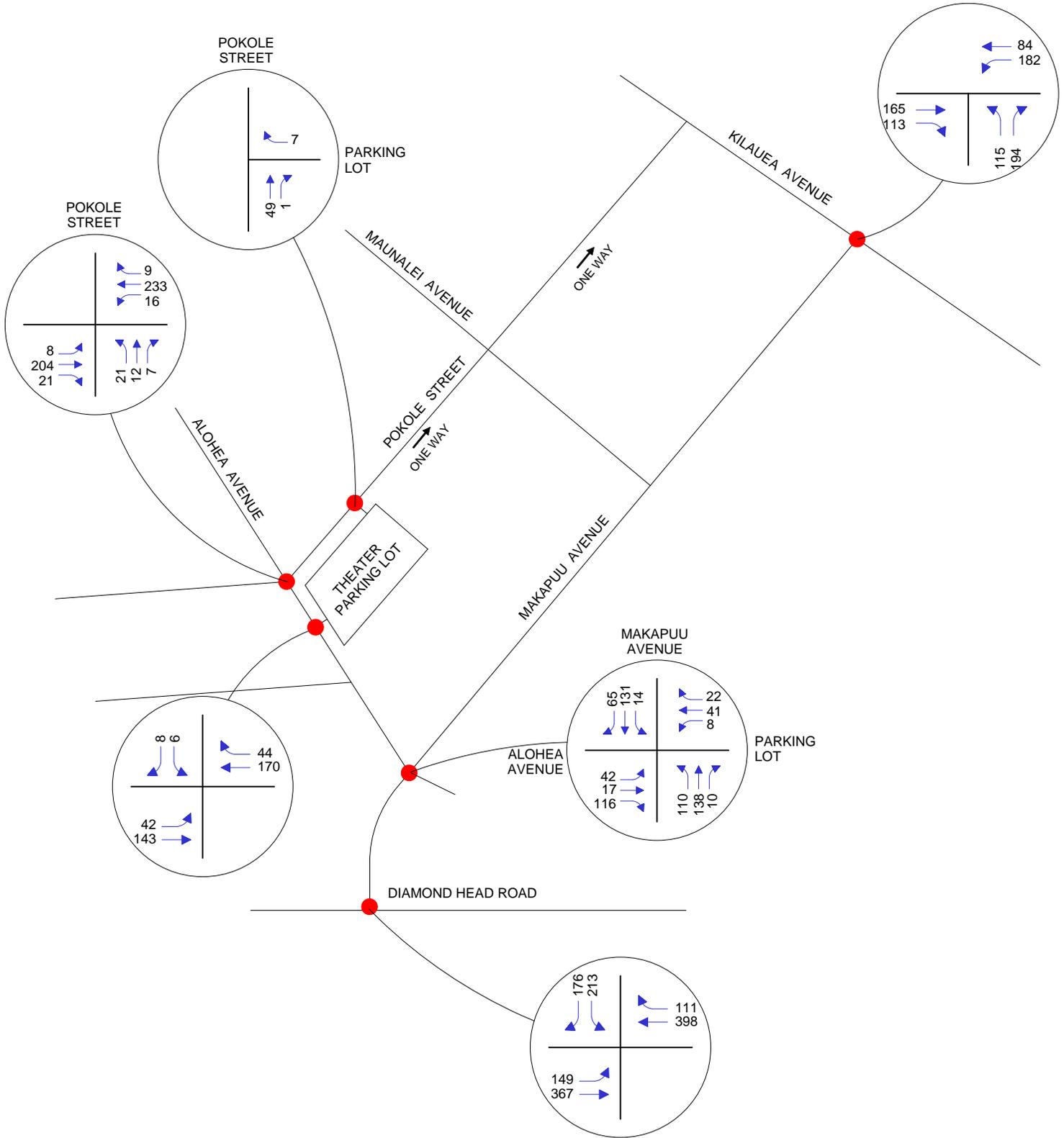
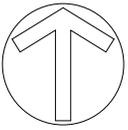


Figure 8
2020 BACKGROUND PM PEAK HOUR TRAFFIC PROJECTIONS



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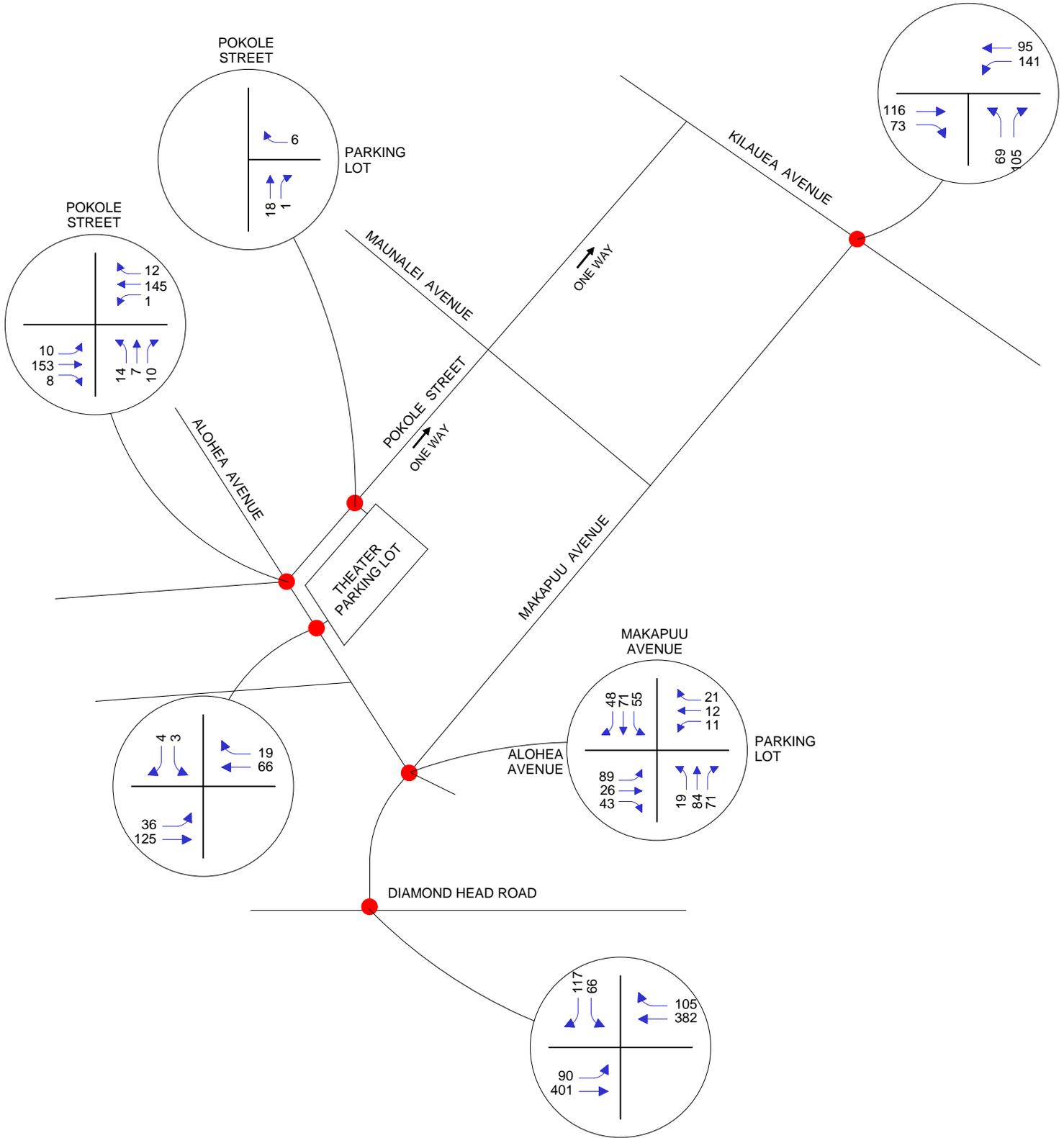


Figure 9
2020 BACKGROUND SUNDAY PEAK HOUR TRAFFIC PROJECTIONS

4. PROJECT-RELATED TRAFFIC CONDITIONS

This chapter presents the generation, distribution and assignment of project generated traffic and the background plus project traffic projections. The results of the level-of-service analysis of background plus project conditions are presented in the following chapter.

Project Trip Generation

Typically, future traffic volumes that a project will generate are estimated using the procedures described in the *Trip Generation Handbook*³ and data provided in *Trip Generation*.⁴ The methodology uses trip generation rates or equations to estimate the number of trips that a project will generate during peak hours.

The proposed action is the construction of a new theater, demolition of the old theater and reconfiguration of the existing parking lot. Trip generation estimates for theaters are based on the number of seats in the proposed theater. In this case, the new theater will have 500 seats, which is the same number as the existing theater. Therefore, the new theater will not generate any additional trips.

³ Institute of Transportation Engineers, *Trip Generation Handbook*, Washington, D.C., , p. 7-12

⁴ Institute of Transportation Engineers, *Trip Generation, 8th Edition*, Washington, D.C., 2008

The existing parking lot will be reconfigured. The driveways to and from the reconfigured parking lot are at the same locations, so there will be redistribution of traffic associated with the theater or church activities.

The conclusion is that 2020 peak hour traffic projections with project traffic at the study intersections will be comparable to 2020 peak hour traffic projections without project traffic.

2020 Background Plus Project Projections

Background plus project traffic conditions are defined as 2020 background traffic conditions plus project related traffic. These projections were estimated by superimposing the peak hour trip estimates of traffic generated by the proposed project on the 2020 background peak hour traffic volumes presented in Chapter 3. Since the with project traffic projections are comparable to the without project traffic projections. Refer to [Figures 7, 8 and 9](#) in Chapter 3.

5. TRAFFIC IMPACT ANALYSIS

The purpose of this chapter is to summarize the results of the level-of-service analysis, which identifies the project-related impacts and any mitigation required as a result of project generated traffic. The impact of the project was assessed by analyzing the changes in levels-of-service at the study intersections.

Level-of-Service Analysis

The level-of-service analysis of the study intersections was performed for background and background plus project conditions.

Table 4 2020 Levels-of-Service Analysis - Unsignalized Intersections ⁽⁴⁾

Intersection and Movement	AM Peak Hour			PM Peak Hour			Sunday Peak Hour		
	Delay ⁽¹⁾	LOS ⁽²⁾	Queue ⁽³⁾ (Vehicles)	Delay	LOS	Queue (Vehicles)	Delay	LOS	Queue (Vehicles)
Diamond Head Rd at Makapuu Ave	4.0	A	NC ⁽⁵⁾	34.2	D	NC	3.9	A	NC
Eastbound Left & Thru	2.3	A	<1	4.0	A	<1	2.5	A	<1
Southbound Left	21.6	C	<2	206.2	F	<13	27.7	D	<2
Southbound Right	12.3	B	<1	13.3	B	<2	12.1	B	<1
Makapuu Ave at Alohea Ave	11.7	B	NC	10.3	B	NC	9.0	A	NC
Eastbound Left, Thru & Right	11.7	B	NC	9.8	A	NC	9.3	A	NC
Westbound Left, Thru & Right	9.1	A	NC	9.1	A	NC	8.2	A	NC
Northbound Left, Thru & Right	11.0	B	NC	11.2	B	NC	8.9	A	NC
Southbound Left, Thru & Right	12.5	B	NC	10.0	B	NC	9.1	A	NC
Alohea Ave at Pokole St	1.2	A	NC	1.4	A	NC	1.2	A	NC
Eastbound Left, Thru & Right	0.2	A	<1	0.3	A	<1	0.5	A	<1
Westbound Left, Thru & Right	1.2	A	<1	0.6	A	<1	0.1	A	<1
Northbound Left, Thru & Right	12.2	B	<1	13.3	B	<1	10.8	B	<1
Kilauea Ave at Makapuu Ave	5.2	A	NC	10.5	B	NC	5.9	A	NC
Westbound Left & Thru	5.6	A	<1	6.2	A	<1	5.1	A	<1
Northbound Left & Right	16.8	C	<2	23.5	C	<5	13.4	B	<2
Pokole St at Theater Parking Lot	0.5	A	NC	1.1	A	NC	2.0	A	NC
Westbound Right	8.7	A	<1	8.6	A	<1	8.1	A	<1
Alohea Ave at Theater Parking Lot	1.5	A	NC	1.2	A	NC	1.5	A	NC
Eastbound Left & Thru	2.1	A	<1	2.0	A	<1	1.8	A	<1
Southbound Left & Right	10.7	B	<1	10.5	B	<1	9.6	A	<1

NOTES:

- (1) Delay in seconds per vehicle.
- (2) LOS denotes Level-of-Service calculated using the operations method described in Highway Capacity Manual. Level-of-Service is based on delay.
- (3) 95th percentile queue in vehicles as reported by Synchro
- (4) See [Appendix B](#) for Level-of-Service Worksheets.

As with existing conditions, all the intersections will operate a Level-of-Service A or B, except the intersection of Diamond Head Road at Makapuu Avenue. The southbound to westbound left turns have a very long delay, which affects the overall intersection level-of-service. The level-of-service of the left turn is Level-of-Service F and the overall intersection will operate at Level-of-Service D during the afternoon peak hour.

Mitigation

For signalized intersections, Level-of-Service D is the minimum acceptable Level-of-Service⁵ and that this standard is applicable to the overall intersection rather than each controlled lane group. Minor movements, such as left turns, and minor side street approaches may operate at Level-of-Service E or F for short periods of time during the peak hours so that the overall intersection and

⁵ Institute of Transportation Engineers, *Transportation Impact Analyses for Site Development: A Recommended Practice*, 2006, page 60.

major movements along the major highway will operate at Level-of-Service D, or better. All volume-to-capacity ratios must be 1.00 or less⁶.

A standard has not be established for unsignalized intersections. Therefore, we have used a standard that Level-of-Service D is an acceptable level-of-service for any major controlled lane groups, such as left turns from a major street to a minor street. Side street approaches may operate at Level-of-Service E or F for short periods of time. This is determined from the delays of the individual lane groups. If the delay of any of the side street approaches appears to be so long that it will affect the overall level-of-service of the intersection, then mitigation measures should be accessed.

Using this standard, the intersections currently operate at acceptable levels-of-service, but the southbound to eastbound left turns at the intersection of Diamond Head Road and Makapuu Avenue affect the overall intersection level-of-service, causing the overall intersection to operate at Level-of-Service F during the weekday peak hour and Level-of-Service D during the Sunday peak hour. If the intersection were to be signalized, the overall intersection would operate at Level-of-Service B and all lane groups would operate at Level-of-Service A or B. However, there is insufficient data to perform a full traffic signal warrant analysis.

Construction Traffic Management

1. No construction related parking should be allowed on the adjacent street. Construction vehicles should park on-site at all times possible.
2. All deliveries of construction related materials should be scheduled during off-peak hours of the adjacent street to minimize conflict with commuter traffic. Typically, traffic delivering construction materials would be only allowed before 6:30 AM and between 9:00 AM and 3:00 PM. These hours should be confirmed with DTS and TRB.
3. It is likely that the unrestricted parking along Makapuu Avenue and Alohea Avenue adjacent to the project will be used for loading and unloading trucks delivering construction materials. This area should be used only during off-peak periods as noted above.
4. There should be no street lane closures between 9:00 AM and 3:00 PM. This will disrupt bus service as well a automobile and pedestrian circulation.
5. The side walk adjacent the project may be closed either temporarily or continuously during the construction period. This should be determined in consultation with DTS and TRB.

Other Traffic Impacts

Two bus stops will be impacted by construction of the theater. One bus stop is located along the west side of Makapuu Avenue north of Alohea Avenue and the second is located along the north side of Alohea Avenue east of Pokole Street. These bus stops may have to be relocated, at least during the construction period.

⁶ Transportation Research Board, *Highway Capacity Manual*, Washington, D.C., 2000, p. 16-35.

6. SUMMARY AND RECOMMENDATIONS

1. The proposed action is the construction of a new theater adjacent to the existing theater and reconfiguration of the existing parking lot.
 - A. The existing theater is located in the northeast quadrant of the intersection of Makapuu Avenue and Alohea Avenue. The existing theater has 500 seats.
 - B. The existing parking lot is located immediately west of the theater. There are two entrances to the parking lot, one along the north side of Alohea Avenue approximately 165 feet east of Pokole Street and another along the east side of Pokole Street approximately 225 feet north of Alohea Avenue. The parking lot is used by theater users but is also used by KCC day students.
 - C. The new theater will be constructed north of the existing theater and will also have 500 seats. The parking lot will be reconfigured but the driveways to the new lot will be at the same approximate locations as the existing lot. It is assumed that the new lot will continue to be used by KCC day students.
 - D. The existing theater is used for Church services on Sundays. It was assumed that this would continue.
 - E. The existing theater will be demolished upon completion of the new theater.

2. The trip generation analysis determined that the new theater will generate the same number of trips as the existing theater as both will have 500 seats. Therefore, the primary purpose of this impact study is to confirm that the study intersections operate at acceptable levels-of-service and that there are no traffic operation deficiencies that the proposed action will aggravate.
3. The level-of-service analysis concluded that all the study intersections and all the lane groups will operate at acceptable levels-of-service, except the intersection the intersection of Diamond Head Road at Makapuu Avenue. At this intersection, the southbound to eastbound left turn will operate at Level-of-Service F. This affects the overall intersections such that the overall intersection level-of-service will be Level-of-Service D. Insufficient data is available to perform a full traffic signal warrant analysis. If signalized, this intersection would operate at Level-of-Service A and all lane groups would operate at Level-of-Service A or B. It should be noted that this improvement is not required to accommodate traffic associated with the theater, but to accommodate traffic primarily associated with KCC.
4. A construction management has be provided and should be implemented by the contractor.

APPENDIX D

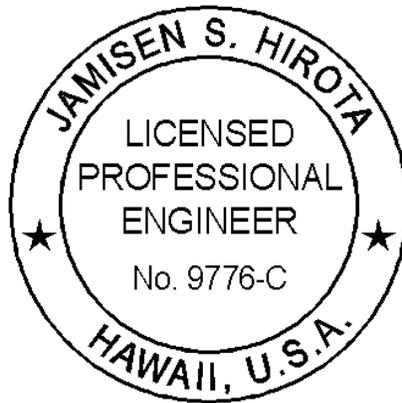
Preliminary Engineering Report

PRELIMINARY ENGINEERING REPORT

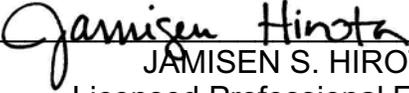
DIAMOND HEAD THEATRE
HONOLULU, ISLAND OF OAHU, HAWAII

TMK: 3-2-030:001

June 4, 2014



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION:

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List of Abbreviations

BMP - Best Management Practice

LID - Low Impact Development

SOH - Sam O. Hirota, Inc.

BMP Recommendations by Area

C&C - City & County

CRM- Concrete Rubble Masonry

DPP - Department of Permitting and Planning

Executive Summary

This report provides an analysis and evaluation of Diamond Head Theatre's drainage conditions (existing and proposed). Methods of analysis include preliminary grading analysis, hydraulic analysis, and BMP sizing. All calculations can be found in the appendices. Results of the findings show that the new Diamond Head Theatre will increase stormwater runoff.

The report finds that the new Diamond Head Theatre would require certain measures to address the requirements for Honolulu City & County standards that concern flow and water quality.

Recommendations discussed include:

- Incorporating the use of treatment control LID measures
 - Vegetated Swales
 - Bioretention Basin
 - Downspout Disconnection
- Incorporating the use of source control LID measures
 - Loading space guideline
 - Outdoor trash area guideline
- Slope existing grades away from DHT

The report also analyzed the fire flow, potable water system and sanitary sewer system that is servicing DHT. Fire flow, potable water system and sanitary sewer system were found adequate for existing and proposed conditions.

Section 1. Introduction

1.1 Purpose

Sam O. Hirota, Inc. (SOH) has been contracted by Helbert, Hastert & Fee Planners to render technical and professional services for the New Diamond Head Theatre. The purpose of this report is to provide an updated drainage analysis, and general guidance for selecting and implementing Best Management Practices (BMPs) to reduce pollutants by drainage runoff for the New Diamond Head Theatre. The report reviews methods to reduce the discharge of pollutants in stormwater discharges to the maximum extent practicable (MEP) using an array of control measures including permanent BMPs. Included in this report are various BMP recommendations to assist Diamond Head Theatre to determine implementation of BMPs for future design and construction. The primary source of the recommendations, methodology, and process of this study is based on the DPP Storm Water BMP Guide (Honolulu C&C, June 2012).

Additional analysis have been conducted on the preliminary grading, sanitary sewer system, and potable water system. Primary goal of the preliminary grading analysis was to provide recommendations on efficient and practical methods for routing drainage away from Diamond Head Theatre. Sanitary sewer system capacities were evaluated to determine whether the existing sewer system is adequate for proposed sewage outflow. The potable water system was also evaluated to determine if the existing water meter satisfies the proposed water demands of the new Diamond Head Theatre.

Section 2. General Scope of Work

2.1 Diamond Head Theatre

TMK: 3-2-030:001

Address: 520 Makapuu Avenue Honolulu, HI 96816

2.2 Site Inventory and Assessment of Existing and Proposed Project

Site investigations were conducted to determine affecting watershed and nearby water bodies. Site maps were based on topographical map prepared by Sam O. Hirota and aerial photos from private and government sources. Based on the available sources stormwater drainage areas were mapped and identified. Included were existing storm drainage system, flow directions, discharge points and impact from higher elevation surrounding areas. Investigations included site visits and assessment of existing control measures that affected stormwater discharges.

2.3 Drainage Analysis

The report will analyze the existing runoff produced by the existing improvements within the Diamond Head Theatre.

2.4 Preliminary Grading Analysis

The report will recommend grading specific to Diamond Head Theatre based upon the existing grading and the proposed Diamond Head Theatre Design.

2.5 Identify and Select BMPs

After the site investigation and assessment process, the next process was to determine and recommend the various BMPs along with cost associated with these improvements. The focus on the BMPs is to reduce pollutants from activities to the maximum extent practicable.

2.6 General BMP/LID Recommendations

BMP and LID items are mentioned together in this section due to their overlapping nature. BMP recommendations are considered more general in scope. They can apply to many areas of concern, and LID recommendations can be seen as a subset of BMP recommendations. For example, a BMP recommendation may be to install rodent proof garbage cans, which will improve the overall quality/appearance of the site, but will have no impact on water quality. An example of an LID recommendation would be to consider pervious pavement, which will reduce and filter the runoff. This recommendation is both a BMP and an LID measure.

The following are typical source control BMPs/LIDs considered for the Diamond Head Theatre:

(a) Storm water runoff from outdoor trash storage areas where trash is stored or disposed of can be polluted. In addition, loose trash and debris can be easily transported by water or wind into nearby storm drain inlets, channels, and/or streams. Preventive measures including enclosures, containment structures, and impervious pavements to mitigate spills, should be used to reduce the likelihood of contamination.

(b) Loading docks can contribute a variety of toxic compounds, oil and grease, heavy metals, nutrients, suspended solids, and other pollutants to the storm water conveyance system. In designs for loading docks, containment is encouraged. Preventive measures include overflow containment structures and dead-end sumps.

The following are typical treatment control BMPs/LIDs considered for the Diamond Head Theatre:

(a) Vegetated Swale systems will be considered as a BMP solution. Vegetated swales are open, shallow channels with vegetation covering the side slopes and bottom that collect and slowly convey runoff flow to downstream discharge points. They are designed to treat runoff through filtering by the vegetation in the channel, filtering through a subsoil matrix, and/or infiltration into the underlying soils. Swales can be natural or manmade. They trap particulate pollutants (suspended solids and trace

metals), promote infiltration, and reduce the flow velocity of storm water runoff. See **Appendix 1** for diagram.

(b) Bio-retention systems will also be considered as BMP solutions. Bioretention combines open space with storm water treatment in vegetated areas where runoff is directed through vegetation and soils for filtration. It captures and temporarily stores the water quality volume and passes it through a filter bed of sand, organic matter, soil, or other media. See **Appendix 2** for diagram.

(c) Downspout disconnection systems will be considered as a BMP solution. Sometimes referred to as Rooftop Disconnection or Downspout Dispersion, this is the redirection of roof runoff to a vegetated area in a dispersed manner. See **Appendix 3** for diagram.

2.7 Potable Water and Sanitary Sewer Analysis

The potable water and sanitary sewer systems will be analyzed based on as-built provided by local agencies and design standards of Honolulu C&C. Water demands and sewer demands will be calculated using values defined in the Uniform Plumbing Code (IAPMO, 1997) and Honolulu C&C water systems and wastewater standards.

Section 3. Diamond Head Theatre Overview

3.1 Site Description

Diamond Head Theatre property is located on the island of Oahu (see **Exhibit 1**). The existing Diamond Head Theatre site is within the parcel of TMK: 3-2-030:001. There are two driveways to the existing parking lot within the site, an entrance on Pokele Street and Alohea Avenue (see **Exhibit 2**).

Topography

The existing contours in the parcel slope downwards in a westerly direction with elevations ranging from approximately 160 to 202 feet. The site has an average slope of approximately four percent within the existing improvements and up to twenty percent on the hillside.

Geology and Soils

The site is situated on the lower slopes of the Koolau Range. According to the “Soil Survey of the Island of Oahu”, U.S. Department of Agriculture, Soil Conservation Service (see **Appendix 4**), the site is primarily identified as Molokai silty clay loam (Mub and MuD) with various percent slopes. The soil has slow to medium runoff; the erosion hazard is moderate within the flatter slopes and severe within the steeper slopes.

3.2 Existing and Proposed Drainage Hydrology

Existing Drainage Hydrology

CRM walls border the site on the northwest, southwest, and southeast sides of the site, which prevents runoff from entering the site from the northwest, southwest, and southeast (see **Exhibit 3**). Runoff enters the existing site from the property northeast of the site.

The majority of the runoff (4.72 cfs, Drain Area 1) that is generated from the site sheet flows towards the western corner of the site where an opening is located in the CRM wall. The runoff exits through the opening and off the site where it enters into the City & County of Honolulu’s drainage system via an existing catch basin located along Alohea Avenue.

A small amount of runoff (0.76 cfs, Drain Area 2) will exit off the site on the southwest side towards Alohea Avenue. This runoff follows Alohea Avenue in a westerly direction and enters the City & County of Honolulu's drainage system via an existing catch basin located along Alohea Avenue.

The remainder of the runoff (0.13 cfs, Drain Areas 3) will exit the site on the east side of site along Makapuu Avenue. This runoff will enter the City & County of Honolulu's drainage system via an existing catch basin located along Alohea Avenue.

Runoff calculations were based on the City & County of Honolulu Standards using the Rational Method for a 10-year, 1-hour storm event. The existing runoff generated from the project site is 5.61 cfs. The runoff generated on the site will enter the catch basin located along Alohea Avenue near the western corner of the Diamond Head Theatre property. See attached calculations (**Appendix 5**).

Proposed Drainage Hydrology

Runoff calculations were based on the City & County of Honolulu Standards using the Rational Method for a 10-year, 1-hour storm event. The proposed runoff generated from the project site is 7.53 cfs (Q). Runoff requirements based on the City & County of Honolulu Standards are as follows: (1) Runoff flow is required to be reduced to predevelopment value (existing runoff) of 5.61 cfs; (2) All runoff generated from this site is required to be either biofiltered (vegetated swale) or retained (bioretention basin) onsite. To satisfy both requirements for flow and water quality, it is recommended that the runoff is treated by entering a vegetated swale and/or bioretention basin before discharging outside the project area. With recommended BMP's that are presented in Section 3.4 the runoff can be reduced to a total of 0.42 cfs (Q_{bmp}). See attached calculations and Map (**Appendix 5-11 and Exhibit 4 &5**). Note: At a minimum all runoff is recommended to be treated with a vegetated swale (biofilter).

3.3 Preliminary Grading Analysis

The following are recommendations based on the existing grading and proposed Diamond Head Theatre plans:

a. Northwestern area of Diamond Head Theatre: (See Exhibit 6)

It is recommended to slope immediate grades away from DHT and to emplace a vegetated swale along the building. The swale will convey onsite runoff as well as any additional offsite runoff (Leahi Hospital Parking Lot) entering from the north of DHT. The diverted runoff will exit onto Pokele Street.

b. Northeastern area of Diamond Head Theatre: (See Exhibit 7)

It is recommended to extend the vegetated swale from the northwestern area (Explained in Exhibit 6) across the northeastern area to divert onsite and offsite runoff towards Pokele Street. Another vegetated swale is recommended to be emplaced closer to DHT to divert runoff away that is generated from the roof and immediate vicinity,

c. Eastern face of Diamond Head Theatre: (See Exhibit 8)

It is recommended to slope immediate grades away from DHT and to emplace a vegetated swale along the eastern face of DHT. The swale will divert runoff away from DHT towards the south and eventually discharge onto Makapuu Avenue.

3.4 BMP/LID Recommendations

The following are possible BMP solutions to reduce storm water runoff and minimize pollutants from entering the drainage system. The recommendations are separated by BMP types.

Recommendation #1: Construct vegetated swales. The first vegetated swale (VS #1) is recommended to be located parallel along the eastern face of the proposed Diamond Head Theatre (See **Exhibit 5**). The swale would require a 9 feet width along with a depth of 8 inches, additional specifications can be found in **Appendix 6**. The swale, with a 1.5% longitudinal slope, would route the storm water runoff in a south easterly direction and discharge onto Makapuu Avenue.

The second vegetated swale (VS#2) is recommended to be located just above the northeastern corner of the proposed Diamond Head Theatre (See **Exhibit 5**). The swale would require a 9 feet width along with a depth of 8 inches, additional specifications can be found in **Appendix 7**. The swale, with a 2% longitudinal slope, would route the storm water runoff in a easterly direction and discharge onto Makapuu Avenue.

The third vegetated swale (VS #3) is recommended to be located parallel along the length of the Diamond Head Theatre northern property boundary (See **Exhibit 5**). The swale would require a 7-1/3 feet width along with a depth of 8 inches, additional specifications can be found in **Appendix 8**. The swale, with a 2% longitudinal slope, would route the storm water runoff in a westerly direction and discharge onto Pokole Street.

The fourth vegetated swale area (VS#4) is recommended to be located within the parking lot of proposed Diamond Head Theatre (See **Exhibit 5**). The swale would require a 5 feet width along with a depth of 8 inches, additional specifications can be found in **Appendix 9**. The swale would route the storm water runoff in a southerly direction and discharge onto Alohea Avenue.

Recommendation #2: Construct bioretention basins. The first bioretention basin is recommended to be located within the landscaped garden in the south eastern corner of the project area (See **Exhibit 5**). The bioretention basin would require a minimum of 2,328 sq-ft, additional specifications can be found in **Appendix 10**.

The second bioretention basin is recommended to be located within parking lot area adjacent to the landscaped garden (See **Exhibit 5**). The bioretention basin would require a minimum of 1,510 sq-ft, additional specifications can be found in **Appendix 11**.

Recommendation #3: Construct downspout disconnections at the northern and eastern faces of the proposed Diamond Head Theatre which routes runoff through landscaped areas.

Recommendation #4: Loading space area. Pave loading area with concrete instead of asphalt, and design to preclude run-on and runoff.

Recommendation #5: Outdoor trash storage area. Pave trash storage area with impervious surface, and prevent rainfall from entering containers by using lidded containers.

3.5 Potable Water and Sanitary System Analysis

Potable Water System

Water for the existing Diamond Head Theatre is being supplied by the Board of Water Supply through an 8 inch cast iron main on Makapuu Avenue which is fed by a 12 inch main running along Diamond Head Road (See **Exhibit 9**). The existing meter (MN:01600027) is a 1-1/2" Sensus water meter with a 2" lateral (See **Appendix 14**).

Under existing conditions, Diamond Head Theatre produces demand of 65 gallons per minute (GPM). This demand is based on 94.5 total fixture units (See **Appendix 12**).

Under proposed conditions, the new Diamond Head Theatre will produce demand of 72.5 gallons per minute (GPM). This demand is based on 122.5 total fixture units (See **Appendix 12**). The fixture units are calculated using the values and methodology from the Uniform Plumbing Code (IAPMO, 1997). The minimum size recommended for the proposed Diamond Head Theatre is a 1-1/2" water meter. The existing water meter is adequate for the proposed flow.

Sanitary Sewer System

The existing Diamond Head Theatre is served by a gravity flow subsurface piping system connected to the Honolulu C&C wastewater sewer system. There is an 8 inch sewer main that services the existing Diamond Head Theatre which runs along Alohea Avenue. Wastewater flow values (See **Appendix 12**) have been calculated using the values and methodology from the Uniform Plumbing Code. (IAPMO, 1997)

The wastewater flow of the new Diamond Head Theatre will remain unchanged with wastewater flows of 2,825 Gallons Per Day (GPD). The seating capacity of the theatre of 500 seats will remain the same. The existing sewer connection is adequate for existing and proposed flow. Note : The flow of wastewater is determined by the capacity of the

site (occupancy, seats, employee). Since the capacity is unchanged the wastewater flows are unchanged.

Fire Flow

Diamond Head theatre is serviced by fire hydrant M-1373 on Makapuu Avenue as shown in **Exhibit 10**. Theoretical pressure and flow provided by Board of Water Supply (BWS) are shown in **Appendix 13**. The data given by BWS shows a residual pressure of 70 psi and a flow of 2000 gpm. Both of these values are within the required values established in the Water System Standards (2002). The existing fire hydrant is adequate for existing and proposed condition based on the theoretical values provided by BWS.

References

1. "Rules Relating to Storm Drainage Standards", Department of Planning and Permitting, City and County of Honolulu, January 2000.
2. "Erosion and Sediment Control Guide for Hawaii", U.S. Department of Agriculture, Soil Conservation Service, Honolulu, Hawaii, March 1981.
3. "Soil Survey of the Island of Oahu, State of Hawaii", U.S. Department of Agriculture, Soil Conservation Service, December 1973.
4. "Rainfall-Frequency Atlas of the Hawaiian Islands", U.S. Department of Commerce, Washington, D.C., 1962.
5. "Uniform Plumbing Code", International Association of Plumbing & Mechanical Officials, 1997.
6. "Storm Water BMP Guide", Department of Planning and Permitting, City and County of Honolulu, December 2012.
7. "Water System Standards" State of Hawaii, 2002

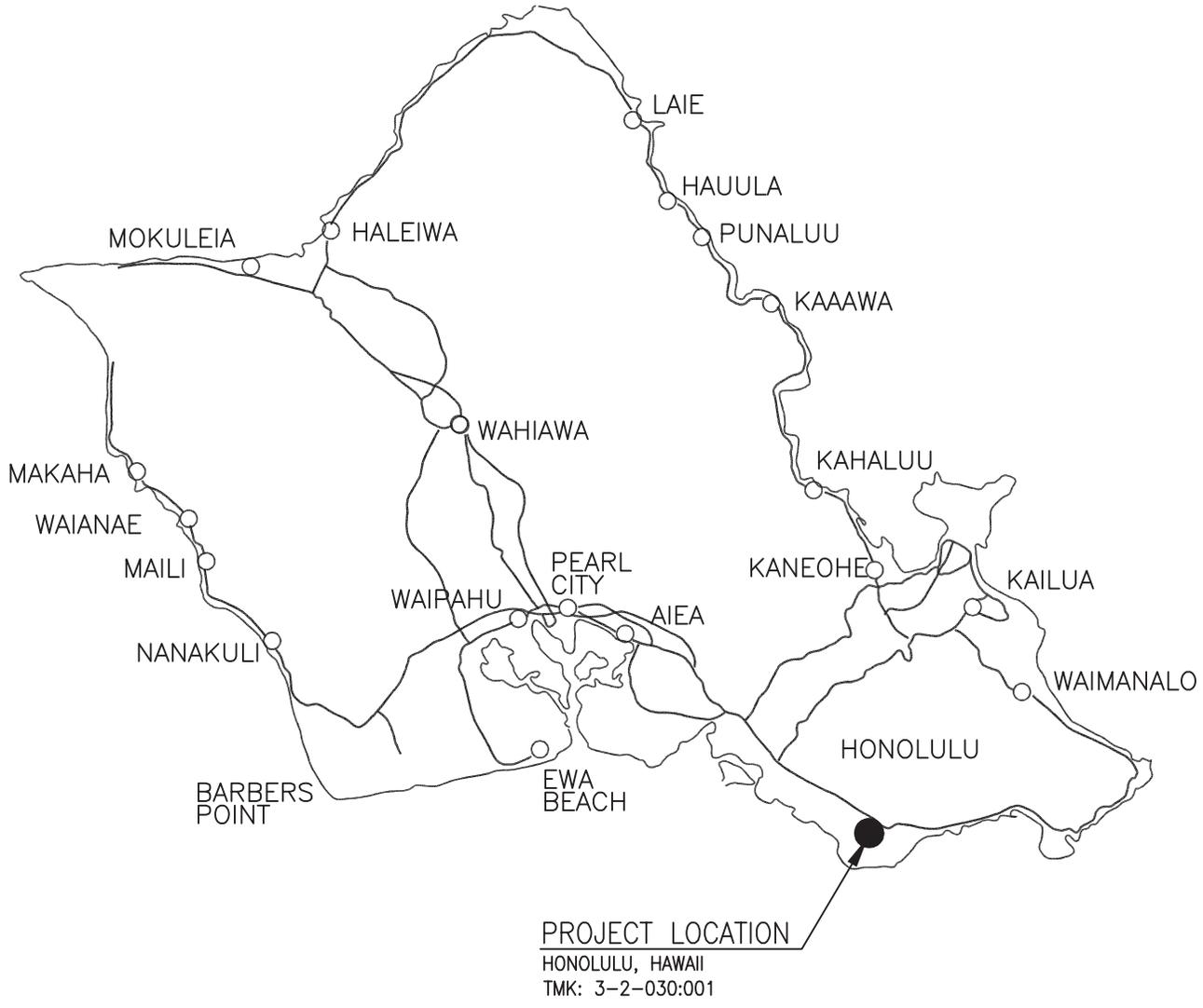
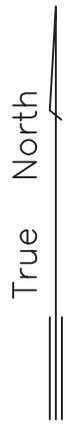
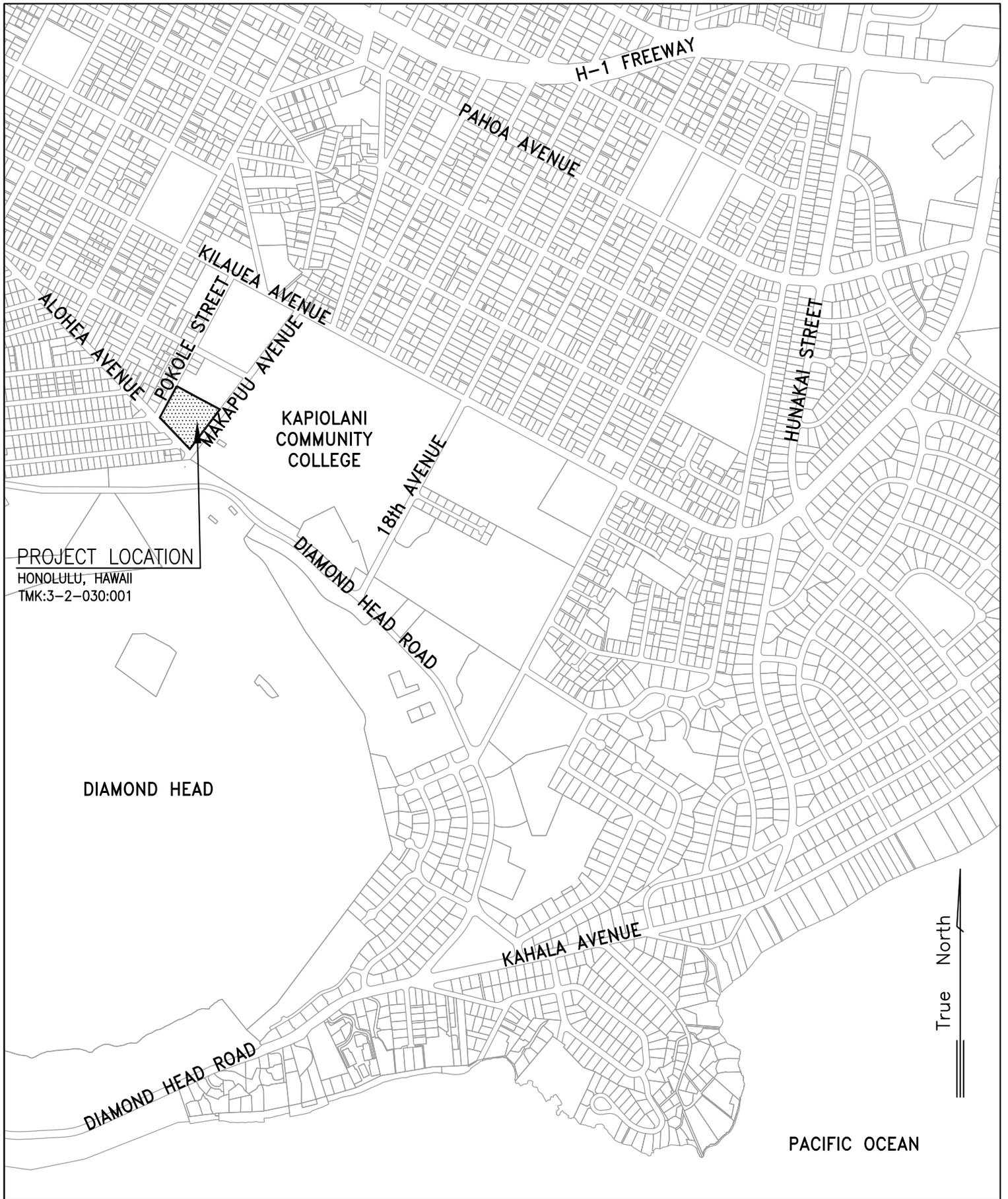
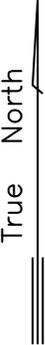


EXHIBIT 1: LOCATION MAP
NOT TO SCALE



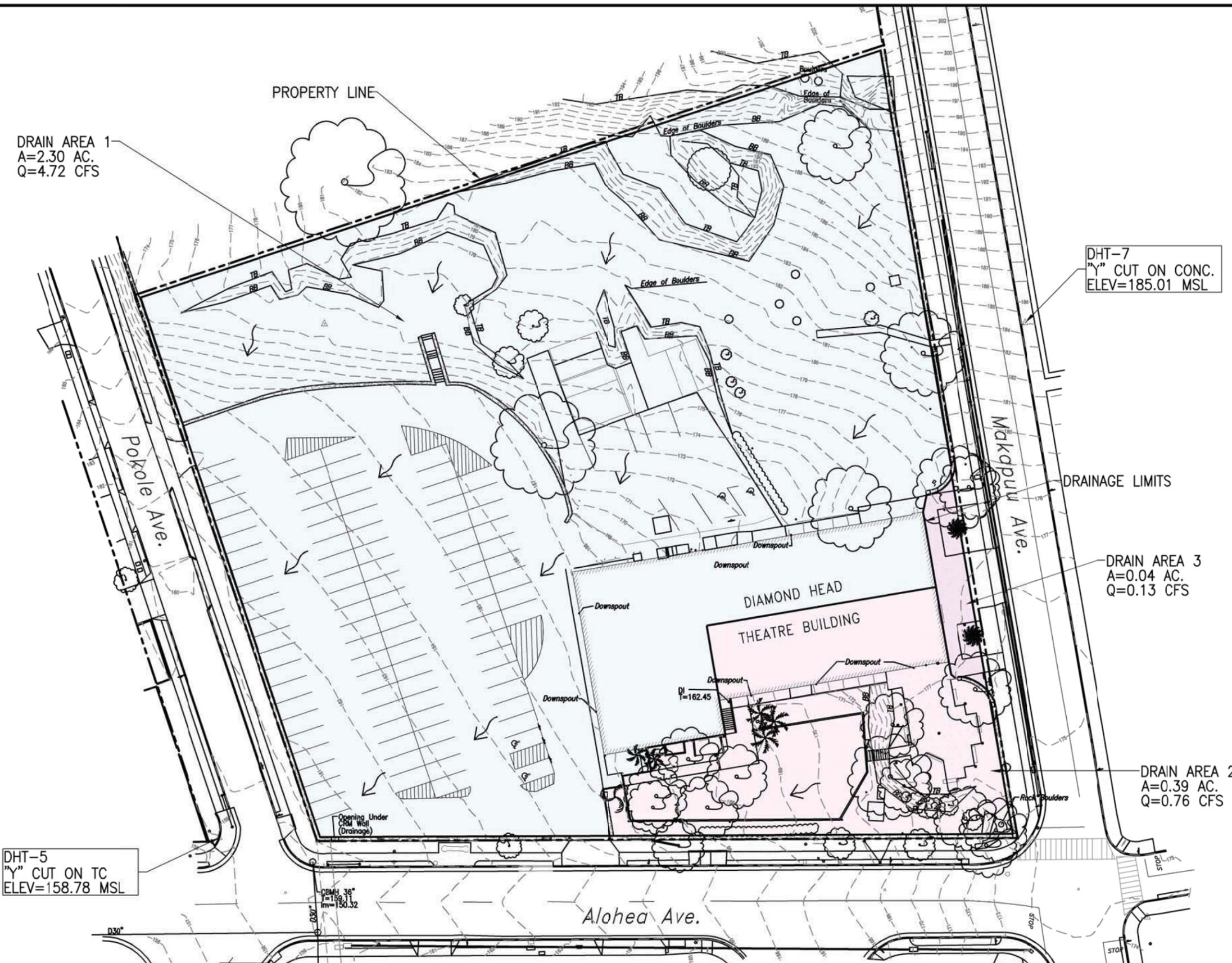
PROJECT LOCATION
HONOLULU, HAWAII
TMK:3-2-030:001

DIAMOND HEAD



PACIFIC OCEAN

EXHIBIT 2: VICINITY MAP
NOT TO SCALE



LEGEND	
PROPERTY LINE	-----
EXISTING CONTOURS	- - - - -240- - - - -
FLOW ARROW	→

*FOR RUNOFF CALCULATIONS, SEE APPENDIX A

TRUE NORTH
SCALE: 1"=50'

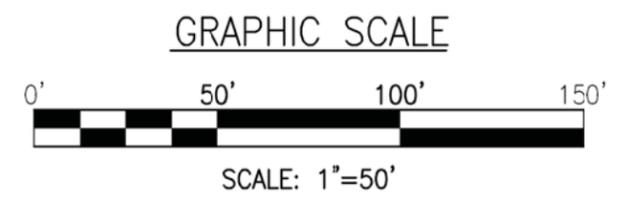
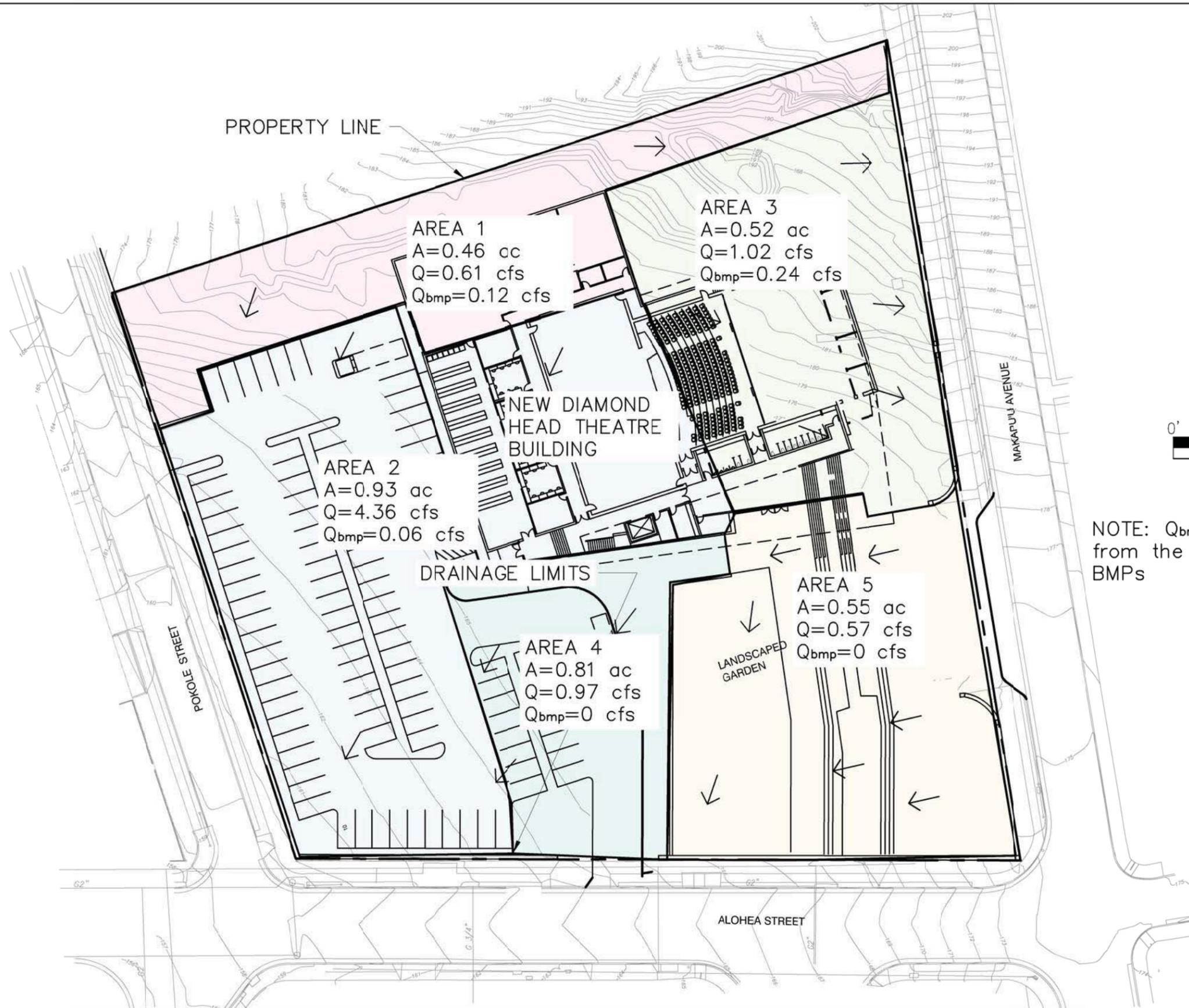
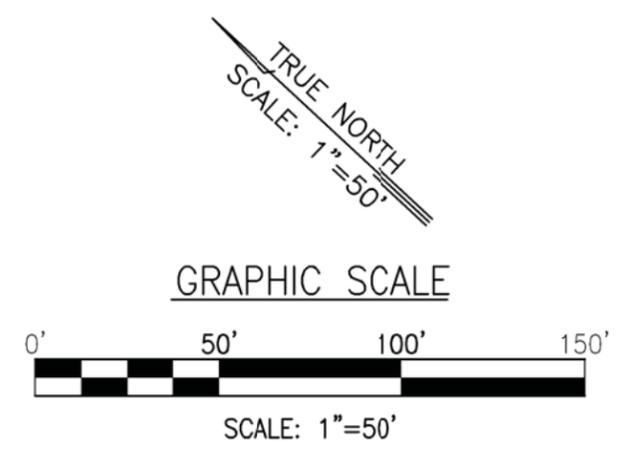


EXHIBIT 3:
EXISTING CONDITIONS
SCALE: 1"=50'



LEGEND	
PROPERTY LINE	-----
EXISTING CONTOURS	—240—
FLOW ARROW	→

*FOR RUNOFF CALCULATIONS, SEE APPENDIX A



NOTE: Q_{bmp} is the predicted flow resulting from the implementation of recommended BMPs

EXHIBIT 4:
PROPOSED CONDITIONS
SCALE: 1"=50'

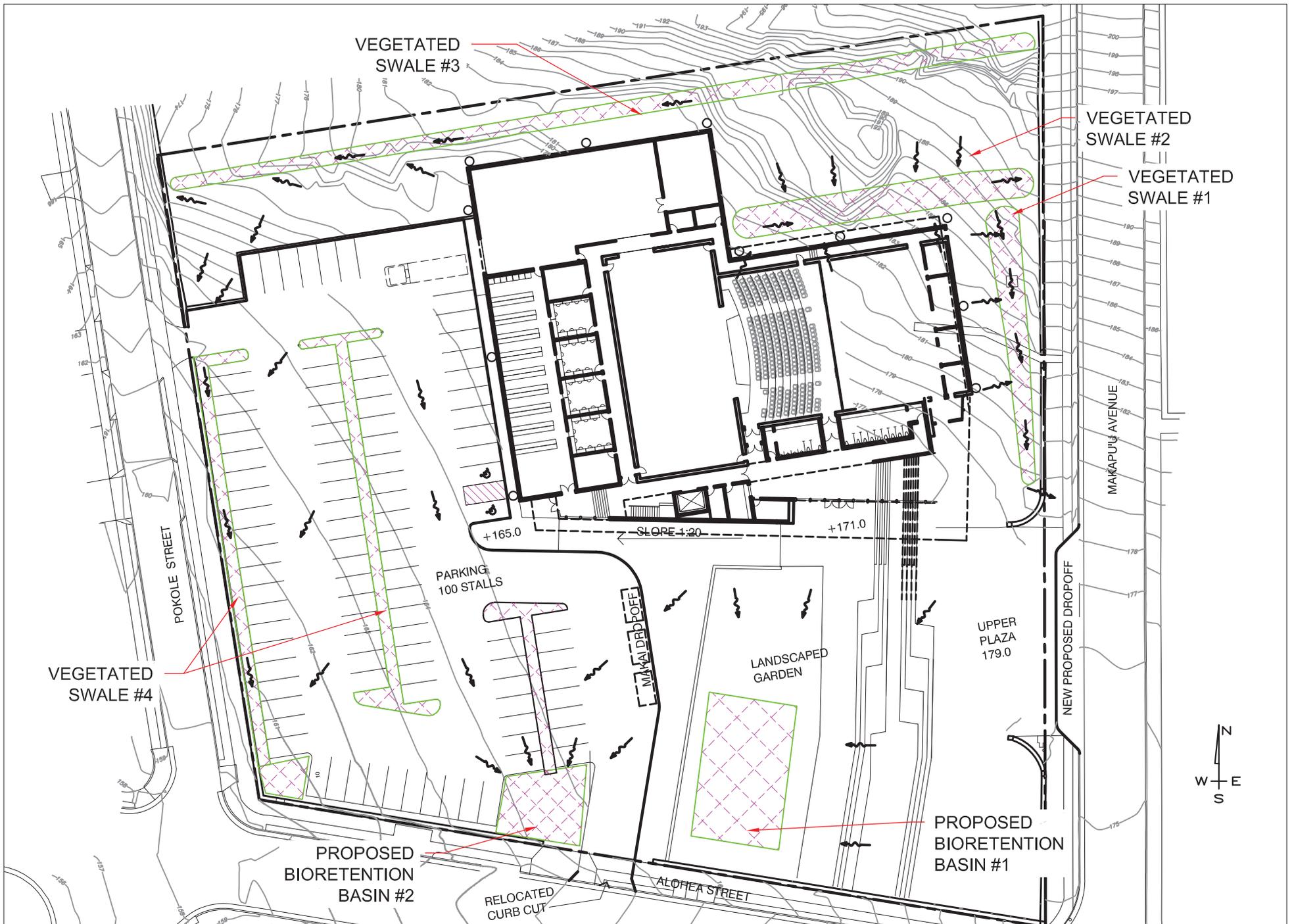


EXHIBIT 5: PROPOSED BMP AREAS
 NOT TO SCALE

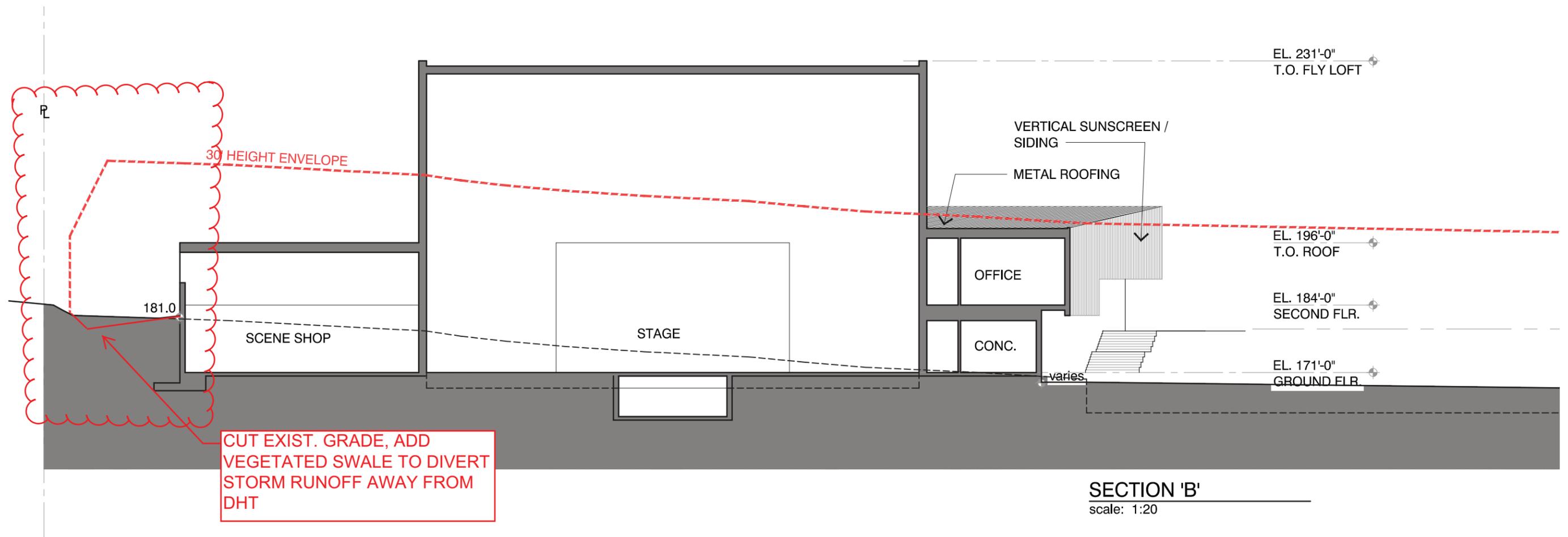


EXHIBIT 6: PRELIMINARY GRADING ANALYSIS-NW CORNER

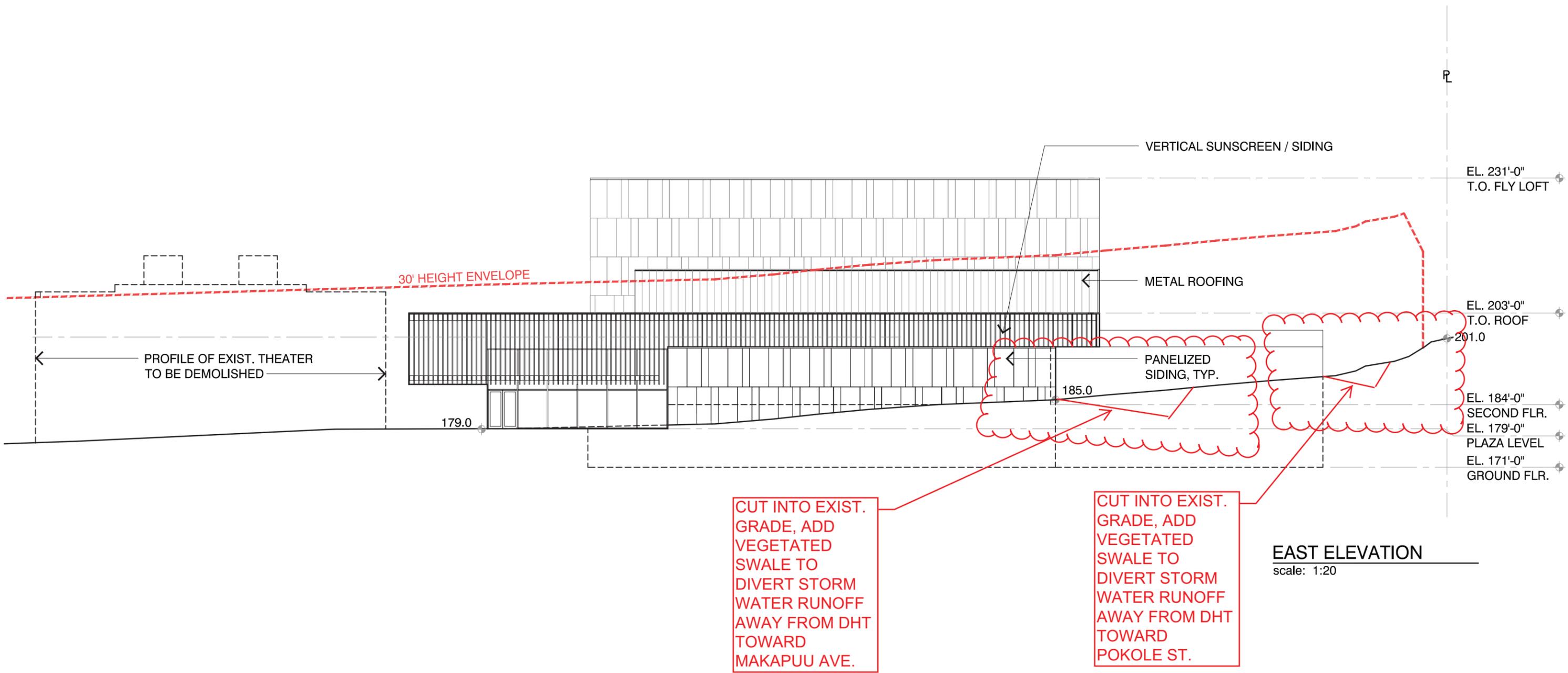


EXHIBIT 7: PRELIMINARY GRADING ANALYSIS NE CORNER

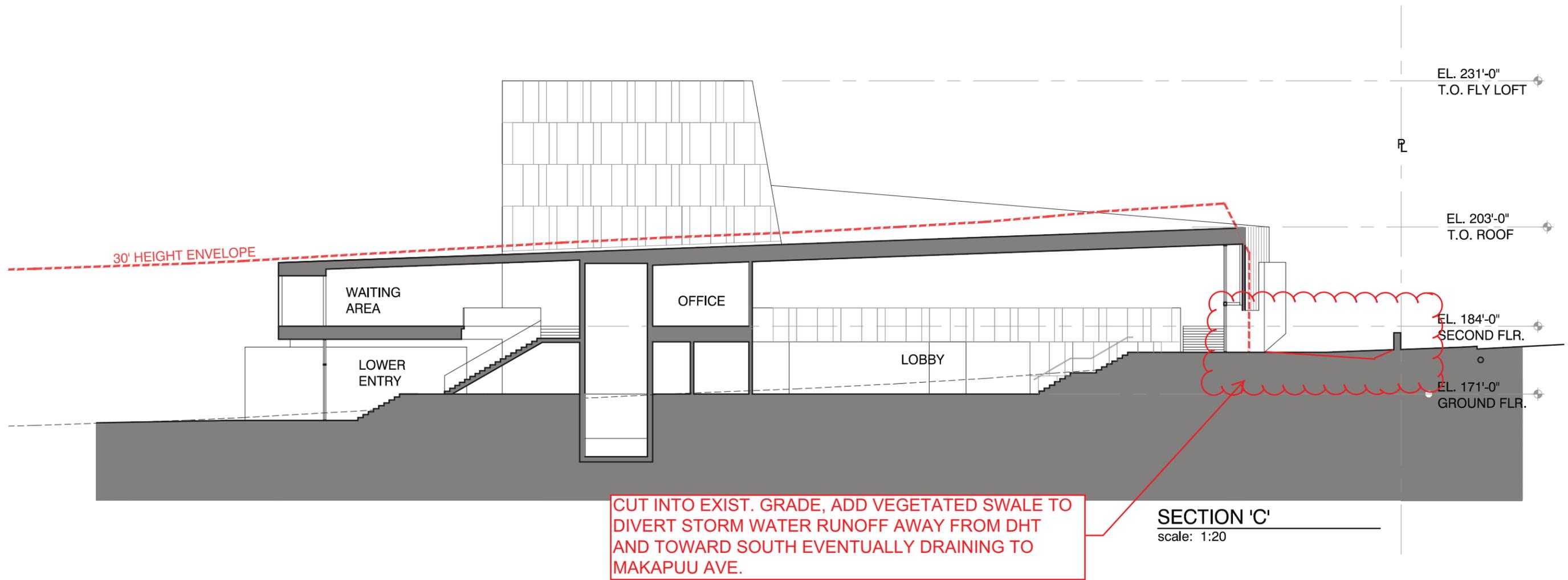
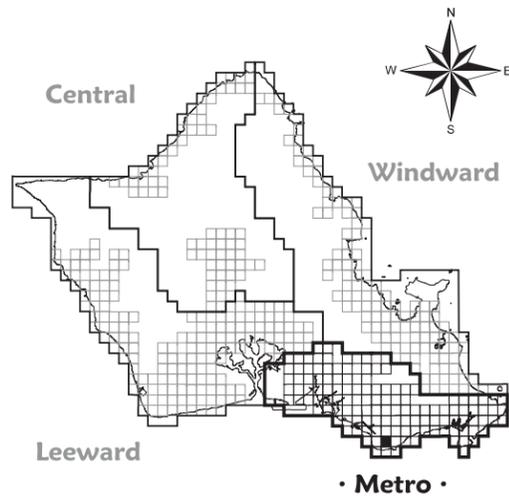


EXHIBIT 8: PRELIMINARY GRADING ANALYSIS-E FACE

Tile: R39C48 (Metro)



LEGEND

WATER MAIN TYPES

- Service
- Bypass
- Distribution
- Lateral
- Maintenance
- Transmission
- Private
- Non-Potable

PIPE CASINGS

- Concrete Jacket over DI pipe
- Pipeline Tunnel

MISCELLANEOUS

- ▨ Building Footprint
- Facility
- - - Inset Frame
- Stream Centerline

MATERIALS

- AC ASBESTOS CEMENT
- AC-JM AC-JOHNS MANSVILLE
- AC-KM AC-KEASBEY MATTISON
- CC CONCRETE CYLINDER
- CC-A CC-AMERICAN
- CC-H CC-HAWAII
- CC-S CC-SOUTHERN
- CI CAST IRON
- CU COPPER
- DI DUCTILE IRON
- GI GALVANIZED IRON
- PVC POLYVINYL CHLORIDE
- STL STEEL

- CP CATHODIC PROTECTION
- NP NON-POTABLE

BILLING METERS

- CM Compound
- DC Detector Check
- FM FM
- Unknown

FITTINGS

- ⊥ Cut & Plug
- ⊕ Emergency Connection
- ⊕ Flow Tube
- ⊕ Reducer
- ⊕ Transition Coupling

FIRE HYDRANT

- ◇ Fire Hydrant
- 99 No Fire Hydrant Number

OPERATIONAL METERS

- FL Flow
- MS Master
- TUR Turbine
- Unknown
- ⊕ Venturi

PUMPS

- ⊕ Lift
- ⊕ Line
- ⊕ Source

RESERVOIR

- ⊕ Reservoir

SOURCES

- ⊕ Shaft
- ⊕ Source Well
- ⊕ Spring
- ⊕ Tunnel
- Unknown

VALVES

- Air Release
- ⊕ Air Release BFV
- ⊕ Air Release BGGV
- ⊕ Air Release Gate
- Altitude
- ⊕ Backflow Preventor
- ⊕ Bevel Gear Gate
- ⊕ Butterfly
- ⊕ Check
- ⊕ Closed
- ⊕ Control
- ⊕ English
- ⊕ Flap
- ⊕ Float
- ⊕ Gate
- ⊕ Pressure Reducing
- ⊕ Pressure Relief
- ⊕ Pressure Sustaining
- ⊕ Solenoid Control
- ⊕ Spur Gear Gate
- ⊕ Square Bottom Bevel Gear
- ⊕ Stopcock
- ⊕ Tapping
- ⊕ Unknown

WATER TREATMENT PLANTS

- ⊕ Aeration
- ⊕ Blender
- ⊕ Chlorination
- ⊕ GAC
- ⊕ Recycled Water Facility
- ⊕ Sand Filtration

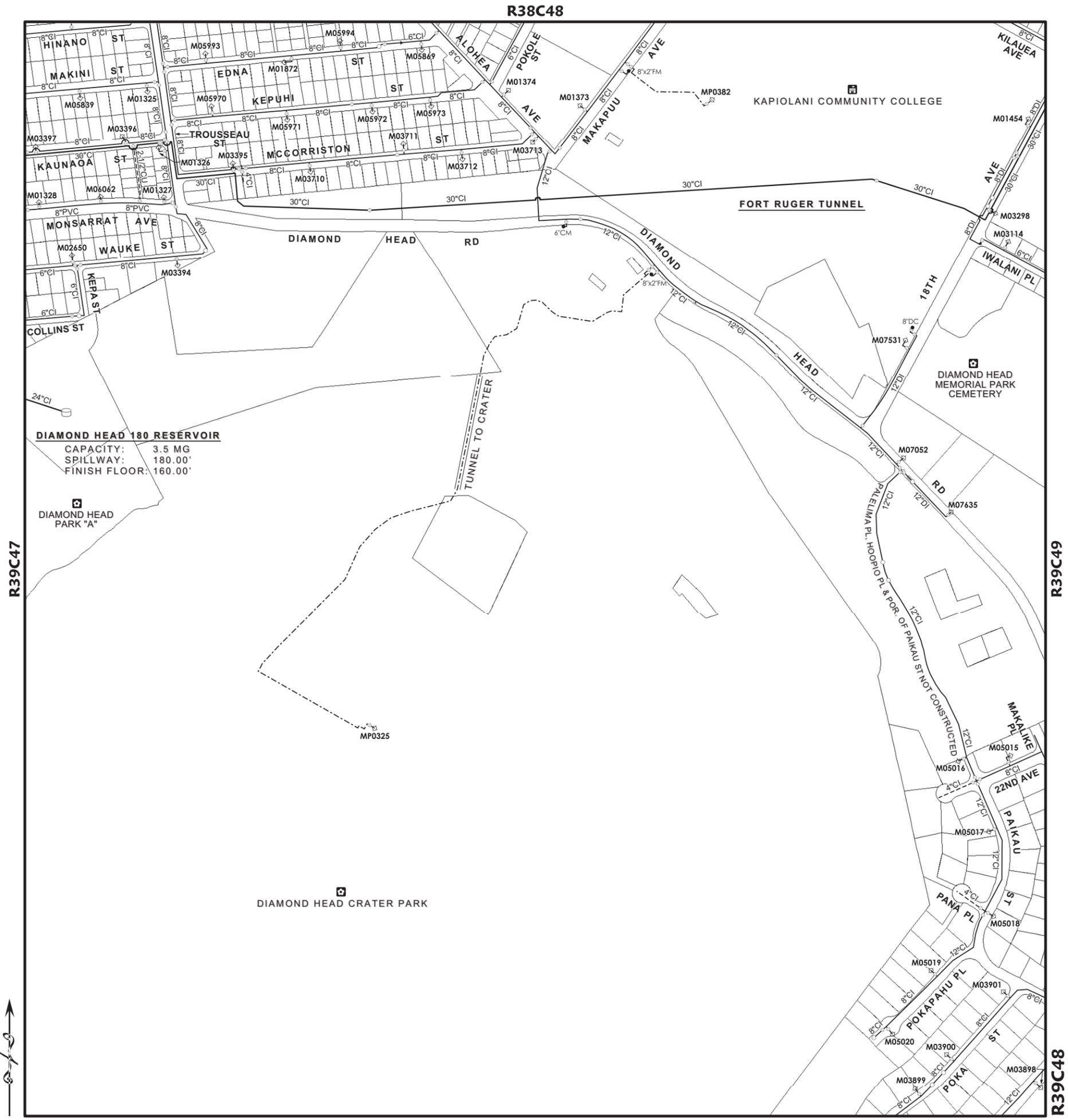


EXHIBIT 9: 8" WATER MAIN LOCATION

NOT TO SCALE

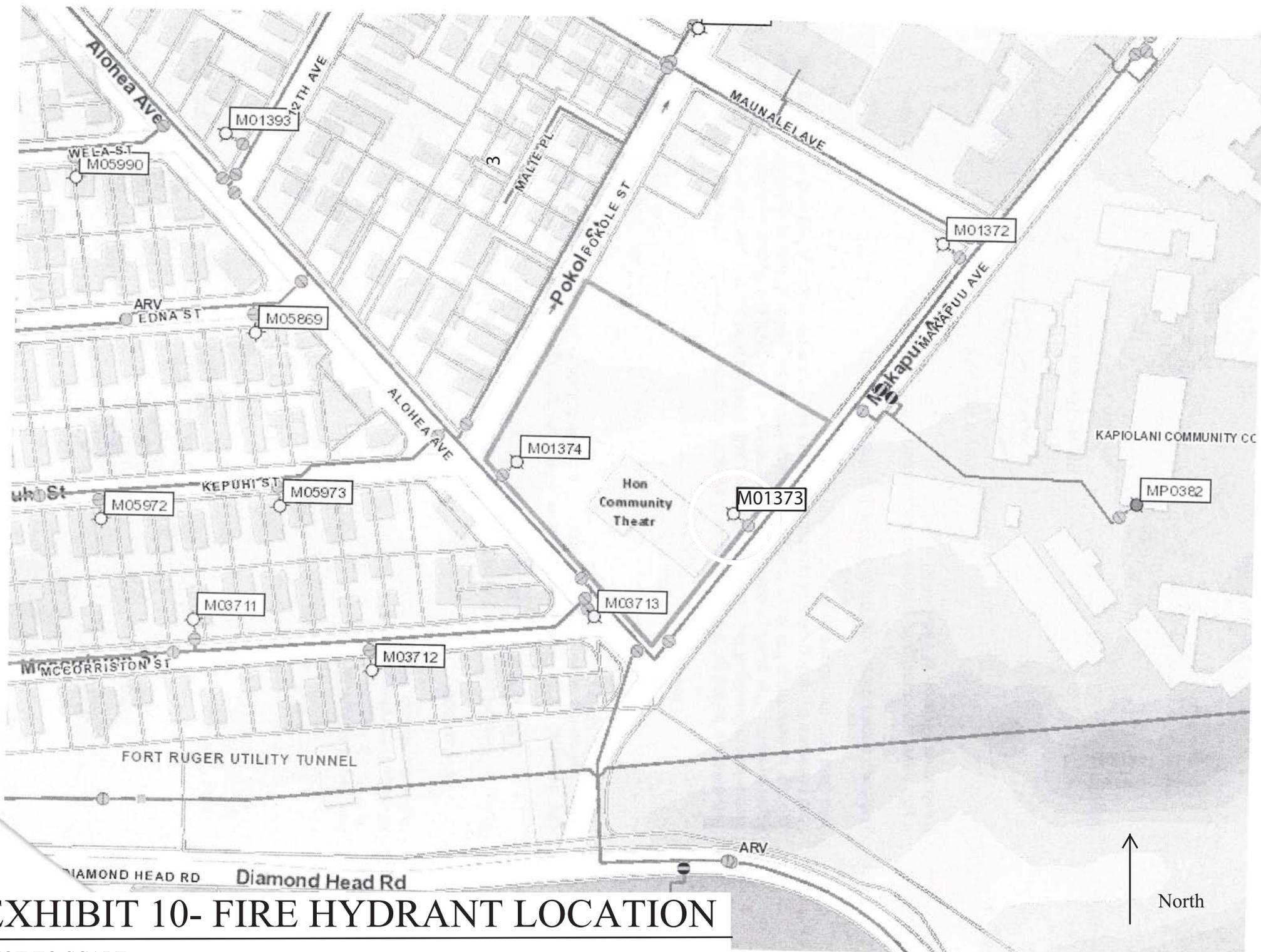
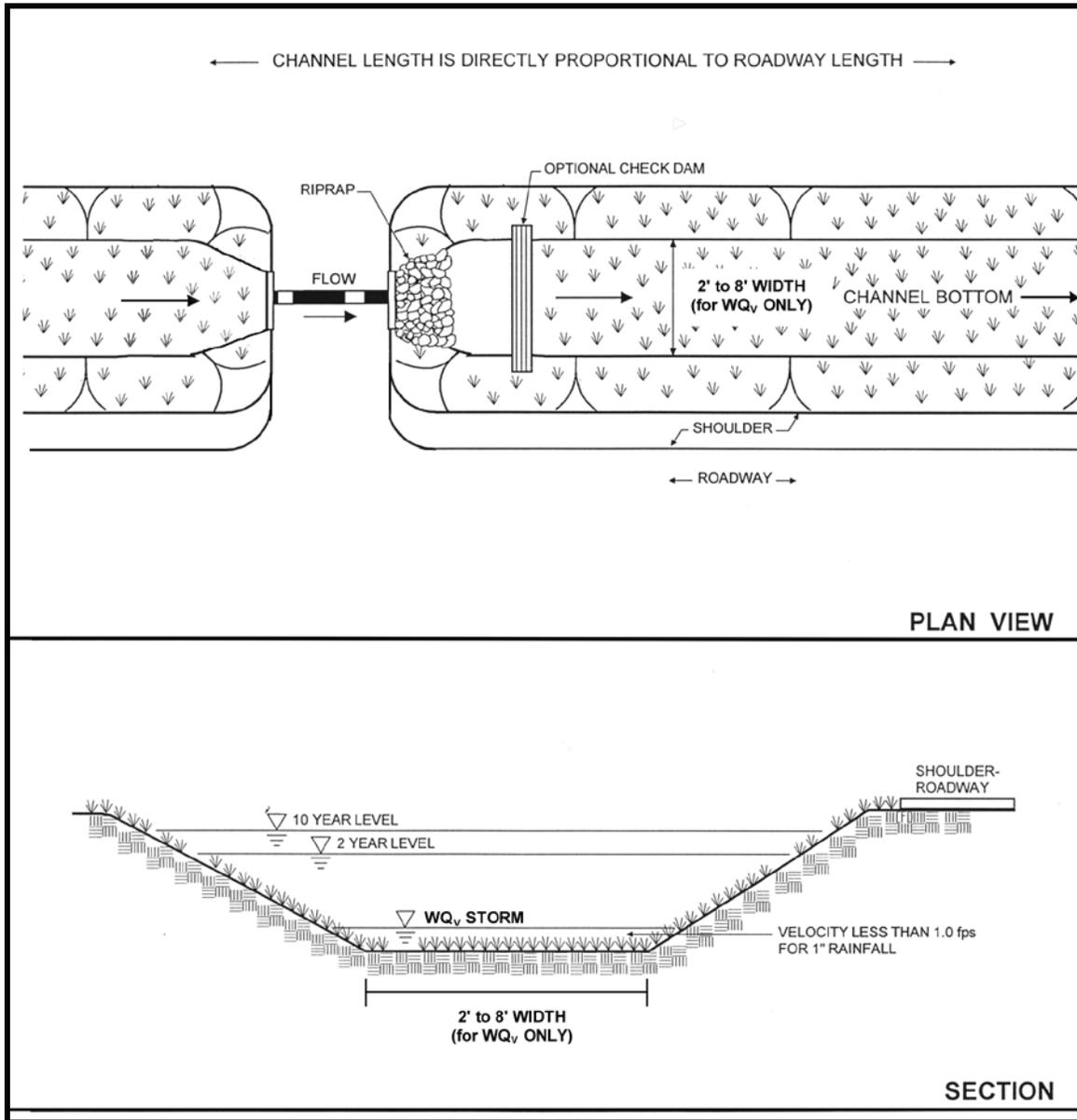


EXHIBIT 10- FIRE HYDRANT LOCATION

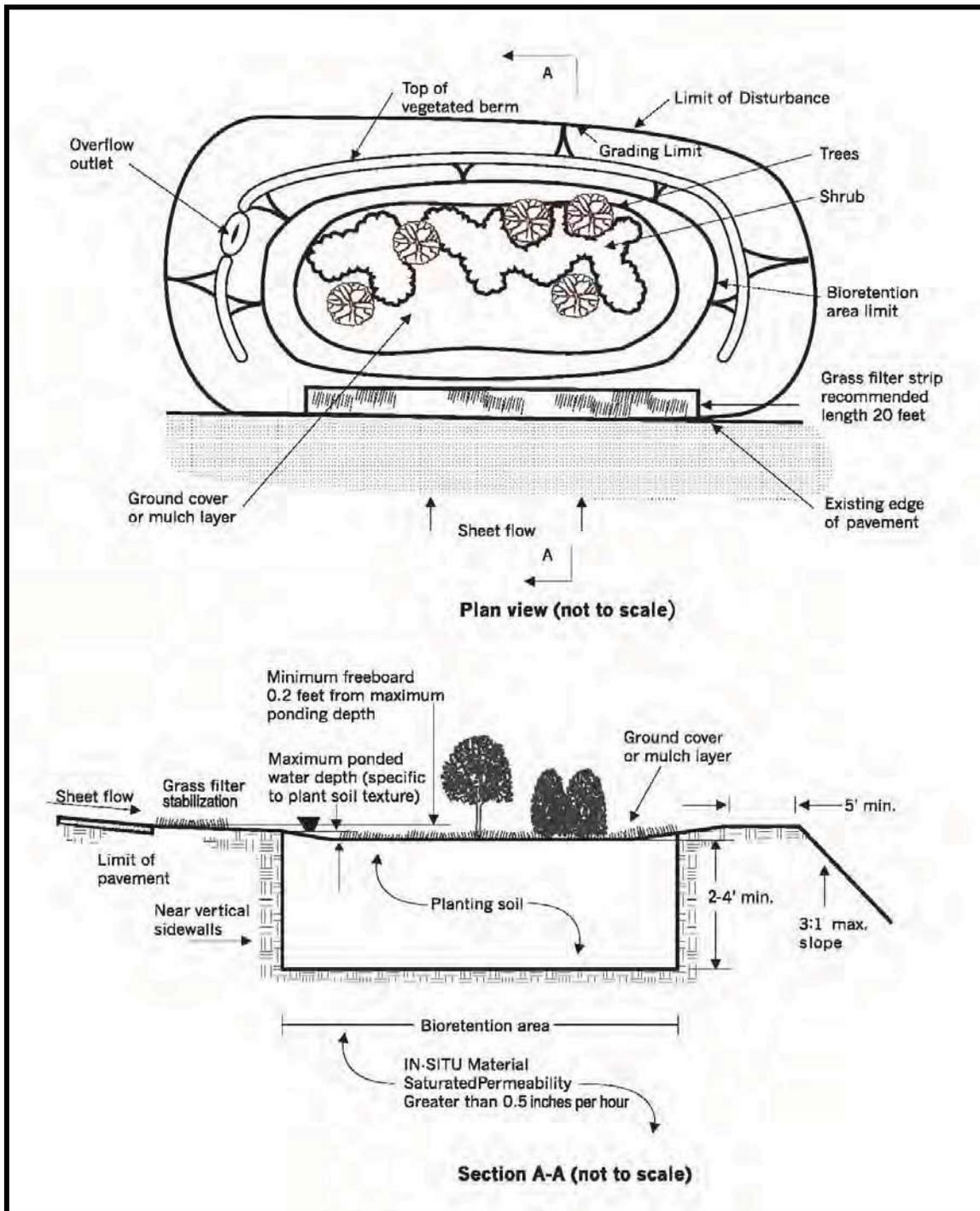
NOT TO SCALE

Figure 14: Schematic of a Vegetated Swale



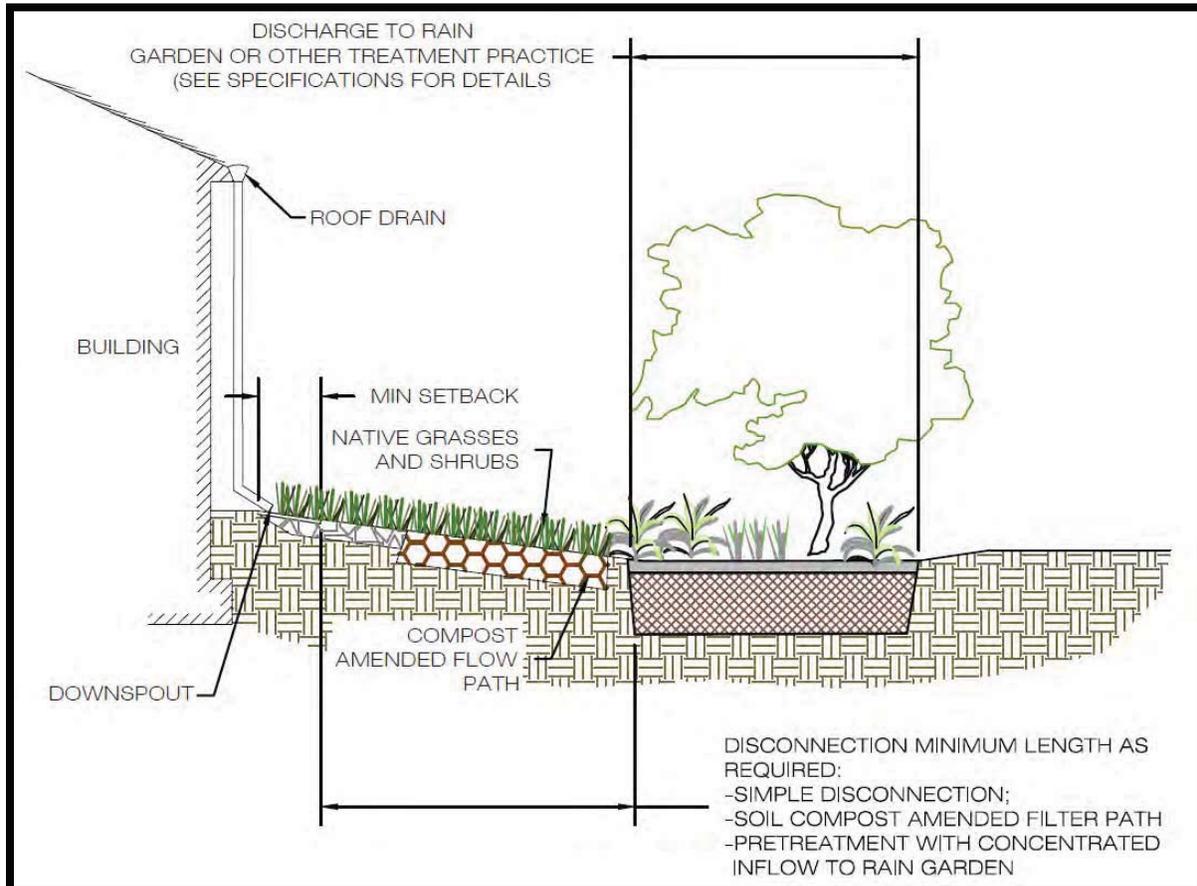
Maryland Stormwater Design Manual. 2000.

Figure 7: Schematic of a Bioretention Basin



Prince George's County Low Impact Development: An Integrated Design Approach. 1999.

Figure 13: Schematic of a Downspout Disconnection



Virginia DCR Stormwater Design Specification No. 1. 2011.

Appendix 4-Diamond Head Theatre Soil Map

Soil Map—Island of Oahu, Hawaii
(Diamond Head Theatre Soil Map)



Map Scale: 1:1,270 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 4N WGS84



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

5/5/2014
Page 1 of 3

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Island of Oahu, Hawaii
Survey Area Data: Version 8, Dec 7, 2013

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Island of Oahu, Hawaii (HI990)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
MuB	Molokai silty clay loam, 3 to 7 percent slopes	2.0	51.0%
MuD	Molokai silty clay loam, 15 to 25 percent slopes	1.9	49.0%
Totals for Area of Interest		3.9	100.0%

APPENDIX 5 RUNOFF CALCULATIONS

DIAMOND HEAD THEATRE
Drainage Study
Prepared by: Sam O. Hirota Inc.

Date: May 12, 2014
SOH#140290

10 Year, 1 Hour

EXISTING CONDITION HYDROLOGY

AREAS	AREA (sf)	AREA (ac)	C	LENGTH (ft)	SLOPE (%)	Tc (min)	I (in)	CF	Q (cfs)	Qbmp (cfs)	Drains to
1	100387	2.30	0.50	480	8.5	14.0	2	2.05	4.72	NA	Alohea CB
2	16960	0.39	0.44	200	6.5	11.0	2	2.21	0.76	NA	Alohea CB
3	1794	0.04	0.61	100	3.0	6.5	2	2.65	0.13	NA	Makapuu CB
TOTAL		2.73						TOTAL	5.61		

PROPOSED CONDITION HYDROLOGY

AREAS	AREA (sf)	AREA (ac)	C	LENGTH (ft)	SLOPE (%)	Tc (min)	I (in)	CF	Q (cfs)	Qbmp (cfs)	Drains to (reduced cfs)
1	20000	0.46	0.37	375	7.2	19.0	2	1.80	0.61	0.12	Vegetated Swale #3 (0.12 cfs) Outlet: Pokole St,
2	40500	0.93	0.85	300	3.5	5.0	2	2.75	4.36	0.06	Vegetated Swale #4 (0.06 cfs) Outlet: Alohea Ave
3	22000	0.51	0.51	200	9.5	13.00	2	2.00	1.02	0.24	Vegetated Swale #1&2 (0.11 & 0.13 cfs) Outlet: Makapuu Ave
4	13000	0.30	0.81	170	2.0	13.00	2	2.00	0.97	0.00	Bioretention Basin #2 (0 cfs)
5	24000	0.55	0.30	200	2.0	22.00	2	1.70	0.57	0.00	Bioretention Basin #1 (0 cfs)
TOTAL		2.74						TOTAL	7.53	0.42	

Appendix 6

BMP Sizing Worksheet: Vegetated Swale

Project: Diamond Head Theatre VS #1

Date: 5-May-14

1. Water Quality Flow Rate		
a. BMP Tributary Drainage Area, A	<u>0.26</u>	ac
b. Weighted Runoff Coefficient, C	<u>0.63</u>	
c. Rainfall Intensity, i	<u>0.4</u>	in/hr
d. Water Quality Flow Rate, WQF	<u>0.07</u>	cfs
2. Swale Geometry		
a. Bottom Width, b (10.0 ft max)	<u>2.00</u>	ft
b. Flow Depth, y (4.0 in max)	<u>2.0</u>	in
c. Side Slopes (length per unit height), z (3.0 max)	<u>5</u>	ft/ft
d. Longitudinal Slope, s	<u>1.5</u>	%
e. Manning's Roughness Coefficient, n	<u>0.20</u>	
3. Swale Hydraulic Capacity		
a. Cross-sectional Area @ Flow Depth, A	<u>0.47</u>	sq-ft
b. Wetted Perimeter, WP	<u>3.70</u>	ft
c. Hydraulic Radius, R	<u>0.13</u>	ft
d. Calculated Flow Rate, Q	<u>0.11</u>	cfs
4. Design Flow Velocity		
a. Design Flow Velocity, V (1.0 fps max)	<u>0.23</u>	fps
5. Swale Length		
a. Hydraulic Residence Time, T (7.0 min)	<u>7</u>	min
b. Minimum Length, L	<u>97</u>	ft
6. BMP Area Requirements		
a. Freeboard, f (6 min)	<u>6</u>	in
b. Embankment Top Surface Area, A_{BMP}	<u>841</u>	sq-ft

Appendix 7

BMP Sizing Worksheet: Vegetated Swale

Project: Diamond Head Theatre VS #2

Date: 5-May-14

1. Water Quality Flow Rate		
a. BMP Tributary Drainage Area, A	<u>0.25</u>	ac
b. Weighted Runoff Coefficient, C	<u>0.38</u>	
c. Rainfall Intensity, i	<u>0.4</u>	in/hr
d. Water Quality Flow Rate, WQF	<u>0.04</u>	cfs
2. Swale Geometry		
a. Bottom Width, b (10.0 ft max)	<u>2.00</u>	ft
b. Flow Depth, y (4.0 in max)	<u>2.0</u>	in
c. Side Slopes (length per unit height), z (3.0 max)	<u>5</u>	ft/ft
d. Longitudinal Slope, s	<u>2.0</u>	%
e. Manning's Roughness Coefficient, n	<u>0.20</u>	
3. Swale Hydraulic Capacity		
a. Cross-sectional Area @ Flow Depth, A	<u>0.47</u>	sq-ft
b. Wetted Perimeter, WP	<u>3.70</u>	ft
c. Hydraulic Radius, R	<u>0.13</u>	ft
d. Calculated Flow Rate, Q	<u>0.13</u>	cfs
4. Design Flow Velocity		
a. Design Flow Velocity, V (1.0 fps max)	<u>0.27</u>	fps
5. Swale Length		
a. Hydraulic Residence Time, T (7.0 min)	<u>7</u>	min
b. Minimum Length, L	<u>112</u>	ft
6. BMP Area Requirements		
a. Freeboard, f (6 min)	<u>6</u>	in
b. Embankment Top Surface Area, A_{BMP}	<u>972</u>	sq-ft

Appendix 8

BMP Sizing Worksheet: Vegetated Swale

Project: Diamond Head Theatre VS #3

Date: 5-May-14

1. Water Quality Flow Rate		
a. BMP Tributary Drainage Area, A	<u>0.6</u>	ac
b. Weighted Runoff Coefficient, C	<u>0.33</u>	
c. Rainfall Intensity, i	<u>0.4</u>	in/hr
d. Water Quality Flow Rate, WQF	<u>0.08</u>	cfs
2. Swale Geometry		
a. Bottom Width, b (10.0 ft max)	<u>2.00</u>	ft
b. Flow Depth, y (4.0 in max)	<u>2.0</u>	in
c. Side Slopes (length per unit height), z (3.0 max)	<u>4</u>	ft/ft
d. Longitudinal Slope, s	<u>2.0</u>	%
e. Manning's Roughness Coefficient, n	<u>0.20</u>	
3. Swale Hydraulic Capacity		
a. Cross-sectional Area @ Flow Depth, A	<u>0.44</u>	sq-ft
b. Wetted Perimeter, WP	<u>3.37</u>	ft
c. Hydraulic Radius, R	<u>0.13</u>	ft
d. Calculated Flow Rate, Q	<u>0.12</u>	cfs
4. Design Flow Velocity		
a. Design Flow Velocity, V (1.0 fps max)	<u>0.27</u>	fps
5. Swale Length		
a. Hydraulic Residence Time, T (7.0 min)	<u>7</u>	min
b. Minimum Length, L	<u>114</u>	ft
6. BMP Area Requirements		
a. Freeboard, f (6 min)	<u>6</u>	in
b. Embankment Top Surface Area, A_{BMP}	<u>839</u>	sq-ft

Appendix 9

BMP Sizing Worksheet: Vegetated Swale

Project: Diamond Head Theatre VS #4

Date: 5-May-14

1. Water Quality Flow Rate		
a. BMP Tributary Drainage Area, A	<u>0.9</u>	ac
b. Weighted Runoff Coefficient, C	<u>0.38</u>	
c. Rainfall Intensity, i	<u>0.4</u>	in/hr
d. Water Quality Flow Rate, WQF	<u>0.14</u>	cfs
2. Swale Geometry		
a. Bottom Width, b (10.0 ft max)	<u>1.00</u>	ft
b. Flow Depth, y (4.0 in max)	<u>2.0</u>	in
c. Side Slopes (length per unit height), z (3.0 max)	<u>3</u>	ft/ft
d. Longitudinal Slope, s	<u>2.0</u>	%
e. Manning's Roughness Coefficient, n	<u>0.20</u>	
3. Swale Hydraulic Capacity		
a. Cross-sectional Area @ Flow Depth, A	<u>0.25</u>	sq-ft
b. Wetted Perimeter, WP	<u>2.05</u>	ft
c. Hydraulic Radius, R	<u>0.12</u>	ft
d. Calculated Flow Rate, Q	<u>0.06</u>	cfs
4. Design Flow Velocity		
a. Design Flow Velocity, V (1.0 fps max)	<u>0.26</u>	fps
5. Swale Length		
a. Hydraulic Residence Time, T (7.0 min)	<u>7</u>	min
b. Minimum Length, L	<u>109</u>	ft
6. BMP Area Requirements		
a. Freeboard, f (6 min)	<u>6</u>	in
b. Embankment Top Surface Area, A_{BMP}	<u>543</u>	sq-ft

Appendix 10

BMP Sizing Worksheet: Bioretention Basin

Project: Diamond Head Theater BR #1

Date: 5-May-14

1. Water Quality Volume		
a. BMP Tributary Drainage Area, A	0.5	ac
b. % Impervious Area, I	35	%
c. Water Quality Design Storm Depth, P	1.0	in
d. Volumetric Runoff Coefficient, C	0.365	
e. Water Quality Volume, WQV	662	cu-ft
2. Maximum Storage Depth		
a. Soil Infiltration Rate, k (0.5 min)	0.5	in/hr
b. Infiltration Rate Safety Factor (2 - 5), F_s	2	
c. Drawdown Time, t	48	hrs
d. Max. Storage Depth, d_{max}	1.0	ft
3. Design Storage Depths		
a. Ponding Depth, d_p (≤ 1 ft)	0.25	ft
b. Planting Media Depth, I_m (2 - 5 ft)	2.0	ft
c. Reservoir Layer (Gravel) Depth, I_r	0.3	ft
d. Planting Media Porosity, n_m	0.25	
e. Reservoir Layer Porosity, n_r	0.30	
f. Total Effective Storage Depth, d_t	0.85	ft
4. BMP Invert Requirements		
c. Reservoir Fill Time, T	2	hrs
d. Min. Planting Soil Surface Area, A_b	743	sq-ft
5. BMP Area Requirements		
a. Side Slopes (length per unit height), z (see note 1)	8	
b. Freeboard, f (see note 2)	1	
c. Invert Width, w_b	18.0	ft
d. Invert Length, I_b	41.3	ft
e. Top Width, w_t	38.0	ft
f. Top Length, I_t	61.3	ft
g. Min. Top Surface Area excluding pretreatment, A_{BMP}	2,328	sq-ft

Note 1: min value of 3 if not SFR application

Note 2: min value of 1 if not SFR application

Appendix 11

BMP Sizing Worksheet: Bioretention Basin

Project: Diamond Head Theater BR #2

Date: 5-May-14

1. Water Quality Volume		
a. BMP Tributary Drainage Area, A	0.4	ac
b. % Impervious Area, I	90	%
c. Water Quality Design Storm Depth, P	1.0	in
d. Volumetric Runoff Coefficient, C	0.86	
e. Water Quality Volume, WQV	1,155	cu-ft
2. Maximum Storage Depth		
a. Soil Infiltration Rate, k (0.5 min)	0.5	in/hr
b. Infiltration Rate Safety Factor (2 - 5), F_s	2	
c. Drawdown Time, t	48	hrs
d. Max. Storage Depth, d_{max}	1.0	ft
3. Design Storage Depths		
a. Ponding Depth, d_p (≤ 1 ft)	1.00	ft
b. Planting Media Depth, I_m (2 - 5 ft)	2.0	ft
c. Reservoir Layer (Gravel) Depth, I_r	0.3	ft
d. Planting Media Porosity, n_m	0.25	
e. Reservoir Layer Porosity, n_r	0.30	
f. Total Effective Storage Depth, d_t	1.60	ft
4. BMP Invert Requirements		
c. Reservoir Fill Time, T	2	hrs
d. Min. Planting Soil Surface Area, A_b	704	sq-ft
5. BMP Area Requirements		
a. Side Slopes (length per unit height), z (see note 1)	3	
b. Freeboard, f (see note 2)	1	
c. Invert Width, w_b	20.0	ft
d. Invert Length, I_b	35.2	ft
e. Top Width, w_t	32.0	ft
f. Top Length, I_t	47.2	ft
g. Min. Top Surface Area excluding pretreatment, A_{BMP}	1,510	sq-ft

Note 1: min value of 3 if not SFR application

Note 2: min value of 1 if not SFR application

Appendix 12

Diamond Head Theatre

DATE: 5/12/2014

Fixture Unit Computations

EXIST. CONDITIONS		WSFU		
Fixture	Quantity	Fixture Unit Demand	Total Units	
Water Closet 3.5 GPF Valve	8	5.0	40.0	
Water Closet 1.6 GPF Valve	3	2.5	7.5	
Lavatory	8	1.0	8.0	
Util/Kit Sink	2	3.0	6.0	
Washer	2	4.0	8.0	
		2.5, then 1.0 for ea		
Hose Bibs	3 addtn'l		4.5	
Urinal	3	4.0	12.0	
Sink	4	2	8.0	
Icemaker	1	0.5	0.5	
		Total WSFU	94.5	

PROPOSED CONDITIONS		WSFU		
Fixture	Quantity	Fixture Unit Demand	Total Units	
Water Closet 1.6 GPF Valve	15	2.5	37.5	
Urinal	6	4.0	24.0	
Lavatory	16	1.0	16.0	
Util/Kit Sink	5	3.0	15.0	
Drinking Fountain	2	0.5	1.0	
		2.5, then 1.0 for ea		
Hose Bibs	8 addtn'l		9.5	
washer	2	4.0	8.0	
sink	2	2	4.0	
shower	2	2.0	4.0	
dishwasher	1	1.5	1.5	
laundry tray	1	2	2.0	
Icemaker	1	0.5	0.5	
		Total WSFU	122.5	

Makapuu Ave Water Meter				
	Fixture Units	GPM	Required WM Size	Existing WM Size
Existing	94.5	65	2"	
Proposed	122.5	72.5	2"	

Wastewater Flow

Existing		(GPD)	
	gpcd	Wastewater Flow	
Seats	500	5	2500
Employee	65	5	325
			2825
Proposed		(GPD)	
	gpcd	Wastewater Flow	
Seats	500	5	2500
Employee	65	5	325
			2825

*gpcd = Gallons per capita per day

** GPD = Gallons per day

Appendix 13-Fireflow Data

BOARD OF WATER SUPPLY

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



April 29, 2014

KIRK CALDWELL, MAYOR

DUANE R. MIYASHIRO, Chair
MAHEALANI CYPHER, Vice Chair
THERESIA C. McMURDO
ADAM C. WONG
DAVID C. HULIHEE

ROSS S. SASAMURA, Ex-Officio
GLENN M. OKIMOTO, Ex-Officio

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

ELLEN E. KITAMURA, P.E.
Deputy Manager and Chief Engineer

RECEIVED
MAY 02 2014
SAM O. HIROTA, INC.
By _____

Mr. Toru Kumagai, EIT
Sam O. Hirota, Inc.
864 South Beretania Street
Honolulu, Hawaii 96813

Dear Mr. Kumagai:

Subject: Your Letter Dated April 14, 2014 Requesting Flow and Pressure Data for Diamond Head Theater on Makapuu Avenue – Tax Map Key: 3-2-030: 001

The Board of Water Supply has suspended fire flow tests on fire hydrants as a water conservation measure. However, you may use the following calculated flow data for Fire Hydrant No. M-1373 on Makapuu Avenue:

Static Pressure.....	99 psi
Residual Pressure.....	70 psi
Flow.....	2000 gpm

The data are based on the existing water system, and the static pressure represents the theoretical pressure at the point of calculation with the reservoir full and no demands on the water system. The static pressure is not indicative of the actual pressure in the field. Therefore, in order to determine the flows that are available to the site, you will have to determine the actual field pressure by taking on-site pressure readings at various times of the day and correlating that field data with the above hydraulic design data.

The map showing the location of the fire hydrant is attached.

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

Very truly yours,

ROBERT CHUN
Project Review Branch

Attachment

APPENDIX E

Draft EA Pre-Assessment Consultation

NEIL ABERCROMBIE
GOVERNOR



Dean H. Seki
Comptroller
Mark E. Zhilinski
Deputy Comptroller

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

MAY 12 2014

(P)11604

Ms. Corlyn Orr
HHF Planners, Inc.
Pacific Guardian Center, Makai Tower
733 Bishop Street, Suite 2590
Honolulu, HI 96813

Dear Ms. Orr:

Subject: Draft Environmental Assessment Pre-Assessment Consultation
Diamond Head Theatre Redevelopment
Kaimuki, Oahu, Hawaii
Tax Map Key: (1) 3-2-030:001

This is in response to your letter, dated May 1, 2014 regarding the subject project. The proposed project does not impact any of the Department of Accounting and General Services' projects or existing facilities, and we have no comments to offer at this time.

If there are any questions, your staff may call Mr. David DePonte of the Public Works Division at 586-0492.

Sincerely,

DEAN H. SEKI
Comptroller

HHF PLANNERS
places for people



October 5, 2015

Mr. Douglas Murdock, Comptroller
Department of Accounting and General Services
State of Hawai'i
P.O. Box 119
Honolulu, HI 96810-0119

Dear Mr. Murdock:

Diamond Head Theatre Redevelopment Project
Draft Environmental Assessment Pre-Assessment Consultation
Kaimuki, O'ahu, Hawai'i
Tax Map Key Parcel (1) 3-2-030: 001

Thank you for the letter dated May 12, 2014 providing comments as part of pre-assessment consultation efforts for the preparation of the Draft Environmental Assessment (Draft EA) for the subject project.

We note that the proposed project does not impact any of the Department of Accounting and General Services' projects or existing facilities, and that your department has no comments at this time.

Your letter and this response will be included in the Draft EA. We appreciate your participation in this review process, and look forward to any additional comments you may have on the Draft EA. If you need additional information, please contact me by phone at 808-457-3168 or by email at colsonorr@hhf.com.

Sincerely,

HHF Planners

Corlyn Orr

Pacific Guardian Center, Makai Tower | 733 Bishop Street, Suite 2590 | Honolulu, Hawai'i 96813
Telephone: 808.545.2055 | Facsimile: 808.545.2050 | www.hhf.com | e-mail: info@hhf.com

NEIL ABERCROMBIE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

May 8, 2014

HHF Planners, Inc.
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813
Attention: Corlyn Orr

Dear Ms. Orr:

**SUBJECT: Diamond Head Theatre Redevelopment
Draft Environmental Assessment Pre-Assessment Consultation
Kaimuki, Oahu, Hawaii, Tax Map Key Parcel (1) 3-2-030: 001**

The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of your letter dated May 1, 2014. Thank you for allowing us to review and comment on the subject document. The document was routed to the relevant Environmental Health divisions and offices. They will provide specific comments to you if necessary. EPO recommends that you review the standard comments at: <http://health.hawaii.gov/eppo/home/landuse-planning-review-program/>. You are required to adhere to all applicable standard comments.

We recommend that you consult the Indoor and Radiological Health Branch for more information regarding your demolition. Here is their website: <http://health.hawaii.gov/rhbr/>.

The EPO suggests that you examine the many sources available on strategies to support the sustainable and healthy design of communities and buildings, including the following sites:

U.S. Health and Human Services: www.hhs.gov/about/sustainability/;
U.S. Environmental Protection Agency's sustainability programs: www.epa.gov/sustainability/;
U.S. Green Building Council's LEED program: www.usgbc.org/leed/;
Smart Growth America: www.smartgrowthamerica.org/; and
International Well Building Standard: <http://de/osi/living.com>.

The DOH encourages everyone to apply these sustainability strategies and principles early in the planning and review of projects. We also request that for future projects you consider conducting a Health Impact Assessment (HIA). More information is available at: www.cdc.gov/healthplaces/hia.htm; and www.epa.gov/research/healthscience/health-impact-assessment.htm.

We request you share all of this information with others to increase community awareness on sustainable, innovative, inspirational, and healthy community design.

Mahalo,

Laura Leialoha Phillips McIntyre, AICP
Program Manager, Environmental Planning Office

c: Indoor and Radiological Health Branch

HHF PLANNERS
places for people

October 5, 2015

Ms. Laura Leialoha Phillips McIntyre, AICP
Program Manager
Environmental Planning Office
Department of Health, State of Hawai'i
P.O. Box 3378
Honolulu, Hawai'i 96801-3378

Dear Ms. McIntyre:

**Diamond Head Theatre Redevelopment Project
Draft Environmental Assessment Pre-Assessment Consultation
Kaimuki, O'ahu, Hawai'i
Tax Map Key Parcel (1) 3-2-030: 001**

Thank you for your letter dated May 8, 2014 providing comments as part of pre-assessment consultation efforts for the preparation of the Draft Environmental Assessment (Draft EA) for the subject project. We offer the following responses to your comments.

Standard Comments

We acknowledge the requirement to adhere to all applicable standard comments. We will review the standard comments posted on the Environmental Planning Office's webpage and include appropriate discussion of the applicable regulations in the Draft EA. To date, we have not received specific comments from any Environmental Health divisions or offices.

Indoor and Radiological Health Branch

We have reviewed the program information posted on the Indoor and Radiological Health Branch's webpage. Demolition and construction activities will comply with the applicable rules and regulations concerning noise, radiation and indoor air pollution. This information will be specified in the Draft EA.

Sustainable and Healthy Design of Communities and Buildings

We appreciate the list of references that offer strategies to support the sustainable and healthy design of communities and buildings. This information will be forwarded to the design team for consideration, and the Draft EA will discuss the principles to be incorporated into the building design.

Pacific Guardian Center, Makai Tower | 733 Bishop Street, Suite 2590 | Honolulu, Hawai'i 96813
Telephone: 808.545.2055 | Facsimile: 808.545.2050 | www.hhf.com | e-mail: info@hhf.com



HHF PLANNERS
places for people

Ms. Laura McIntyre, AICP
October 5, 2015
Page 2 of 2

Health Impact Assessment

We have reviewed the Health Impact Assessment references you provided, and do not find a need to prepare a HIA for this project. The Draft EA will identify potential impacts to human health and the other resource areas related to the health of a community, including socio-economic, educational, transportation and cultural resources.

Your letter and this response will be included in the Draft EA. We appreciate your participation in this review process, and look forward to any additional comments you may have on the Draft EA. If you need additional information, please contact me by phone at 808-457-3168 or by email at colsonorr@hhf.com.

Sincerely,

HHF Planners



Corlyn Orr



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

May 29, 2014

MEMORANDUM

DLNR Agencies:

- Div. of Aquatic Resources
- Div. of Boating & Ocean Recreation
- Engineering Division
- Div. of Forestry & Wildlife
- Div. of State Parks
- Commission on Water Resource Management
- Office of Conservation & Coastal Lands
- Land Division - Oahu District
- Historic Preservation

1/0

FR: Russell Y. Tsuji, Land Administrator

SUBJECT: Diamond Head Theatre Redevelopment, Draft Environmental Assessment
Pre-Assessment Consultation
LOCATION: Diamond Head Theatre, 520 Makapu'u Avenue, Kaimuki, O'ahu, Hawaii, Tax Map Key Parcel (1) 3-2-030: 001
APPLICANT: Diamond Head Theatre, by its consultant, HHF Planners, Inc.

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document.

Please submit any comments by **May 28, 2014**. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Comments: Attachments
The subject Stone Land is under 61-5954 () We have no objections.
Presumpt to have Revision 9, any building () We have no comments.
Structure, or improvement of any kind requires () We have no comments.
written approval from the Board of Chapermen () Comments are attached.

Signed: *[Signature]*
Print Name: *Steve Molmen*
Date: *5/1/14*

bc



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

May 29, 2014

HHF Planners, Inc.
Attention: Ms. Corlyn Orr
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Orr:

SUBJECT: Diamond Head Theatre Redevelopment, Draft Environmental Assessment
Pre-Assessment Consultation

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comments.

At this time, enclosed are comments from the (a) Land Division - Oahu District and (b) Engineering Division on the subject matter. Should you have any questions, please feel free to call Supervising Land Agent, Steve Molmen, at (808) 587-0439. Thank you.

Sincerely,

[Signature]

Russell Y. Tsuji
Land Administrator

Enclosure(s)
cc: Central Files



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

May 5, 2014

MEMORANDUM

FOR: FR.

DLNR Agencies:

- Div. of Aquatic Resources
- Div. of Boating & Ocean Recreation
- Engineering Division**
- Div. of Forestry & Wildlife
- Div. of State Parks
- Commission on Water Resource Management
- Office of Conservation & Coastal Lands
- Land Division - Oahu District
- Historic Preservation

TO: Russell Y. Tsuji, Land Administrator
 FROM: Diamond Head Theatre Redevelopment, Draft Environmental Assessment
 SUBJECT: Pre-Assessment Consultation
 LOCATION: Diamond Head Theatre, 520 Makapu'u Avenue, Kaimuki, O'ahu, Hawaii
 APPLICANT: Tax Map Key Parcel (1) 3-2-030: 001
 Diamond Head Theatre, by its consultant, HHF Planners, Inc.

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document.

Please submit any comments by **May 28, 2014**. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

- We have no objections.
- We have no comments.
- Comments are attached.

Signed:
 Print Name: Cary S. Chang, Chief Engineer
 Date: 5/6/14

14 MAY 05 PM 02:59 ENGINEERING

RECEIVED
LAND DIVISION

2014 MAY -9 AM 9:48

DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/ Russell Y. Tsuji
 REF: Pre-Assessment Consultation for DEA for Diamond Head Theater Redevelopment, 520 Makapu'u Avenue, Kaimuki
 Oahu, 030

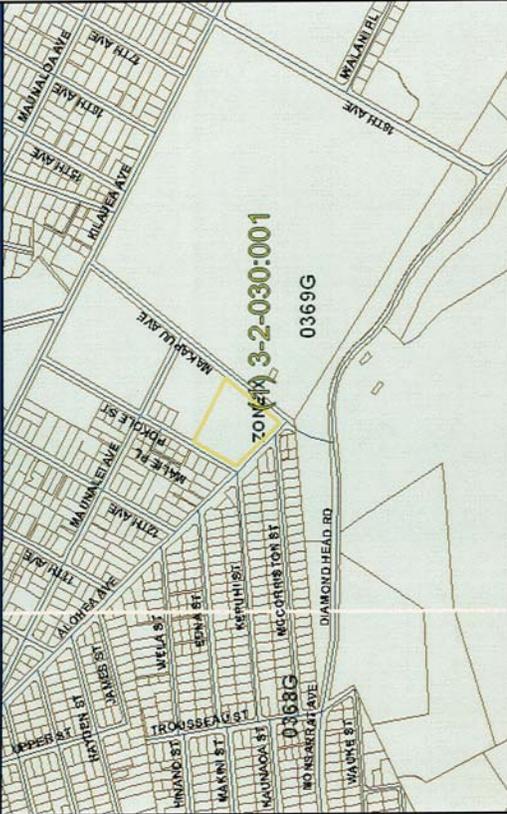
COMMENTS

- We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone _____.
- Please take note that the project site according to the Flood Insurance Rate Map (FIRM), is located in Zone X. The National Flood Insurance Program (NFIP) does not regulate developments within Zone X.
- Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is _____.
- Please note that the project must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tysu-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.
- Please be advised that 44CFR indicates the minimum standards set forth by the NFIP. Your Community's local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:
 - Mr. Mario Siu Li at (808) 768-8098 of the City and County of Honolulu, Department of Planning and Permitting.
 - Mr. Frank DeMarco at (808) 961-8042 of the County of Hawaii, Department of Public Works.
 - Mr. Carolyn Cortez at (808) 270-7253 of the County of Maui, Department of Planning.
 - Mr. Stanford Iwanoto at (808) 241-4896 of the County of Kauai, Department of Public Works.
- The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.
- The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.
- Additional Comments: _____
- Other: _____

Should you have any questions, please call Mr. Dennis Inada of the Planning Branch at 587-0257.

Signed:
 CARY S. CHANG, CHIEF ENGINEER
 Date: 5/6/14

State of Hawaii
FLOOD HAZARD ASSESSMENT REPORT



NATIONAL FLOOD INSURANCE PROGRAM	
<p>FLOOD ZONE DEFINITIONS</p> <p>SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD - The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zone A, AE, AH, AO, V, and VE. The Base Flood Elevation (BFE) is the water surface elevation of the 1% annual chance flood. Mandatory flood insurance purchase applies in these zones:</p> <ul style="list-style-type: none"> Zone A: No BFE determined. Zone AE: BFE determined. Zone AH: Flood depths of 1 to 3 feet (usually areas of ponding); BFE determined; average depths determined. Zone AO: Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. Zone V: Coastal flood zone with velocity hazard (wave action); no BFE determined. Zone VE: Coastal flood zone with velocity hazard (wave action); BFE determined. Zone AEF: Floodway areas in Zone AE. The floodway is the channel of stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without increasing the BFE. <p>NON-SPECIAL FLOOD HAZARD AREA - An area in a low-to-moderate risk flood zone. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.</p> <ul style="list-style-type: none"> Zone XS (shaded): Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood. Zone X: Areas determined to be outside the 0.2% annual chance floodplain. <p>OTHER FLOOD AREAS</p> <ul style="list-style-type: none"> Zone D: Unshaded areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities. 	<p>PROPERTY INFORMATION</p> <p>COUNTY: HONOLULU TMK NO: (1) 3-2-030-001 PARCEL ADDRESS: 520 MAKAPOU AVE HONOLULU, HI 96816 FIRM INDEX DATE: JANUARY 19, 2011 LETTER OF MAP CHANGE(S): NONE FEMA FIRM PANEL(S): 150030369G PANEL EFFECTIVE DATE: JANUARY 19, 2011</p> <p>PARCEL DATA FROM: APRIL 2014 MAY 2006</p> <p>IMPORTANT PHONE NUMBERS</p> <p>County NEP Coordinator City and County of Honolulu Mario Sui-Li, CFM (808) 768-6098 State NEP Coordinator Carol Ysua-Beam, P.E., CFM (808) 587-0267</p> <p><small>Disclaimer: The Department of Land and Natural Resources (DLNR) assumes no responsibility arising from the use of the information contained in this report. The user of this report shall be responsible for the accuracy of the information and agree to indemnify the DLNR from any liability, which may arise from its use. If this map has been identified as 'PRELIMINARY' or 'UNOFFICIAL', please note that it is being provided for informational purposes and is not to be used for official decisions, regulatory compliance, or flood determinations to be used for compliance with local floodplain management regulations.</small></p>

HFH PLANNERS
places for people



October 5, 2015
 Mr. Russell Y. Tsuji, Land Administrator
 Land Division
 Department of Land and Natural Resources
 State of Hawai'i
 P.O. Box 621
 Honolulu, Hawai'i 96809

Dear Mr. Tsuji:

**Diamond Head Theatre Redevelopment Project
 Draft Environmental Assessment Pre-Assessment Consultation**
 Kaimuki, O'ahu, Hawai'i
 Tax Map Key Parcel (1) 3-2-030-001

Thank you for your letter dated May 29, 2014 providing comments as part of pre-assessment consultation efforts for the preparation of the Draft Environmental Assessment (Draft EA) for the subject project. Our responses address the comments from each division. Engineering Division

We concur with the Engineering Division's determination that the project is located within Zone X under the Flood Insurance Rate Map for the project area.

Land Division, O'ahu District
 We note that the State of Hawai'i owns TMK Parcel 3-2-030-001, and leases the property to Diamond Head Theatre under General Lease No. 5954. We also acknowledge that pursuant to Lease Condition 9, any building, structure or improvement of any kind will require written approval from DLNR's Chairperson.

Your letter and this response will be included in the Draft EA. We appreciate your participation in this review process, and look forward to any additional comments you may have on the Draft EA. If you need additional information, please contact me by phone at 808-457-3168 or by email at colsonorr@hhf.com.

Sincerely,
 HHF Planners

 Carolyn Orr

Pacific Guardian Center, Makai Tower | 733 Bishop Street, Suite 2500 | Honolulu, Hawai'i 96813
 Telephone: 808-545-2055 | Facsimile: 808-545-2050 | www.hhf.com | info@hhf.com

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 768-6000 • FAX: (808) 768-6041
DEPT. WEB SITE: www.honolulu.gov • CITY WEB SITE: www.honolulu.gov



KIRK CALDWELL
MAYOR

GEORGE L. ATTA, FAICP
DIRECTOR
ARTHUR D. CHALLACOMBE
DEPUTY DIRECTOR

2014/ELOG-804(GT)

June 2, 2014

Mr. Scott Ezer
Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Mr. Ezer:

SUBJECT: Pre-Assessment Consultation
Draft Environmental Assessment
Diamond Head Theatre Redevelopment
520 Makapuu Avenue – Diamond Head
Tax Map Key 3-2-30: 1

This is in response to your letter (received May 2, 2014) requesting comments regarding the preparation of the Draft Environmental Assessment for the above-mentioned project. Diamond Head Theatre is proposing construction of a new 500-seat theatre to replace its existing theatre building. Based on the summary information and location map you submitted, we offer the following preliminary review comments:

1. Discuss the visual impacts of the proposed theatre onto surrounding areas, especially the 75-foot high fly loft. Explain how its visual impact will be mitigated.
2. Discuss how many, how often, and when the proposed overflow parking will occur at the Kapiolani Community College (KCC) campus. Discuss any off-site parking arrangements with KCC. Discuss parking impacts for those organizations that will be renting the proposed theatre periodically or regularly. Discuss impacts to on-street parking especially during the day and evening hours when KCC classes are in session. Discuss parking impacts during events held at the KCC campus, e.g., Farmer's Market on weekends. Discuss current and future traffic management plans for the theatre.
3. Discuss any light and glare impacts from exterior lighting and signs.
4. Discuss any noise impacts from theatre production and performances.
5. Project compliance with the development standards of the Land Use Ordinance will be reviewed when actual plans of the proposed theatre become available.

Mr. Scott Ezer
June 2, 2014
Page 2

Please contact Gerald Toyomura of our staff at 768-8056, if you have any questions.

Very truly yours,

George I. Atta
George I. Atta, FAICP
Director

Doc1148390

October 5, 2015

Mr. George I. Atta, FAICP

Director

Department of Planning and Permitting

City and County of Honolulu

650 South King Street, 7th Floor

Honolulu, Hawai'i 96813



Dear Mr. Atta:

**Diamond Head Theatre Redevelopment Project
Draft Environmental Assessment Pre-Assessment Consultation
Kaimuki, O'ahu, Hawai'i
Tax Map Key Parcel (1) 3-2-030: 001**

Thank you for your letter dated June 2, 2014 providing comments as part of pre-assessment consultation efforts for the preparation of the Draft Environmental Assessment (Draft EA) for the subject project.

We acknowledge that project compliance with the development standards of the City's Land Use Ordinance will be reviewed when the actual plans for the proposed theatre become available. We also note your request that the Draft EA address the potential visual impacts of the proposed theatre building, and describe any potential impacts to traffic and parking availability, exterior lighting and glare, and noise.

Your letter and this response will be included in the Draft EA. We appreciate your participation in this review process, and look forward to any additional comments you may have on the Draft EA. If you need additional information, please contact me by phone at 808-457-3168 or by email at colsonorr@hhf.com.

Sincerely,

HHF Planners

A handwritten signature in black ink, appearing to read "Corlyn Orr", written over the printed name.

Corlyn Orr

DEPARTMENT OF COMMUNITY SERVICES
CITY AND COUNTY OF HONOLULU

715 SOUTH KING STREET, SUITE 311 • HONOLULU, HAWAII 96813 • MEDIA CODE 888 • PHONE: 708-7762 • FAX: 708-7792



KIRK CALDWELL
MAYOR

PAMELA A. WITTY-OAKLAND
DIRECTOR
GARY K. NAKATA
DEPUTY DIRECTOR

June 5, 2014

Mr. Scott Ezer
Principal
HHF Planners
Pacific Guardian Center, Makai Tower
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Mr. Ezer:

SUBJECT: Diamond Head Theatre Redevelopment
Draft Environmental Assessment Pre-Assessment Consultation
Kaimuki, Oahu, Hawaii, Tax Map Key Parcel (1) 3-2-030: 001

We have reviewed your letter dated May 1, 2014, and the enclosed Draft Environmental Assessment Pre-Assessment Consultation documents. Our review of the information provided indicates that the proposed project will have no adverse impacts on any Department of Community Services' activities or projects at this time.

Thank you for providing us with the opportunity to comment on this matter.

Sincerely,

Pamela A. Witty-Oakland
Director

PAW:sgk

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places for people



October 5, 2015

Mr. Gary Nakata
Director
Department of Community Services
City and County of Honolulu
715 South King Street, Suite 311
Honolulu, Hawaii 96813

Dear Mr. Nakata:

**Diamond Head Theatre Redevelopment Project
Draft Environmental Assessment Pre-Assessment Consultation
Kaimuki, O'ahu, Hawaii'i
Tax Map Key Parcel (1) 3-2-030: 001**

Thank you for the letter dated June 5, 2014 providing comments as part of pre-assessment consultation efforts for the preparation of the Draft Environmental Assessment (Draft EA) for the subject project.

We acknowledge your determination that the proposed project should have no adverse impact on the Department of Community Services' activities and projects at this time.

Your letter and this response will be included in the Draft EA. We appreciate your participation in this review process, and look forward to any additional comments you may have on the Draft EA. If you need additional information, please contact me by phone at 808-457-3168 or by email at colsonorr@hhf.com.

Sincerely,

HHF Planners

Corlyn Orr

Pacific Guardian Center, Makai Tower | 733 Bishop Street, Suite 2590 | Honolulu, Hawaii 96813
Telephone: 808-545-2055 | Facsimile: 808-545-2050 | www.hhf.com | e-mail: info@hhf.com

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU

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



KIRK CALDWELL
MAYOR

CHRIS T. TAKASHIGE, P.E., CCM
DIRECTOR

MARK YONAMINE, P.E.
DEPUTY DIRECTOR

May 14, 2014

HHF Planners, Inc.
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Attn: Corlyn Orr

Dear Ms. Orr:

Subject: Diamond Head Theatre Redevelopment Draft Environmental
Assessment Pre-Assessment Consultation Kaimuki, Oahu,
Hawaii Tax Map Key Parcel (1) 3-2-030:001

The Department of Design and Construction does not have comments to offer on
the pre-assessment consultation.

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

Sincerely,

Chris T. Takashige, P.E., CCM
Director

CTT: cf (560984)

HHF PLANNERS
places for people



October 5, 2015

Mr. Robert J. Kroning, P.E.
Director

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

Dear Mr. Kroning:

Diamond Head Theatre Redevelopment Project
Draft Environmental Assessment Pre-Assessment Consultation
Kaimuki, O'ahu, Hawai'i
Tax Map Key Parcel (1) 3-2-030: 001

Thank you for the letter dated May 14, 2014 providing comments as part of pre-assessment
consultation efforts for the preparation of the Draft Environmental Assessment (Draft EA)
for the subject project.

We note that your department does not have any comments to offer at this time.

Your letter and this response will be included in the Draft EA. We appreciate your
participation in this review process, and look forward to any additional comments you may
have on the Draft EA. If you need additional information, please contact me by phone at
808-457-3168 or by email at colsonorr@hhf.com.

Sincerely,

HHF Planners

Corlyn Orr

Pacific Guardian Center, Makai Tower | 733 Bishop Street, Suite 2590 | Honolulu, Hawai'i 96813
Telephone: 808.545.2055 | Facsimile: 808.545.2050 | www.hhf.com | e-mail: info@hhf.com

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 3RD FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8305 • Fax: (808) 768-4730 • Internet: www.honolulu.gov



KIRK CALDWELL
MAYOR

MICHAEL D. FORMBY
DIRECTOR
MARK N. GARRITY, AICP
DEPUTY DIRECTOR

TP5/14-561285R

May 29, 2014

Ms. Corlyn Orr
Project Planner
HHF Planners, Inc.
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Orr:

SUBJECT: Pre-Consultation for Draft Environmental Assessment (DEA)
Diamond Head Theater Redevelopment; Kaimuki, Oahu,
Hawaii; Tax Map Key (TMK): (1) 3-2-030: 001

In response to a letter from Mr. Scott Ezer, Principal, HHF Planners, Inc., dated
May 1, 2014, we have the following comments:

1. The DEA should include a traffic impact assessment report (TIAR). The TIAR should discuss the traffic impacts on the surrounding City roadways as a result of the project, including the short-term impacts during construction, short- and long-term proposed mitigating measures by applying complete streets principles. The passenger drop-off area along Makapuu Avenue introduces conflict with traffic operations and parking concerns. The TIAR and/or the DEA needs to address how these will be handled while minimizing traffic circulation impacts.
2. The local Neighborhood Board, as well as the area residents, businesses, etc., should be kept apprised of the details of the proposed project and the impacts, particularly during construction, the project may have on the adjoining local street area network.
3. A street usage permit from the City's Department of Transportation Services should be obtained for any construction-related work that may require the temporary closure of any traffic lane on a City street. Also, a traffic management plan should be prepared that ensures any construction materials and equipment be transferred to and from the project site during

Ms. Corlyn Orr
May 29, 2014
Page 2

off-peak traffic hours (8:30 a.m. to 3:30 p.m.) to minimize any possible impacts to pedestrians and traffic on the local streets.

4. Bicycle parking facilities for the project should be anticipated and provided. These facilities should be described in the DEA.
5. The site plan should ensure that all access driveways to the site provide safe pedestrian conditions while crossing. Drop driveways are recommended for accessibility and pedestrian safety.
6. The DEA should include a description of Public Transit and the impact of your project on Public Transit bus and paratransit operations during construction. In addition, two City bus stops are adjacent to the project site. Bus stop No. 3309 is located at Makapuu and Alohea Avenues. Bus stop No. 3326 is located at Alohea Avenue and Pokole Street. Both stops serve Route 9. Basic information is available on our websites: www.thebus.org and www.honolulu.gov/dts. Because your project may affect bus routes and services, you should contact our staff at 768-8370 to coordinate your planned activities.
7. If appropriate, construction notes should include the following note regarding transit services:
"This project may affect bus routes, bus stops, and paratransit operations, therefore, the Contractor shall notify the Department of Transportation Services, Public Transit Division at 768-8396 and Oahu Transit Services, Inc. (bus operations: 848-4578 or 852-6016 and paratransit operations: 454-5041 or 454-5020) of the scope of work, location, proposed closure of any street, traffic lane, sidewalk, or bus stop and duration of project at least two weeks prior to construction."

We reserve further comment pending submission of the DEA.

Thank you for the opportunity to review this matter. Should you have any further questions, please contact Michael Murphy of my staff at 768-8359.

Very truly yours,

Michael D. Formby
Director

October 5, 2015

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

Dear Mr. Formby:

**Diamond Head Theatre Redevelopment Project
Draft Environmental Assessment Pre-Assessment Consultation**
Kaimuki, O'ahu, Hawai'i
Tax Map Key Parcel (1) 3-2-030: 001

Thank you for your letter dated May 29, 2014 providing comments as part of pre-assessment consultation efforts for the preparation of the Draft Environmental Assessment (Draft EA) for the subject project. This response is to confirm receipt of your comments and to acknowledge that you reserve further comment pending submission of the Draft EA. Our responses to your comments are categorized by subject area.

Traffic Impact Assessment Report

We confirm that the Draft EA will include a traffic impact assessment report (TIAR) to address the potential traffic and parking impacts on the surrounding City roadways as a result of the project, including the short-term impacts during construction and proposed mitigating measures. We note your concern about the proposed passenger drop-off area along Makapu'u Avenue, and will include a discussion about the passenger drop-off area in the Draft EA.

Public Notification

Diamond Head Theatre (DHT) strives to maintain a positive relationship with neighboring property owners and the local community. As such, DHT representatives have already participated in a number of presentations to inform the surrounding community of the project, including hosting an open house event at DHT on March 3, 2014; attending the Waialae-Kahala Neighborhood Board No. 3 meeting on March 20, 2014; Kaimuki Neighborhood Board No. 4 meeting on March 19, 2014; and the Diamond Head/Kapahulu/St. Louis Heights Neighborhood Board No. 5 meeting on April 10, 2014. In an effort to maintain positive community relationships, DHT representatives will continue to keep the local community apprised of the project during both the planning and construction phases.



Mr. Michael D. Formby
October 5, 2015
Page 2

Construction-Related Requirements

The Draft EA will indicate that the project contractor will be advised to prepare a traffic management plan that addresses construction-related impacts, as well as obtain a street usage permit for any work involving temporary closure of a City street.

If applicable, the construction notes will include the statement about transit services provided in your letter.

Bicycle, Pedestrian and Public Transit Facilities

In accordance with the City's Complete Streets policy of encouraging transportation facilities that provide safe mobility for all users, the Draft EA will describe existing and proposed bicycle parking facilities and pedestrian facilities. We understand that pedestrian safety should be provided across driveways, and that drop driveways are recommended for accessibility and pedestrian safety. In addition, we note that the Draft EA will include a description of public transit facilities/routes in the project vicinity, including any impacts during construction. Thank you for providing the current bus route and operating schedule information and website references.

Your letter and this response will be included in the Draft EA. We appreciate your participation in this review process, and look forward to any additional comments you may have on the Draft EA. If you need additional information, please contact me by phone at 808-457-3168 or by email at colsonorr@hhf.com.

Sincerely,

HHF Planners

Corlyn Orr

HONOLULU FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU

636 South Street
Honolulu, Hawaii 96813-5007
Phone: 808-723-1139 Fax: 808-723-7111 Internet: www.honolulu.gov/hfd



MANUEL P. NEVES
FIRE CHIEF
LIONEL CAMARA JR.
DEPUTY FIRE CHIEF

May 20, 2014

Ms. Corlyn Orr, Project Planner
HHF Planners, Inc.
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Orr:

Subject: Draft Environmental Assessment
Diamond Head Theatre Redevelopment
Tax Map Key: 3-2-030: 001

In response to a letter from Scott Ezer dated May 1, 2014, regarding the above-mentioned subject, the Honolulu Fire Department (HFD) requires that the following be complied with:

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

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

2. A water supply approved by the county, capable of supplying the required fire flow for fire protection, shall be provided to all premises upon which facilities or buildings, or portions thereof, are hereafter constructed, or moved into or within the county. When any portion of the facility or building is in excess of 150 feet from a water supply on a fire apparatus access road, as measured by an approved route around

Ms. Corlyn Orr, Project Planner
Page 2
May 20, 2014

the exterior of the facility or building, on-site fire hydrants and mains capable of supplying the required fire flow shall be provided when required by the AHJ [Authority Having Jurisdiction]. (NFPA 1, UFCTM, 2006 Edition, Section 18.3.1, as amended.)

3. The unobstructed width and unobstructed vertical clearance of a fire apparatus access road shall meet county requirements. (NFPA 1, UFCTM, 2006 Edition, Section 18.2.3.4.1.1, as amended.)
4. Submit civil drawings to the HFD for review and approval.

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

Sincerely,

SOCRATES D. BRATAKOS
Assistant Chief

SDB/DO:bh

cc: Scott Ezer



October 5, 2015

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

Dear Mr. Bratakos:



**Diamond Head Theatre Redevelopment Project
Draft Environmental Assessment Pre-Assessment Consultation
Kaimuki, O'ahu, Hawai'i
Tax Map Key Parcel (1) 3-2-030: 001**

Thank you for your letter dated May 20, 2014 providing comments as part of pre-assessment consultation efforts for the preparation of the Draft Environmental Assessment (Draft EA) for the subject project.

We acknowledge your comments that the proposed project will be required to comply with Honolulu Fire Department requirements for water availability, fire apparatus access roads, and plan approvals. The proposed project will comply with the applicable sections of the 2006 Uniform Fire Code requirements, as referenced in your letter. Civil drawings will be submitted to Honolulu Fire Department for review and approval.

Your letter and this response will be included in the Draft EA. We appreciate your participation in this review process, and look forward to any additional comments you may have on the Draft EA. If you need additional information, please contact me by phone at 808-457-3168 or by email at colsonorr@hhf.com.

Sincerely,

HHF Planners

Corlyn Orr

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



LOUIS M. KEALOHA
CHIEF
DAVE W. KAJIHIRO
MAJOR CLERK
DEPUTY CHIEFS

KIRK CALDWELL
MAYOR

OUR REFERENCE
EO-WS

May 21, 2014

Ms. Corlyn Orr, Project Planner
Helber Hastert & Fee Planners, Inc.
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Orr:

This is in response to your letter dated May 1, 2014, requesting comments on the Pre-Assessment Consultation, Draft Environmental Assessment, for the proposed Diamond Head Theatre Redevelopment project.

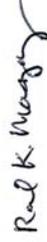
The Honolulu Police Department (HPD) anticipates possible short-term impacts to traffic around Aloha and Makapuu Avenues during the construction phase of the project. Since the Kapiolani Community College parking lot is across the street from the project, we recommend scheduling construction vehicles and supply deliveries during off-peak hours and informing the public of any potential delays in and around the project area.

Once the project is completed, it should have no significant impact on the services or operations of the HPD.

If there are any questions, please contact Major Calvin Tong of District 7 (East Honolulu) at 723-3369 or via e-mail at ctong@honolulu.gov.

Sincerely,

LOUIS M. KEALOHA
Chief of Police

By 
RANDAL K. MACADANGDANG
Assistant Chief
Support Services Bureau

Serving and Protecting With Aloha

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October 5, 2015

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

Dear Mr. Macadangdang:

**Diamond Head Theatre Redevelopment Project
Draft Environmental Assessment Pre-Assessment Consultation
Kaimuki, O'ahu, Hawaii'i
Tax Map Key Parcel (1) 3-2-030:001**

Thank you for your letter dated May 21, 2014 providing comments as part of pre-assessment consultation efforts for the preparation of the Draft Environmental Assessment (Draft EA) for the subject project.

We acknowledge your determination that the proposed project should have no significant impact on the services or operations of the Honolulu Police Department. To minimize possible short-term traffic impacts during the construction phase of the project, construction vehicles and supply deliveries will be scheduled during off-peak hours and the applicant will seek to inform the public of any potential traffic delays.

Your letter and this response will be included in the Draft EA. We appreciate your participation in this review process, and look forward to any additional comments you may have on the Draft EA. If you need additional information, please contact me by phone at 808-457-3168 or by email at colsonorr@hhf.com.

Sincerely,

HHF Planners

Corlyn Orr

Pacific Guardian Center, Makai Tower | 733 Bishop Street, Suite 2590 | Honolulu, Hawaii 96813
Telephone: 808-545-2055 | Facsimile: 808-545-2050 | www.hhf.com | e-mail: info@hhf.com

BOARD OF WATER SUPPLY

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



May 28, 2014

KIRK CALDWELL, MAYOR
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Manager and Chief Engineer
ELLEN E. KITAMURA, P.E.
Deputy Manager and Chief Engineer

Mr. Scott Ezer, Principal
HHF Planners, Inc.
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Attention: Corlyn Orr
Dear Mr. Ezer:

Subject: Your Letter Dated May 1, 2014 Regarding the Diamond Head Theatre
Redevelopment Draft Environmental Pre-Assessment Consultation,
Tax Map Key: 3-2-030:001

Thank you for the opportunity to comment on the proposed Diamond Head Theatre Redevelopment.

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

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

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

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

Very truly yours,


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

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places for people

October 5, 2015

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

Dear Mr. Lau:

Diamond Head Theatre Redevelopment Project
Draft Environmental Assessment Pre-Assessment Consultation
Kaimuki, O'ahu, Hawaii?
Tax Map Key Parcel (1) 3-2-030:001

Thank you for your letter dated May 28, 2014 providing comments as part of pre-assessment consultation efforts for the preparation of the Draft Environmental Assessment (Draft EA) for the subject project.

We acknowledge your determination that the existing water system is presently adequate to accommodate the proposed project. Design plans will be coordinated with the Board of Water Supply for review and approval as part of the project's design phase. We understand that final decision on water availability will be confirmed when the building permit application is submitted. In addition, the proposed project will be subject to Cross-Connection Control and Backflow Prevention requirements prior to the issuance of a building permit.

Diamond Head Theatre will also be required to pay Water System Facility Charges.

Your letter and this response will be included in the Draft EA. We appreciate your participation in this review process, and look forward to any additional comments you may have on the Draft EA. If you need additional information, please contact me by phone at 808-457-3168 or by email at colsonorr@hhf.com.

Sincerely,

HHF Planners

Corlyn Orr



Pacific Guardian Center, Makai Tower | 733 Bishop Street, Suite 2590 | Honolulu, Hawaii 96813
Telephone: 808.545.2055 | Facsimile: 808.545.2050 | www.hhf.com | e-mail: info@hhf.com

Corlynn Olson Orr

From: Liu, Rouen [rouen.liu@hawaiianelectric.com]
Sent: Thursday, June 12, 2014 1:30 PM
To: Info; Corlynn Olson Orr
Cc: 1.11.136607@collab.heco.com
Subject: FW: Pre-Assessment consultation - request for comments on the Diamond Head Theatre Redevelopment

Dear Mr. Ezer
Thank you for the opportunity to comment on the subject project. Hawaiian Electric Company has no objections to the project. Should HECO have existing easements and facilities on the subject property, we will need continued access for maintenance of our facilities.
We appreciate your efforts to keep us apprised of the subject project in the planning process. As the Diamond Head Theatre Redevelopment comes to fruition, please continue to keep us informed. Further along in the design, we will be better able to evaluate the effects on our system facilities.
If you have any questions, please call me at 543-7245.

Sincerely,
Rouen Q. W. Liu
Permits Engineer



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October 5, 2015

Mr. Rouen Q. W. Liu, Permits Engineer
Engineering Department
Hawaiian Electric Company
P.O. Box 2750
Honolulu, Hawai'i 96840

Dear Mr. Liu:

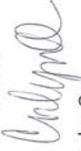
Diamond Head Theatre Redevelopment Project
Draft Environmental Assessment Pre-Assessment Consultation
Kaimuki, O'ahu, Hawai'i
Tax Map Key Parcel (1) 3-2-030: 001

Thank you for your e-mail dated June 12, 2014 providing comments as part of pre-assessment consultation efforts for the preparation of the Draft Environmental Assessment (Draft EA) for the subject project.

We note that Hawaiian Electric Company (HECO) has no objections to the proposed project, and that additional design details are needed to evaluate the effects of the project on HECO's system facilities. Access to any HECO easements and facilities on the subject property will be protected. The applicant will continue its consultation efforts during future stages of the planning and design process.

Your letter and this response will be included in the Draft EA. We appreciate your participation in this review process, and look forward to any additional comments you may have on the Draft EA. If you need additional information, please contact me by phone at 808-457-3168 or by email at colsonorr@hhf.com.

Sincerely,

HHF Planners

Corlynn Orr

Pacific Guardian Center, Makai Tower | 733 Bishop Street, Suite 2500 | Honolulu, Hawai'i 96813
Telephone: 808.545.2055 | Facsimile: 808.545.2050 | www.hhf.com | e-mail: info@hhf.com

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May 9, 2014

HHF Planners Inc.
733 Bishop Street, Suite 2590
Honolulu, Hawai'i 96813
ATTN: Corlynn Orr

**RE: Diamond Head Theatre Redevelopment Project
Draft Environmental Pre-Assessment Consultation
Kaimukū, O'ahu, Hawai'i
TMK: (1) 3-2-030:001**

Dear Corlynn Orr,

Thank you for referring the Diamond Head Redevelopment Project to Historic Hawai'i Foundation (HHF) for inclusion in the pre-environmental assessment consultation. Since 1974, HHF has been a statewide leader for historic preservation with a mission to preserve and encourage the preservation of historic properties significant to the history of Hawai'i.

As outlined in the correspondence from Helber Hastert and Fee Planners dated May 1, 2014, the Diamond Head Theatre Redevelopment project consists of the construction of a new theatre in a previously undeveloped lot, the demolition of the existing 1933 theatre, and subsequent interpretive programming and landscaping of that area. The proposed project includes ground disturbing activity.

Historic Hawai'i Foundation concurs with the determination of eligibility made by the State Historic Preservation Division in a letter dated June 28, 2010 (L2010.2168, D1006RS21) which states that the theatre may be eligible for the State or National Register of Historic Places under Criterion A for its association with Fort Ruger Historic District and for its role in community entertainment. However, HHF also notes that the existing building was found to have lost design integrity due to the many alterations to its design over the past decades.

Because the historic significance is related to association with events and not for its architectural design or engineering, HHF feels that the appropriate mitigation measures should relate to providing historic interpretation and educational opportunities. For example, the State Historic Preservation Division required completion of Historic American Building Survey Level 1 documentation. This documentation could provide the content and form the basis for displays or landscape design at the

680 Iwilei Road, Suite 690 / Honolulu, Hawai'i 96817 / Tel (808)523-2900 / Fax (808)523-0800
Email preservation@historichawaii.org / Web www.historichawaii.org

interpretive garden or architectural details of the new building to reflect or reminisce on the lost history of the place.

Historic Hawai'i Foundation supports the development of interpretive material for the area where the theater now stands. The correspondence states that a "landscaped interpretive garden that highlights the site's association with Fort Ruger is being planned." HHF feels that the intent of the interpretive garden should be expanded to include not only its association with Fort Ruger, but the significance of the theater's role in the community from its construction to today. In addition, if there are any artifacts or objects from the existing theatre that could enhance the gathering spaces, we recommend their salvage and reuse. We recommend that the environmental assessment expands upon the planned interpretive garden and further explains the scope of work for the interpretive component of the project.

HHF would like to be included in future communication, review, and comments of the continuing project design plans. Megan Borthwick, Preservation Program Manager, will be HHF's point of contact. She can be reached at 808-523-2900 or Megan@historichawaii.org

Very truly yours,

Kiersten Faulkner, AICP
Executive Director

Copies via email: Anna Broverman, State Historic Preservation Division
Deena Dray, Diamond Head Theatre

October 5, 2015

Ms. Kiersten Faulkner, AICP, Executive Director
Historic Hawai'i Foundation
680 Iwilei Road, Suite #690
Honolulu, Hawai'i 96817



Dear Ms. Faulkner:

Diamond Head Theatre Redevelopment Project
Draft Environmental Assessment Pre-Assessment Consultation
Kaimuki, O'ahu, Hawai'i
Tax Map Key Parcel (1) 3-2-030: 001

Thank you for your letter dated May 9, 2014 providing comments as part of pre-assessment consultation efforts for the preparation of the Draft Environmental Assessment (Draft EA) for the subject project.

We acknowledge your concurrence with the State Historic Preservation Division (SHPD) determination that the historic significance of the existing Diamond Head Theatre building is related to association with events and not architectural design or engineering. Likewise, we concur with your position that providing historic interpretation and educational opportunities are appropriate mitigation measures for the proposed project. The proposed project will include a number of interpretive and educational components to the extent feasible. Interpretive features being considered at this time include transforming the existing theatre walkways into an interpretive pathway, and opportunities to salvage and reuse fixtures and furnishings from the existing theatre. Further information on the interpretive component of the project will be detailed during the design phase.

We will be consulting SHPD to ensure that their recommendation for completion of Historic American Building Survey (HABS) report is satisfied.

Your letter and this response will be included in the Draft EA. We appreciate your participation in this review process, and look forward to any additional comments you may have on the Draft EA. If you need additional information, please contact me by phone at 808-457-3168 or by email at colsonorr@hhf.com.

Sincerely,

HHF Planners

Corlyn Orr