

# APPENDICES



**HHF PLANNERS**  
*places for people*

# APPENDIX **A**

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*Environmental Impact Statement Preparation Notice  
Comments and Responses*





# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Pacific Islands Fish and Wildlife Office  
300 Ala Moana Boulevard, Room 3-122  
Honolulu, Hawai'i 96850

In Reply Refer To:  
01EPIF00-2018-TA-0116

FEB 05 2018

Mr. Ronald A. Sato, AICP, Senior Associate  
HFF Planners  
733 Bishop Street, Suite 2590  
Honolulu, Hawai'i 96819

Subject: Technical Assistance for the Environmental Impact Statement Preparation Notice  
for the proposed Hawaiian Memorial Park Cemetery Expansion Project,  
Kāne'ohe, O'ahu

Dear Mr. Sato:

#1 The U.S. Fish and Wildlife Service (Service) received your letter on December 27, 2017, requesting our comments on the proposed Hawaiian Memorial Park Cemetery Expansion Project, located in Kāne'ohe, on the island of O'ahu [TMK: (1) 4-5-033: por. 001]. Hawaiian Memorial Life Plan, Ltd. (Petitioner) owns and manages the Hawaiian Memorial Park (HMP) that offers a variety of interment options. HMP is a full-service cemetery located in Kāne'ohe, O'ahu, Hawai'i, and has been at its present location since 1958. The Petitioner is proposing the expansion of HMP because of a growing aging population on O'ahu and demand for ground interment and inurnment spaces. Currently, only about 6% of all the individual plots at HMP remain available for families. The proposed improvements (Proposed Action) within the approximately 53.45-acre Petition Area would consist of two main components: 1) expansion of the HMP cemetery; and 2) creation of a 14.5-acre cultural preserve immediately to the northeast of the cemetery expansion area. Remaining undeveloped areas of Parcel 1 outside of the Petition Area would continue to remain undeveloped.

The majority of the approximately 53.45-acre Petition Area would be used for expansion of the cemetery by 28.2 acres (53% of total Petition Area). The cemetery expansion would involve the construction of landscaped areas for burial space. Small private structures could also be placed throughout the cemetery grounds with special features, garden walls, walkways, and monuments similar to that present within other areas of HMP. After grading to establish appropriate slopes, the majority of the land would be landscaped with turf and would match the appearance of the existing cemetery.

An internal roadway system encompassing about 3 acres would be constructed to provide access to various areas. The roadway would be paved and suitable to accommodate two-way traffic.



An irrigation system would be provided to irrigate the landscape elements of the cemetery. The irrigation system for the existing HMP is served by the City's potable water system. A connection point is located at the entrance to HMP in the vicinity of Mahinui Road and Kamehameha Highway. A waterline under Kumakua Place irrigates the existing Ocean View Garden site. The feasibility of incorporating a non-potable water source for the cemetery expansion area would be evaluated. However, if a non-potable water source cannot be obtained, the cemetery would be allowed to hook up to the domestic water supply.

Storm water runoff would be managed in accordance with applicable City regulations and drainage standards. The primary method planned to manage the cemetery's stormwater would be a system of retention areas designed to meet City's Drainage Standards for the 100-year, 1-hour storm event. More detailed information associated with grading and drainage improvements would be discussed in your Draft EIS.

A 14.5-acre area within the Petition Area would be established as a cultural preserve. This cultural preserve would allow for the preservation and maintenance of cultural sites present within this area. This area contains a range of significant resources within its boundaries, including, but not limited to Kawa'ewa'e Heiau, other historic sites, native plants used for cultural practices, and is the site of wahi pana (storied places or landscapes).

A preservation plan is currently being developed by Hawaiian Memorial Life Plan, Ltd. in partnership with the Ko'olaupoko Hawaiian Civic Club regarding the stewardship and management of the cultural preserve. The preservation plan would determine the best treatment strategies for the resources within the cultural preserve, the reserve's management, and its operation. The preservation plan would ensure the long-term maintenance and security of Kawa'ewa'e Heiau and this area.

The 156.5 acres of the 164.4 acre parcel (less 7.9-acre Ocean View Garden) will be placed in a conservation easement. This conservation easement would limit any other future development on the property, except for the expansion of the cemetery and cultural preserve. Further details on the conservation easement would be discussed in your Draft EIS.

HMP intends to commence design and construction of the backbone infrastructure for development of the entire Petition Area in a single integrated system as soon as all entitlements have been obtained. Construction would likely occur in phases in successive 5-acre increments until all sections of the cemetery expansion area have been completed. It is anticipated that the entitlement phase of the project would be completed in early to mid-2019. A preliminary target date for completion of the initial phase of construction is 2020.

#2 We have reviewed the information you provided and pertinent information in our files, including data compiled by the Hawai'i Biodiversity and Mapping Program as it pertains to listed species and designated critical habitat in accordance with section 7 of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq.*). Our data indicate the federally endangered blackline Hawaiian damselfly (*Megalagrion nigrohamatum nigrolineatum*) and the Hawaiian hoary bat (*Lasiurus cinereus semotus*) may occur within the vicinity of your proposed project. We offer the following comments to assist you in your proposed project.

**#3** Blackline Hawaiian damselfly

Blackline Hawaiian damselfly adults are predacious and feed on small flying insects, such as midges; immatures require pools in upland streams, as well as seepage-fed pools that border them, and some degree of riparian tree cover. Threats to the current existence of this species include severe alteration and degradation of freshwater habitats due to past and present land use and water management practices, including agriculture, urban development, and development of ground water, perched aquifer and surface water resources, as well as accidental and deliberate introduction of alien species, such as fish, backswimmers, California grass and fire ants.

The habitat where the blackline Hawaiian damselflies are found within your proposed project area consists of a spring head contained in a damaged concrete box structure, with an interior water-filled well approximately 9 feet deep. Water seeping out of the hillside to either side of this structure accumulates as shallow pools 1-3 inches deep in a small, muddy gully that gently descends for a distance of approximately 250 linear feet until being captured in a vertical concrete shaft that connects to the City and County of Honolulu storm sewer system. The blackline Hawaiian damselflies appear to be breeding along the length of this outflow between the spring head and the storm sewer intake. We recommend you work with our office to develop avoidance and minimization measures in order to allow the continued persistence of this population.

Your EISPN proposes an updated survey of native invertebrate resources would be conducted, and project effects addressed in the Draft EIS. This would include an expanded field inspection to determine the full extent of the presence of the endangered blackline Hawaiian damselfly. Necessary best management practices would be addressed to ensure the project does not impact damselfly habitat. We appreciate further coordination regarding management practices to address avoidance and minimization measures as part of your proposed project.

**#4** Hawaiian hoary bat

The Hawaiian hoary bat roosts in both exotic and native woody vegetation across all islands and will leave young unattended in trees and shrubs when they forage. If trees or shrubs 15 feet or taller are cleared during the pupping season, there is a risk that young bats could inadvertently be harmed or killed since they are too young to fly or may not move away. Additionally, Hawaiian hoary bats forage for insects from as low as three feet to higher than 500 feet above the ground and can become entangled in barbed wire used for fencing.

To avoid and minimize impacts to the endangered Hawaiian hoary bat we recommend you consider incorporating the following applicable measures into your project description:

- Do not disturb, remove, or trim woody plants greater than 15 feet tall during the bat birthing and pup rearing season (June 1 through September 15).
- Do not use barbed wire for fencing.

We appreciate your efforts to conserve Hawai'i's native species. If you have any questions or concerns regarding our letter, please contact Jiny Kim, Fish and Wildlife Biologist (email: [Jiny\\_Kim@fws.gov](mailto:Jiny_Kim@fws.gov)) and Dr. Dan A. Polhemus, Aquatic Ecosystem Conservation Program



Manager (email: [Dan\\_Polhemus@fws.gov](mailto:Dan_Polhemus@fws.gov)). When referring to this project, please include this reference number: 01EPIF00-2018-TA-0116.

Sincerely,

A handwritten signature in blue ink, appearing to read 'A. Nadig', with a stylized flourish at the end.

Aaron Nadig  
Island Team Manager  
O'ahu, Kaua'i, Northwestern Hawaiian  
Islands and American Samoa

August 22, 2018



Mr. Aaron Nadig, Island Team Manager  
U.S. Department of the Interior  
Fish and Wildlife Service  
Pacific Islands Fish and Wildlife  
300 Ala Moana Blvd., Room 3-122  
Honolulu, HI 96850

**SUBJECT:** Hawaiian Memorial Park Cemetery Expansion Project  
Environmental Impact Statement Preparation Notice (EISPN)  
TMK: (1) 4-5-033: por. 001 (Private Property)  
Kāneʻohe, Oʻahu, Hawaiʻi

Dear Mr. Nadig:

Thank you for the February 5, 2018 letter providing comments on the Environmental Impact Statement Preparation Notice (EISPN) for the subject project. We have provided responses under subheadings corresponding to your general comments and specific resource comments.

1. General Project Description

The general project description discussed is consistent with the EISPN and the Draft Environmental Impact Statement (DEIS). A small portion of the cultural preserve would be utilized for new burials of deceased native Hawaiians following traditional native Hawaiian protocols.

2. FWS Database Research

We acknowledge your review of Hawaiʻi Biodiversity and Mapping Program data resulting in your assessment that federally endangered Blackline Hawaiian damselfly (*Megalagrion nigrohamatum nigrolineatum*) and Hawaiian hoary bat (*Lasiurus cinereus semotus*) may occur in the vicinity of the Petition Area.

3. Blackline Hawaiian Damselfly

We appreciate the information on the Blackline Hawaiian damselfly characteristics and threats to its existence.

We acknowledge that the shallow seep emanating from an existing shallow well structure serves as a habitat for Blackline Hawaiian damselfly. The DEIS will include more information on this habitat. We have been in contact with your office to discuss this species, which included a meeting with a representative from your Partners for Fish and Wildlife Program. Based upon this meeting, this site would be avoided and a habitat restoration and conservation program would be established in cooperation with your

Mr. Aaron Nadig  
U.S. FWS

Page 2

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Partner's Program, supporting the protection of this endangered species and providing educational opportunities.

An updated invertebrate survey was conducted and assessed project impacts to invertebrate species present within the Petition Area. This survey included a field inspection to determine the extent of the damselfly's presence. The updated survey proposes mitigation measures to avoid impacts to damselfly habitat, and the DEIS discusses best management practices for construction activities. The updated survey will be included in the DEIS. We will continue coordination with your agency through the project's environmental review to ensure appropriate avoidance and minimization measures are identified.

4. Hawaiian Hoary Bat

An updated avifauna and faunal survey has been conducted for the DEIS. This survey identifies avifauna and faunal species present within the Petition Area, assesses the project impact on these species, and identifies mitigation measures that may be needed. The presence of Hawaiian hoary bat within the Petition Area is assessed in this survey, and we acknowledge the risk young bats face with taller trees cleared along with potential entanglement in barbed wire used for fencing. Fencing proposed around the Petition Area would avoid the use of barbed wire. The survey report is included in the DEIS and the measures identified to minimize impacts to Hawaiian hoary bat have been incorporated.

Thank you for providing us with your comments on the EISPN and participating in this process. If you have any questions, please contact me at 457-3172 or [rsato@hhf.com](mailto:rsato@hhf.com).

Sincerely,



Ronald A. Sato, AICP  
Sr. Associate

cc: Mr. Jay Morford, Hawaiian Memorial Life Plan, Ltd.



DAVID Y. IGE  
GOVERNOR



RODERICK K. BECKER  
Comptroller

AUDREY HIDANO  
Deputy Comptroller

**STATE OF HAWAII**  
**DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES**

P.O. BOX 119, HONOLULU, HAWAII 96810-0119

DEC 29 2017

(P)1399.7

Mr. Ronald A. Sato, AICP, Senior Associate  
HHF Planners  
733 Bishop Street, Suite 2590  
Honolulu, HI 96813

Dear Mr. Sato:

Subject: Environmental Impact Statement Preparation Notice for  
Hawaiian Memorial Park Cemetery Expansion Project  
Kaneohe, Oahu  
TMK: (1) 4-5-033: por. 001(Private Property)

Thank you for the opportunity to comment on 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 you have any questions, your staff may please contact Ms. Dora Choy of the Planning Branch at 586-0488.

Sincerely,

A handwritten signature in blue ink, appearing to read "Keith S. Kogachi".

KEITH S. KOGACHI  
Acting Public Works Administrator

DC:lnn

c: Mr. Scott Derrickson, DBEDT-LUC  
Mr. Cory Shibata, DAGS-CSD



August 22, 2018

Mr. Keith S. Kogachi, Acting Public Works Administrator  
Department of Accounting and General Services  
State of Hawai'i  
P.O. Box 119  
Honolulu, Hawai'i 96810

**SUBJECT:** Hawaiian Memorial Park Cemetery Expansion Project  
Environmental Impact Statement Preparation Notice (EISPN)  
TMK: (1) 4-5-033: por. 001 (Private Property)  
Kāne'ohe, O'ahu, Hawai'i

Dear Mr. Kogachi:

Thank you for the December 29, 2017 letter providing comments on the Environmental Impact Statement Preparation Notice (EISPN) for the subject project.

We confirm that the proposed project does not impact any Department of Accounting and General Services' (DAGS) projects or existing facilities, and your agency has no other comments to offer at this time.

Thank you for providing us with your comments on the EISPN and participating in this process. If you have any questions, please contact me at 457-3172 or [rsato@hhf.com](mailto:rsato@hhf.com).

Sincerely,

A handwritten signature in black ink, appearing to read "Ronald A. Sato".

Ronald A. Sato, AICP  
Sr. Associate

cc: Mr. Jay Morford, Hawaiian Memorial Life Plan, Ltd.

DAVID Y. IGE  
GOVERNOR OF  
HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF AQUATIC RESOURCES  
1151 PUNCHBOWL STREET, ROOM 330  
HONOLULU, HAWAII 96813

SUZANNE D. CASE  
CHAIRPERSON  
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
  
ROBERT K. MASUDA  
DIRECTOR  
  
JEFFREY T. PEARSON, P.E.  
DIRECTOR FOR WATER  
  
AQUATIC RESOURCES  
BIOLOGICAL AND ECOLOGICAL RELATIONS  
LEAD OFFICE CONSULTANTS  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND ECOLOGICAL LANDS  
CONSERVATION AND RESOURCE DEVELOPMENT  
ENGINEERING  
CONSERVATION AND WILDLIFE  
CUSTOMER FACILITATION  
KAREKARE AND ENVIRONMENTAL COMMISSION  
AND  
STATE PARKS

Date: Jan. 19, 2018  
DAR # 5663

MEMORANDUM

TO: Bruce S. Anderson, PhD  
DAR Administrator

FROM: Glenn Higashi, *GLH*, Aquatic Biologist

SUBJECT: Environmental Impact Statement Preparation Notice (EISPN) on the Hawaiian Memorial Park Expansion Project

Request Submitted by: HHF Planners on behalf of Hawaiian Memorial Life Plan, Ltd.

Location of Project: (1) 44-5-033: por. 001 (private property), Kaneohe District, Oahu, Hawaii

Brief Description of Project:

Hawaiian Memorial Life Plan, Ltd. owns Hawaiian Memorial Park (HMP), which operates as a cemetery providing the community with burial plots along with a variety of interment options. HMP is a full service cemetery that has been at its present location since 1958. HMP is the final resting place for over 41,000 people, representing families across Hawai'i. As sections of the cemetery have filled, HMP has grown from an initial size of six acres to its existing size of approximately 80 acres situated on three tax map parcels. One of the parcels is separated by the Hawai'i State Veterans Cemetery. (continued on the next page)

Comments:

No Comments     Comments Attached

Thank you for providing DAR the opportunity to review and comment on the proposed project. Should there be any changes to the project plan, DAR requests the opportunity to review and comment on those changes.

Comments Approved: *Bruce S. Anderson* Date: 1/22/18  
Bruce S. Anderson, PhD  
DAR Administrator

### Brief Description of Project

The Hawaiian Memorial Park Expansion Project involves proposed improvements (Proposed Action) within the approximately 53.45-acre Petition Area would consist of two main components: 1) expansion of the HMP cemetery; and 2) creation of a 14.5-acre cultural preserve immediately to the northeast of the cemetery expansion area. Remaining undeveloped areas of Parcel 1 outside of the Petition Area would continue to remain undeveloped.

The Petition Area for the expansion of the cemetery is situated makai (seaward) of the existing HMP area and the Hawai'i State Veterans Cemetery. The Petition Area is about 53.45 acres in size, and is a portion of a larger 164.4-acre parcel identified as Tax Map Key (1) 4-5-033: 001 (Parcel 1). Parcel 1 is owned by Hawaiian Memorial Life Plan Ltd. (Petitioner) and about 7.9 acres of Parcel 1 consists of the existing Ocean View Garden cemetery, which is part of HMP. Of the 53.45-acre Petition Area, only 28.2 acres would be for cemetery use. The remaining 25.25 acres of the site would consist of internal roadways, open space, and land for the establishment of a cultural preserve. The entire HMP property is comprised of three separate parcels.

HMP is a privately-owned cemetery located in the Kāneʻohe district on the Windward side of the island of Oʻahu. The cemetery is approximately 7 miles northeast of downtown Honolulu, and located mid-way between the towns of Kailua to the east and Kāneʻohe to the west. The Petition Area is situated within the ahupuaʻa (traditional land division) of Kāneʻohe. Kāneʻohe is a large ahupuaʻa of approximately 11,000 acres, extending from the Windward crest of the Koʻolau Mountain Range to include most of the Mōkapu Peninsula, and is bordered by the ahupuaʻa of Heʻeia to the west and Kailua to the east.

The Koʻolau Mountain Range is located west of the HMP site, and Kāneʻohe Bay is situated approximately 1.5 miles to the north. Figure 1.1 is a location map showing the Petition Area in relation to the larger Windward district.



DAR# 5663

Comments

The proposed project is not expected to have adverse impacts on the aquatic environment.



**RECEIVED**

DEC 26 2017

Division of Aquatic Resources

*DAR 5663*

December 19, 2017

**Dear Participant:**

Enclosed is an Environmental Impact Statement Preparation Notice (EISPN) providing public notice that a Draft Environmental Impact Statement (Draft EIS) is being prepared for the subject project. The EIS will be prepared in accordance with State of Hawai'i EIS law (Chapter 343, Hawaii Revised Statutes) and EIS rules (Title 11, Chapter 200, Hawai'i Administrative Rules). This EISPN is intended to solicit public input regarding the scope of the forthcoming Draft EIS.

TITLE OF PROJECT: Hawaiian Memorial Park Cemetery Expansion Project

LOCATION: Kāne'ohe District, O'ahu, Hawai'i

TAX MAP KEY NO.: (1) 4-5-033: por. 001 (Private Property)

APPLICANT: Hawaiian Memorial Life Plan, Ltd.

ADDRESS: 1330 Maunakea Street  
Honolulu, Hawaii 96813

CONTACT: Mr. Jay Morford, President

PHONE: (808) 522-5233

**YOUR COMMENTS MUST BE RECEIVED OR POSTMARKED BY MONDAY, JANUARY 22, 2018. COMMENTS SHOULD BE SENT TO THE FOLLOWING:**

CONSULTANT: HHF Planners

ADDRESS: 733 Bishop Street, Suite 2590  
Honolulu, Hawai'i 96813

CONTACT: Ronald A. Sato, AICP, Senior Associate  
Email: [rsato@hhf.com](mailto:rsato@hhf.com)

PHONE: (808) 457-3172

**WITH A COPY SENT TO:**

APPROVING AGENCY: State of Hawai'i  
Land Use Commission  
Department of Business, Economic Development & Tourism

ADDRESS: P.O. Box 2359  
Honolulu, Hawaii 96804

CONTACT: Mr. Scott Derrickson  
Email: [scott.a.derrickson@hawaii.gov](mailto:scott.a.derrickson@hawaii.gov)

PHONE: (808) 587-3921

Thank you for your participation in the EIS process. We look forward to receiving your comments.



August 22, 2018

Mr. Bruce S. Anderson, DAR Administrator  
Division of Aquatic Resources  
Department of Land and Natural Resources  
State of Hawai'i  
1151 Punchbowl Street, Room 330  
Honolulu, Hawai'i 96813

**SUBJECT:** Hawaiian Memorial Park Cemetery Expansion Project  
Environmental Impact Statement Preparation Notice (EISPN)  
TMK: (1) 4-5-033: por. 001 (Private Property)  
Kāneʻohe District, Oʻahu, Hawai'i

Dear Mr. Anderson:

Thank you for the January 19, 2018 letter providing comments on the Environmental Impact Statement Preparation Notice (EISPN) for the subject project.

The general project description discussed is consistent with the EISPN and the soon to be published Draft Environmental Impact Statement (DEIS).

We acknowledge your assessment that the proposed project is not expected to have adverse impacts on the aquatic environment.

Thank you for providing us with your comments on the EISPN and participating in this process. If you have any questions, please contact me at 457-3172 or [rsato@hhf.com](mailto:rsato@hhf.com).

Sincerely,

Ronald A. Sato, AICP  
Sr. Associate

cc: Mr. Jay Morford, Hawaiian Memorial Life Plan, Ltd.

DAVID Y. IGE  
GOVERNOR OF HAWAII



SUZANNE D. CASE  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE  
MANAGEMENT

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

January 19, 2018

HHF Planners

Attention: Mr. Ronald A. Sato, AICP, Senior Associate  
733 Bishop Street, Suite 2590  
Honolulu, HI 96813

via email: [rsato@hhf.com](mailto:rsato@hhf.com)

Dear Mr. Sato:

**SUBJECT: Environmental Impact Statement Preparation Notice (EISPN) for  
Hawaiian Memorial Park Cemetery Expansion Project**

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 Lydia Morikawa at 587-0410. Thank you.

Sincerely,

A handwritten signature in blue ink, appearing to read "Russell Y. Tsuji".

Russell Y. Tsuji  
Land Administrator

Enclosure(s)

cc: S. Derrickson, DBEDT; via email: [scott.a.derrickson@hawaii.gov](mailto:scott.a.derrickson@hawaii.gov)  
Central Files





STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

December 28, 2017

MEMORANDUM

RECEIVED  
LAND DIVISION  
2018 JAN -9 AM 7:11  
DEPT. OF LAND AND  
NATURAL RESOURCES  
STATE OF HAWAII

TO:

**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

FROM:

Russell Y. Tsuji, Land Administrator

SUBJECT:

Environmental Impact Statement Preparation Notice (EISPN) for **Hawaiian Memorial Park Cemetery Expansion Project**

LOCATION:

District of Koolaupoko, Island of Oahu; TMK No. (1) 4-5-033:001 (por.)

APPLICANT:

Hawaiian Memorial Life Plan, Ltd.

Transmitted for your review and comment is information on the above-referenced project. Please submit any comments by **January 19, 2018**.

The DEA can be found on-line at: <http://health.hawaii.gov/oeqc/> (Click on the Current Environmental Notice in the middle of the page.)

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 Lydia Morikawa at 587-0410. Thank you.

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

Signed:

Darleen Bryant Takamatsu

Print Name:

Darleen Bryant Takamatsu

Date:

1/8/18

Attachments

cc: Central Files



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

December 28, 2017

MEMORANDUM

RECEIVED  
LAND DIVISION  
2018 JAN 19 AM 11:04  
DEPT. OF LAND &  
NATURAL RESOURCES  
STATE OF HAWAII  
17 DEC 29 AM 10:36 ENGINEERING

TO:  
FROM  
TO  
FROM:  
SUBJECT:

**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

Russell Y. Tsuji, Land Administrator

Environmental Impact Statement Preparation Notice (EISP) for **Hawaiian Memorial Park Cemetery Expansion Project**

LOCATION: District of Koolaupoko, Island of Oahu; TMK No. (1) 4-5-033:001 (por.)

APPLICANT: Hawaiian Memorial Life Plan, Ltd.

Transmitted for your review and comment is information on the above-referenced project. Please submit any comments by **January 19, 2018**.

The DEA can be found on-line at: <http://health.hawaii.gov/oeqc/> (Click on the Current Environmental Notice in the middle of the page.)

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 Lydia Morikawa at 587-0410. Thank you.

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

Signed:

Cary S. Chang, Chief Engineer

Print Name:

Date:

1/19/18

Attachments

cc: Central Files

**DEPARTMENT OF LAND AND NATURAL RESOURCES  
ENGINEERING DIVISION**

**LD/Russell Y. Tsuji**

**Ref: Environmental Impact Statement Preparation Notice (EISPN) for Hawaiian Memorial Park Cemetery Expansion Project, District of Koolaupoko, Island of Oahu; TMK No. (1) 4-5-033:001 (por.)**

**COMMENTS**

The rules and regulations of the National Flood Insurance Program (NFIP), Title 44 of the Code of Federal Regulations (44CFR), are in effect when development falls within a Special Flood Hazard Area (high risk areas). Be advised that 44CFR reflects the minimum standards as set forth by the NFIP. Local community flood ordinances may stipulate higher standards that can be more restrictive and would take precedence over the minimum NFIP standards.

The owner of the project property and/or their representative is responsible to research the Flood Hazard Zone designation for the project. Flood Hazard Zones are designated on FEMA's Flood Insurance Rate Maps (FIRM), which can be viewed on our Flood Hazard Assessment Tool (FHAT) (<http://gis.hawaiinfip.org/FHAT>).

If there are questions regarding the local flood ordinances, please contact the applicable County NFIP coordinating agency below:

- Oahu: City and County of Honolulu, Department of Planning and Permitting (808) 768-8098.
- Hawaii Island: County of Hawaii, Department of Public Works (808) 961-8327.
- Maui/Molokai/Lanai County of Maui, Department of Planning (808) 270-7253.
- Kauai: County of Kauai, Department of Public Works (808) 241-4846.

Signed:   
CARTY S. CHANG, CHIEF ENGINEER

Date: 11/18/18



August 22, 2018

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



**SUBJECT:** Hawaiian Memorial Park Cemetery Expansion Project  
Environmental Impact Statement Preparation Notice (EISPN)  
TMK: (1) 4-5-033: por. 001 (Private Property)  
Kāneʻohe, Oʻahu, Hawai'i

Dear Mr. Tsuji:

Thank you for the January 19, 2018 letter providing comments on the Environmental Impact Statement Preparation Notice (EISPN) for the subject project. We have the following responses to these comments divided by division.

**Land Division, Oʻahu District**

We acknowledge that the Land Division, Oʻahu District has no comments to offer at this time.

**Engineering Division**

Thank you for information on the federal regulations concerning special flood hazards areas, and the distinction between federal and local community flood ordinances.

The flood hazard zone designations of the Petition Area has been researched, and will be discussed in the Draft Environmental Impact Statement as well as the project impact on flood hazard areas. Flood Insurance Rate Map and the state's Flood Hazard Assessment Tool were used to identify existing flood designations.

Thank you for providing us with your comments on the EISPN and participating in this process. If you have any questions, please contact me at 457-3172 or [rsato@hhf.com](mailto:rsato@hhf.com).

Sincerely,

A handwritten signature in black ink, appearing to read 'R A Sato'.

Ronald A. Sato, AICP  
Sr. Associate

cc: Mr. Jay Morford, Hawaiian Memorial Life Plan, Ltd.



DAVID Y. IGE  
GOVERNOR



MAJOR GENERAL ARTHUR J. LOGAN  
DIRECTOR OF EMERGENCY MANAGEMENT

VERN T. MIYAGI  
ADMINISTRATOR OF EMERGENCY MANAGEMENT

PHONE (808) 733-4300  
FAX (808) 733-4287

**STATE OF HAWAII**  
DEPARTMENT OF DEFENSE  
OFFICE OF THE DIRECTOR OF EMERGENCY MANAGEMENT / CIVIL DEFENSE  
3949 DIAMOND HEAD ROAD  
HONOLULU, HAWAII 96816-4495

January 17, 2018

Mr. Ronald Sato, AICP  
HHF Planners  
733 Bishop Street, Suite 2590  
Honolulu, Hawaii 96813

Dear Mr. Sato:

Hawaiian Memorial Park Cemetery Expansion Project  
Environmental Impact Statement Preparation Notice

Thank you for the opportunity to comment on this proposed project.

After reading the documents provided for the project, we have determined that there is no siren coverage for the project area. Therefore, we request that one 121 db(c) omni-directional siren be installed on the property. We will work with the developer to determine the best location for the siren site.

If you have any questions please call Ms. Havinne Okamura, Hazard Mitigation Planner, at (808) 733-4300, extension 556.

Sincerely,

VERN T. MIYAGI  
Administrator of Emergency Management



August 22, 2018

Mr. Vern T. Miyagi, Administrator of Emergency Management  
Office of the Director of Emergency Management / Civil Defense  
Department of Defense  
State of Hawai'i  
3949 Diamond Head Road  
Honolulu, Hawai'i 96816

**SUBJECT:** Hawaiian Memorial Park Cemetery Expansion Project  
Environmental Impact Statement Preparation Notice (EISPN)  
TMK: (1) 4-5-033: por. 001 (Private Property)  
Kāneʻohe, Oʻahu, Hawai'i

Dear Mr. Miyagi:

Thank you for the January 17, 2018 letter providing comments on the Environmental Impact Statement Preparation Notice (EISPN) for the subject project.

We appreciate your assessment of siren coverage for the project area, and note your comment that there is no siren coverage for the project area. HMP would allow the State Department of Defense (DoD) to lease a site, and fund and construct a 121 dc(c) omni-directional siren within the cemetery property to improve siren coverage of the area. HMP would coordinate with your agency on the appropriate location for such improvement, if pursued by the State DoD.

Thank you for providing us with your comments on the EISPN and participating in this process. If you have any questions, please contact me at 457-3172 or [rsato@hhf.com](mailto:rsato@hhf.com).

Sincerely,

Ronald A. Sato, AICP  
Sr. Associate

cc: Mr. Jay Morford, Hawaiian Memorial Life Plan, Ltd.



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

In reply, please refer to:  
File:

EPO 17-331

January 18, 2018

Mr. Ronald Sato, AICP  
HHF Planners  
733 Bishop Street, Suite 2590  
Honolulu, Hawaii 96813  
Email: [rsato@hhf.com](mailto:rsato@hhf.com)

Dear Mr. Sato:

**SUBJECT: Environmental Impact Statement Preparation Notice (EISPN) for Proposed Hawaiian Memorial Park Expansion**  
**TMK: (1) 4-5-033:001 (por)**

#1 The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of your EISPN to our office via the OEQC link:  
[http://oeqc2.doh.hawaii.gov/EA\\_EIS\\_Library/2017-12-23-OA-EISPN-Hawaiian-Memorial-Park.pdf](http://oeqc2.doh.hawaii.gov/EA_EIS_Library/2017-12-23-OA-EISPN-Hawaiian-Memorial-Park.pdf)

We understand from the OEQC publication form project summary that *"In order to expand HMP, the project reclassify a 53.45 acre portion of a larger 164.4 acre parcel from the Conservation District to the Urban District. Proposed improvements within the Petition Area consist of two main components: 1) expansion of the HMP cemetery and (2) creation of a 14.5 acre cultural preserve immediately to the northeast of the expansion area."*

Hawaii's environmental review laws require Environmental Assessments (EAs) and Environmental Impact Statements (EISs) to consider health in the discussion and the mitigation measures to reduce negative impacts. In its definition of 'impacts,' §11-200-2, Hawaii Administrative Rules (HAR) includes health effects, whether primary (direct), secondary (indirect), or cumulative. Further, §11-200-12(b)(5), HAR, lists public health as one of the criteria for determining whether an action may have a significant impact on the environment.

#2 In the development and implementation of all projects, EPO strongly recommends regular review of State and Federal environmental health land use guidance. State standard comments to support sustainable healthy design are provided at: <http://health.hawaii.gov/epo/landuse>. Projects are required to adhere to all applicable standard comments. If you haven't already, EPO recommends that you view the free, on-demand, six part Plan4Health webinar series available on the American Planning Association website at:  
<https://www.planning.org/nationalcenters/health/planners4health>

EPO also encourages you to examine and utilize the Hawaii Environmental Health Portal at: <https://eha-cloud.doh.hawaii.gov>. This site provides links to our e-Permitting Portal, Environmental Health Warehouse, Groundwater Contamination Viewer, Hawaii Emergency Response Exchange, Hawaii State and Local Emission Inventory System, Water Pollution Control Viewer, Water Quality Data, Warnings, Advisories and Postings.

#3 We suggest you review the requirements of the Clean Water Branch (Hawaii Administrative Rules {HAR}, Chapter 11-54-1.1, -3, 4-8) and/or the National Pollutant Discharge Elimination System (NPDES) permit (HAR, Chapter 11-55) at: <http://health.hawaii.gov/cwb>. If you have any questions, please contact the Clean Water Branch (CWB), Engineering




Section at (808) 586-4309 or [cleanwaterbranch@doh.hawaii.gov](mailto:cleanwaterbranch@doh.hawaii.gov). If your project involves waters of the U.S., it is highly recommended that you contact the Army Corps of Engineers, Regulatory Branch at: (808) 835-4303.

- #4 Please note that all wastewater plans must conform to applicable provisions (HAR, Chapter 11-62, "Wastewater Systems"). We reserve the right to review the detailed wastewater plans for conformance to applicable rules. Should you have any questions, please review online guidance at: <http://health.hawaii.gov/wastewater> and contact the Planning and Design Section of the Wastewater Branch (WWB) at (808) 586-4294.
- #5 If temporary fugitive dust emissions could be emitted when the project site is prepared for construction and/or when construction activities occur, we recommend you review the need and/or requirements of the Clean Air Branch (CAB), (HAR, Chapter 11-60.1 "Air Pollution Control"). Effective air pollution control measures need to be provided to prevent or minimize any fugitive dust emissions caused by construction work from affecting the surrounding areas. This includes the off-site roadways used to enter/exit the project. The control measures could include, but are not limited to, the use of water wagons, sprinkler systems, and dust fences. For questions contact the Clean Air Branch via e-mail at: [Cab.General@doh.hawaii.gov](mailto:Cab.General@doh.hawaii.gov) or call (808) 586-4200.
- #6 Any waste generated by the project (that is not a hazardous waste as defined in state hazardous waste laws and regulations), needs to be disposed of at a solid waste management facility that complies with the applicable provisions (HAR, Chapter 11-58.1 "Solid Waste Management Control"). The open burning of any of these wastes, on or off site, is strictly prohibited. You may wish you review the Minimizing Construction & Demolition Waste Management Guide at: <http://health.hawaii.gov/shwb/files/2016/05/constdem16.pdf> Additional information is accessible at: <http://health.hawaii.gov/shwb>. For specific questions call (808) 586-4226.
- #7 If noise created during the construction phase of the project may exceed the maximum allowable levels (HAR, Chapter 11-46, "Community Noise Control") then a noise permit may be required and needs to be obtained before the commencement of work. Relevant information is online at: <http://health.hawaii.gov/irhb/noise> EPO recommends you contact the Indoor and Radiological Health Branch (IRHB) at (808) 586-4700 with any specific questions.
- #8 The Hawaii Disability and Communication Access Board (DCAB) recommends the inclusion of access for persons with disabilities through all phases of design and construction. New construction and alteration work shall comply with all applicable accessibility requirements. Projects covered by §103-50, Hawaii Revised Statutes, and HAR Title 11 Chapter 216 shall seek advice and recommendations from DCAB on any construction plans prior to commencing with construction. If you have any questions please contact DCAB at (808) 586-8121 or [dcab@doh.hawaii.gov](mailto:dcab@doh.hawaii.gov).
- #9 To better protect public health and the environment, the U.S. Environmental Protection Agency (EPA) has developed an environmental justice (EJ) mapping and screening tool called EJSCREEN. It is based on nationally consistent data and combines environmental and demographic indicators in maps and reports. EPO encourages you to explore, launch and utilize this powerful tool in planning your project. The EPA EJSCREEN tool is available at: <http://www.epa.gov/ejscreen>.

We hope this information is helpful. If you have any questions please contact us at [DOH.epo@doh.hawaii.gov](mailto:DOH.epo@doh.hawaii.gov) or call us at (808) 586-4337. Thank you for the opportunity to comment.

Mahalo nui loa,



Laura Leialoha Phillips McIntyre, AICP  
Environmental Planning Office

LM:nn

Attachment: U.S. EPA EJSCREEN Report for Project Area

c: Jay Morford, GM, Hawaiian Memorial Life Plan, Ltd. (via email: [Jay.Morford@dignitymemorial.com](mailto:Jay.Morford@dignitymemorial.com))  
Daniel Orodener, Executive Director, LUC (via email: [dbedt.luc.web@hawaii.gov](mailto:dbedt.luc.web@hawaii.gov))  
DOH: DDEH, EMD, CWB, SDWB, WWB, SHWB, CAB, HEER, IRHB, SAN {via email only}





### EJSCREEN Report (Version 2017)



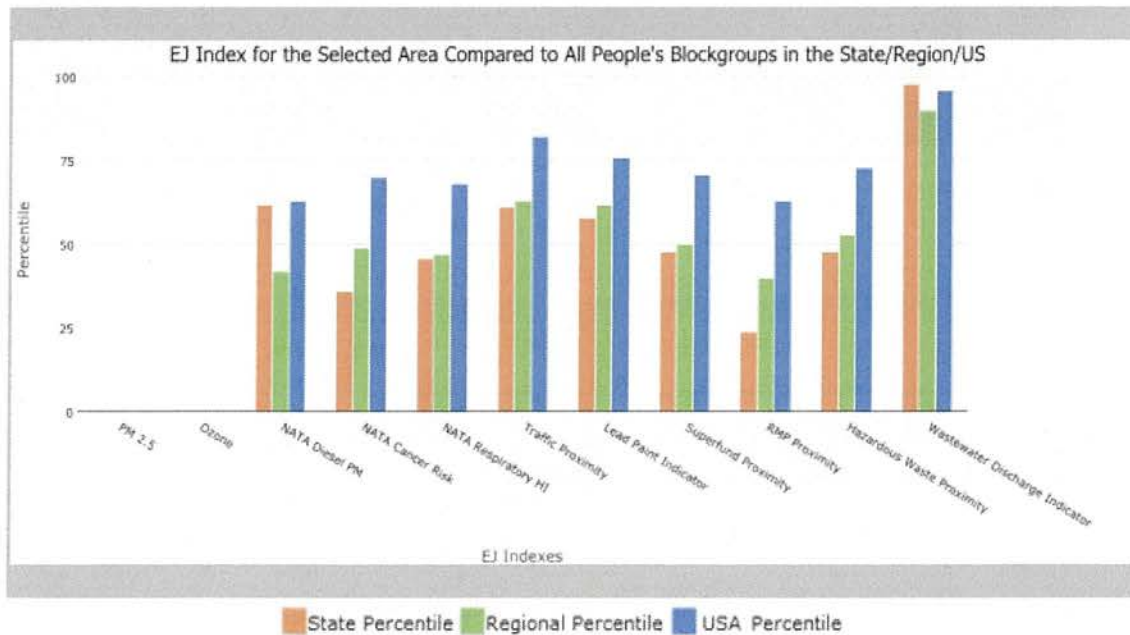
1 mile Ring Centered at 21.394220,-157.787652, HAWAII, EPA Region 9

Approximate Population: 8,447

Input Area (sq. miles): 3.14

(The study area contains 1 blockgroup(s) with zero population.)

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
<b>EJ Indexes</b>			
EJ Index for PM2.5	N/A	N/A	N/A
EJ Index for Ozone	N/A	N/A	N/A
EJ Index for NATA* Diesel PM	62	42	63
EJ Index for NATA* Air Toxics Cancer Risk	36	49	70
EJ Index for NATA* Respiratory Hazard Index	46	47	68
EJ Index for Traffic Proximity and Volume	61	63	82
EJ Index for Lead Paint Indicator	58	62	76
EJ Index for Superfund Proximity	48	50	71
EJ Index for RMP Proximity	24	40	63
EJ Index for Hazardous Waste Proximity	48	53	73
EJ Index for Wastewater Discharge Indicator	98	90	96



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

1 mile Ring Centered at 21.394220,-157.787652, HAWAII, EPA Region 9

Approximate Population: 8,447

Input Area (sq. miles): 3.14

(The study area contains 1 blockgroup(s) with zero population.)



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0



## EJSCREEN Report (Version 2017)



1 mile Ring Centered at 21.394220,-157.787652, HAWAII, EPA Region 9

Approximate Population: 8,447

Input Area (sq. miles): 3.14

(The study area contains 1 blockgroup(s) with zero population.)

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
<b>Environmental Indicators</b>							
Particulate Matter (PM 2.5 in $\mu\text{g}/\text{m}^3$ )	N/A	N/A	N/A	9.9	N/A	9.14	N/A
Ozone (ppb)	N/A	N/A	N/A	41.8	N/A	38.4	N/A
NATA* Diesel PM ( $\mu\text{g}/\text{m}^3$ )	0.205	0.149	79	0.978	<50th	0.938	<50th
NATA* Cancer Risk (lifetime risk per million)	40	34	81	43	<50th	40	50-60th
NATA* Respiratory Hazard Index	1.3	1	80	2	<50th	1.8	<50th
Traffic Proximity and Volume (daily traffic count/distance to road)	440	1000	64	1100	57	590	75
Lead Paint Indicator (% Pre-1960 Housing)	0.2	0.16	68	0.24	57	0.29	51
Superfund Proximity (site count/km distance)	0.051	0.1	45	0.15	36	0.13	43
RMP Proximity (facility count/km distance)	0.085	0.39	20	0.98	7	0.73	12
Hazardous Waste Proximity (facility count/km distance)	0.061	0.1	50	0.12	48	0.093	55
Wastewater Discharge Indicator (toxicity-weighted concentration/m distance)	0.68	0.04	98	13	89	30	95
<b>Demographic Indicators</b>							
Demographic Index	46%	51%	31	47%	49	36%	69
Minority Population	80%	77%	44	59%	69	38%	84
Low Income Population	12%	26%	21	36%	14	34%	14
Linguistically Isolated Population	1%	6%	27	9%	21	5%	48
Population With Less Than High School Education	6%	9%	44	17%	28	13%	31
Population Under 5 years of age	6%	6%	49	7%	46	6%	50
Population over 64 years of age	25%	16%	88	13%	91	14%	91

\* The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: <https://www.epa.gov/national-air-toxics-assessment>.

For additional information, see: [www.epa.gov/environmentaljustice](http://www.epa.gov/environmentaljustice)

EJSCREEN is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJSCREEN outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.

August 22, 2018

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



**SUBJECT:** Hawaiian Memorial Park Cemetery Expansion Project  
Environmental Impact Statement Preparation Notice (EISPN)  
TMK: (1) 4-5-033: por. 001 (Private Property)  
Kāne'ohe, O'ahu, Hawai'i

Dear Ms. McIntyre:

Thank you for the January 18, 2018 letter providing comments on the Environmental Impact Statement Preparation Notice (EISPN) for the subject project. We are sorry to see that this office has closed in May 2018 due to federal EPA funding reductions. Nevertheless, we have provided responses under subheadings corresponding to your comments.

1. Your understanding of the project discussed is consistent with the EISPN and that described in the Draft Environmental Impact Statement (DEIS). We are aware of the State's environmental review regulations, and the DEIS addresses various areas of public health, and identifies mitigative measures, if necessary.
2. Federal, state, and city environmental health land use guidance regulations have been reviewed, and pertinent regulations addressed in sections of the DEIS. Thank you for providing information relating to State sustainable healthy design. The standard comments referred to in your letter have been reviewed, and reflect more generic comments from various branches that identify various regulations and permits, and are not specific to any particular site or project. Many of these standard comments have been received and addressed as part of comments from respective State Department of Health branches. Some are not applicable to this site or project, and other regulatory requirements would be more appropriately addressed as part of the project's design phase.

Thank you for providing links to the Hawai'i Environmental Health Portal and the American Planning Association Plan4Health webinar. The Plan4Health is a generic educational webinar allowing certified planners to obtain credits as part of certification maintenance, and is not specific or pertinent to this site or project. The Environmental Health Portal has various information that was examined, however, some information is not pertinent to this project such as the Hawai'i Emergency Response Exchange that's intended for emergency responders or Clean Water Branch water quality advisories. The DEIS also includes several technical studies that provide new or updated information more pertinent to this project site.

3. Clean Water Branch requirements along with NPDES permit requirements have been reviewed and are addressed in pertinent sections of the DEIS. The project does not involve waters of the U.S.
4. The project does not include improvements, such as restroom facilities, that would generate wastewater requiring review by the Wastewater Branch.
5. Construction activities could result in fugitive dust emissions. The Clean Air Branch requirements are discussed in the DEIS, which includes addressing this short-term impact along with identifying best management practices that can be incorporated into future design plans to mitigate this.
6. The project would generate some waste during construction activities, and such material would be properly disposed of at an approved solid waste management facility. No open burning of wastes would occur within the project site. The long-term operation of this expanded cemetery and cultural preserve is expected to generate minimal solid waste, and such waste would predominantly consist of landscaping material. Design plans would look to reducing, reusing, and recycling construction and demolition waste as suggested in the management guide identified.
7. The DEIS addresses short-term construction-related noise and its effects on surrounding uses. A noise permit would be obtained for such construction activities by the contractor.
8. The project does not involve a public building, facility, or site as defined under the regulations noted, which pertain to state or county facilities or funded projects. However, the Hawai'i Disability and Communication Access Board (DCAB) could be consulted during the project's design phase to address site improvements compliance with DCAB accessibility requirements, if applicable.
9. Thank you for information on the US Environmental Protection Agency's EJSCREEN mapping tool. This project does not involve federal environmental justice issues or requirements. The DEIS also includes detailed information on the socio-economic background of the community, and discusses how the project would result in minimal impacts.

Thank you for providing us with your comments on the EISPN and participating in this process. If you have any questions, please contact me at 457-3172 or rsato@hhf.com.

Sincerely,



Ronald A. Sato, AICP  
Sr. Associate

cc: Mr. Jay Morford, Hawaiian Memorial Life Plan, Ltd.



DAVID Y. IGE  
GOVERNOR OF HAWAII



VIRGINIA PRESSLER, M.D.  
DIRECTOR OF HEALTH

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

In reply, please refer to:  
File:

LUD – 1 4 5 033 001 Hawn  
Mem Park Prop Exp-ID3826

December 28, 2017

Mr. Daniel E. Orodenker, Executive Director  
Land Use Commission  
Department of Business, Economic Development & Tourism  
State of Hawaii  
P.O. Box 2359  
Honolulu, Hawaii 96804  
Email: [dbedt.luc.web@hawaii.gov](mailto:dbedt.luc.web@hawaii.gov)

Dear Mr. Orodenker:

Subject: Docket No. A17-804 Hawaiian Memorial Park Life Plan, Ltd.  
Environmental Impact State Preparation Notice (EISPN)  
Proposed Hawaiian Memorial Park (HMP) Expansion  
45-425 Kam Hwy, Kaneohe, HI 96744 TMK (1) 4-5-033: 001 (portion)

Thank you for allowing us the opportunity to provide comments for the subject EISPN. The subject EISPN mentions that the proposed expansion of the cemetery may include restroom facilities. It also states that HMP utilizes an approved septic system. Any proposals to increase the wastewater flows to an approved septic system will need to be reassessed. A licensed engineer will need to be retained to evaluate the existing approved septic system to ensure that it is designed and constructed to handle the additional wastewater flows from the proposed project.

All wastewater plans must conform to applicable provisions of the Hawaii Administrative Rules, Chapter 11-62, "Wastewater Systems."

Should you have any questions, please call Mr. Mark Tomomitsu of our office at 586-4294.

Sincerely,

A handwritten signature in cursive script, appearing to read "Sina Pruder".

SINA PRUDER, P.E., CHIEF  
Wastewater Branch

LM:sp

c: Ms. Laura McIntyre, DOH-EPO, via email  
Mr. Ron Sato, AICP, via email: [rsato@hhf.com](mailto:rsato@hhf.com)

August 22, 2018



Ms. Sina Pruder, Chief  
Wastewater Branch  
Department of Health  
State of Hawai'i  
P.O. Box 3378  
Honolulu, Hawai'i 96801-3378

**SUBJECT:** Hawaiian Memorial Park Cemetery Expansion Project  
Environmental Impact Statement Preparation Notice (EISPN)  
TMK: (1) 4-5-033: por. 001 (Private Property)  
Kāne'ohe, O'ahu, Hawai'i

Dear Ms. Pruder:

Thank you for the December 28, 2017 letter providing comments on the Environmental Impact Statement Preparation Notice (EISPN) for the subject project.

Construction of restroom facilities within the cemetery expansion area is not being considered under the proposed project. Consequently, there would be no expansion of HMP's existing septic system, and flows associated with this system do not need to be reassessed.

We acknowledge that all wastewater plans must conform to applicable provisions of Hawai'i Administrative Rules, Chapter 11-62, "Wastewater Systems".

Thank you for providing us with your comments on the EISPN and participating in this process. If you have any questions, please contact me at 457-3172 or [rsato@hhf.com](mailto:rsato@hhf.com).

Sincerely,

A handwritten signature in black ink that reads "Ronald A. Sato".

Ronald A. Sato, AICP  
Sr. Associate

cc: Mr. Jay Morford, Hawaiian Memorial Life Plan, Ltd.

DAVID Y. IGE  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
869 PUNCHBOWL STREET  
HONOLULU, HAWAII 96813-5097

JADE T. BUTAY  
INTERIM DIRECTOR

Deputy Directors  
ROY CATALANI  
ROSS M. HIGASHI  
EDWIN H. SNIFFEN  
DARRELL T. YOUNG

IN REPLY REFER TO:

DIR 1617  
STP 8.2323

February 21, 2018

Mr. Ronald A. Sato, AICP, Senior Associate  
HHF Planners  
733 Bishop Street, Suite 2590  
Honolulu, Hawaii 96813

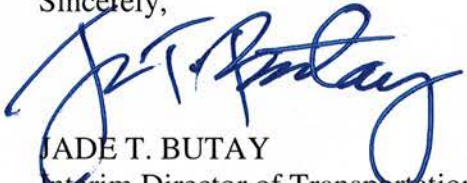
Dear Mr. Sato:

Subject: Hawaiian Memorial Park Cemetery Expansion Project  
Environmental Impact Statement Preparation Notice  
Kaneohe, Oahu, Hawaii  
TMK: (1) 4-5-033:001 (Por.)

The applicant, Hawaiian Memorial Life Plan, Ltd., which owns and manages Hawaiian Memorial Park (Memorial Park), proposes an expansion of the area of the Memorial Park to ensure that a sufficient supply of burial plots can be maintained. The applicant proposes reclassification of a 53.45 acre portion of Parcel 001 (164.4 acres) from Conservation District to Urban District. The reclassified area will consist of 28.2 acres for cemetery use, 14.5 acres for cultural preserve and the remainder for open space and internal roadways. It is not anticipated the subject project will have a significant impact to State highway facilities.

If there are any questions, please contact Mr. Blayne Nikaido of the Department of Transportation, Statewide Transportation Planning Office at telephone number (808) 831-7979.

Sincerely,

  
JADE T. BUTAY  
Interim Director of Transportation

c: Scott Derrickson, Department of Business, Economic Development and Tourism,  
Land Use Commission



August 22, 2018

Ms. Jade T. Butay, Director  
Department of Transportation  
State of Hawai'i  
869 Punchbowl Street  
Honolulu, Hawai'i 96813

**SUBJECT:** Hawaiian Memorial Park Cemetery Expansion Project  
Environmental Impact Statement Preparation Notice (EISPN)  
TMK: (1) 4-5-033: por. 001 (Private Property)  
Kāneʻohe, Oʻahu, Hawai'i

Dear Ms. Butay:

Thank you for the February 21, 2018 letter providing comments on the Environmental Impact Statement Preparation Notice (EISPN) for the subject project.

Your understanding of the project is consistent with the EISPN and that described in the Draft Environmental Impact Statement (DEIS). We acknowledge your assessment that the proposed project is not expected to significantly impact State highway facilities.

Thank you for providing us with your comments on the EISPN and participating in this process. If you have any questions, please contact me at 457-3172 or [rsato@hhf.com](mailto:rsato@hhf.com).

Sincerely,

Ronald A. Sato, AICP  
Sr. Associate

cc: Mr. Jay Morford, Hawaiian Memorial Life Plan, Ltd.



DAVID Y. IGE  
GOVERNOR OF  
HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

OFFICE OF CONSERVATION AND COASTAL LANDS  
POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

SUZANNE D. CASE  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA  
FIRST DEPUTY

JEFFREY T. PEARSON, P.E.  
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

REF:OCCL:TM

Correspondence: OA 18-126

Ronald Sato  
HHF Planners  
733 Bishop St, Suite 2590  
Honolulu, HI 96813

JAN 10 2018

SUBJECT: Environmental Impact Statement (EIS) Preparation Notice for the Proposed Hawaiian Memorial Park Expansion Project Located at Kāneʻohe, Koʻolaupoko, Oʻahu, TMK: (1) 4-5-003:001

Dear Mr. Sato:

- #1 The Office of Conservation and Coastal Lands (OCCL) has reviewed the subject matter in addition to the Decision and Order of the past petition filed with the State Land Use Commission noted as Docket No. A07-777. The applicant is now petitioning the State Land Use Commission (LUC) to reclassify 53.45-acres of the noted parcel, from the State Land Use Conservation District to the Urban District.
- #2 The project involves lands in the General and Limited Subzone of the Conservation District. The Hawai'i Administrative Rules (HAR), Chapter 13-5 states the objective of the General Subzone is *to designate open space where specific conservation uses may not be defined, but where urban use would be premature*; and the objective of the Limited Subzone is *to limit uses where natural conditions suggest constraints on human activities*.
- #3 We have attached our previous correspondence dated October 29, 2008 in response to the Final EIS that was published November 23, 2008 in *the Environmental Bulletin* for the past petition action as these concerns remain.
- #4 In addition, the OCCL would like to see other alternatives be proposed in the draft EIS pursuant to HAR §11-200-8-17(f).

Should you have any questions regarding this correspondence, contact Tiger Mills of our Office at (808) 587-0382.

Sincerely,

A handwritten signature in blue ink, appearing to read "Samuel J. Lemmo", written over a large blue circular scribble.

Samuel J. Lemmo, Administrator  
Office of Conservation and Coastal Lands

C: Chairperson  
ODLO  
LUC



LINDA LINGLE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
OFFICE OF CONSERVATION AND COASTAL LANDS

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

Laura H. Thielen  
Chairperson  
Board of Land and Natural Resources  
Commission on Water Resource Management

Russell Y. Tsuji  
First Deputy

Ken C. Kawahara  
Deputy Director - Water

Aquatic Resources  
Boating and Ocean Recreation  
Bureau of Conveyances  
Commission on Water Resource Management  
Conservation and Coastal Lands  
Conservation and Resources Enforcement  
Engineering  
Forestry and Wildlife  
Historic Preservation  
Kahoala We Island Reserve Commission  
Land  
State Parks

REF:OCCL:MC

Correspondence: OA-08-270 (c)

OCT 29 2008

Abbey Seth Mayer, Director  
State Office of Planning  
Department of Business, Economic Development & Tourism  
235 South Beretania Street, 6<sup>th</sup> Floor  
Honolulu, HI 96813

Dear Mr. Mayer,

**SUBJECT:** Petition for Amendment to the State Land Use District Boundaries  
Hawaiian Memorial Park  
Kāneʻohe, Koʻolaupoko, Oʻahu  
TMK (1) 4-5-33:1

#5 The Office of Conservation and Coastal Lands (OCCL) has reviewed the Final Environmental Impact Statement (FEIS) that your office provided us regarding the proposed Hawaiian Memorial Park expansion. Part of the project requires reclassifying 47 acres in the General Subzone and 9 acres in the Limited Subzone from Conservation to Urban. OCCL has unresolved concerns regarding the petition to amend the boundaries, and asks that the State take these into consideration when making its final recommendation to the Land Use Commission.

#6 In the Draft EIS, OCCL asked that the applicant fully explain why the specific subzone objectives are no longer applicable to the subject parcel. The applicant's full response is attached. OCCL's remaining concerns are as follows:

- The applicant states that they have modified the proposed project to remove the residential subdivision, and to establish a "cultural preserve" near the known archeological sites.

OCCL considers the modifications irrelevant to the boundary amendment question. Rezoning the land opens it to *all* identified Urban land uses, not just the specific project at hand. OCCL finds nothing in the proposal that would limit the current or any future landowner from increasing the intensity of development on the parcel once it is rezoned. **We believe that an applicant must conclusively show that Conservation District objectives are no longer applicable or are not being met if land is to be reclassified.**

- #7 • The applicant states that the General Subzone area is a disturbed Schefflera/Java plum forest, that only 8% of the species are native, and that *the property does not function as a forest reserve for recharge areas*. The applicant also states that *the property will remain predominately in vegetated open space*.

OCCL finds the language used here to be slightly disingenuous. The presence of, and even the domination by, invasive species on a parcel does not mean that the land no longer serves an

ecological purpose. The fact that the property is not in the forest reserve has no bearing on its function as a water recharge area.

Although a parcel might be dominated by invasive species, OCCL is of the position that it can still provide important ecological functions. These include, but are not limited to, providing a greenbelt to the existing urban area, limiting soil erosion and runoff, trapping carbon, providing a nesting area for birds, and providing a counterpart to the neighboring urban heat island<sup>1</sup>.

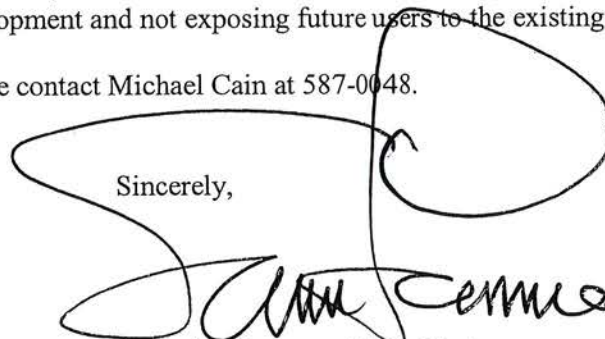
OCCL notes that the forest contains multiple levels; at its simplest this includes groundcover, shrubs, and the canopy. While the forest and a lawn might both be, as the application states, "vegetated open space," OCCL does not believe that they fulfill the same ecological functions.

- #8
- The applicant states that 4.7 of the acres in the Limited Subzone will be set aside as a cultural preserve and will not be changed except for the addition of a road; only 4.9 acres will be used as a cemetery. Their slope stability found no apparent hazards associated with slope stability, that most slopes in the area are less than 20%, and that some land in the higher areas will need to be graded to ensure stability. The applicant acknowledges that there is a potential for hazards associated with rockfalls, but that *these can be mitigated using available technology*.

Again, OCCL would note that reclassifying the land would open this area to all potential identified urban land uses. OCCL also questions the need to use technology to mitigate hazards when the simpler, less hazardous, solution would be to not reclassify the Limited subzone, thereby not opening it to development and not exposing future users to the existing hazards.

If you have any further questions please contact Michael Cain at 587-0048.

Sincerely,



Samuel J. Lemmo, Administrator  
Office of Conservation and Coastal Lands

cc: DLNR Chair,  
Helber Hastert & Fee (attn: Scott Ezer),  
Hui O Piko`iloa (attn: Julianne McCreedy), 45-423 `Ōhāhā St., Kāne`ohe, HI 96744  
Grant Yoshimori, 45-464 Līpalu St., Kāne`ohe, HI 96744

attachment: Helber Hastert & Fee response letter to OCCL

<sup>1</sup> OCCL notes that recent studies on heat islands have shown that grassy areas such as golf courses (the nearest analogous land use to a cemetery that we could find in the literature) radiate approximately four times the thermal energy than does a forest with an intact canopy. Residential areas, for comparison, radiate approximately seven times the energy as the forest.



August 22, 2018

Ms. Samuel J. Lemmo, Administrator  
Office of Conservation and Coastal Lands  
Department of Land and Natural Resources  
State of Hawai'i  
P.O. Box 621  
Honolulu, Hawai'i 96809

**SUBJECT:** Hawaiian Memorial Park Cemetery Expansion Project  
Environmental Impact Statement Preparation Notice (EISPN)  
TMK: (1) 4-5-033: por. 001 (Private Property)  
Kāneʻohe, Oʻahu, Hawai'i

Dear Mr. Lemmo:

Thank you for the January 10, 2018 letter providing comments on the Environmental Impact Statement Preparation Notice (EISPN) for the subject project. We have provided responses under numbered subheadings corresponding to your comments.

1. Your understanding of the applicant's petition to the State Land Use Commission to reclassify the project site to the State Urban District is correct.
2. We confirm that the Petition Area includes designated lands within both the General and Limited Subzones of the Conservation District, and the Draft Environmental Impact Statement (DEIS) includes a figure showing these subzones. The DEIS also includes a section addressing the project's relation to the objectives of both these subzones.
3. We have reviewed the comments discussed in your attached October 29, 2008 correspondence, and have included responses to those comments as they relate to this current petition under a separate heading below.
4. Other alternatives to the proposed project in addition to those discussed in the EISPN will be discussed and evaluated in the Draft EIS.
5. We believe the concerns your department had with prior project plans in 2008 have been addressed by the current proposed project. The DEIS includes information addressing the project's need, several technical studies addressing specific resource and engineering concerns, and addresses the project's relation to the Conservation District. This information should help address your department's unresolved concerns.

6. The DEIS prepared for this current petition fully explains why the subzone objectives are no longer applicable or appropriate to the property. The objective of the General subzone is to designate open space where specific conservation uses may not be defined, but where urban use would be premature. Conservation Districts in 1964 only included General Use and Restricted Watershed subzones. Under those rules, many urban uses were permitted in the General Use subzone, such as residences, recreational facilities, and even commercial uses (e.g. restaurants, hotel). With revisions to Conservation District rules in 1981 which included updated subzone maps dated 1978, much of the property was placed in the new General subzone designation. Plans developed in 1977 by State DLNR to support Conservation District maps identified the Petition Area as "scrub land." The DEIS discusses this background and the current applicability of the General subzone in more detail.

To address concerns with opening this Petition Area to all types of land uses permitted under the Urban District, a conservation easement is proposed to be managed by the Hawai'i Islands Land Trust that would restrict future development of the 156.5-acre property to only the proposed cemetery expansion project and Cultural Preserve. In this manner, the intensity of parcel development will be limited should the parcel be rezoned to only allow for execution of the proposed project. The Petitioner is also amenable to a condition of approval for the boundary change limiting future use. It should be noted that the City Council did limit use of the property to cemetery purposes when it amended the County Ko'olau Poko Sustainable Communities Plan in 2017.

7. An updated botanical study was conducted and is included in the DEIS that addresses existing botanical resources within the Petition Area. The area's ability to function as groundwater recharge is also discussed in the DEIS, and a groundwater study determined that the area does not function as an important recharge area due to the underlying volcanics.

The Petition Area does have some ecological functions, and the impact of the proposed project on natural resources and characteristics contributing to these ecological functions has been assessed in the DEIS. Resources and characteristics assessed include topographic, drainage, vegetative, groundwater, and biotic characteristics. Design components and mitigative measures proposed should positively impact drainage, endangered invertebrate species populations found, and invasive fauna (e.g. pigs).

8. The DEIS includes updated grading plans intended to create gentle slopes as part of the cemetery expansion. The Cultural Preserve proposed would be 14.5 acres. A rockfall and slope hazard assessment was conducted, and identified measures to mitigate rockfall risk. These mitigative measures were incorporated into the design of the project and are discussed in the Draft EIS.

The DEIS also addresses the project's relationship to portions of the Petition Area within the Conservation District's Limited Subzone designation. As discussed previously, a conservation easement is proposed to restrict future development of the property to only the cemetery expansion project and Cultural Preserve, and should address concerns regarding other urban uses.



Mr. Samuel J. Lemmo, Administrator  
State DLNR, OCCL

Page 3

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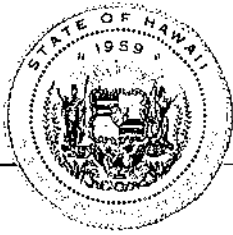
Thank you for providing us with your comments on the EISPN and participating in this process. If you have any questions, please contact me at 457-3172 or [rsato@hhf.com](mailto:rsato@hhf.com).

Sincerely,

A handwritten signature in black ink, appearing to read "R A Sato". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Ronald A. Sato, AICP  
Sr. Associate

cc: Mr. Jay Morford, Hawaiian Memorial Life Plan, Ltd.



## OFFICE OF PLANNING STATE OF HAWAII

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813  
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Telephone (808) 587-2846  
Fax (808) 587-2824  
Web: <http://planning.hawaii.gov/>

DAVID Y. IGE  
GOVERNOR

LEO R. ASUNCION  
DIRECTOR  
OFFICE OF PLANNING

DTS201801170934BE

January 17, 2018

Ronald A. Sato, AICP  
Senior Associate  
HIF Planners  
733 Bishop Street, Suite 2590  
Honolulu, Hawaii 96813

Dear Mr. Sato:

Subject: Environmental Impact Statement Preparation Notice (EISP/N)  
Hawaiian Memorial Park Cemetery Expansion Project  
Tax Map Key: (1) 4-5-033: Por. 001  
Kaneohe, Hawaii

Thank you for the opportunity to provide comments on the EISP/N on the proposed expansion for the Hawaiian Memorial Park Cemetery Expansion project. The Petitioners are proposing to reclassify about 53.45 acres of land from the State Conservation to the Urban district in order to expand the Hawaiian Memorial Park Cemetery to provide additional ground interment and inurement spaces, and also provide a 14.5-acre cultural preserve.

The Office of Planning (OP) has reviewed the transmitted material and has the following comments to offer:

1. Pursuant to Hawaii Administrative Rules (HAR) § 11-200-10(4) - general description of the action's technical, economic, social, and environmental characteristics, this project must demonstrate that it is consistent with a number of state environmental, social, economic goals, and policies. Hawaii Revised Statutes (HRS) Chapter 226, the Hawaii State Planning Act, provides goals, objectives, policies, planning coordination and implementation, and priority guidelines for growth, development, and the allocation of resources throughout the state.

The Draft EIS should include a discussion on the project's ability to meet all parts of HRS Chapter 226. The analysis should examine consistency with these statutes or clarify where it is in conflict with them. If any of these statutes are not applicable to the project, the analysis should affirmatively state such determination, followed by discussion paragraphs.

2. The coastal zone management (CZM) area is defined as "all lands of the State and the area extending seaward from the shoreline to the limit of the State's police power and management authority, including the U.S. territorial sea" (HRS § 205A-1).

The Draft EIS should include an assessment as to how the proposed action conforms to each of the goals and objectives as listed in HRS § 205A-2. Compliance with HRS § 205A-2 is an important component for satisfying the requirements of HRS Chapter 343.

3. Pursuant to HAR § 11-200-10(6) identification and summary of impacts and alternatives considered; in order to ensure that the surface water and nearshore marine resources of Kaneohe Bay remain protected, the negative effects of stormwater inundation, potentially caused by the proposed development activities, should be evaluated in the Draft EIS.

Issues that may be examined include, but are not limited to, project site characteristics in relation to flood and erosion prone areas, open spaces, the potential vulnerability of surface water resources, drainage infrastructure currently in place, soil absorption characteristics of the area, and examining the amount of permeable versus impervious surfaces in the project area. These items should be considered when developing mitigation measures for the protection for surface water resources and the coastal ecosystem, pursuant to HAR § 11-200-10(7).

OP has developed a number of resources and recommends consulting these guidance documents and stormwater evaluative tools when developing strategies to address polluted runoff. They offer useful techniques to keep land-based pollutants and sediment in place and prevent nearshore water contamination while considering the best management practices (BMPs) suited for the project and the types of contaminants affecting the project area. The evaluative tools that should be used during the design process include:

- Hawaii Watershed Guidance provides direction on mitigation strategies for urban development activities that will safeguard watersheds and implement watershed plans [http://files.hawaii.gov/dbedt/op/czm/initiative/nonpoint/III Watershed Guidance Final.pdf](http://files.hawaii.gov/dbedt/op/czm/initiative/nonpoint/III_Watershed_Guidance_Final.pdf)
- Stormwater Impact Assessments can be used to identify and analyze information on hydrology, sensitivity of coastal and riparian resources, and management measures to control runoff, as well as consider secondary and cumulative impacts to the area.  
[http://files.hawaii.gov/dbedt/op/czm/initiative/stomwater\\_impact/final\\_stormwater\\_impact\\_assessments\\_guidance.pdf](http://files.hawaii.gov/dbedt/op/czm/initiative/stomwater_impact/final_stormwater_impact_assessments_guidance.pdf)

- Low Impact Development (LID), A Practitioners Guide covers a range of structural BMPs for stormwater control management, onsite infiltration techniques, water reuse methods, and building layout designs that minimize negative environmental impacts.  
[http://files.hawaii.gov/dbedt/op/cz.m/initiative/lid/lid\\_guide\\_2006.pdf](http://files.hawaii.gov/dbedt/op/cz.m/initiative/lid/lid_guide_2006.pdf)
4. As confirmed by the enclosed review material, this project is within the State Land Use Conservation District. We note that the Petitioner has filed a State Land Use District Boundary Amendment with the Land Use Commission. Further, that the document indicates that the Draft EIS will include updated and new studies for cemetery capacity, traffic impacts, impacts to surface and groundwater, feasibility of using non-potable water for irrigation, wastewater issues, archaeological and cultural impacts, alternatives for the project, soils and topography, rockfall studies, botanical, invertebrate and faunal studies, and traffic impacts. OP concurs that these studies should be expanded and updated from the previous surveys done about 2008.
5. OP also has the following questions and concerns which should be addressed within the Draft EIS.
- a. Petitioner should include information regarding what the sustainable timeframe of the cemetery business and long-term maintenance of the business.
  - b. Petitioner should consider an alternative excluding the 14.5 acre area for the cultural preserve, and how the proposal would change if this were proposed.
  - c. The Cultural assessment study should also include a Kapaakai analysis.
  - d. The Draft EIS should also indicate any additional restrictions that may apply from county zoning, Land Study Bureau soil ratings, and related land-use regulatory constraints.

If you have any questions regarding this comment letter, please contact Lorene Maki of our office at (808) 587-2888.

Sincerely,



Leo R. Asuncion  
Director



August 22, 2018



Mr. Leo Asuncion, Director  
Office of Planning  
State of Hawai'i  
235 South Beretania Street, 6th Floor  
Honolulu, Hawai'i 96813

**SUBJECT:** Hawaiian Memorial Park Cemetery Expansion Project  
Environmental Impact Statement Preparation Notice (EISPN)  
TMK: (1) 4-5-033: por. 001 (Private Property)  
Kāneʻohe, Oʻahu, Hawai'i

Dear Mr. Asuncion:

Thank you for the January 17, 2018 letter providing comments on the Environmental Impact Statement Preparation Notice (EISPN) for the subject project. Your general project description is consistent with the EISPN and that described in the Draft Environmental Impact Statement (DEIS). We have provided responses under numbered subheadings corresponding to your numbered comments.

1. The Draft Environmental Impact Statement (EIS) includes a section addressing the project's consistency with pertinent goals, objectives, and policies of the Hawai'i State Planning Act.  
  
All objectives, policies and priority guidelines of the Hawai'i State Planning Act were reviewed. Those policies not applicable to the project were identified and their inapplicability is clear based upon the policy description.
2. The DEIS includes background discussion of the Coastal Zone Management (CZM) area, and addresses the project's consistency with objectives and policies. The Petition Area is not located within the City and County of Honolulu's Special Management Area, and federal CZM consistency review is not required because no federal funds or permits would be required.
3. The project's impact to Petition Area drainage conditions and the water quality of associated water resources are addressed in the DEIS. This includes addressing the project's effect on Kāneʻohe Bay. It should be noted that the project would have a beneficial effect by improving water quality by reducing erosion, silt and other pollutants that currently discharge from the project area.

The DEIS includes a water quality study and preliminary engineering report addressing drainage conditions and proposed improvements. Flood hazards are discussed along with current erosion characteristics. Open spaces are addressed as part of visual impacts and the existing watershed. Surface water resources, such as existing drainageways, are also addressed. Analysis indicates the project would improve drainage conditions, thereby not adversely impacting existing drainage infrastructure. A geotechnical study was conducted that provides information on existing soils

and soil characteristics, which have been factored in proposed conceptual and preliminary designs. The change in pervious and impervious area associated with the project is addressed, and detention basins proposed would reduce the current volume of stormwater runoff generated by the Petition Area. Necessary mitigative measures are discussed in the DEIS.

The preliminary engineering analysis resulted in the incorporation of measures in the project design that will mitigate adverse drainage and water quality impacts related to the proposed project.

Thank you for referring us to the guidance documents and evaluative tools suggested. These documents would be referenced during the project's design phase. Several of the concepts in those documents have already been incorporated in the planning process and preliminary design phase. For example, the concepts from the stormwater impact assessment have been incorporated as the DEIS includes a detailed discussion of existing watershed and stormwater conditions along with changes resulting from the project based upon several technical studies. In addition, this environmental review process allows for agency review of stormwater impact analysis, low-impact development concepts have been incorporated in project plans, and best management practices have been identified.

4. The DEIS includes several technical studies addressing the areas identified. Some of these technical studies update or supplement prior studies already conducted for this area. Other areas have been addressed in the DEIS such as availability of using non-potable water for irrigation and wastewater.
5. The questions and concerns noted are discussed and addressed in the DEIS.
  - a. The Draft EIS will provide an approximate timeframe for the sale of cemetery burial plots. The sale of cemetery burial plots would provide additional funds to HMP's Perpetual Care Trust account that are used for the long-term maintenance of the cemetery. Once all burial plots in the cemetery expansion area are sold, HMP would appropriately maintain the cemetery expansion area as well as existing areas of HMP.
  - b. The alternative involving exclusion of the 14.5 acre Cultural Preserve area from the Petition Area has been considered and addressed in the Draft EIS. The Preserve needs to be included as part of the Petition Area because new burials following traditional native Hawaiian protocols are planned in this area. Such activities are not permitted in the Conservation District.
  - c. The Cultural Impact Assessment (CIA) is consistent with and follows the analytical framework established in *Ka Pa'akai O Ka 'Āina v. Land Use Commission*, 2000 for assessing impacts to cultural resources.
  - d. The DEIS addresses how regulatory constraints governing Petition Area lands impact the project, which includes a discussion of City zoning regulations applicable to the site, Land Study Bureau soil ratings, and other regulatory requirements.

Mr. Leo R. Asuncion, Director  
State Office of Planning

Page 3

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Thank you for providing us with your comments on the EISPN and participating in this process. If you have any questions, please contact me at 457-3172 or [rsato@hhf.com](mailto:rsato@hhf.com).

Sincerely,

A handwritten signature in black ink, appearing to read "R A Sato". The signature is fluid and cursive.

Ronald A. Sato, AICP  
Sr. Associate

cc: Mr. Jay Morford, Hawaiian Memorial Life Plan, Ltd.

# BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU  
630 SOUTH BERETANIA STREET  
HONOLULU, HI 96843  
www.boardofwatersupply.com



January 17, 2018

KIRK CALDWELL, MAYOR

BRYAN P. ANDAYA, Chair  
KAPUA SPROAT, Vice Chair  
DAVID C. HULIHEE  
KAY C. MATSUI  
RAY C. SOON

ROSS S. SASAMURA, Ex-Officio  
JADE T. BUTAY, Ex-Officio

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

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

Mr. Ronald A. Sato, AICP, Senior Associate  
HHF Planners  
733 Bishop Street, Suite 2590  
Honolulu, Hawaii 96813

Dear Mr. Sato:

Subject: Your Letter Dated December 19, 2017 Requesting Comments on the Environmental Impact Statement Preparation Notice Regarding the Hawaiian Memorial Park Cemetery Expansion Project in Kaneohe – Tax Map Key: 4-5-033: 001

#1 Thank you for your letter regarding the proposed expansion project.

The existing water system is adequate to accommodate the proposed development. However, please be advised that this information is based upon current data, and therefore, the Board of Water Supply 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.

#2 The developer shall investigate the feasibility of using non-potable water for irrigation of the proposed cemetery expansion. The developer should evaluate the Halekou irrigation wells that are currently used to irrigate the Hawaii State Veteran's Cemetery. If non-potable water is either unavailable or infeasible, a report of the investigation including proposed irrigation demands should be submitted to us before we will consider the use of potable water.

#3 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 on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

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

cc: Scott Derrickson, State of Hawaii Land Use Commission



August 22, 2018

Mr. Ernest Y.W. Lau, P.E., Manager and Chief Engineer  
Board of Water Supply  
City & County of Honolulu  
630 S. Beretania Street  
Honolulu, HI 96843

**SUBJECT:** Hawaiian Memorial Park Cemetery Expansion Project  
Environmental Impact Statement Preparation Notice (EISPN)  
TMK: (1) 4-5-033: por. 001 (Private Property)  
Kāneʻohe, Oʻahu, Hawaiʻi

Dear Mr. Lau:

Thank you for the January 17, 2018 letter providing comments on the Environmental Impact Statement Preparation Notice (EISPN) for the subject project. We have provided responses under numbered subheadings corresponding to your comments.

1. We confirm your determination that the County water system is adequate to accommodate the Proposed Action. No buildings are proposed under this project; therefore, no building permits are required. However, plans would be coordinated with your agency for review as part of the design phase and grading permit process. We understand final decisions regarding water availability will be confirmed as part of this review. We acknowledge that the Water Systems Facilities Charges for resource development, transmission, and daily storage must be paid when water is made available.
2. The feasibility of non-potable water use for irrigation of the proposed cemetery expansion is addressed in the Draft Environmental Impact Statement (DEIS). In summary, use of non-potable water for irrigation is not feasible because the Petition Area and HMP property are not suitable for development of even a moderate capacity well anywhere due to the Kailua volcanics beneath. The Halekou wells are fairly shallow and at an elevation that would not support serving the higher elevation of the cemetery expansion area. The projected irrigation demand for the cemetery expansion is low due to the climate conditions in the Kāneʻohe area. A report documenting proposed irrigation demands along with more details addressing the infeasibility of these wells would be submitted to the Board of Water Supply during the project's design phase.



3. When water is made available, the applicant would pay the water system facilities charges for resource development, transmission and daily storage.

No on-site fire protection requirements should be necessary for the cemetery expansion or Cultural Preserve because no buildings are proposed. Internal access roads would provide sufficient access for emergency vehicles. Necessary coordination with the Honolulu Fire Department would be conducted during the project's design phase.

Thank you for providing us with your comments on the EISPN and participating in this process. If you have any questions, please contact me at 457-3172 or [rsato@hhf.com](mailto:rsato@hhf.com).

Sincerely,

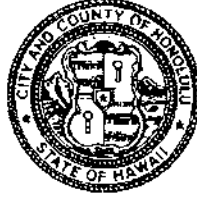


Ronald A. Sato, AICP  
Sr. Associate

cc: Mr. Jay Morford, Hawaiian Memorial Life Plan, Ltd.

DEPARTMENT OF COMMUNITY SERVICES  
CITY AND COUNTY OF HONOLULU

925 DILLINGHAM BOULEVARD, SUITE 200 • HONOLULU, HAWAII 96817  
PHONE: (808) 768-7762 • FAX: (808) 768-7792  
www.honolulu.gov/dcs



KIRK CALDWELL  
MAYOR

PAMELA A. WITTY-OAKLAND  
DIRECTOR

SUSAN L. FERNANDEZ  
DEPUTY DIRECTOR

January 22, 2018

Mr. Ronald A. Sato  
HHF Planners  
733 Bishop Street, Suite 2590  
Honolulu, Hawaii 96813

Dear Mr. Sato:

**SUBJECT:** Environmental Impact Statement Preparation Notice (EISPN)  
Hawaiian Memorial Park Cemetery Expansion Project  
Kaneohe District, Oahu, Hawaii  
Tax Map Key: (1) 4-5-003: 033: por. 001 (Private Property)

Thank you for the opportunity to review the request regarding HHF Planners Environmental Impact Statement Preparation Notice (EISPN) for the Hawaiian Memorial Park Cemetery Expansion project.

Our review of the provided document indicates that the proposed project will have no adverse impacts on any Department of Community Services' activities or projects at this time.

Sincerely,

A handwritten signature in black ink, appearing to read "Pamela A. Witty-Oakland".

Pamela A. Witty-Oakland  
Director

PAW:ta

cc: Mr. Scott Derrickson  
Department of Business, Economic Development & Tourism



August 22, 2018

Ms. Pamela A. Witty-Oakland, Director  
Department of Community Services  
City & County of Honolulu  
925 Dillingham Boulevard, Suite 200  
Honolulu, HI 96817

**SUBJECT:** Hawaiian Memorial Park Cemetery Expansion Project  
Environmental Impact Statement Preparation Notice (EISPN)  
TMK: (1) 4-5-033: por. 001 (Private Property)  
Kāneʻohe, Oʻahu, Hawaiʻi

Dear Ms. Witty-Oakland:

Thank you for the January 22, 2018 letter providing comments on the Environmental Impact Statement Preparation Notice (EISPN) for the subject project.

We acknowledge the Department of Community Services' (DCS) assessment that the proposed project will not adversely impact DCS activities or projects at this time.

Thank you for providing us with your comments on the EISPN and participating in this process. If you have any questions, please contact me at 457-3172 or [rsato@hhf.com](mailto:rsato@hhf.com).

Sincerely,

A handwritten signature in black ink, appearing to read "R A Sato".

Ronald A. Sato, AICP  
Sr. Associate

cc: Mr. Jay Morford, Hawaiian Memorial Life Plan, Ltd.

## Ronald Sato

---

**From:** Epenesa, Karen <kepenesa@honolulu.gov>  
**Sent:** Thursday, December 28, 2017 11:39 AM  
**To:** Ronald Sato; 'scott.a.derrickson@hawaii.gov'  
**Subject:** Hawaiian Memorial Park Cemetery Expansion Project

**Follow Up Flag:** Follow up  
**Flag Status:** Completed

This email is being sent on behalf of Director Melvin Kaku:

In response to your letter enclosing the EISPN providing public notice dated December 19, 2017, the Department of Emergency Management, City and County of Honolulu, has no comments at this time. We look forward to reviewing your Draft EIS when its available.

**Mahalo,  
Karen**

---

Karen Epenesa, Secretary  
City & County of Honolulu | Department of Emergency Management  
ph: (808) 723-8950 | fax: (808) 768-1492

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August 22, 2018

Mr. Melvin Kaku, Director  
Department of Emergency Management  
City & County of Honolulu  
650 South King Street, Basement  
Honolulu, HI 96813

**SUBJECT:** Hawaiian Memorial Park Cemetery Expansion Project  
Environmental Impact Statement Preparation Notice (EISPN)  
TMK: (1) 4-5-033: por. 001 (Private Property)  
Kāneʻohe, Oʻahu, Hawaiʻi

Dear Mr. Kaku:

Thank you for the email sent on your behalf by Karen Epenesa, dated December 28, 2018, providing comments on the Environmental Impact Statement Preparation Notice (EISPN) for the subject project.

We acknowledge that the Department of Emergency Management has no comments at this time.

Thank you for providing us with your comments on the EISPN and participating in this process. If you have any questions, please contact me at 457-3172 or [rsato@hhf.com](mailto:rsato@hhf.com).

Sincerely,

A handwritten signature in black ink that reads "R A Sato". The letters are stylized and cursive.

Ronald A. Sato, AICP  
Sr. Associate

cc: Mr. Jay Morford, Hawaiian Memorial Life Plan, Ltd.

DEPARTMENT OF FACILITY MAINTENANCE  
**CITY AND COUNTY OF HONOLULU**

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

KIRK CALDWELL  
MAYOR



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

EDUARDO P. MANGLALLAN  
DEPUTY DIRECTOR

IN REPLY REFER TO:  
DRM 18-6

January 4, 2018

HHF PLANNERS  
Pacific Guardian Center  
733 Bishop Street, Suite 2590  
Honolulu, Hawaii 96813  
Attention: Mr. Richard Sato, AICP, Senior Associate

Dear Mr. Sato:

SUBJECT: Draft Environmental Impact Statement Preparation Notice (EISPN) for  
Hawaiian Memorial Park Cemetery Expansion Project, Kaneohe, Hawaii.

#1 Thank you for the opportunity to review and to give our input regarding the subject project.

Our comments as follows:

- #2
- Once construction phase commence, install approved Best Management Practices (BMP) fronting all drainage facilities on Lipalu Street. What would be the drainage impact to Lipalu Street when construction is completed?
  - During construction and upon completion of project; any Damages/deficiencies to Lipalu Street right-of-way shall be corrected to City Standards and accepted by the City.

Should there be any questions, please call Mr. Kyle Oyasato of the Division of Road Maintenance at 768-3697.

Sincerely,

Handwritten signature of Ross S. Sasamura in black ink.

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

CC: State of Hawaii, Land Use Commission – Mr. Scott Derrickson

August 22, 2018



Mr. Ross S. Sasamura, Director and Chief Engineer  
Department of Facility Maintenance  
City & County of Honolulu  
1000 Ulu'ohia Street, Suite 215  
Kapolei, HI 96707

**SUBJECT:** Hawaiian Memorial Park Cemetery Expansion Project  
Environmental Impact Statement Preparation Notice (EISPN)  
TMK: (1) 4-5-033: por. 001 (Private Property)  
Kāne'ohe, O'ahu, Hawai'i

Dear Mr. Sasamura:

Thank you for the January 4, 2018 letter providing comments on the Environmental Impact Statement Preparation Notice (EISPN) for the subject project. We have provided responses under numbered subheadings corresponding to your bulleted comments.

1. Approved best management practices would be implemented within the Petition Area, which is upslope from the Department of Facility Maintenance's (DFM) Lipalu Street drainage facilities. The proposed project's impact on Lipalu Street drainage facilities and Petition Area drainage conditions are addressed in the Draft Environmental Impact Statement. In summary, the project should not have a significant impact on the City's existing downstream drainage facilities because detention basins and other site improvements proposed would reduce stormwater runoff volumes and flow rates.
2. Damages to the Lipalu Street right-of-way resulting from construction and implementation of the proposed project would be corrected to City standards with acceptance by the City.

Thank you for providing us with your comments on the EISPN and participating in this process. If you have any questions, please contact me at 457-3172 or [rsato@hhf.com](mailto:rsato@hhf.com).

Sincerely,

A handwritten signature in black ink that reads "Ronald A. Sato". The signature is written in a cursive, flowing style.

Ronald A. Sato, AICP  
Sr. Associate

cc: Mr. Jay Morford, Hawaiian Memorial Life Plan, Ltd.

DEPARTMENT OF PLANNING AND PERMITTING  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET, 7<sup>TH</sup> FLOOR • HONOLULU, HAWAII 96813  
PHONE: (808) 768-8000 • FAX: (808) 768-6041  
DEPT. WEB SITE: [www.honoluludpp.org](http://www.honoluludpp.org) • CITY WEB SITE: [www.honolulu.gov](http://www.honolulu.gov)

KIRK CALDWELL  
MAYOR



KATHY K. SOKUGAWA  
ACTING DIRECTOR

TIMOTHY F. T. HIU  
DEPUTY DIRECTOR

EUGENE H. TAKAHASHI  
DEPUTY DIRECTOR

2017/GEN-26(ry)

January 22, 2018

Mr. Ronald A. Sato, AICP  
Senior Associate  
HHF Planners  
733 Bishop Street, Suite 2590  
Honolulu, Hawaii 96813

Dear Mr. Sato:

We have the following comments on the Environmental Impact Statement Preparation Notice (EISPN) for the Hawaiian Memorial Park Cemetery Expansion Project:

1. The Draft Environmental Impact Statement (DEIS) should describe how the project intends to comply with the prevailing Rules Relating to Water Quality.
2. The DEIS shall explain how the rockfall hazards will be addressed.
3. The DEIS should expand and clarify the "Cultural Preserve" section on page 2-7 regarding the conservation easement to preserve the area that also appears to include language allowing the cemetery to expand into that area.

Thank you for the opportunity to comment. Should you have any questions, please contact Raymond Young, of our staff, at 768-8049.

Very truly yours,

A handwritten signature in blue ink that reads "Eugene H. Takahashi".

Eugene H. Takahashi  
Deputy Director

EHT:ah  
Doc 1552848





August 22, 2018

Mr. Eugene H. Takahashi, Deputy Director  
Department of Planning and Permitting  
City & County of Honolulu  
650 S. King Street, 7<sup>th</sup> Floor  
Honolulu, HI 96813

**SUBJECT:** Hawaiian Memorial Park Cemetery Expansion Project  
Environmental Impact Statement Preparation Notice (EISPN)  
TMK: (1) 4-5-033: por. 001 (Private Property)  
Kāneʻohe District, Oʻahu, Hawaiʻi

Dear Mr. Takahashi:

Thank you for the January 22, 2018 letter providing comments on the Environmental Impact Statement Preparation Notice (EISPN) for the subject project. We have provided responses under numbered subheadings corresponding to your numbered comments.

1. The Draft Environmental Impact Statement (DEIS) discusses the project's compliance with prevailing City Rules Relating to Water Quality (Title 20, Chapter 3) as part of drainage improvements and the incorporation of various best management practices and low-impact development strategies.
2. The DEIS discusses potential rockfall hazards and includes mitigative measures that have been incorporated into preliminary design plans.
3. The DEIS includes more information on the Cultural Preserve and proposed activities and the conservation easement. Such activities would include cultural practices, restoration of historic sites and landscape, and areas for new native Hawaiian burials following traditional protocols. The conservation easement would restrict any other future development on the 156.5-acre property (less 7.9-acre Ocean View Garden), except for activities and uses within the proposed expansion of the cemetery and Cultural Preserve.

Thank you for providing us with your comments on the EISPN and participating in this process. If you have any questions, please contact me at 457-3172 or [rsato@hhf.com](mailto:rsato@hhf.com).

Sincerely,

A handwritten signature in black ink that reads "Ronald A. Sato".

Ronald A. Sato, AICP  
Sr. Associate

cc: Mr. Jay Morford, Hawaiian Memorial Life Plan, Ltd.

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



WES FRYSZTACKI  
DIRECTOR

JON Y. NOUCHI  
DEPUTY DIRECTOR

TP12/17-713433R

January 17, 2018

Mr. Ronald A. Sato, AICP  
Senior Associate  
HHF Planners  
733 Bishop Street, Suite 2590  
Honolulu, Hawaii 96813

Dear Mr. Sato:

**SUBJECT:** Environmental Impact Statement Preparation Notice for Hawaiian Memorial Park Cemetery Expansion Project, Kaneohe, Oahu, Hawaii

This is in response to your notice dated December 19, 2017, requesting our review and comments on the subject project. We have the following comments:

1. **Transportation Impact Assessment (TIA).** The expansion is estimated to attract more visitors to the site for funeral services and customary visitation. A multi-modal TIA should be completed instead of a Traffic Impact Analysis Report. The TIA should calculate and examine the vehicle, pedestrian, bicycle, and public transit stress and comfort levels at the nearby intersections with corresponding improvements to mitigate these impacts by applying Complete Streets principles.
2. **Traffic Management Plan (TMP).** Prepare a TMP which:
  - a. Is jointly reviewed and accepted by the Department of Transportation Services (DTS) and the Department of Planning and Permitting.
  - b. Provides a discussion of the traffic impacts that the project may have on any surrounding City roadways, including short-term impacts during construction and long-term impacts after construction with corresponding measures to mitigate these impacts by applying Complete Streets principles.

- c. Construction materials and equipment should be transferred to and from the project site during off-peak traffic hours (8:30 a.m. to 3:30 p.m.) to minimize any possible disruption to traffic on the local streets.
  - d. Coordinates construction schedules with other nearby properties that have planned developments to ensure minimal impacts on City streets
3. **Complete Streets.** The Application should contain discussion of compliance with County and State Complete Streets policies, pursuant to Act 54, Session Laws of Hawaii 2009, HRS §264-20.5 and ROH 12-15. The Project should elaborate on how it will comply with Complete Streets policies, including specific adherence to the following key Complete Streets principles: safety, Context Sensitive Solutions, accessibility and mobility for all, use and comfort of all users, consistency of design guidelines and standards, energy efficiency, and health and green infrastructure.
  4. **Bike and Moped Parking.** If not already provided, locate on-site bike racks and moped parking at the main building that provides funeral services for employees and visitors to the site.
  5. **Public Transit Service Area.** The project entrance is in an existing public transit service area. To ensure that the project development does not affect public transit services (bus operations, bus routes, bus stops and para-transit operations); submit project plans to DTS - Public Transit Division (PTD) for review and approval. Contact DTS-PTD at 768-8396, 768-8370, 768-8374 or [TheBusStop@honolulu.gov](mailto:TheBusStop@honolulu.gov).
  6. **Parking.** All parking needs for the proposed facility (employees and visitors) should be handled on-site.
  7. **Vehicle/Pedestrian Crossing.** Any existing pedestrian, bicycle and vehicle access/crossing shall be maintained with the highest safety measures during construction.
  8. **Best Management Practice (BMP) Controls.** BMP controls should be included at the construction site to prevent trailing of dirt and debris on City roadways.

Mr. Ronald A. Sato, AICP  
January 17, 2018  
Page 3

9. **Roadway Damage.** Any damage to the existing roadway and sidewalk area caused by the project should be repaired to current City standards as well as meet Americans with Disabilities Act (ADA) requirements.
10. **Neighborhood Impacts.** The area Neighborhood Board, as well as the area businesses, emergency personnel (fire, ambulance and police), Oahu Transit Services, Inc. (TheBus and TheHandi-Van), etc., should be kept apprised of the details of the proposed project and the impacts that the project may have on the adjoining local street area network.
11. **Disability and Communication Access Board (DCAB).** Plans should be reviewed and approved by DCAB to ensure full compliance with the ADA.

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

Very truly yours,



Wes Frysztacki  
Director

cc: Scott Derrickson, Department of Business, Economic Development & Tourism



August 22, 2018



Mr. Wes Frysztacki, Director  
Department of Transportation Services  
City & County of Honolulu  
650 S. King Street, 3<sup>rd</sup> Floor  
Honolulu, HI 96813

**SUBJECT:** Hawaiian Memorial Park Cemetery Expansion Project  
Environmental Impact Statement Preparation Notice (EISPN)  
TMK: (1) 4-5-033: por. 001 (Private Property)  
Kāneʻohe, Oʻahu, Hawaiʻi

Dear Mr. Frysztacki:

Thank you for the January 17, 2018 letter providing comments on the Environmental Impact Statement Preparation Notice (EISPN) for the subject project. We have provided responses under numbered subheadings corresponding to your numbered comments.

1. The expansion of the cemetery would have a minimal change to the number of existing visitors to Hawaiian Memorial Park (HMP). The project would also have negligible, if any, effect on pedestrian accessibility, bicycle accessibility, and public transit that occurs along the State's Kamehameha Highway fronting the HMP entrance. Therefore, the Traffic Impact Analysis Report prepared for this project is appropriate, and discusses existing pedestrian, bicycle, and public transit facilities. The DEIS also addresses these components in more detail.
2. The follow responses address traffic management plan (TMP) comments.
  - a. Because the project site is located well inland from HMP's existing cemetery, no construction work would occur along Kamehameha Highway that would require special duty officers or other traffic control measures. Therefore, construction activities should not negatively impact motorists or pedestrian safety in the vicinity, and should not require a TMP. However, if required, the contractor implementing project improvements would prepare a TMP that would be reviewed and accepted by the Department of Transportation Services (DTS) and the Department of Planning and Permitting.
  - b. The TMP would discuss short- and long-term impacts of the proposed project on surrounding City roadways as well as measures to mitigate these impacts. The project should have minimal short-term construction effects, minimal long-term effects, and negligible effects on complete streets components.
  - c. Large construction equipment and significant materials associated with project construction activities would be transported to and from the site during off-peak traffic hours to minimize disruption to local traffic.

- d. There are no other known developments occurring in the vicinity of the project that would require coordination of construction schedules. However, coordination of construction schedules with nearby developments can be conducted if future conditions change to lessen impacts to City streets.
3. The proposed internal roadway system would be privately owned and is not subject to compliance with the Complete Streets policies discussed, which are applicable to public roadways. However, this private roadway could be utilized for passive recreational activities by the public (i.e. walking or jogging), similar to current public recreational use of existing HMP internal roadways. The DEIS includes a discussion of the project's relationship to the City's Complete Streets policies.
4. Bike and moped parking are currently not provided at the main office building or chapel at HMP, and the cemetery expansion would not require the need to add bike and moped parking at these facilities.
5. The cemetery expansion project would not impact public transit services because it is located well inland from HMP's existing entrance, and no improvements are necessary to existing bus stops. However, design plans would be coordinated with the DTS Public Transit Division for review during the project's design phase.
6. The proposed project will not construct new structural facilities. Employee and visitor parking for existing HMP facilities and the cemetery expansion would be accommodated on site.
7. Existing pedestrian, bicycle, and vehicle accesses/crossings would be maintained during construction of project improvements.
8. Appropriate Best Management Practices (BMPs) to ensure construction related dirt and debris are not transported to City roadways would be implemented. Some BMPs are discussed in the DEIS and final measures would be determined during the design of proposed improvements.
9. Damage to City roadways resulting from project construction would be repaired to current City standards in alignment with Americans with Disabilities Act (ADA) requirements.
10. The Kāne'ohe Neighborhood Board has been engaged throughout the development of the project. This Board along with City emergency responder agencies and the O'ahu Transit Services, Inc. have been apprised of this project as part of this environmental review process.

Mr. Wes Frysztachi, Director  
City Department of Transportation Services

Page 3

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11. The project does not include the construction of public facilities (e.g. State or City projects, funds, lands) that would be subject to review by the Disability and Communication Access Board.

Thank you for providing us with your comments on the EISPN and participating in this process. If you have any questions, please contact me at 457-3172 or [rsato@hhf.com](mailto:rsato@hhf.com).

Sincerely,



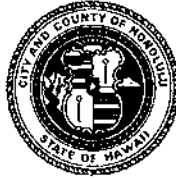
Ronald A. Sato, AICP  
Sr. Associate

cc: Mr. Jay Morford, Hawaiian Memorial Life Plan, Ltd.

HONOLULU FIRE DEPARTMENT  
**CITY AND COUNTY OF HONOLULU**

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

KIRK CALDWELL  
MAYOR



MANUEL P. NEVES  
FIRE CHIEF

LIONEL CAMARA JR.  
DEPUTY FIRE CHIEF

January 11, 2018

Mr. Ronald Sato, AICP, Senior Associate  
HHF Planners  
733 Bishop Street, Suite 2590  
Honolulu, Hawaii 96813

Dear Mr. Sato:

Subject: Hawaiian Memorial Park Cemetery Expansion Project  
Kaneohe, Hawaii  
Tax Map Key: 4-5-033: 001 (Portion)

In response to your letter dated December 19, 2017, regarding the abovementioned subject, the Honolulu Fire Department (HFD) reviewed the material provided and 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]<sup>TM</sup>, 2012 Edition, Sections 18.2.3.2.2 and 18.2.3.2.2.1.)

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; UFC<sup>TM</sup>, 2012 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

Mr. Ronald Sato  
Page 2  
January 11, 2018

fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains capable of supplying the required fire flow shall be provided when required by the AHJ [Authority Having Jurisdiction]. (NFPA 1; UFC™, 2012 Edition, Section 18.3.1, as amended.)

3. The unobstructed width and unobstructed vertical clearance of a fire apparatus access road shall meet county requirements. (NFPA 1; UFC™, 2012 Edition, Sections 18.2.3.4.1.1 and 18.2.3.4.1.2, as amended.)
4. Submit civil drawings to the HFD for review and approval.

Should you have questions, please contact Battalion Chief Wayne Masuda of our Fire Prevention Bureau at 723-7151 or [wmasuda@honolulu.gov](mailto:wmasuda@honolulu.gov).

Sincerely,



SOCRATES D. BRATAKOS  
Assistant Chief

SDB/TC:jl

cc: Scott Derrickson, Land Use Commission  
State of Hawaii





August 22, 2018

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

**SUBJECT:** Hawaiian Memorial Park Cemetery Expansion Project  
Environmental Impact Statement Preparation Notice (EISPN)  
TMK: (1) 4-5-033: por. 001 (Private Property)  
Kāneʻohe, Oʻahu, Hawaiʻi

Dear Mr. Bratakos:

Thank you for the January 11, 2018 letter providing comments on the Environmental Impact Statement Preparation Notice (EISPN) for the subject project. We have provided responses under numbered subheadings corresponding to your numbered comments.

1. The project does not propose construction of buildings or facilities that would require compliance with uniform fire code building structure or door access distance regulations. However, access roads proposed within the cemetery expansion area would provide access for emergency support vehicles.
2. The project does not propose construction of buildings or facilities that would require access to an approved water supply for fire protection.
3. City fire access road dimensioning requirements (width and vertical clearance) would be incorporated into the design of proposed site improvements, as applicable.
4. Civil engineering drawings developed in the design phase for the proposed project would be coordinated with the Honolulu Fire Department, as appropriate.

Thank you for providing us with your comments on the EISPN and participating in this process. If you have any questions, please contact me at 457-3172 or [rsato@hhf.com](mailto:rsato@hhf.com).

Sincerely,

A handwritten signature in black ink that reads "Ronald A. Sato".

Ronald A. Sato, AICP  
Sr. Associate

cc: Mr. Jay Morford, Hawaiian Memorial Life Plan, Ltd.

POLICE DEPARTMENT  
CITY AND COUNTY OF HONOLULU

801 SOUTH BERETANIA STREET · HONOLULU, HAWAII 96813  
TELEPHONE: (808) 529-3111 · INTERNET: www.honolulu-pd.org



KIRI BALDWIN  
MAYOR

SUSAN BALLARD  
CHIEF

JOHN D. MCCARTHY  
JONATHAN BRENNER  
DEPUTY CHIEFS

OUR REFERENCE: MT-AL

January 11, 2018

Mr. Ronald A. Sato, AICP  
HHF Planners  
Pacific Guardian Center  
733 Bishop Street, Suite 2590  
Honolulu, Hawaii 96813

Dear Mr. Sato:

#1 This is in response to a letter from HHF Planners, dated December 19, 2017, requesting comments on a Draft Environmental Impact Statement, for the Hawaiian Memorial Park Cemetery Expansion project.

The Honolulu Police Department has reviewed this project and has concerns regarding the safe flow of traffic at the project site.


#2 We recommend that the developer evaluate the outcome of the traffic flow affected by the construction vehicles commuting to the project site. We also recommend that the developer provide a traffic mitigation plan to implement traffic controls and management (e.g., flag persons, clear signage and cones, special duty officers, etc.) for construction vehicles driving to and from the work site. These recommendations will ensure a safe means of ingress/egress for construction vehicles, motorists, and pedestrians in the vicinity.

#3 Additionally, the contractor should obtain the necessary street usage permits from the Department of Transportation, State of Hawaii, for the purposes of parking and transporting any construction equipment around the vicinity of the project area.

If there are any questions, please call Major Crizalmer Caraang District 4 (Kailua-Kaneohe-Kahuku) at 723-8639.

Thank you for the opportunity to review this project.

Sincerely,

  
MARK TSUYEMURA  
Management Analyst VI  
Office of the Chief

cc: Mr. Scott Derrickson  
Land Use Commission



August 22, 2018

Mr. Mark Tsuyemura, Management Analyst  
Honolulu Police Department  
City & County of Honolulu  
801 S. Beretania Street  
Honolulu, HI 96813

**SUBJECT:** Hawaiian Memorial Park Cemetery Expansion Project  
Environmental Impact Statement Preparation Notice (EISPN)  
TMK: (1) 4-5-033: por. 001 (Private Property)  
Kāneʻohe District, Oʻahu, Hawaiʻi

Dear Mr. Tsuyemura:

Thank you for the January 11, 2018 letter providing comments on the Environmental Impact Statement Preparation Notice (EISPN) for the subject project. We have provided responses under numbered subheadings corresponding to your comments.

1. The Draft Environmental Impact Statement (DEIS) addresses traffic flow at this site, which includes a traffic impact analysis study. Overall, the project would have minimal effect on traffic conditions.
2. The DEIS addresses the impact of construction vehicles traveling to the Petition Area during the project's construction phase on State and City roadways. It is estimated that about 30 to 40 workers could be on the site on a daily basis. This should not have a significant impact on traffic especially since workers would typically arrive before the morning peak hour and leave before the afternoon peak hour. There is sufficient parking within HMP's Ocean View Garden and other cemetery areas to accommodate construction worker vehicles.

Because the project site is located well inland from HMP's existing cemetery, no construction work would occur along Kamehameha Highway that would require special duty officers or other traffic control measures. Therefore, construction worker traffic should not negatively impact motorists or pedestrian safety in the vicinity. If needed, the contractor implementing project improvements would prepare a traffic management plan (TMP) that can discuss traffic controls and management measures to encourage safe travel of construction vehicles to and from the Petition Area.

3. If required, a street usage permit would be obtained by the project contractor should transportation of large construction equipment be expected to impact traffic flow on roadways in the vicinity of the Petition Area. Construction equipment would be stored within the Petition Area or existing HMP property during construction of project improvements.

Mr. Mark Tsuyemura  
Honolulu Police Department

Page 2

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Thank you for providing us with your comments on the EISPN and participating in this process. If you have any questions, please contact me at 457-3172 or rsato@hhf.com.

Sincerely,

A handwritten signature in black ink, appearing to read "R A Sato". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Ronald A. Sato, AICP  
Sr. Associate

cc: Mr. Jay Morford, Hawaiian Memorial Life Plan, Ltd.

January 15, 2018

HHF Planners  
733 Bishop St  
Honolulu, Hawaii 96813

re: Hawaiian Memorial Park Cemetery Expansion Project

To whom it may concern:

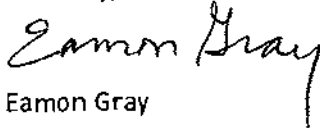
**#1** I am writing this letter to submit my concerns in response to the Environmental Impact Statement Preparation Notice (EISPN) of November 2017. I don't understand why HMP is doing this again to our neighborhood. The only answer is greed. Instead of looking at alternative burial practices they just want more plots to make more money. Ten years ago we told them NO and the LUC told them NO for very significant reasons:

**Risks of runoff and erosion**  
**Rockfall hazard to neighborhood**  
**Destruction of the scenic area – the Kaneohe Greenbelt**  
**Adverse water quality of Kaneohe Bay**

**#2** Now we know that we have an endangered species in the Petition Area. The population of the Blackline Hawaiian Damselfly was confirmed by the State DLNR, Division of Forestry and Wildlife and the US Fish and Wildlife Service. HMP continues to state that they will mitigate every concern we have with no specifics. How will this endangered species survive their latest proposed project?

**#3** Part of our family lot is on conservation land and we are protecting it. Why does HMP have the right to not uphold their responsibilities to the land?

Sincerely,

  
Eamon Gray

Cc: State of Hawaii Land Use Commission, Dept. of Business, Economic Development & Tourism





August 22, 2018

Mr. Eamon Gray  
45-426 Ohāhā Street  
Kāneʻohe, HI 96744

**SUBJECT:** Hawaiian Memorial Park Cemetery Expansion Project  
Environmental Impact Statement Preparation Notice (EISPN)  
TMK: (1) 4-5-033: por. 001 (Private Property)  
Kāneʻohe, Oʻahu, Hawaiʻi

Dear Mr. Gray:

Thank you for the January 15, 2018 letter providing comments on the Environmental Impact Statement Preparation Notice (EISPN) for the subject project. We have provided responses under numbered subheadings corresponding to your comments.

1. The applicant is pursuing this project again, with modifications to the prior concept plans, because there is a need for more burial plots to serve Oʻahu well into the future. Hawaiian Memorial Park (HMP) is an important cemetery serving the needs of residents and memorialization of families that is running out of available burial plots resulting in the need to expand the cemetery. Different burial disposition alternatives, such as cremation or in-ground burials, still require burial plots and the need for cemetery space.


The reasons for the Land Use Commission's prior denial of the petition are being addressed by new technical studies and information included in the Draft Environmental Impact Statement (DEIS). Your specific areas of concern identified are addressed below.

- Runoff and erosion risks will be addressed in the DEIS, which includes a preliminary engineering report and water quality study providing more details. Overall, the project would reduce existing erosion and runoff volumes occurring within the project site due to specific design measures, including detention basins.
- Rockfall hazards associated with the Petition Area have been addressed by a geotechnical study and are discussed in the DEIS. Mitigative measures to address rockfall hazards have been incorporated into preliminary project plans.
- The portion of the Koʻolau Greenbelt applicable to Kāneʻohe encompasses the transition area between the Koʻolau Mountain Range and district valleys and coastal plains. As discussed in the 2017 *Koʻolaupoko Sustainable Communities Plan*, much of this area is presently undeveloped or used for open space purposes. The Petition Area is not located within this transitional area. The project's impact to scenic resources will be assessed and are discussed in the DEIS.

- Water quality of Kāwā Stream would be improved by the proposed project due to reduced runoff volumes and erosion, as discussed in the DEIS. Project improvements would have a beneficial effect on Kāneʻohe Bay’s water quality. A water quality study included in the DEIS discusses these areas in greater detail.
2. An invertebrate survey prepared for this EIS identified the endangered damselfly and the small seep that serves as its habitat. We have determined the species would not be negatively impacted by the project because the seep area would be preserved, and other design measures are proposed to improve the habitat, such as fencing to prevent pigs from impacting that area. The DEIS will include more specific information and details addressing project effects, mitigative measures, and the invertebrate survey report. Therefore, the survival of this species would not be adversely impacted by the project. Furthermore, the applicant plans to coordinate with the U.S. Fish and Wildlife Service to establish a habitat restoration and conservation program that would support protecting this habitat along with providing educational opportunities.
  3. The applicant is serving as a responsible steward of the Petition Area and natural and cultural resources present. The proposed project was designed with consideration of these resources and includes mitigative measures to minimize impacts. However, there is a need for more burial plots to serve O’ahu residents in the future, and HMP is an important cemetery serving the needs of families.

Thank you for providing us with your comments on the EISPN and participating in this process. If you have any questions, please contact me at 457-3172 or [rsato@hhf.com](mailto:rsato@hhf.com).

Sincerely,



Ronald A. Sato, AICP  
Sr. Associate

cc: Mr. Jay Morford, Hawaiian Memorial Life Plan, Ltd.

January 15, 2018

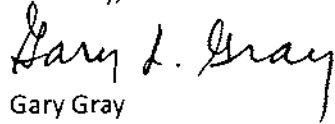
HHF Planners  
733 Bishop St  
Honolulu, Hawaii 96813

re: Hawaiian Memorial Park Cemetery Expansion Project

To whom it may concern:

- #1 I am writing this letter to submit my concerns in response to the Environmental Impact Statement Preparation Notice (EISPN) of November 2017. I opposed the HMP project in 2009 and I am still against it even it is a smaller petition area.
- #2 The main reason for my opposition is that the potential for runoff and erosion is still there. We live in the Kawa Stream watershed area and increased runoff and erosion seriously threatens the quality of Kaneohe Bay – which we have been trying to protect and preserve since the 1970's. In addition, I am concerned about rockfall hazards since the grading proposed in the new plan requires even steeper grader than the prior plan. My grandchildren now play in the Mahinui hills as their father did before them. This area was deemed conservation land for a reason – we need to protect our natural resources and preserve what we have left of our natural land.
- #3 Now, we have also learned that a previously unknown population of an endangered species has been discovered in the Petition Area. The population of the Blackline Hawaiian Damselfly was confirmed by the State DLNR, Division of Forestry and Wildlife and the US Fish and Wildlife Service. The EISPN states, "Technical studies will be conducted for the Draft EIS to address the presence of potential species in greater detail." But how will it be possible to protect such a fragile population with the proposed deforestation and grading in the new plan?
- #4 I live on Ohaha Street which is right below the petition area. I will personally affected by this project but I am even more concerned about the larger issues stated above

Sincerely,

  
Gary Gray

cc: State of Hawaii Land Use Commission  
Dept of Business, Economic Dev. & Tourism

August 22, 2018



Mr. Gary Gray  
45-426 Ohāhā Street  
Kāneʻohe, HI 96744

**SUBJECT:** Hawaiian Memorial Park Cemetery Expansion Project  
Environmental Impact Statement Preparation Notice (EISPN)  
TMK: (1) 4-5-033: por. 001 (Private Property)  
Kāneʻohe, Oʻahu, Hawaiʻi

Dear Mr. Gray:

Thank you for the January 15, 2018 letter providing comments on the Environmental Impact Statement Preparation Notice (EISPN) for the subject project. We have provided responses under numbered subheadings corresponding to your comments.

1. We acknowledge your continued opposition to this project, even with a reduced Petition Area.
2. The project's impact to Petition Area drainage conditions, topography, rockfall hazard, and the quality of associated water resources will be assessed in the Draft Environmental Impact Statement (DEIS). The proposed project is designed with consideration of Petition Area natural resources and incorporates mitigative measures to avoid impacting these resources.

Your concerns about potential stormwater runoff and erosion occurring from the project has been addressed by technical studies and information included in the DEIS.

A preliminary engineering report and water quality study will cover these subject areas. Overall, the project would reduce present erosion and runoff volumes occurring within the Petition Area due to project design measures such as detention basins. Consequently, water quality of Kāwā Stream would actually improve with project implementation and these improvements would have a beneficial effect on Kāneʻohe Bay's water quality

Rockfall hazards associated with the Petition Area have been addressed in a geotechnical study and will be analyzed in the DEIS. Mitigative measures to address rockfall hazard have been incorporated into preliminary project plans.

There is a State-owned hillside parcel adjacently north (makai) of the Petitioner's property, and another large privately-owned property further north. These other hillside properties may be used as part of hiking trails. However, the applicant's large Oneawa hillside property, which includes the Petition Area, is privately-owned, and only authorized access is permitted.

The DEIS addresses the project's relation to the existing Conservation District land use classification, and explains why the proposed project is appropriate. The objective of the Conservation District, General Subzone is to designate open space where specific conservation uses may not be defined, but where urban use would be premature. When created in 1964, those rules allowed many urban uses within the Conservation District, such as residences, recreational facilities, and even commercial uses (e.g. restaurants, hotel). A Conservation Easement proposed for the entire property would ensure no further development would occur beyond what is presently proposed.

3. An invertebrate survey conducted confirmed the endangered damselfly is present within the Petition Area and the small seep that serves as its habitat. The damselfly would not be negatively impacted by the project because the seep would be preserved, and other design measures are proposed to improve the habitat, such as fencing to prevent pigs from impacting that area. The DEIS includes more specific information and details addressing project effects, mitigative measures, and the invertebrate survey report. Therefore, the survival of this species would not be adversely impacted by the project. Furthermore, the applicant plans to coordinate with the U.S. Fish and Wildlife Service to establish a habitat restoration and conservation program that would protect this species along with providing educational opportunities.
4. We understand your concerns about this project due to your proximity to the Petition Area. However, we believe that proposed design measures, best management practices, and other improvements proposed would address your concerns.

Thank you for providing us with your comments on the EISPN and participating in this process. If you have any questions, please contact me at 457-3172 or rsato@hhf.com.

Sincerely,



Ronald A. Sato, AICP  
Sr. Associate

cc: Mr. Jay Morford, Hawaiian Memorial Life Plan, Ltd.



# Hawai'i Construction Alliance

P.O. Box 179441  
Honolulu, HI 96817  
(808) 348-8885

January 9, 2018

VIA EMAIL

Daniel Orodener  
Executive Director, Land Use Commission,  
Department of Business, Economic Development & Tourism  
P.O. Box 2359  
Honolulu, Hawai'i 96804

**RE: EISPN for Hawaiian Memorial Park Cemetery Expansion**

Dear Mr. Orodener,

- #1** The Hawai'i Construction Alliance is comprised of the Hawai'i Regional Council of Carpenters; the Operative Plasterers' and Cement Masons' Union, Local 630; International Union of Bricklayers & Allied Craftworkers, Local 1; the Laborers' International Union of North America, Local 368; and the Operating Engineers, Local Union No. 3. Together, the member unions of the Hawai'i Construction Alliance represent 15,000 working men and women in the basic crafts of Hawai'i's construction industry.
- #2** We thank you for the opportunity to provide these comments in support of the proposed expansion of the Hawaiian Memorial Park in Kāne'ōhe. We are sure that other commenters will discuss how the expansion will provide local families much-needed options for their loved ones through additional burial, internment, and inurnment spaces. We are also sure that other commenters will address how the planned expansion will include a well-managed cultural preserve and keep much of the property in open space. Therefore, we will limit our comments to the positive impacts the proposed expansion plan will have for the local construction industry.
- #3** We are pleased that the EISPN contains some mention of how the proposed plan will benefit the local construction industry, specifically that "the project would generate some short-term construction related jobs as site preparation and infrastructure improvements are implemented and phased over time" (Page 4-3).  
  
We also appreciate the commitment in the EISPN that "the Draft EIS would address the probable effects in greater detail" (Page 4-3). We hope that this more detailed analysis would include an estimate of how many construction jobs would likely be generated — both direct and indirect — and also the wages associated with those jobs.
- #4** In closing, we look forward to reviewing the Draft and Final EIS documents for this project, and thank you once again for the opportunity to provide comments on this much-needed project.

Sincerely,



Tyler Dos Santos-Tam  
Executive Director  
Hawai'i Construction Alliance

cc: Mr. Jay Morford, Hawaiian Life Memorial Plan, Ltd.  
Mr. Ronald Sato, HHH Planners

August 22, 2018

Mr. Tyler Dos Santos-Tam, Executive Director  
Hawai'i Construction Alliance  
P.O. Box 179441  
Honolulu, HI 96817



**SUBJECT:** Hawaiian Memorial Park Cemetery Expansion Project  
Environmental Impact Statement Preparation Notice (EISPN)  
TMK: (1) 4-5-033: por. 001 (Private Property)  
Kāneʻohe, Oʻahu, Hawai'i

Dear Mr. Dos Santos-Tam:

Thank you for the January 9, 2018 letter emailed to Mr. Daniel Orodener, Executive Director of the State Land Use Commission (LUC) providing comments on the Environmental Impact Statement Preparation Notice (EISPN) for the subject project. We have provided responses under numbered subheadings corresponding to your comments.

1. Thank you for the background information on the Hawai'i Construction Alliance, and the diverse membership of workers in the construction industry.
2. The project would provide families with much needed options for the memorialization of family members, and address a significant demand for additional burial plots in the future. Information on the need for this project, proposed improvements, and the proposed Cultural Preserve are discussed in the Draft Environmental Impact Statement (DEIS). We acknowledge and appreciate your letter of support for the proposed project.
3. The DEIS will provide an estimate of the number of construction jobs created and estimated wages generated that would benefit the local construction industry. The DEIS includes more information on construction jobs (direct and indirect) and economic benefits from the project based upon an economic and fiscal study conducted.
4. A copy of the DEIS will be submitted to your organization for review when published.

Thank you for providing us with your comments on the EISPN and participating in this process. If you have any questions, please contact me at 457-3172 or [rsato@hhf.com](mailto:rsato@hhf.com).

Sincerely,

A handwritten signature in black ink that reads "R A Sato".

Ronald A. Sato, AICP  
Sr. Associate

cc: Mr. Jay Morford, Hawaiian Memorial Life Plan, Ltd.

45-423 Ohaha Street  
Kaneohe, HI 96744

HHF Planners  
733 Bishop Street, Suite 2590  
Honolulu, HI 96813  
Attention: Ronald A. Sato, Senior Associate

Re: Hawaiian Memorial Park Expansion Project

January 20, 2018

Dear Mr. Soto,

I disagree with some of the findings supporting the preparation of Hawaiian Memorial Park's EIS Preparation Notice.

**Finding #2 - The expansion of the cemetery would address a growing need for additional burial space:**

Cremation rate in Hawaii is one of the highest in the nation. As our society becomes more environmentally conscious, it is imperative to consider more friendly, green alternatives to interment on an island with limited land use. **What alternatives have you considered to be responsible stewards of our land?**

**Finding #5 - Substantially affects public health - expansion should not generate significant public health and water quality issues:**

The subject of burial practices is shaky since the impact of degradation products from seepage water (from casket wood, steel, concrete vaults, varnishes, sealers and embalmed bodies full of formaldehyde) in cemeteries has not been studied extensively in the United States. **What research have you found to prove that a cemetery in a watershed region is not detrimental to our neighborhood and will not pose a serious threat to our groundwater and drinking supplies?**

**Finding #7 - Involves a substantial degradation of environmental quality:**

HMP's best management practices of landscape management in the past provided no written management plan or systemic record-keeping guide to verify their practices in the past. **How can we trust that HMP will assume long term responsibilities for proper maintenance?**

Measurements and observations suggested that a significant source of turbidity and Total Suspended Solids in Kawa Stream came from a construction project underway in HMP in 2002. **If this does occur again, how long will it take to flush deposited soil completely out of Kawa stream's system?**

I believe the last TMDL assessment for Kawa Stream was conducted in 2005. **How can we obtain a more current assessment to use as a baseline and ensure that future pollutants will not be discharged into Kawa Stream?**

**Finding #10- Detrimentially affect air quality:**

Trees reduce temperatures by 10 degrees in their shade and clean pollution from the air, and help to absorb and store CO2. **How will you revegetate the Petition Area to replace the benefits of the existing forest?**

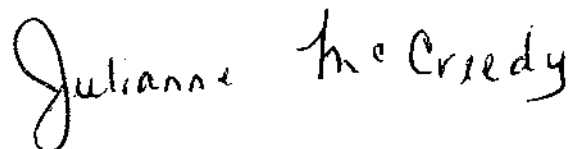
**Finding #11 - Affect or is likely to suffer being located in an environmentally sensitive area:**

A significant portion of the Petition Area is characterized with slopes that are 20% or greater. The slopes located above residences on Ohaha and Lipalu Streets in the Piko'i'loa Subdivision are 30- 65%. Kaneohe Silty Clay on the slopes of the southwest end has runoff from medium to rapid, erosion hazard is moderate to severe. A Fema Flood Zone Report places this area in Zone D, an undetermined Risk Area. This is an unstudied area where flood hazards are undetermined! **How do you justify having to grade such severe slopes when a more logical solution would be to leave this precious conservation land alone?**

The widespread occurrence of potential mosquito breeding sites in retention areas may be significant thus, increasing the risk of West Nile and Zika viruses. **How do you plan to offset the possibility of mosquito larvae?**

Looking forward to your responses.

Sincerely,



Julianne McCreedy



August 22, 2018

Ms. Julianne McCreedy  
45-423 Ohāhā Street  
Kāneʻohe, HI 96744

**SUBJECT:** Hawaiian Memorial Park Cemetery Expansion Project  
Environmental Impact Statement Preparation Notice (EISPN)  
TMK: (1) 4-5-033: por. 001 (Private Property)  
Kāneʻohe, Oʻahu, Hawaiʻi

Dear Ms. McCreedy:

Thank you for the January 20, 2018 letter providing comments on the Environmental Impact Statement Preparation Notice (EISPN) for the subject project. We note your disagreement with some of the information from the EISPN, and have provided responses under numbered subheadings corresponding to your comments.

**Finding #2:** We acknowledge that Hawaiʻi has a high rate of cremation which is primarily due to the large Asian-descendant resident population. However, the primary disposition of deaths are still by cremation or in-ground burial, both of which still require burial plots and the need for cemetery space. The applicant has been, and will continue to be a responsible steward of their property. The Draft Environmental Impact Statement (DEIS) discusses project improvements supporting responsible stewardship efforts. This includes establishing a Cultural Preserve for historic sites and cultural practices, coordinating with the U.S. Fish and Wildlife Service to establish a habitat restoration and conservation program for endangered damselfly habitat, and establishing a Conservation Easement that would prevent further development beyond that proposed by this project. Alternatives to achieve the purpose and need for the project and the rationale for forgoing these alternatives have been considered and will be addressed in the DEIS.

**Finding #5:** The project would not have a significant negative impact on public health and water quality, and the DEIS addresses these areas, including technical studies prepared for this EIS. Water quality samples collected and examined showed no significant impact on groundwater from the existing Hawaiian Memorial Park (HMP) and Hawaiʻi State Veterans Cemetery from products such as formaldehyde. The procedures implemented for in-ground burials utilize concrete vaults that prevent fluids from leaching into the ground. Furthermore, cremations presently account for over 70% of burial dispositions, which further reduces the potential for fluid leakage issues. A groundwater study and other information in the DEIS discusses that the Petition Area is not located above an important aquifer for groundwater. Therefore, project improvements do not pose a threat detrimental to groundwater.



**Finding #7:** HMP has been operated successfully since 1958, and the cemetery's operation has not resulted in substantial degradation of environmental quality. The current landscaping associated with the cemetery is in good condition reflecting the effective management and landscaping practices of HMP and its staff. The condition of the cemetery has contributed to its popularity and desirability by families. Thus, discussing their landscape operations management plan or record keeping is not required to evaluate the cemetery expansion's environmental effects. Furthermore, HMP is audited annually by the State Department of Commerce and Consumer Affairs to ensure they are financially sound to manage and operate the cemetery. After construction, additional maintenance personnel are anticipated to be hired to ensure the cemetery expansion area is properly maintained. The Petitioner has proven to be responsible in the proper maintenance of HMP.

We are not aware of a HMP construction project in 2002 that contributed to turbidity and suspended solids discharged into Kāwā Stream. The Petition Area does presently experience erosion during heavy rainfall that contributes suspended solids (soils) into Kāwā Stream. The DEIS includes a water quality study that documents existing erosion and impacts on Kāwā Stream. Suspended solids are typically transported as part of stormwater runoff and discharged into receiving waters. As runoff subsides and water dries up, these suspended solids could remain in a stream bed. However, such solids would likely be transported and discharged during the next rain event that causes stormwater to flow in the stream.

Total Maximum Daily Load (TMDL) standards for Kāwā Stream were established in 2005 by the State Department of Health. The DEIS includes a water quality study that provides updated information on Kāwā Stream. Future pollutants would continue to be discharged into Kāwā Stream as part of stormwater runoff from adjacent and upland areas. Such pollutants come from erosion of upland areas and from urban development such as existing residences.

**Finding #10:** Trees do provide some benefits with shade and absorbing carbon dioxide. However, the extensive forest canopy associated with the Petition Area prevents ground cover and other surface vegetation from growing due to reduced sunlight that enhances exposed soils and increased erosion. The DEIS discusses existing erosion occurring from such conditions. The proposed cemetery expansion would be landscaped with turf grass. Vegetation within the Cultural Preserve would remain similar to existing conditions. Although vegetative characteristics of the area would change, the landscaped turf grass would provide beneficial effects by reducing erosion and discharge of debris, and improve storm water infiltration. The loss of the forest canopy would have negligible impact on air quality as surrounding areas of the larger property outside of the Petition Area would remain.

**Finding #11:** Portions of the Petition Area do have steeper slopes. The characteristics of the Kāne'ōhe Silty Clay found within the Petition Area will be discussed in further detail in the DEIS. Grading improvements to establish topographic conditions appropriate for gravesite development would not have slopes greater than 20%. Proposed grading improvements are based upon geotechnical engineering recommendations and necessary mitigative measures. Preliminary design recommendations are identified in the DEIS. Grading

improvements would reduce existing steeper slopes, reduce runoff velocity, and allow for improved stormwater management of the site.

The flood zone designation for the majority of the Petition Area is Zone D, defined as areas where flood hazards are undetermined, but possible. Smaller areas adjacent to residences are within Zone X designated for areas outside both the 100-year flood and 500-year flood. The DEIS will discuss the project's effect on flooding in more detail.

Detention basins would be designed to include outlets allowing complete drainage within 48 hours when full and within 24 to 36 hours when half full. HMP plans to add additional maintenance personnel for the cemetery expansion area to manage monitoring and properly maintaining detention basins. The Petition Area's existing forest canopy currently provides habitat that supports a large population of mosquitos. Proposed open landscaped lawn would reduce this habitat and levels of mosquito, having a beneficial effect regarding your concern with potential viruses.

Thank you for providing us with your comments on the EISPN and participating in this process. If you have any questions, please contact me at 457-3172 or rsato@hhf.com.

Sincerely,



Ronald A. Sato, AICP  
Sr. Associate

cc: Mr. Jay Morford, Hawaiian Memorial Life Plan, Ltd.

Rich McCreedy  
45-423 Ohaha Street  
Kaneohe, HI 96744

1-19-18

HHF Planners  
733 Bishop Street, Suite 2590  
Honolulu, HI 96813  
Attention: Ronald A. Sato, Senior Associate

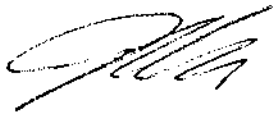
Re: Hawaiian Memorial Park Expansion Project

Mr. Ronald A. Sato

- #1 I wish to comment regarding chapter 2.1 of the EISPN that discusses the inventory of the plots being exhausted in the existing 80 acres cemetery. I would like to get more information on the details that support the statement "As of June 2017, HMP has sold over 94% percent of available burial plots, "
1. In the existing cemetery, how many total plots are there?
  2. How many plots have single caskets?
  3. How many plots have two or double depth caskets ?
  4. How many plots have a combination of caskets and cremated remains in urns?
  5. What is the maximum number of cremains the existing cemetery allows per plot?
  6. If a family already owns a plot with one or two caskets interred, how many cremains are allowed per plot?
- #2 In Chapter 2 Project Objectives, I wish to dispute the statement "Without proper planning for the future, Hawai'i residents could easily face a shortage of cemetery space in the near future." Valley of the Temples cemetery in Kaneohe is a 240 acre cemetery and has many acres of available space.
- #3 As a planning and land use policy, the windward side already has enough land devoted to cemeteries. There is Valley of the Temples 240 acres, HMP 80 acres, Greenhaven Memorial Park 6.4 acres, and the State Veterans Cemetery 56 acres. The total acreage for the windward side is 382 acres. If more cemetery space is truly needed, then new developments such as Ho'Opili and Kapolei should include cemeteries in their plans. There are also many acres of suitable former agriculture lands in the center of the island that would be much easier to develop than a steep hillside in Kaneohe.
- #4 The residents of our neighborhood on Ohaha St, Ohaha Place, and Lipalu St directly abut the proposed development. We are concerned about negative impacts from this development, and if it were allowed to proceed, how do we know that HMP will continue to be a viable business that will be able afford to maintain the cemetery and the proposed water run off mitigations. HMP should provide their business plan in the EIS.

- #5 Does HMP have enough money in their perpetual care account to maintain the present 80 acre cemetery? Is the proposed expansion necessary to fund their present operations? If this proposed development is allowed to proceed, what happens when they eventually run out of space?
- #6 The island of Oahu is already running out of space. We cannot afford to use this valuable hillside for a cemetery for casketed burials in perpetuity. If there is no option to ever use that land more efficiently or for other uses, our society will regret the short sighted choices we make today. We need to adopt more sustainable ways to deal with people at the end of their life.

Sincerely,

A handwritten signature in black ink, appearing to read 'Rich McCreedy', with a stylized, cursive script.

Rich McCreedy



August 22, 2018

Mr. Rich McCreedy  
45-423 Ohāhā Street  
Kāneʻohe, HI 96744

**SUBJECT:** Hawaiian Memorial Park Cemetery Expansion Project  
Environmental Impact Statement Preparation Notice (EISPN)  
TMK: (1) 4-5-033: por. 001 (Private Property)  
Kāneʻohe, Oʻahu, Hawaiʻi

Dear Mr. McCreedy:

Thank you for the January 19, 2018 letter providing comments on the Environmental Impact Statement Preparation Notice (EISPN) for the subject project. We have provided responses under numbered subheadings corresponding to your comments.

1. The Draft Environmental Impact Statement (DEIS) includes information on Hawaiian Memorial Park's (HMP) existing conditions, particularly a market study prepared for this project. Responses to your six numbered questions are provided below.
  - a. There are approximately 79,000 burial plots in the existing HMP cemetery.
  - b. The memorialization of persons within a burial plot is dependent on the desires of the plot owner and family members. Although HMP has a record of persons buried there, the final disposition of the person is not known. Furthermore, detail on the number of existing caskets and urns is not pertinent in establishing that HMP is running out of available burial plots. A burial plot could have up to a maximum of two caskets (in-ground burials).
  - c. Please refer to response No. 1.b.
  - d. Burial plots may contain a combination of one casket, and up to two urns for cremains.
  - e. A burial plot may have up to four urns.
  - f. No urns are allowed within a burial plot that already has two caskets. Up to two urns may be added to a plot that has just a single casket.
2. A market study was conducted for the proposed project (to be included in the DEIS) to assess existing and future market conditions for burial space on Oʻahu. This study demonstrated a strong need for additional burial space on Oʻahu over the next 20 years. Existing and proposed burial spaces at other Oʻahu cemeteries, including the Valley of the Temples cemetery, are considered in this analysis.
3. With regard to planning and land use policy, there is no requirement that places a limit on land available for cemetery use. Land use is based upon several factors such as market conditions and demand, site conditions, climate, and accessibility via transportation systems. The windward district has been a popular choice and for cemetery location, with the Valley of the Temples and HMP/Hawaiʻi State Veterans Cemetery located in the region due to its favorable characteristics.

As with the National Cemetery of the Pacific (Punchbowl), the Hawai'i State Veterans Cemetery is only available for veterans of military service and one other immediate family member (usually a spouse); therefore, the majority of O'ahu's population cannot use that site for family burials. Greenhaven Memorial Park in Kāne'ohe is also full. Furthermore, the proposed cemetery expansion is permitted and designated for such land use by the City's *Ko'olaupoko Sustainable Community Plan*.

More cemetery space is needed for the future as discussed in the DEIS and supported by the market study. Other developments such as Ho'opili and Kapolei could include cemeteries in their plans, but chose not to do so because of other land use priorities, such as residential housing, commercial development, etc. Landowners of agricultural property in central and leeward O'ahu could similarly develop cemeteries if they desired, but choose not to do so. Developing, managing, and operating a cemetery requires unique expertise, experience, and commitment over the long-term because it is not a typical development or business.

4. The project would have some environmental impacts associated with grading improvements within the Petition Area. However, there are sufficient mitigative measures proposed to address concerns with proposed improvements. Other components of the project would improve existing conditions, particularly native Hawaiian cultural practices, endangered species, and stormwater runoff and water quality.

HMP has been operating successfully since 1958 and is a member of the Dignity Memorial Network, an award winning nationwide network of funeral service providers. Given the Petitioner's history of operation and affiliation with the Dignity Memorial Network, HMP would continue to be successfully operated into the future. The DEIS will include pertinent information on the Petitioner's ability to continue operating HMP and the proposed cemetery expansion.

5. HMP is adequately funded to continue maintenance of their cemetery, including the proposed expansion. The cemetery expansion is not necessary to fund existing operations. HMP is audited annually by the State Department of Commerce and Consumer Affairs to ensure they are financially sound to manage and operate the cemetery. The well maintained cemetery is evidence of HMP's successful financial responsibility and management of the property, which has contributed to its popularity and desirability by families. When all burial plots are eventually sold, their perpetual care account would support continued management and maintenance of the cemetery.
6. The island of O'ahu has considerable area to support development and improvements for the future needs of residents. As previously discussed, the DEIS presents the purpose and need for this project to meet the long-term needs of Hawai'i families. The cemetery expansion area would provide both in-ground caskets and memorialization of cremains. The proposed use of the Petition Area reflects a reasonable and efficient use of the property to support an important community need. The primary disposition of deaths are still by cremation or in-ground burial, both of which require burial plots and the need for cemetery space. The applicant has been, and will continue to be a responsible steward of their property.



Mr. Rich McCreedy

Page 3

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Thank you for providing us with your comments on the EISPN and participating in this process. If you have any questions, please contact me at 457-3172 or [rsato@hhf.com](mailto:rsato@hhf.com).

Sincerely,

A handwritten signature in black ink, appearing to read "R A Sato". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Ronald A. Sato, AICP  
Sr. Associate

cc: Mr. Jay Morford, Hawaiian Memorial Life Plan, Ltd.

January 15, 2018

HHF Planners  
733 Bishop St  
Honolulu, Hawaii 96813

re: Hawaiian Memorial Park Cemetery Expansion Project

To whom it may concern:

#1 I am writing this letter to submit my concerns in response to the Environmental Impact Statement Preparation Notice (EISPN) of November 2017. I also submitted my concerns regarding the original Environmental Impact Statement almost 10 years ago and find it very disheartening that your company would continue to pursue changing the zoning in our neighborhood when we clearly expressed our opposition to any development in the conservation area. While the scope of your proposed development has been minimized the same issues remain. These issues were acknowledged by the Land Use Commission in 2009 when they denied your initial request:

**Risks of runoff and erosion** – “for Kaneohe Silty Clay, runoff is medium to rapid and the erosion hazard is moderate to severe.”

**Rockfall hazard to neighborhood** – the grading proposed in new plan requires steeper grading than the prior plan.

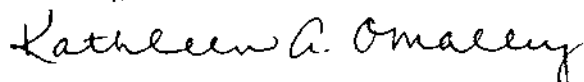
**Destroy the scenic area** - the Ko’olau Greenbelt would still be negatively impacted.

**Adverse water quality of Kaneohe Bay** – development of the Petition Area would still result in the removal of the secondary forest and a change to both runoff and chemical loads exiting the Kawa Stream watershed.

#2 Additionally, since the original EIS, was written, a previously unknown population of an endangered species has been discovered in the Petition Area. The population of the Blackline Hawaiian Damsel fly was confirmed by the State DLNR, Division of Forestry and Wildlife and the US Fish and Wildlife Service. The EISPN states, “Technical studies will be conducted for the Draft EIS to address the presence of potential species in greater detail.” No reference is made to proposed protections which would be absolutely necessary given the location of the one identified population and the deforestation and gradation processes involved in the project.

#3 A fourth generation of my family is now living in our home on Ohaha Street which is adjacent to the petition area. My parents bought this house with the understanding that part of our lot and the surrounding area was conservation land. We wanted it that way then and we want it that way forever. We must protect our natural resources.

Sincerely,



Kathleen O'Malley

CC: State of Hawaii Land Use Commission  
Dept. of Business, Economic Dev. & Tourism

August 22, 2018



Ms. Kathleen A. O'Malley  
45-426 Ohāhā Street  
Kāneʻohe, HI 96744

**SUBJECT:** Hawaiian Memorial Park Cemetery Expansion Project  
Environmental Impact Statement Preparation Notice (EISPN)  
TMK: (1) 4-5-033: por. 001 (Private Property)  
Kāneʻohe, Oʻahu, Hawaiʻi

Dear Ms. O'Malley:

Thank you for the January 15, 2018 letter providing comments on the Environmental Impact Statement Preparation Notice (EISPN) for the subject project. We have provided responses under numbered subheadings corresponding to your comments.

1. We acknowledge your continued concerns about this project, even with the smaller Petition Area. The applicant is pursuing this project with modifications to prior plans, because there is a need for more burial plots to serve Oʻahu well into the future. Hawaiian Memorial Park (HMP) serves the needs of residents and memorialization of families. Because HMP is running out of available burial plots, there is an urgent need to expand the cemetery. Different burial disposition alternatives, such as cremation or in-ground burials, still require burial plots and the need for cemetery space.

The reasons for the Land Use Commission's prior denial are being addressed by technical studies and information included in the Draft Environmental Impact Statement (DEIS). Your specific areas of concern are addressed below.

- Runoff and erosion risks will be addressed in the DEIS, including a preliminary engineering report and water quality study. Overall, the project would reduce erosion and runoff volumes occurring within the project site due to proposed design measures included such as detention basins. Description and characteristics of the Kāneʻohe Silty Clay will be discussed in the DEIS.
- Rockfall hazards associated with the Petition Area have been addressed by a geotechnical study and will be discussed in the DEIS. Mitigative measures for rockfall hazards have been incorporated into preliminary project plans. Proposed grading improvements will establish topographic conditions appropriate for gravesite development, and would not have slopes greater than 20%. Grading improvements would reduce slopes, reduce stormwater runoff velocity, and allow for improved stormwater management of the site.
- The portion of the Koʻolau Greenbelt applicable to Kāneʻohe encompasses the transition area between the Koʻolau Mountain Range and district valleys and coastal plains. As discussed in the 2017 *Koʻolaupoko Sustainable Communities Plan*, much of this area is presently undeveloped or used for open space purposes. The Petition Area is not located

- within this transitional area. The project's impact to scenic resources have been assessed and will be discussed in the DEIS.
- Water quality of Kāwā Stream would be improved by the proposed project due to design measures included in project plans, such as detention basins. Runoff volumes and current erosion would also be reduced, with a beneficial effect on Kāne'ōhe Bay's water quality. A water quality study to be included in the DEIS discusses these subjects in greater detail. Although vegetative characteristics of the canopy forest area would change, the landscaped turf grass would provide beneficial effects by reducing erosion and discharges of debris, and improve infiltration of stormwater runoff. The extensive forest canopy associated with the Petition Area reduces ground cover from growing due to reduced sunlight. Reduced groundcover contributes to exposed soils and increased erosion.
2. An invertebrate survey prepared for this EIS identified the endangered damselfly and the small seep that serves as its habitat. This species would not be negatively impacted by the project because the seep would be preserved, and other design measures are proposed to improve the habitat, such as fencing to prevent feral pigs from impacting that area. The DEIS will include more specific information and details addressing project effects, mitigative measures, and the invertebrate survey report. Therefore, the survival of this species would not be adversely impacted by the project. Furthermore, the applicant plans to coordinate with the U.S. Fish and Wildlife Service to establish a habitat restoration and conservation program for this damselfly habitat that would protect this species along with providing educational opportunities.
  3. The Applicant was not involved or associated with the circumstances in the purchase of your home. As homeowners are entitled to use their property to serve their needs, other property owners similarly have the right to use their property. The Applicant is serving as a responsible steward of the Petition Area and natural and cultural resources. The proposed project is designed with consideration of these resources and includes mitigative measures to minimize impacts. There is a need for more burial space to serve O'ahu and its families in the future.

Thank you for providing us with your comments on the EISPN and participating in this process. If you have any questions, please contact me at 457-3172 or [rsato@hhf.com](mailto:rsato@hhf.com).

Sincerely,



Ronald A. Sato, AICP

Sr. Associate

cc: Mr. Jay Morford, Hawaiian Memorial Life Plan, Ltd.

January 22, 2018

Nathan Yuen  
91-233 Hanapouli Cir #29T  
Ewa Beach, Hawaii 96706  
Email: 808nateyuen@gmail.com

HHF Planners  
733 Bishop Street #2590  
Honolulu, HI 96813

Ronald A. Sato, AICP, Senior Associate  
email: rsato@hhf.com  
457-3172

**With a copy to:**

Mr. Scott Derrickson  
State of Hawaii  
Land Use Commission  
Department of Business, Economic Development and Tourism  
PO Box 2359  
Honolulu, HI 96804

Project: Docket Number: A17-804  
Hawaiian Memorial Park Cemetery Project  
Kane'ohe District, O'ahu, Hawaii  
(1) 4-5-033: por.001 (Private Property)

Dear Sir or Madam:

#1 I am responding to the Environmental Impact Statement Preparation Notice by Hawaiian Memorial Park.

I work as an accountant for an engineering consulting firm during the week but on the weekends I become an amateur naturalist, hiker, and photographer. For the past 20 years I have been venturing to remote parts of our islands to photograph the native plants and animals of the Hawaiian Islands many of which are rare or endangered. I have a blog – HawaiianForest.Com – which documents some of the rarest species on the planet.

I served as a commissioner for the State of Hawaii's Natural Area Reserves System (NARS) Commission administered by the Department of Land and Natural Resources from 2013 to 2017. I currently serve as Conservation Chair for the Sierra Club of Hawaii Executive Committee. I am also a member of the Hawaiian Entomological Society.

#2 In this matter, I am acting on my personal behalf as a private citizen. I was involved in the initial discovery and confirmation of the population of Blackline Hawaiian Damselflies — *Megalagrion nigrohamatum nigrolineatum* – on conservation land owned by Hawaiian Memorial Park.

My friend Patrick Shea was a candidate for State House of Representatives District 49 in the 2016 election. In June 2016, Patrick met Liam Gray while canvassing the homes on Ohaha Street. Liam told Patrick that he discovered a previously unknown population of endangered Blackline Hawaiian Damselflies in the backyard of Ernest and Bettye Harris on Ohaha Place who live adjacent to the land owned by Hawaiian Memorial Park. Patrick asked whether I could confirm the find and made arrangements for Liam to take us to the site.

On June 26, 2016, Liam Gray took me and several windward residents – Patrick Shea, Grant Yoshimori, Caitlyn Yoshimori, Rich McCreedy, and Julie McCreedy – to see the endangered damselflies. I was surprised to see these damselflies in Kāneʻohe. I had previously only seen this species of damselflies in native forests and streams above 2,000 feet elevation in the Koʻolau Mountain. I did not expect to see them at this low elevation in Kāneʻohe under alien trees – schefflera, albezia, strawberry guava, and other non-native vegetation.

#3 The Pukui/ Elbert Hawaiian dictionary has an intriguing entry for this damselfly — pinapinao ānuenuenu — the rainbow-eye damselfly.



*This is the most common morph for males — it has big round eyes that are red, green, and yellow, a orange-yellow-black thorax, and a segmented abdomen with a red tip.*

I have taken many photos of these damselflies at the low elevation site in Kāneʻohe. There are multiple morphs (color patterns) for both male and female damselflies. One of the morphs has a



three colored-eye. The name pinapinao ānuenuē — the rainbow-eye damselfly – is appropriate for this colorful insect.



*This is the most common female morph – the eyes are red on top and blue on the bottom.*

**#4** I contacted Hawaiian damselfly expert Dan Polhemus at the US Fish & Wildlife Service and brought him to the site. He did the research to get this and several other damselfly species listed as endangered species. Dan Polhemus confirmed that this was a previously unknown population of Blackline Hawaiian Damselflies — *Megalagrion nigrohamatum nigrolineatum*. Dan was also surprised to see these damselflies at this low elevation. He said that this species is endemic only to O‘ahu and once inhabited the streams and wetlands throughout the island at all elevations. But they are rare today with less than 1,000 estimated to remain.

Blackline Hawaiian Damselflies are on the federal list of endangered species. Loss of habitat and predation by invasive species are the biggest reasons for their decline. Today they are found at high elevations in the Ko‘olau Mountains except for this population in Kāne‘ohe. For some reason this population managed to survive at low elevation.

**#5** This population of damselflies exists because of a seep – a small fresh water spring – that trickles down a shallow ravine and creates a miniature wetland where they breed. This habitat is crucial to the survival of this remnant population of low-elevation rainbow-eye damselflies. If the habitat is destroyed or otherwise adversely affected, this population of damselflies will likely cease to exist.



*A rival male darts in to interrupt a pair of mating rainbow-eye damselflies.*

#6 The proposed cemetery expansion is likely to adversely affect this population of damselflies. It is my understanding that Hawaiian Memorial Park is required to develop a habitat conservation plan to protect these endangered insects. The plan would need to address several issues important to the continuation of this unique population of damselflies.

Of greatest concern is that the proposed cemetery expansion could disrupt the ground water hydrology of the area and cause the seep to stop flowing. The damselfly population cannot survive without water flowing in their habitat.

#7 Another big concern is run-off from the construction or operation of the expanded cemetery could destroy the habitat or introduce fertilizers/pesticides that harm the damselflies. Also studies have shown that the decomposition of human bodies could introduce arsenic and other toxins into the ground water adversely affecting water quality in the seep.

#8 It is also important to establish a sufficient buffer between the expanded cemetery and the damselfly habitat so they continue to exist and breed at the seep without disruption and interference by humans.



*After the female is fertilized the pair fly to water where she curls her abdomen and lays eggs in the seep.*

- #9 The discovery of this previously unknown population of low elevation Blackline Hawaiian Damselflies in Kāneʻohe is a remarkable and significant find. Rainbow damselflies are an endangered species found only on Oʻahu and are unique to the natural history and heritage of Kāneʻohe. The low elevation habitat for these damselflies needs to be protected to ensure their survival into the future.
- #10 Thank you for this opportunity to protect these damselflies. I would appreciate being placed on your distribution list so I can participate in this proceeding through the various stages of the process.

Sincerely,

A handwritten signature in black ink that reads "Nathan Yuen".

Nathan Yuen



August 22, 2018

Mr. Nathan Yuen  
91-233 Hanapouli Cir #29T  
Ewa Beach, Hawai'i 96706



**SUBJECT:** Hawaiian Memorial Park Cemetery Expansion Project  
Environmental Impact Statement Preparation Notice (EISPN)  
TMK: (1) 4-5-033: por. 001 (Private Property)  
Kāneʻohe, Oʻahu, Hawai'i

Dear Mr. Yuen:

Thank you for the January 22, 2018 letter providing comments on the Environmental Impact Statement Preparation Notice (EISPN) for the subject project. We have provided responses under numbered subheadings corresponding to your comments.

1. Thank you for sharing your background, involvement with community organizations, blog, and interest with rare and endangered plants and animals.
2. We confirm your comment letter is being written as a private citizen commenting on this project, and acknowledge your discovery and confirmation of a population of endangered Blackline Hawaiian Damselflies within the Petition Area associated with the Memorial Park (HMP) property. However, it should be noted that the HMP property is privately-owned, and trespassing is not permitted. Only persons with authorized access granted by the Petitioner are permitted onto this property. Our understanding is that such authorization was never requested or provided by the Petitioner.

We note your discussions with Ohaha Street and Ohaha Place residents identified regarding the endangered damselfly. It appears those residents took you on to the Petitioner's property, without prior landowner authorization and notification, to view these damselflies. The tree types noted in your description are within the Petitioner's HMP property and not within other private residences.

3. We appreciate your photos and information provided on the Blackline Hawaiian damselfly population.
4. We note that you contacted the U.S. Fish and Wildlife Service about the endangered damselfly and brought the person onto the privately-owned HMP site. Again, our understanding is that authorization for access was not requested or granted by the Petitioner. We appreciate the information describing the damselfly.

5. The damselfly habitat does consist of a seep within the Petitioner's property that flows and drains into a City drainage catch basin bordering an adjacent residence. However, the seep does not create a miniature wetland. A botanical study conducted for the Petition Area did not identify this area as being a wetland. We concur that this seep habitat is important for the survival of this damselfly population.

6. An invertebrate survey prepared for the DEIS identified the endangered damselfly and the small seep that serves as its habitat. The DEIS will also include information and studies related to groundwater hydrology, drainage conditions, and water quality. The damselfly habitat would not be impacted by the proposed project because that seep area would be preserved, and design measures are proposed to protect the habitat, such as fencing to prevent access for feral pigs. The DEIS includes more specific information and details addressing project effects, mitigative measures, and also includes the invertebrate survey report. Therefore, the survival of this species would not be adversely impacted by the project.

A habitat conservation plan is not required for this habitat. Furthermore, the applicant plans to coordinate with the U.S. Fish and Wildlife Service to establish a habitat restoration and conservation program for this habitat that would support protection of this species and provide educational opportunities.

7. Runoff from construction activities would be mitigated by best management practices, which will include detention basins. The seep is located within an existing drainageway that eventually discharges into a nearby City catch basin. Stormwater runoff currently discharges through this area, particularly during heavier storms. Proposed grading plans would direct stormwater runoff away from the seep site using retaining walls and detention basins. Therefore, fertilizers and herbicides should not adversely affect this site or the damselflies.

Water quality samples collected and examined showed no significant impact on groundwater from the existing Hawaiian Memorial Park (HMP) and Hawai'i State Veterans Cemetery from chemicals such as formaldehyde. A groundwater study and other information in the DEIS describes that the Petition Area is not located above an important groundwater aquifer. Therefore, project improvements would not pose a threat or be detrimental to groundwater.

8. A sufficient buffer would be established around the seep habitat that would include fencing to restrict access for feral pigs. Cemetery expansion areas would be located away from the seep area. Physical intrusion from cemetery visitors is not expected.

9. Coordination with the U.S. Fish and Wildlife Service to establish a habitat restoration and conservation program would support species protection and educational opportunities.

10. Thank you for providing us with your comments on the EISPN. We will add you to the distribution list of the DEIS when it is published for review.

Mr. Nathan Yuen

Page 3

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Thank you for providing us with your comments on the EISPN and participating in this process. If you have any questions, please contact me at 457-3172 or [rsato@hhf.com](mailto:rsato@hhf.com).

Sincerely,

A handwritten signature in black ink, appearing to read "R A Sato". The letters are cursive and somewhat stylized.

Ronald A. Sato, AICP  
Sr. Associate

cc: Mr. Jay Morford, Hawaiian Memorial Life Plan, Ltd



# APPENDIX **B**

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*Market Study, Economic Impact Analysis, and Public  
Fiscal Assessment of the Proposed Hawaiian  
Memorial Park Expansion Project – July 2018*

*Prepared by: CBRE*



# MARKET STUDY, ECONOMIC IMPACT ANALYSIS, AND PUBLIC FISCAL ASSESSMENT OF THE PROPOSED HAWAIIAN MEMORIAL PARK EXPANSION PROJECT

45-425 Kamehameha Highway  
Kaneohe, Hawaii 96761  
CBRE, Inc. File No. 17-251LA-3048-2

Scott Ezer  
HHF PLANNERS  
733 Bishop St, Suite 2590  
Honolulu, Hawaii 96813

[www.cbre.com/valuation](http://www.cbre.com/valuation)

**CBRE**





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July 25, 2018

Scott Ezer, Principal-in-Charge  
Vice President  
HELBER, HASTERT & FEE, PLANNERS, Inc.  
Pacific Guardian Center, Makai Tower  
733 Bishop Street, Suite 2590  
Honolulu, Hawaii 96813

**RE: Market and Econometric Studies of the  
Proposed Hawaiian Memorial Park Expansion  
45-425 Kamehameha Highway  
Kaneohe, Hawaii 96744  
CBRE, Inc. File No. 17-251LA-3620**

Dear Mr. Ezer:

At your request, we have completed a series of market and econometric analyses associated with the proposed Hawaiian Memorial Park (HMP) expansion, a 53.45-acre project intended to supplement the existing 80-acre facility located makai of Kamehameha Highway at the southerly edge of the Kaneohe community, Oahu, Hawaii, approximately 10 miles east of Downtown Honolulu. The land uses and approximate acreages are summarized below.

<b>PROPOSED HMP EXPANSION LAND USES AND ACREAGES</b>	
<b>Land Use</b>	<b>Approximate Acreage</b>
Cemetery Expansion Area	28.20
Internal Roadways	3.00
Cultural Preserve	14.50
Open Space Areas	7.75
<b>Total</b>	<b><u>53.45</u></b>
Source: Hawaiian Memorial Park Expansion Project Environmental Impact Statement, page 2-4	

HMP, opened in 1958 on a panoramic site overlooking Kaneohe Bay and the Koolau Pali, has some 79,200 total burial plots, of which more than 73,000 have been sold with more than 41,000 burials to date. The goal of the expansion is to provide continuing interment opportunities for the families of those in the original phases and other Oahu residents in a desirable, central and easily

accessible location within a well-maintained cemetery. The proposed project is expected to have space for an additional 28,000 to 30,000 burials.

The project area is part of a larger parcel comprising 164.42 acres and identified on State of Hawaii tax maps as First Division, 4-5-3, Parcel 1, and containing the existing "Ocean View Garden" section of the memorial park (7.9 acres) and 103.07-acres of open space. The petition area terrain is gently to moderately sloping, with small gulches, and range in elevation from some 200 feet to 420 feet above sea level.

The expansion project is located east of the existing HMP facility and will be connected by internal roadways. Infrastructure is forecast to be completed in 2020 with plot sales and interments commencing in 2021.

The petition area is currently within the "Conservation District" on State of Hawaii Land Use Maps and will require reclassification to the "Urban District. The petition area will ultimately be reclassified to "P-2- Preservation District" for City and County of Honolulu zoning purposes. It is outside the Special Management Area.

The purpose of this study is to determine if there is a need within the Oahu market for additional burial opportunities beyond the existing and proposed supply at other locations, and to quantify the economic and fiscal impacts to the island and State resulting from its development.

Our study is primarily comprised of three elements:

1. **Market Study.** To ascertain whether there will exist sufficient demand in the Oahu burial/interment "market" to successfully absorb the finished HMP inventory in a timely manner given its characteristics and those of competing in-place and proposed cemetery development.
2. **Economic Impact Analysis.** To estimate the general and specific effects on the local economy which will result from the expansion of HMP, including capital investment, construction and on-going maintenance employment, worker wages, and other regional monetary and employment effects.
3. **Public Cost/Benefit Assessment.** To quantify the impact on the public purse arising from the subject project in new tax/fee revenues received versus any new costs which will be borne by the State of Hawaii and Honolulu County due to the project's actualization.

Pertinent results are presented in the following report, which opens with an Executive Summary describing our salient conclusions. The remainder of the report is comprised of a series of brief discussion and introduction of addenda exhibits containing the tabular presentation of data, analysis, and modeling for each aspect of the assignment.

The purpose of study was to provide current market data, subject product absorption estimates, economic and fiscal modeling, and an analysis of probable impacts on the Kaneohe/Oahu community resulting from the build-out of the proposed HMP expansion for inclusion in submittals in the on-going entitlement process of the project.

As part of the investigation and analysis we have:

- Inspected the subject property and its environs;

- Reviewed federal, state and county materials, statistics, policies and publications on the burial industry;
- Researched Oahu demographic trends regarding resident population totals, aging, mortality rates, and choice of interment alternatives;
- Completed a study on the Oahu cemetery/memorial park market sector focusing on historic and projected supply of burial spaces, costs, location and other competitive traits.
- Interviewed knowledgeable parties active in the Oahu cemetery/memorial park industry;
- Accessed on-line databases;
- Compiled materials from published and private sources, and our files;
- Assessed the competitiveness of the HMP expansion product within the Oahu market;
- Estimated the probable absorption of the HMP expansion inventory using various methods.

There were no extraordinary or hypothetical assumptions made for this analysis beyond the assumption the HMP Expansion are was entitled and developed as proposed.

All conclusions presented herein are subject to the identified limiting conditions, assumptions, and certification of CBRE, Inc/Hallstrom Team., in addition to any others specifically set forth in the text.

We appreciate the opportunity to be of service to HHF Planners and Hawaiian Memorial Life Plan LTD., regarding this prominent holding and needed project.

Please contact us if further discussion or detail is required. It has been a pleasure to assist you in this assignment. If you have any questions concerning the analysis, or if CBRE can be of further service, please contact us.

Respectfully submitted,

CBRE - VALUATION & ADVISORY SERVICES



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Tom Holliday, CRE, FRICS  
Director

Phone: (808) 541-5120

Fax: (808) 541-5155

Email: Tom.Holliday@cbre.com



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### ADDENDA

- A MARKET STUDY AND ABSORPTION TABLES
- B ECONOMIC IMPACT ANALYSIS TABLES
- C PUBLIC FISCAL (COST BENEFIT) ASSESSMENT TABLES



## EXECUTIVE SUMMARY

### INTRODUCTION

Since 1958, Hawaiian Memorial Park (HMP), a privately-owned cemetery has served the resident population of Kaneohe and Oahu, expanding from its initial size of 6 acres to its present extent of 80 acres. It is currently the final resting place for over 41,000 persons, having a potential total of 79,200 burial spaces, with some 73,000 sold to date.

To service the coming generations of those interred at HMP, as well as meet the expanding need for additional burial opportunities on Oahu over the mid to long-term, ownership is pursuing an expansion plan on 53.45 acres (the “petition area”) within a larger 164.42 acre mostly open space larger parcel. As currently envisioned, site work/infrastructure emplacement would be completed in 2020, with sales and interments commencing in 2021.

Cemetery uses will only utilize about 28.2 acres of the Petition Area, with the remainder used for a cultural preserve, open spaces and internal/connector roadways.

In addition to servicing the aspirations of family members and friends to be near those dear to them on an everlasting basis, the HMP expansion site is highly desirable from a market perspective, with:

- Exceptional panoramas stretching for miles along the Koolau Pali, encompassing the hills of Mokapu Peninsula and the waters of Kaneohe Bay.
- Feelings of serenity enhanced by a surrounding buffer of dense rain forest flora and open spaces and insulation from future intruding land uses.
- Gently flowing terrain creating discrete memorial gardens within the larger park.
- Excellent exposure and direct access from Kamehameha Highway, and immediately north of the H-3 Freeway, 1.5 miles north and south, respectively of the Pali and Likelike Highways.
- Proximity to Kaneohe and Kailua, the two largest windward towns, and only ten miles from Downtown Honolulu. It is the closest cemetery to Honolulu with significant numbers of burial spaces available.
- Favorable windward climate which keeps lawns green, forest vibrant, and the air fresh and cool.

The Petition Area is an irregularly shaped “donut hole” in the middle of the larger parcel, northeasterly abutting the existing Ocean View Garden of the HMP. It has a gently to moderately sloping to hilly upslope terrain, with minor bisecting gulches at the base of the Kapaa Quarry hill.

Abutting land uses include the existing HMP to the west/southwest, Kapaa Quarry hill to the south, forested open space to the east/northeast, and the Pikoiloa, Kaumakua Place and Lelehua Place residential subdivisions to the north. Apart from the HMP Expansion project there are no other developments proposed (or likely) in the area.

The Hawaiian Memorial Park Petition Area is currently classified as:

- State Land Use (SLU) - “Conservation District”;
- Ko’olau Poko Sustainable Communities Plan – “Cemetery”, included within the “Urban Areas” and “Community Growth” boundaries.

- City & County of Honolulu zoning -"P-1 Restricted Preservation".

The HMP Expansion site has been in the master planning process for a decade. The current design calls for the addition of some 28,000 to 30,000 burial spaces, increasing the capacity of the Park by a maximum of 38 percent.

Assuming sufficient market demand, the HMP Expansion project will transform a vacant acreage holding having no meaningful economic highest and best use potentials and offering no tangible benefits to the community into an asset providing needed future interment opportunities for the expanding, aging Oahu resident population, spurring capital investment and economic activity, sustaining regional employment, and generating new tax dollars at nominal costs.

The CBRE/Hallstrom Team assignment was to analyze the proposed HMP Expansion project from a real estate market perspective and to identify and quantify probable market and economic impacts associated with the development considering competitive, regional, prevailing and forecast trends to answer four basic study questions:

1. Is there sufficient demand to absorb the up to 30,000 burial spaces of the subject project during a reasonable exposure period given competing product and projected Oahu demographic and market sector trends?
2. Will the subject project be an appropriate use of the underlying site relative to market needs, desirability, standard land planning objectives, accepted design characteristics, and the area environs?
3. What will be the general/specific and direct/indirect economic impacts on Oahu resulting from the undertaking of the subject development via capital investment, employment, wages, business operations, and other economic activity related to the real property asset?
4. What will be the net, new effect on the state and county "public purse" from the project in the form of increased tax/fee receipts versus additional costs?

These issues were addressed through a comprehensive research and inquiry process utilizing data from market investigation, governmental agencies, various Hawaii-based media, industry spokespersons/sources, on-line databases, published public and private documents, and our files.

The pertinent results of our study are highlighted in the following summary report which contains minimal narrative, focusing on tabular data and other materials contributing to our conclusions. The presentation is divided into eight sections:

1. **Primary Study Conclusions**
2. **The Subject Property and Proposed EMP Expansion Project**
3. **Regional Environs – Kaneohe**
4. **Overview of the Death Service Industry**
5. **Market Study of the Oahu Cemetery Sector**
6. **Appropriateness of the Subject Project for the Proposed Use and Absorption Estimates**
7. **Analysis of the Economic Impacts of the Proposed Development**
8. **Assessment of the Net, New Public Fiscal Benefits Associated with the Project**

The primary baseline information regarding the subject used in our study were:

- Maps, master plans, inventory counts, infrastructure cost estimates, and background materials provided by HHF Planners, HMP ownership, and other members of the planning team;
- “Hawaiian Memorial Park Expansion Environmental Impact Statement Preparation Notice” (November 2017);
- Oahu resident population, mortality rates, interment, and other pertinent trends from the State of Hawaii Department of Economic Development and Tourism, State Department of Health, United States Department of the Census and Veterans Affairs, and agencies of City and County of Honolulu;
- Oahu Cemetery locations, size, burial spaces, sales to date, expansion plans and other data from the State Department of Health, cemetery websites and spokespersons, Hawaii Information Service, published articles, and informed industry parties; and,
- Data from published and on-line sources and from our files.

The HMP site and environs have been viewed on several occasions and specifically for this assignment between January and March 2018.

The *Market Study* time-frame which serves as a basis for subject absorption projections extends approximately 23 years from early-2018 through 2040, as it is anticipated all the HMP Expansion inventory will be in-place and absorbed by then. The demand for burial plots on Oahu is quantified during this period, existing, planned competitive supply is identified, the appropriateness of the site for the proposed project is analyzed, and absorption is estimated using several market-based methods.

Our *Economic Impact Analysis* and *Public Fiscal Assessment* study forecast period extends over 21 years from ground-breaking in 2020, with product absorption (plot sales) through 2037, and continued burial activity through the end of the modeling period in 2040, with the remaining burials extending beyond 2040 captured in that “residual year” totals.

Focal Market and Economic/Fiscal conclusions are expressed in five cumulative periods. The first is three years (2018 through 2020), the remaining four are five year periods (2021-2025, 2026-2030, 2031-2035 and 2036-2040).

We have also tested our econometric model outcomes against the 2012 Hawaii Inter-County Input-Output Study (approved August 2016) multipliers and formulae.

It is noted, the model is not specifically time-sensitive as it is expressed in constant 2018 dollars and should the project timeline move several years in either direction from our estimate we would not anticipate major changes to our stated conclusions.

## **TERMS USED IN THE REPORT**

There are numerous terms specific to the funeral/cemetery/memorial park (“death services”) industry which are used in this report.

There are five standard classifications of “methods of disposition” for a body following death:

- **Burial** – The action or practice of interring a body in a grave.
- **Cremation** – The disposal of a body by burning it to ashes.
- **Removal** – Indicates that the body was shipped out of the State of Hawaii.
- **Medical Science** – The body is donated for medical research purposes.
- **All Others** – Includes entombment and alternative disposition methods.

Burial requires a casket, as typically does an entombment, while cremation remains are stored in urns.

Interment is the act of memorializing a person following death and placing their remains in a permanent “resting place”.

Interment can be via:

- **Burial Plots** which can contain one or more caskets and/or several urns.
- **Niches** which are above-ground spaces for urns within a “columbarium” or other specially-built structure.
- **Crypts** a specially-built structure which are generally above ground in Hawaii with spaces for bodies/caskets.

The term “burial spaces” is widely used in the report and on the tables to account for all interment alternatives. In many ways, it is interchangeable with the term “burial plot”.

The total number of potential individuals which can be interred in a cemetery/memorial park can vary widely in accordance with the wishes of the family, and the size, scope and rules of the facility.

The number of caskets and/or urns permitted in a plot differs between cemeteries, as does the number and size of columbarium or niche structures. In general, on Oahu it appears most cemeteries, and the existing HMP, create about 1,000 to 1,100 burial spaces per developed acre.

### Perpetual Care Fund

Cemeteries and funeral homes are regulated by state and federal governments. They require funds be allocated from each burial unit sale and deposited in a Perpetual Care Trust account. The purpose of this account is to ensure that adequate funds are available for ongoing upkeep and maintenance of the cemetery. In addition, a percent of all preneed sales (merchandise and services, but not units) must be deposited in a Preneed Trust Account until the time of burial.

Generally, interest from these funds can be used for operations; however, the principal (corpus) amount cannot be touched. The following excerpt from the Cemetery and Funeral Trusts requirements for the State of Hawaii:

**§441-38 Contributions and payments to the trustee.** (a) A cemetery authority may take, receive, and transfer to the trustee as a part of or incident to the perpetual care fund any property, real, personal, or mixed, bequeathed, devised, granted, given, or otherwise contributed to it for perpetual care purposes and shall transfer to the trustee the amount stipulated in the contract or deed as being for perpetual care purposes for each plot, niche, or mausoleum crypt sold or disposed of, but not less than:

- (1) \$1 per square foot of interment space;
- (2) \$50 for each mausoleum crypt;
- (3) \$15 for each niche.

Such transfer shall be made not later than thirty days after the receipt of the final payment of the purchase price of each plot, niche, or crypt sold as property entitled to perpetual care.

**Locational Terms** – Within this report the terms Oahu, City and County of Honolulu and Honolulu County are used interchangeably.

## PRIMARY STUDY CONCLUSIONS

Based on our analysis of the subject property, its environs, and envisioned development we have reached the following conclusions as of the First Quarter of 2018 regarding the probable market standing and economic impacts of the proposed Hawaiian Memorial Expansion Project.

All the larger tables which have been excerpted into the text are presented full-size in the addenda for easier reading.

### Market Study

- The resident population of Oahu (City and County of Honolulu) has grown by nearly 60 percent over the past five decades, reaching a total of some 995,583 persons in 2017, with a compounded annual growth rate of about one percent. The population has “aged” over the same period, with some 18 percent now being over age 65; up from 14 percent at the turn of the century.
- As a result, the mortality rate of the Oahu population has escalated, now standing at a death rate of 0.8 percent annually (some 8 deaths per 1,000 people), up from just 0.6 percent just two decades ago and showing a compounded annual growth rate of 1.6 percent. The number of deaths on island has commensurately increased from 5,467 in 1997 to 7,960 in 2017.
- Historical and forecasts for the three foundational demographic factors which contribute to projections of annual resident deaths on Oahu by 2020 are summarized below. Throughout the market study “Minimum” and “Maximum” scenarios are calculated and presented based on past trending, anticipated evolutions, and reasonable variance.

OAHU DEMOGRAPHIC TRENDS 2000 TO 2040			
Year	2000	2017 (Current)	2040
Resident Population	878,906	992,605	
Minimum Forecast			1,086,710
Maximum Forecast			1,142,434
Mortality Rate	0.65%	0.80%	
Minimum Forecast			1.08%
Maximum Forecast			1.19%
Percent of Population Over 65	14.00%	18.00%	
Minimum Forecast			24.00%
Maximum Forecast			26.00%
Annual Resident Deaths	5,721	7,960	
Minimum Forecast			11,694
Maximum Forecast			12,864
Compiled by CBRE/Hallstrom Team			

The estimated total number of deaths on Oahu from 2018 to 2040 will be between 225,711 and 245,130 persons.

- In converting the number of projected deaths into net interment space/burial plot demand in non-military cemeteries on Oahu during the 2018-2040 modeling period, numerous factors had to be identified, analyzed and their going-forward trending forecast, including:
  - Number of Burial Spaces on Oahu Previously Purchased but Currently Unused
  - Percentage of Deaths Disposed Via Cremations
  - Percentage of Cremations Interred versus Ashes Scattered or Other Disposal
  - Percentage of Deaths Disposed Via Burial
  - Percentage of Deaths Interred at Veterans Cemetery
  - Number of Oahu Persons Interred on Neighbor Islands
  - Number of Non-Oahu Residents Interred on Oahu

Based on these researched and forecast indicators we have estimated the net demand for additional burial spaces on Oahu through 2040 at between 145,025 and 165,795, broken down periodically as shown below.

<b>ESTIMATED NET ADDITIONAL BURIAL SPACE DEMAND ON OAHU 2018 THROUGH 2040</b>		
<b>Period</b>	<b>One: Minimum</b>	<b>Two: Maximum</b>
2018 to 2020	14,732	15,128
2021 to 2025	27,471	29,338
2026 to 2030	30,186	33,841
2030 to 2035	34,460	40,367
2036 to 2040	38,176	47,120
<b>Total Burial Spaces</b>	<b>145,025</b>	<b>165,795</b>

Compiled by CBRE/Hallstrom

- Other than HMP, there are currently six major cemeteries/memorial parks on Oahu offering burial spaces to the general public; some have no to limited numbers of burial plots, all have niches available, and some have crypt spaces:
  - Diamond Head Memorial Park
  - Oahu Cemetery
  - Nuuanu Memorial Park
  - Valley of the Temples Memorial Park
  - Mililani Memorial Park
  - Laie Cemetery





Cumulatively, these facilities comprise some 436 gross acres of land, of which 194 acres are currently being used for interments, with some 217,000 total burial spaces sold to date and about 16,500 spaces of remaining inventory (plots, niches and crypts) in existing phases.

- Two of the existing cemeteries have meaningful expansion areas within which to provide significant additional burial spaces. In addition, there is one major proposed project (Hawaii Kai Cemetery) which has been delayed for many years. We estimate these facilities could potentially add a maximum of 89,000 burial spaces by 2040.
- The maximum total supply of burial plots/interment spaces on Oahu, existing and proposed, through 2040 (excluding HMP) is estimated at 105,000 spaces, as summarized on the following table. This total does not include inventory within military/veterans, church, or private cemeteries.

<b>MAXIMUM ESTIMATED TOTAL EXISTING AND PROPOSED SUPPLY OF MAJOR OAHU INTERMENT OPTIONS BY 2040</b>			
<b>Cemetery</b>	<b>Combined Burial Plots, Crypts and Niche Spaces</b>		
	<b>Existing Available</b>	<b>Currently Proposed</b>	<b>Total Available and Proposed</b>
Diamond Head Memorial Park	1,300	0	1,300
Nuuanau Memorial Park	700	0	700
Oahu Cemetery	700	0	700
Valley of the Temples Memorial Park	9,700	46,000	55,700
Mililani Memorial Park	3,800	19,000	22,800
Laie Cemeteries	300	0	300
Hawaii Kai Cemetery (Proposed) (1)	0	24,000	24,000
<b>TOTALS</b>	<b>16,500</b>	<b>89,000</b>	<b>105,500</b>

(1) Phase I will have 12,000 burial spaces of total build-out of 60,000. We have assumed two phases, or 24,000 spaces, will be made available in projection time-frame to 2040.

Compiled by CBRE/Hallstrom Team

- The expansion area of HMP is an appropriate location for cemetery development. In addition to being an extension of a long-successful facility established 60-years ago, which accounts for about one-quarter of the interments in the islands, and providing needed burial opportunities for families of those already interred at HMP and the Oahu public, the Petition Area also offers:
  - Exceptional panoramas.
  - Open space/rain forest buffer.
  - Suitable terrain.
  - Excellent exposure and direct access
  - Proximity to windward towns and Honolulu.
  - Favorable climate.
- We have forecast the absorption of the HMP Expansion project burial space inventory using three methods assuming the new product would be available for sale and interment in 2021, and there would be approximately 30,000 plots in the expansion area in addition to the some 3,600 remaining in the existing facility (or 33,600 burial spaces total).
  - **Gross Demand/Supply Comparison** – The rounded net total demand for additional burial spaces on Oahu from 2018 through 2040 will be between 145,000 and 165,800 spaces. The total number of existing and proposed supply apart from HMP is 105,000 burial plots. There will be a shortfall of supply relative to demand sufficient to absorb the subject inventory within the projection period.
  - **Residual Demand Analysis** – When placed on a timeline, even if all the existing and proposed competitive burial space supply is absorbed in a timely manner before any demand flows to HMP, there will be ample excess residual demand in every projection period to absorb the subject inventory within 15 to 19 years.

- **Market Shares Analysis** – Based on the absorption history at HMP, the desirability of the Expansion project plots, and the characteristics of the competitive supply, we estimate HMP could readily capture a market share of from 30 percent to 33 percent of the total net Oahu burials space demand during the projection period, which result in full-absorption within 15 to 18 years.

We conclude the 33,600 burial spaces at HMP, including the estimated 3,600 remaining in the existing sections of the Park by 2021 and the 30,000 (maximum) in the expansion area, will achieve absorption within 17-years of initial offering (2021-2037).

### Economic Impact Analysis

We have constructed a model depicting the economic impact of the HMP Expansion project on the Oahu and Statewide community during the course of its "lifespan" from anticipated ground-breaking in 2020, through its sell-out and use/absorption to 2035, and stabilized "operations" (management and maintenance) thereafter.

The model builds on the absorption estimates and data contained in our market study. All estimated amounts are in constant 2018 dollars. We note, that even if the timing of development or absorption moves substantially from our projections it does not change the resultant outcomes or indicators as the use of constant dollars removes time as a determinant variable. The purpose of the model is to illustrate how capital, jobs, wages, population and business activity will flow over time for planning and budgeting purposes apart from and present value considerations.

The HMP is a large, existing operation with 38 full-time-equivalent employees and millions of dollars in annual revenues and expenditures in the Oahu community.

The expansion project will not create significant new employment opportunities (beyond the extra workers needed to maintain the additional acreage) or new economic activity; it will allow the employment and activity to continue on at the currently high levels for another 16 plus years rather than winding-down as the remaining existing plots are sold and filled. It is this "extension period" we measure in our Economic Impact Analysis.

- The development of the HP Expansion project will bring in an estimated \$29.3 million of new, direct capital investment with significant unquantified indirect expenditures into the island's real estate market and generate \$141.7 million in total economic activity islandwide during its build-out and absorption over a sixteen-year period (forecast from circa 2020 to 2035). It will contribute some \$5.9 million in annual economic activity on a stabilized basis thereafter.
- The construction of the HMP Expansion will directly create an estimated 73 "worker-years" of employment (the equivalent of 52 work weeks at 40 hours per week) in the trades and supply businesses during build-out, with an estimated \$5.9 million in wages.
- The operation of the expansion area, through administration, sales/servicing, maintenance and landscaping will create 625 worker-years of employment from 2021 through 2035 and associated wages and benefits of \$43.8 million. Once stabilized these project components will create demand for 45 FTE positions and annual wages of \$3.2 million

- Associated secondary/off-site employment during the overall development and absorption time-frame will total 233 worker-years with wages of \$13.1 million and a stabilized FTE job-count of 15 with total wages of \$842,000 per year.
- The on-going management and maintenance economic activity resulting from the HMP Expansion between 2021 and 2035 will total \$115.9 million during the projection period and average \$8.5 million per year on a stabilized basis. The base impact to Oahu from 2020 through 2035 will be \$141 million and average \$9.3 million annually thereafter.
- Application of the State DBEDT Inter-County Input-Output Model macro multipliers depicting direct, indirect and induced economic impacts arising from the HMP Expansion project results in significantly higher economic out-flow indicators than those from our direct, subject-specific micro model.

### Secondary Impacts

HMP will have nominal to minor impacts on the socio-economic aspects of the surrounding community that relate to real estate issues.

- There are no neighboring uses on three sides of the HMP Expansion acreage property. The existing park is to the west, open lands to the east, and hills, open space and old quarry lands to the south. To the north are built-out single family residential subdivisions which will be buffered from the plot gardens in the expansion project.
- The site is appropriately called a Memorial Park, a vast greensward having several small central structures and highly limited activity; with just a handful of internment services daily, graveside visitations and maintenance activities. There will be no additional structures on the expansion acreage and similarly limited, subdued activities.
- The HMP Expansion will not meaningfully impact the property values or real estate taxes of the northerly-abutting homes. Property values throughout Windward Oahu are largely driven by external, cyclical economic factors within an existing (and expanding) cumulative mass, not by the expansion of a cemetery which has been in-place for decades.
- There is not expected to be any in-migration to Oahu as a direct result of the project.

### Public Fiscal Benefits

Public fiscal (or cost/benefit) impacts are typically estimated on a per capita basis founded on a conservative assumption that each new person added to the Oahu community is "responsible for" a similar tax cost/obligation as every other person on the island.

As there will be no new residents resulting from the HMP Expansion there will be no new per capita costs. We have therefore, as discussed later in the report, focused on any additional costs the State and County will incur beyond current levels as a result of the expansion project.

Our analytical focus is on "new" or additional fiscal impacts (incoming tax dollars and outgoing government expenditures) to the State and County arising from the development of HOAH not those monies/costs which are merely flowing from elsewhere on the island.

- The City and County of Honolulu currently receives some \$530 per year of real property taxes on the 164-acre subject site (split between "Preservation" and "Residential" use designations.). This total is not anticipated to meaningfully change, if at all, as a result of

the HMP expansion. The County will receive an estimated \$500,000 in one-time permit, license and other fees at the commencement of the project; otherwise there will be no enhancement in benefits from the project.

- The State of Hawaii will receive Gross Excise and Income taxes, secondary revenues, and impact fees of \$8.7 million during the 2020-2035 modeling period, and \$402,376 per year thereafter.
- There will be no “new” or additional per capita or actual costs beyond the nominal amounts already incurred to either the State or County resulting from the expansion of HMP, making their added revenues all marginal profits.
- The major economic impacts and public fiscal conclusions (above current levels) are summarized on the following table. The column on the left summarizes the cumulative impacts during the initial 16-year build-out and absorption period (2020-2035) covering infrastructure emplacement and plot sell-out, and the right hand column the annual impacts after full-absorption/stabilization.

Even after all of the plots are fully absorbed (sold) and eventually filled, the HMP expansion area will require continued maintenance and servicing in perpetuity with similar operating costs, though revenues/economic activity will lessen.

## SUMMARY COMPARISON OF MAJOR ECONOMIC IMPACTS AND PUBLIC FISCAL COSTS/BENEFITS

All Amounts Expressed in Constant, Uninflated 2018 Dollars

Analysis Item	Cumulative During Build-Out Period	Stabilized Annually Thereafter
Direct Capital Investment	\$29,304,000	
Local Contractor's Profits	\$2,930,400	
Local Supplier's Profits	\$1,172,160	
Worker Years of Jobs	931	60
Employee Wages	\$62,854,492	\$3,998,895
<b>Total Oahu "Base" Economic Impact</b>	<b>\$141,024,067</b>	<b>\$5,842,400</b>
<b>Accounting for "New" Impacts Only</b>		
Honolulu County Gross Tax Receipts	\$500,000	\$0
State of Hawaii Gross Tax Receipts	\$8,721,678	\$402,376
Added Honolulu County Costs of Services	\$0	\$0
Added State of Hawaii Costs of Services	\$0	\$0
Honolulu County Net Benefits or (Loss)	\$500,000	\$0
State of Hawaii Net Benefits or (Loss)	\$8,721,678	\$402,376
Source: CBRE/Hallstrom Team		



## The Subject Property and Proposed HMP Expansion Project

Excerpts and data contributing to this section were taken from the “Hawaiian Memorial Park Expansion Environmental Impact Statement Preparation Notice” (published November 2017).

Please refer to that document for further detail and descriptions on the existing HMP site and Expansion project.

### LOCATION

HMP is located on the southerly windward side of the island of Oahu, on the southerly outskirts of Kaneohe Town, just north easterly of Kailua Town and across the Koolau Mountains from urban Honolulu and Waikiki, as shown on the following map.

It is within two-miles of all three trans-Koolau arterials, including the H-3 Freeway, Likelike Highway (#63) and the Pali Highway (#61), and fronts Kamehameha Highway (#83) which is the primary rural thoroughfare on the island, extending up the northerly windward coastline, around the North Shore and down through Central Oahu. HMP enjoys one of the most accessible locations outside of Honolulu.



The Petition Area site lays between the Koolau Pali and the ocean, at the base of the chain of hills which extend easterly forming Mokapu Peninsula. As shown on the aerial below, nearby land uses include:

- Single family residential subdivisions to the north and northwest;
- Golf courses (Pali and Koolau) to the southwest,
- Kapaa Quarry, the Hawaii Loa Campus of Hawaii Pacific University and forested open space to the south and southeast; and,
- Forested open space to the east.



### THE EXPANSION AND PETITION AREAS

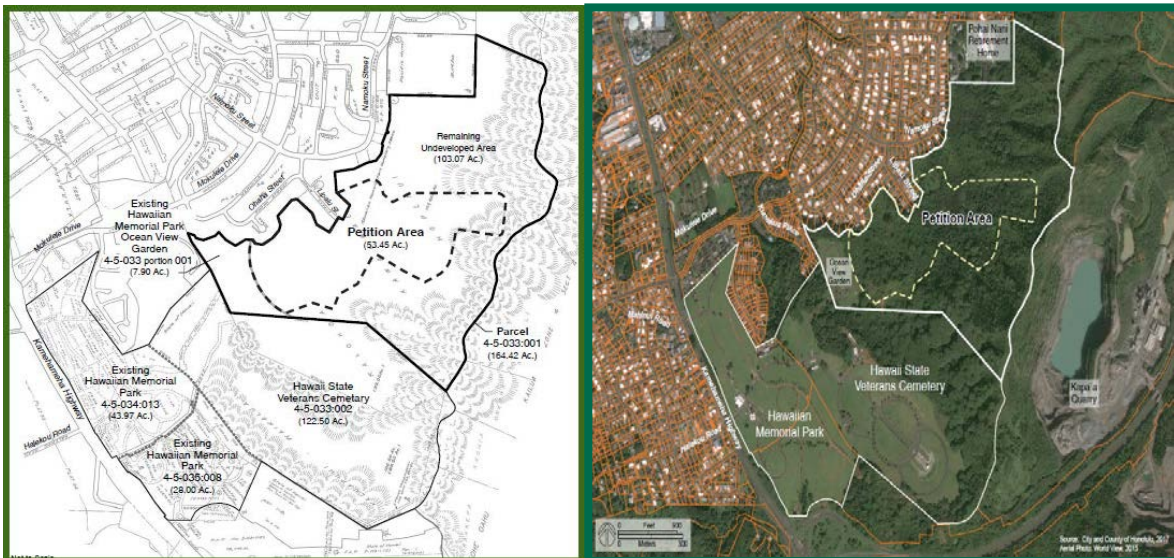
The HMP Expansion area is comprised of a 164.42-acre irregularly-shaped parcel identified on State of Hawaii Tax Maps as First Division, TMK 4-5-33, Parcel 1 (portion), shown in yellow on the follow aerial.

It ranges in elevation from approximately 200 to 400 feet above sea level, with a gently to moderately sloping terrain bisected by small gulches, and is currently vacant, forested open space apart from approximately 8 acres in its northwesterly corner which has been developed with the Ocean View Garden of the HMP.





The Petition Area is a 53.45-acre “donut hole” in the southwesterly portion of the larger parcel, adjacent to the existing HMP lands and the Hawaii State Veterans Cemetery, as shown on the following maps from the EIS document.



Only a portion of the Petition Area acreage will be for cemetery expansion, with the remainder put to other uses as shown in the following table.

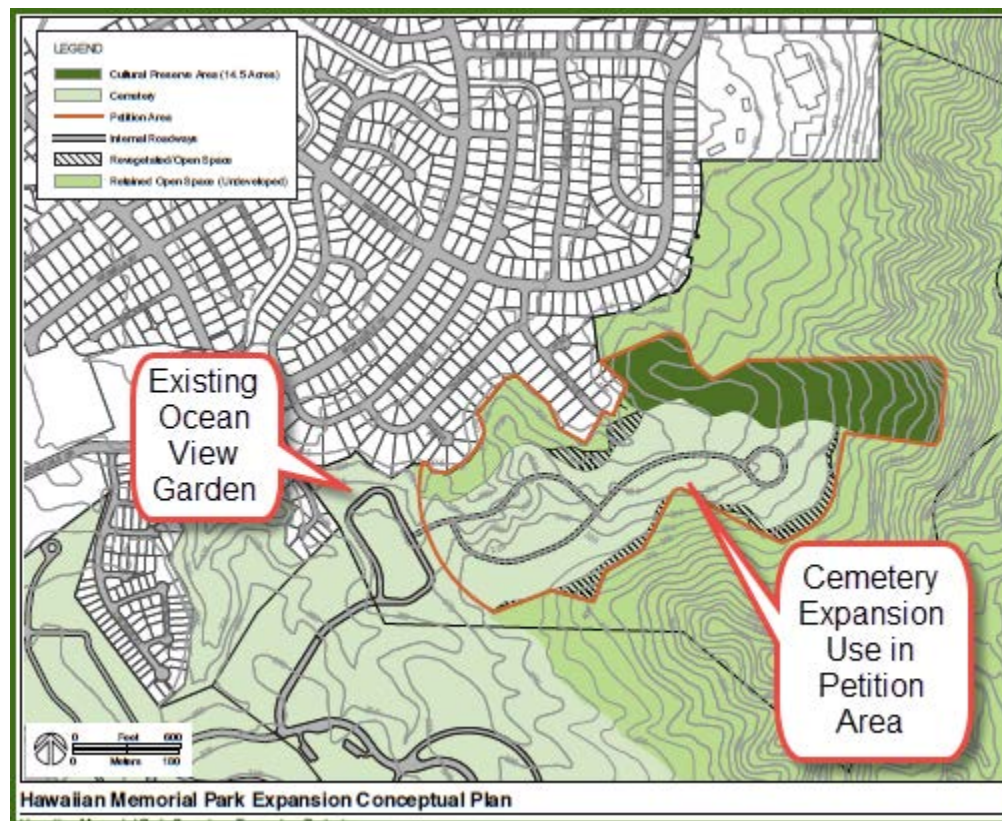
PROPOSED HMP EXPANSION LAND USES AND ACREAGES	
Land Use	Approximate Acreage
Cemetery Expansion Area	28.20
Internal Roadways	3.00
Cultural Preserve	14.50
Open Space Areas	7.75
<b>Total</b>	<b><u>53.45</u></b>

Source: Hawaiian Memorial Park Expansion Project Environmental Impact Statement, page 2-4

### EXPANSION MASTER PLAN

The map below displays the cemetery expansion use parameters within the Petition Area, accessed via a single roadway leading from the existing Ocean View Garden of HMP. The dark green area above the cemetery expansion site is the 14.5-acre cultural preserve.

There will be open space/buffers between the cemetery areas and the homes in the abutting residential subdivisions.



The number of burial plots/spaces to be contained within the 28.20-acre cemetery expansion area cannot be definitively quantified at present as the final count will evolve in accordance with the disposition methods and their respective densities. It is typical for cemeteries to have some 1,000 spaces/plots per net acre of the memorial park put to burial use; as seen in the earlier phases of HMP (about 80 acres and 77,000 spaces) and the competitive projects.

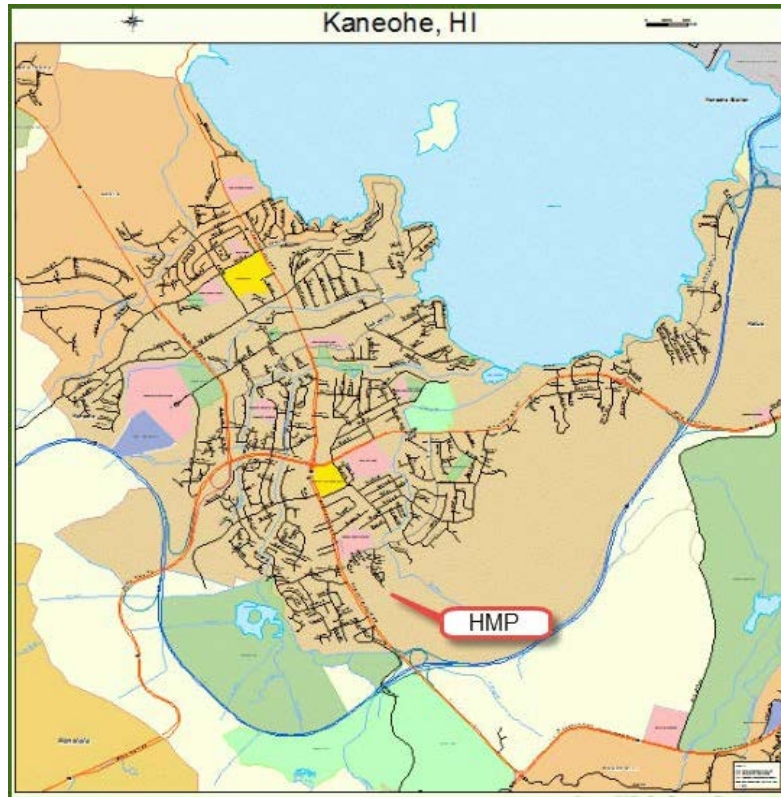
It is estimated, the total count in the HMP cemetery expansion site of the Petition Area would be between 28,000 to 30,000 burial spaces; at or slightly above historic densities to reflect a greater percentage of disposals by cremation on a going-forward basis. For analytical purposes, the 30,000 maximum burial spaces count is used to ensure a more moderate/conservative absorption period outcome.



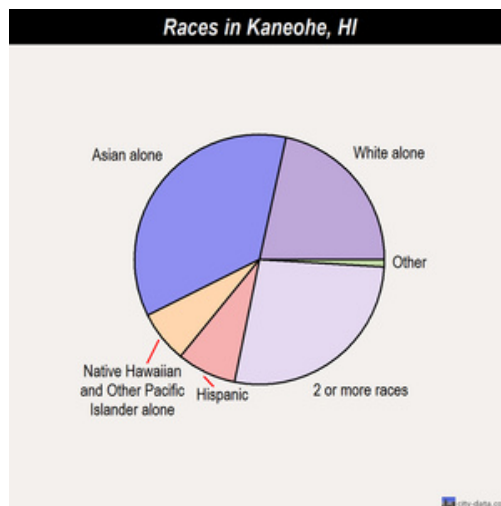
## Neighborhood Environs

### KANEOHE

HMP is on the southerly edge of Kaneohe Town, an older, well-established community located between the Koolau Mountain range and Kaneohe Bay, covering about 8.5 square miles, and is the second largest town on the windward side of Oahu, just smaller than Kailua (39,000 residents).



Kaneohe has current population of some 36,000 full-time residents having a diverse racial make-up as shown in the graph below.





It is primarily a residential suburb, although it has some 1.1 million square feet of commercial/retail gross leasable area and more than 500,000 square feet of industrial space. It is the gateway and service/supply center for the upper-windward coastline of Oahu (Koolauloa) which is home to some 21,000 residents.

Kaneohe has a moderate climate, with average daily highs of 82.7 degrees and nightly lows of 71.2 degrees, rainfall averaging 53.8 inches per year, and an average off-shore water temperature of 74.8 degrees. The tradewinds blow at up to 25 miles per hour on 73 percent of the days. It is cooler, wetter and more-windy than in Honolulu, located on the leeward side of the Koolau Range, which strongly appeals to many long-term/kamaaina residents.

Kaneohe is accessed from the urbanized south and central areas of Oahu via three trans-Koolau routes, the Pali Highway Tunnel; Likelike Highway-Wilson Tunnel, and John A. Burns Freeway. Travel time from Downtown Honolulu is approximately 20 to 30-minute depending upon traffic congestion. It can also be accessed from the north along Kamehameha Highway.

Mokapu Peninsula defines the southerly boundary of Kaneohe Town and is the southerly headland of Kaneohe Bay; it is home to Marine Base Hawaii (formerly Kaneohe Bay Marine Corps Station). Kailua Town and Kailua Bay extend south from the peninsula.

Northerly along Kaneohe Bay lie a series of small residential villages, including Ahuimanu, Kahaluu, Waiohole and Waikane before coming to the northerly Kualoa headland of the bay.

Kaneohe is virtually “built-out” with few remaining vacant, zoned properties available for development. The County Planning and Permitting Department does not forecast meaningful population gains in Kaneohe over the mid to long-term.

Waiakalua Bayside was the most recent residential subdivision to be developed in Kaneohe, a 20-unit development along the Kaneohe Bay shoreline with 14 single-family homes and six duplex residences. While there are small pockets for periodic in-fill development, new product is primarily through gentrification (demolition and re-development).

Kaneohe has a wide variety of supportive recreational, health, educational, and public safety facilities.

- Recreational amenities include: Kaneohe District Park, Hoomaluhia Botanical Gardens, several neighborhood parks/playgrounds, three golf courses, and boating activities available at Heeia-Kea Boat Harbor and two private marinas (Makani Kai and Kaneohe Yacht Club).
- Health care services include Adventist Health Castle Medical Center (general), just south of Town, Hawaii State Hospital (psychiatric), Kaiser and Straub both have clinics, and there is numerous physician, dental and other health providers in the community. There is a police station and Aikahi Fire Department Station 19 is on Mokapu Peninsula.
- Educational institutions include Windward Community College (public), Hawaii Pacific University Hawaii Loa Campus (private) Castle High School, King Intermediate, and Benjamin Parker, Heeia, and Ahuimanu Elementary Schools.

Major commercial and shopping facilities include Kaneohe Bay Shopping Center, Kaneohe Shopping Center, Windward City Shopping Center, Koolau Shopping Center, and Windward Mall, (the fourth largest shopping complex in the state). Various retail/commercial services front Kamehameha Highway through Kaneohe town, including convenience stores/service stations, low-

rise commercial buildings, and several service-related businesses. Heeia Industrial, a light industrial and service/commercial area, is located along Kahuhipa Street mauka of Kamehameha Highway and makai of Kahekili Highway, abutting the Kaneohe business district.

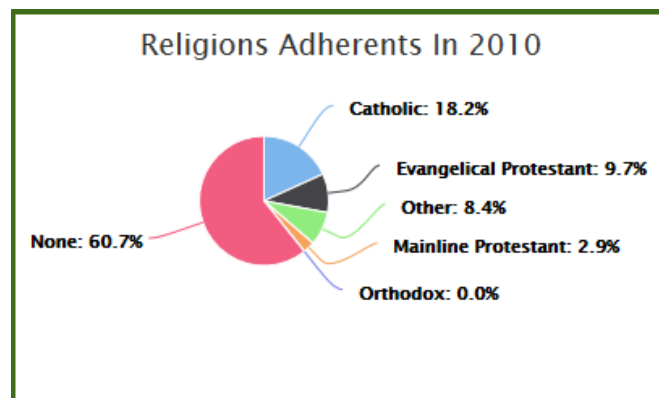
### Demographics

The US Census sex and age data for Kaneohe and Honolulu County through 2016 are summarized in the table below.

Subject	Kaneohe CDP, Hawaii		Honolulu County, Hawaii	
	Estimate	Percent	Estimate	Percent
<b>SEX AND AGE</b>				
Total population	35,065	35,065	986,999	986,999
Male	17,529	50.0%	497,019	50.4%
Female	17,536	50.0%	489,980	49.6%
Under 5 years	1,866	5.3%	64,745	6.6%
5 to 9 years	1,983	5.7%	57,520	5.8%
10 to 14 years	1,988	5.7%	58,285	5.9%
15 to 19 years	1,383	3.9%	55,398	5.6%
20 to 24 years	2,200	6.3%	77,169	7.8%
25 to 34 years	4,987	14.2%	149,921	15.2%
35 to 44 years	4,206	12.0%	124,320	12.6%
45 to 54 years	4,982	14.2%	125,074	12.7%
55 to 59 years	2,643	7.5%	61,952	6.3%
60 to 64 years	2,045	5.8%	56,115	5.7%
65 to 74 years	3,401	9.7%	83,254	8.4%
75 to 84 years	2,044	5.8%	45,985	4.7%
85 years and over	1,337	3.8%	27,261	2.8%
Median age (years)	42.1	(X)	37.4	(X)
18 years and over	28,308	80.7%	773,790	78.4%
21 years and over	27,461	78.3%	736,083	74.6%
62 years and over	8,129	23.2%	189,001	19.1%
65 years and over	6,782	19.3%	156,500	15.9%
18 years and over	28,308	28,308	773,790	773,790
Male	14,115	49.9%	387,456	50.1%
Female	14,193	50.1%	386,334	49.9%
65 years and over	6,782	6,782	156,500	156,500
Male	3,081	45.4%	68,422	43.7%
Female	3,701	54.6%	88,078	56.3%

In this analysis, the key figure is the percent of the population which is over 65 years old, which is at 15.9 percent for all of Oahu and at 19.3 percent for Kaneohe.

The graph below summarizes the religious characteristics of Kaneohe. This is insightful to the study as practicing Christians are more prone to seek burial disposal, while the “None” group (which includes most Chinese, Vietnamese and Japanese-American, who have Buddhist or Shinto traditions) are more prone to seek cremation as a disposal alternative.



Kaneohe remains a popular bedroom community due to the relative short drive to major employment centers located in and around Urban Honolulu; adequate community support facilities for educational and medical needs; the availability of housing alternatives; and the scenic, lush, cool atmosphere of this suburban area.

## Overview of National Death Services Industry

The death services industry provides products and services to bereaved family members of the deceased, which includes:

- Sales of burial spaces, such as in-ground plots, niches in columbaria and memorials, crypts in mausoleums.
- Sales of funerary-related merchandise such as coffins, urns, grave markers, and ornamental goods.
- Provision of mortuary services such as embalming, cremation, body preparation and transportation, and memorial/funeral services.

In the US, the industry had gross revenues estimated at \$14.7 billion in 2017, up 3.5 percent from the prior year. There are an estimated 115,000 cemeteries, 19,500 funeral homes, and 1,200 crematories nation-wide. In 2016, the National Center for Disease Control counted 2.74 million deaths in the US.

While the overall death rate has steadily, albeit marginally, declined over the past two decades the total population of the country has increased at a much faster rate, resulting in an increasing death count each year, as shown below. The number of deaths nationally has risen at a compounded annual growth rate of 0.9 percent since 1997.

NATIONAL DEATH STATISTICS (1997-2014)						
Year	Total Deaths	Percent Annual Increase	Death Rate (Per 100,000)	Percent Annual Increase	Life Expectancy at Birth	Percent Annual Increase
1997	2,314,245	----	864.7	----	76.5	----
1998	2,337,256	1.0%	864.7	0.0%	76.7	0.3%
1999	2,391,399	2.3%	881.9	2.0%	76.7	0.0%
2000	2,403,351	0.5%	872.0	-1.1%	76.9	0.3%
2001	2,416,425	0.5%	854.5	-2.0%	77.2	0.4%
2002	2,447,864	1.3%	846.8	-0.9%	77.4	0.3%
2003	2,448,288	0.0%	832.7	-1.7%	77.5	0.1%
2004	2,398,343	-2.0%	801.0	-3.8%	77.9	0.5%
2005	2,448,017	2.1%	798.8	-0.3%	77.8	-0.1%
2006	2,426,264	-0.9%	776.5	-2.8%	77.7	-0.1%
2007	2,423,712	-0.1%	760.2	-2.1%	77.9	0.3%
2008	2,471,984	2.0%	758.3	-0.2%	78.1	0.3%
2009	2,437,163	-1.4%	741.1	-2.3%	78.5	0.5%
2010	2,468,435	1.3%	747.0	0.8%	78.7	0.3%
2011	2,515,458	1.9%	741.3	-0.8%	78.7	0.0%
2012	2,543,279	1.1%	732.8	-1.1%	78.8	0.1%
2013	2,596,993	2.1%	731.9	-0.1%	78.8	0.0%
2014	2,626,418	1.1%	742.6	1.5%	78.8	0.0%
2015	2,712,630	3.3%	733.1	-1.3%	78.7	-0.1%
2016	2,744,248	1.2%	728.8	-0.6%	78.6	-0.1%
	<u>0.9%</u>		<u>-0.9%</u>		<u>0.1%</u>	

Source: CDC National Vital Statistics Reports

With the average age of Americans nearing stabilization at over 37 years and the average life expectancy at over 78 years, there is a greater proportion of Americans reaching into the upper-age demographic (above 65 years). As a result, the demand for industry services will continue to grow unabated into the foreseeable future.

Increasing family wealth and seniors having more disposable income should further buttress sector spending; with long-term revenue growth at a compounded annual growth rate of 2.4 percent to 2.8 percent annually forecast.

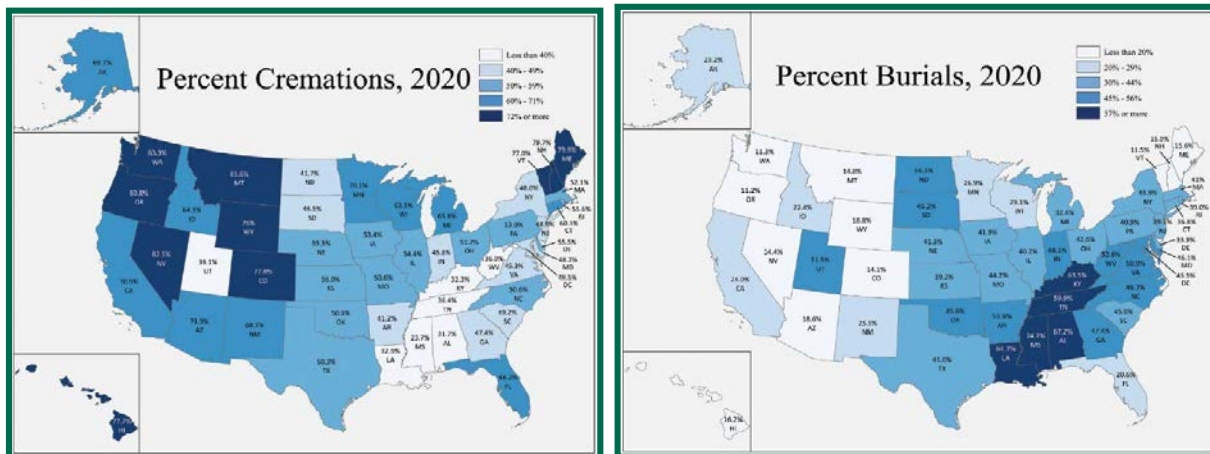
However, as the cost of traditional in-ground burials rise, the proportion of the population that is Catholic and fundamental Protestant decreases, and the percentage who are of Asian-ancestry or of Buddhist/Shinto/Hinduism increases, the ratio of cremations to burials in the US has meaningfully escalated; particularly in the past decade, and is expected to continue trending upward over the coming decade, as shown below (National Funeral Directors Association data).

**Historic Rates of Cremation and Burial and Future Projections<sup>5</sup>:**

	2010 (final data)	2015 (final data)	2018 (projected data)	2020 (projected data)	2025 (projected data)	2030 (projected data)
Burial (%)	53.3	45.2	40.6	37.8	30.3	22.7
Cremation (%)	40.4	47.9	53.3	56.2	63.8	71.3

As discussed in the following section, Hawaii has a much higher rate of cremation due to its large numbers of Asian-descendant population and scarcity/price of land.

The maps below display the projected burial and cremation disposal ratios for each state in 2020. As would be anticipated, those having populations that are predominantly Catholic, Mormon and Fundamental Protestant have higher burial and lower cremation rates.



Funerary service operators have expanded their array of supporting merchandise items for families choosing cremation, in response to demand and to increase revenues flowing from that sector.

Existing cemetery space is filling up, especially in urban areas, increasing the cost of plots and often creating friction with neighbors when a cemetery operator tries to expand.

The trend towards cremation will decrease revenue gains for the industry as cremations are about one-third of the cost of traditional burial.

# Market Study of the Oahu Cemetery Sector

## ANALYSIS OVERVIEW

Although burial plots/spaces are a unique commodity as subject for a market study, the demand/supply dynamics remain the same as for any land use; to the extent forecast demand exceeds existing and proposed supply there is support for additional development. If there is insufficient demand relative to available supply the support for new inventory diminishes.

The largest analytical adaptation from a standard market study for standard uses (residential commercial, industrial or lodging) is a matter of perspective. Instead of focusing on trends within an expanding living trade area population it is on the component of the population which passes away and exits the trade area each year.

However, whether living or deceased, a person creates a demand for land use. The living requires housing, goods and services from many uses and locations that change over time. The deceased creates demand for a single use (burial space) in a permanent location (cemetery/memorial park or with ashes scattered).

It is not culturally acceptable for deceased members of the community to be “homeless” and unserved; sufficient allowances must be made to provide for acceptable disposition.

The analysis quantifies the **net demand** for additional burial spaces on Oahu on a going-forward basis from 2018 through 2040, the anticipated HMP Expansion project time-frame, by reviewing historical trends and forecasting seven variables on an annualized basis, all with minimum and maximum scenarios:

1. Resident Population, Deaths and Death Rates
2. Disposition of Deaths (primarily burials and cremation)
3. Projection of Interred Cremations
4. Projection of Burials
5. Number of Veterans Interred at Military/Veterans Cemeteries
6. Identification and Allowances for Other Factors
7. Construction and Application of Model for Net Demand for Burial Spaces

The **available supply** of burial spaces on Oahu, existing and proposed, for the 2018 through 2040 study period is forecast via a three-step process:

1. Identify Existing Major Cemeteries with Burial Spaces for Purchase
2. Quantify the Amount of Remaining Inventory in Existing Phases
3. Project the Number of Additional Inventory to be Provided in Expansion or New Projects

Each of these items is specifically addressed in a subsequent sub-section focusing on tabular presentation of the historic and projected indicators, with minimal narrative. Detail on sources, allowances and calculations are contained in the footnotes on the tables.



## QUANTIFICATION OF FUTURE DEMAND

### Resident Population, Deaths and Death Rates

The following table displays the 1997 through 2017 annual data for the resident population of Oahu, number of yearly resident deaths and the resulting death rate (“Deaths as a Percent of Population”).

During the 21-year survey period, the resident population has increased at a compounded growth rate of 0.6 percent annually, reaching 995,583 persons in 2017. The number of resident deaths has grown at a compounded rate of 1.9 percent per year to reach an annual total approaching 8,000, and the death rate is now above 0.8 percent and escalating at 1.3 percent compounded annually.

Year	Population (1)	Percent Annual Change	Resident Deaths (2)	Percent Annual Change	Deaths as Percent of Population	Percent Annual Change
1997	886,711	-	5,467	-	0.6%	-
1998	886,909	0.0%	5,585	2.2%	0.6%	2.1%
1999	878,906	-0.9%	5,776	3.4%	0.7%	4.4%
2000	876,156	-0.3%	5,721	-1.0%	0.7%	-0.6%
2001	882,755	0.8%	5,860	2.4%	0.7%	1.7%
2002	890,473	0.9%	6,081	3.8%	0.7%	2.9%
2003	894,311	0.4%	6,272	3.1%	0.7%	2.7%
2004	907,997	1.5%	6,281	0.1%	0.7%	-1.4%
2005	918,181	1.1%	6,330	0.8%	0.7%	-0.3%
2006	926,954	1.0%	6,505	2.8%	0.7%	1.8%
2007	925,335	-0.2%	6,421	-1.3%	0.7%	-1.1%
2008	933,680	0.9%	6,474	0.8%	0.7%	-0.1%
2009	943,177	1.0%	6,742	4.1%	0.7%	3.1%
2010	953,207	1.1%	6,978	3.5%	0.7%	2.4%
2011	965,629	1.3%	7,125	2.1%	0.7%	0.8%
2012	974,990	1.0%	7,426	4.2%	0.8%	3.2%
2013	984,730	1.0%	7,542	1.6%	0.8%	0.6%
2014	988,586	0.4%	7,754	2.8%	0.8%	2.4%
2015	993,166	0.5%	7,878	1.6%	0.8%	1.1%
2016	992,605	-0.1%	7,806	-0.9%	0.8%	-0.9%
2017	995,583	0.3%	7,960	0.3%	0.8%	0.3%
<b>Compounded Annual Growth Rate</b>		<b>0.6%</b>		<b>1.9%</b>		<b>1.3%</b>

(1) State of Hawaii Data Book. Table 1.06 "Resident Population by County" (2017 extrapolated estimate).  
 (2) State Department of Health Vital Statistics. "Births, Deaths, Marriages and Civil Unions".

Source: As cited and CBRE/Hallstrom Team

We used these historic rates to forecast future population, death rates and total deaths on Oahu for the period 2018 through 2040 in two scenarios, shown following.

Scenario One is a minimum perspective and assumes the State of Hawaii 2040 population forecast and death rates consistent with those of the past 20 years. Scenario Two is a maximum perspective reflecting population growth trends since 1997 and a modestly higher death rate in-line with anticipated evolutions due to the proportionate aging of Hawaii residents.

SCENARIO ONE: MINIMUM - FORECAST OAHU DEATHS 2018 THROUGH 2040						
Year	State of Hawaii 2040 Population Forecast (1)	Percent Annual Change	Trending Deaths as a Percent of Population	Percent Historic Annual Change	Forecast Resident Deaths	Percent Annual Change
2018	998,292	0.27%	0.81%	1.30%	8,085	1.6%
2019	1,001,001	0.27%	0.82%	1.30%	8,212	1.6%
2020	1,003,710	0.27%	0.83%	1.30%	8,342	1.6%
2021	1,008,729	0.50%	0.84%	1.30%	8,492	1.8%
2022	1,013,772	0.50%	0.85%	1.30%	8,646	1.8%
2023	1,018,841	0.50%	0.86%	1.30%	8,802	1.8%
2024	1,023,935	0.50%	0.88%	1.30%	8,961	1.8%
2025	1,029,410	0.50%	0.89%	1.30%	9,126	1.8%
2026	1,033,528	0.40%	0.90%	1.30%	9,282	1.7%
2027	1,037,662	0.40%	0.91%	1.30%	9,440	1.7%
2028	1,041,812	0.40%	0.92%	1.30%	9,601	1.7%
2029	1,045,980	0.40%	0.93%	1.30%	9,765	1.7%
2030	1,052,130	0.40%	0.95%	1.30%	9,950	1.9%
2031	1,056,339	0.40%	0.96%	1.30%	10,119	1.7%
2032	1,060,564	0.40%	0.97%	1.30%	10,292	1.7%
2033	1,064,806	0.40%	0.98%	1.30%	10,467	1.7%
2034	1,069,065	0.40%	1.00%	1.30%	10,646	1.7%
2035	1,071,220	0.40%	1.01%	1.30%	10,806	1.5%
2036	1,074,434	0.30%	1.02%	1.30%	10,979	1.6%
2037	1,077,657	0.30%	1.04%	1.30%	11,155	1.6%
2038	1,080,890	0.30%	1.05%	1.30%	11,334	1.6%
2039	1,084,133	0.30%	1.06%	1.30%	11,516	1.6%
2040	1,086,710	0.30%	1.08%	1.30%	11,694	1.5%
<b>Total Oahu Deaths 2018 through 2040</b>					<b><u>225,711</u></b>	
<p>(1) Using periodic five-year projection figures with state annual growth rates for interim years, except for 2018 &amp; 2019 which uses mid-point growth rate from 2017 estimates.</p> <p>Source: As cited, and CBRE/Hallstrom Team</p>						

Scenario One forecasts there will be 225,7111 deaths on Oahu by 2040.

The Scenario Two model quantifies the projected deaths at 245,130 persons, an 8.6 percent increase over Scenario One.

SCENARIO TWO: MAXIMUM - FORECAST OAHU DEATHS 2018 THROUGH 2040						
Year	Using Growth Trends of Last 20 Years	Percent Annual Change	Maximum Deaths as a Percent of Population	Percent Maximum Annual Change	Forecast Resident Deaths	Percent Annual Change
2018	1,001,556	0.6%	0.81%	1.75%	8,147	2.4%
2019	1,007,566	0.6%	0.83%	1.75%	8,340	2.4%
2020	1,013,611	0.6%	0.84%	1.75%	8,537	2.4%
2021	1,019,693	0.6%	0.86%	1.75%	8,738	2.4%
2022	1,025,811	0.6%	0.87%	1.75%	8,944	2.4%
2023	1,031,966	0.6%	0.89%	1.75%	9,156	2.4%
2024	1,038,158	0.6%	0.90%	1.75%	9,372	2.4%
2025	1,044,386	0.6%	0.92%	1.75%	9,593	2.4%
2026	1,050,653	0.6%	0.93%	1.75%	9,819	2.4%
2027	1,056,957	0.6%	0.95%	1.75%	10,051	2.4%
2028	1,063,298	0.6%	0.97%	1.75%	10,288	2.4%
2029	1,069,678	0.6%	0.98%	1.75%	10,531	2.4%
2030	1,076,096	0.6%	1.00%	1.75%	10,780	2.4%
2031	1,082,553	0.6%	1.02%	1.75%	11,034	2.4%
2032	1,089,048	0.6%	1.04%	1.75%	11,295	2.4%
2033	1,095,582	0.6%	1.06%	1.75%	11,561	2.4%
2034	1,102,156	0.6%	1.07%	1.75%	11,834	2.4%
2035	1,108,769	0.6%	1.09%	1.75%	12,114	2.4%
2036	1,115,422	0.6%	1.11%	1.75%	12,400	2.4%
2037	1,122,114	0.6%	1.13%	1.75%	12,692	2.4%
2038	1,128,847	0.6%	1.15%	1.75%	12,992	2.4%
2039	1,135,620	0.6%	1.17%	1.75%	13,299	2.4%
2040	1,142,434	0.6%	1.19%	1.75%	13,612	2.4%
<b>Total Oahu Deaths 2018 through 2040</b>					<b>245,130</b>	

Source: CBRE/Hallstrom Team

### Disposition of Deaths (primarily burials and cremation)

The following table summarizes the disposition of deaths on Oahu for selected years from 1970 through 2017, with the options being:

- Burial
- Cremation
- Removal Out of State
- Medical Donation
- All Others (including entombment)

The total number of burials has increased over time, but has declined as a percentage of all disposals. Cremations have increased notably both in number, compounded growth rate and as a percentage of all dispositions.

The other alternatives are minor in comparison.

STATE OF HAWAII HISTORICAL DEATHS BY DISPOSITION 1970-2015																	
Year	Burials			Cremations			Removal Out of State			Medical Donation			All Others			Total All Methods	
	Number	Percent Annual Change	Percent of Total Dispositions	Number	Percent Annual Change	Percent of Total Dispositions	Number	Percent Annual Change	Percent of Total Dispositions	Number	Percent Annual Change	Percent of Total Dispositions	Number	Percent Annual Change	Percent of Total Dispositions	Number	Percent Annual Change
1970	2,197	---	52.4%	1,509	---	36.0%	470	---	11.2%	Complete Data Unavailable			18	---	0.4%	4,194	---
1980	2,241	0.2%	43.1%	2,343	5.5%	45.0%	567	2.1%	10.9%	Complete Data Unavailable			53	19.4%	1.0%	5,204	2.4%
1990	3,564	5.9%	50.5%	2,798	1.9%	39.7%	656	1.6%	9.3%	Complete Data Unavailable			37	-3.0%	0.5%	7,055	3.6%
2000	2,767	-2.2%	32.5%	5,092	8.2%	59.8%	591	-1.0%	6.9%	40	---	0.5%	21	-4.3%	0.2%	8,511	2.1%
2001	2,689	-2.8%	31.2%	5,241	2.9%	60.9%	608	2.9%	7.1%	50	25.0%	0.6%	21	0.0%	0.2%	8,609	1.2%
2002	2,770	3.0%	30.8%	5,505	5.0%	61.3%	641	5.4%	7.1%	46	-8.0%	0.5%	24	14.3%	0.3%	8,986	4.4%
2003	2,800	1.1%	30.5%	5,778	5.0%	62.9%	540	-15.8%	5.9%	47	2.2%	0.5%	14	-41.7%	0.2%	9,179	2.1%
2004	2,696	-3.7%	29.1%	5,900	2.1%	63.8%	599	10.9%	6.5%	49	4.3%	0.5%	8	-42.9%	0.1%	9,252	0.8%
2005	2,667	-1.1%	28.6%	5,964	1.1%	63.9%	634	5.8%	6.8%	55	12.2%	0.6%	10	25.0%	0.1%	9,330	0.8%
2006	2,648	-0.7%	27.5%	6,292	5.5%	65.4%	591	-6.8%	6.1%	68	23.6%	0.7%	23	130.0%	0.2%	9,622	3.1%
2007	2,597	-1.9%	27.0%	6,372	1.3%	66.2%	580	-1.9%	6.0%	64	-5.9%	0.7%	14	-39.1%	0.1%	9,627	0.1%
2008	2,455	-5.5%	25.6%	6,506	2.1%	68.0%	530	-8.6%	5.5%	63	-1.6%	0.7%	18	28.6%	0.2%	9,572	-0.6%
2009	2,416	-1.6%	24.3%	6,862	5.5%	69.0%	551	4.0%	5.5%	94	49.2%	0.9%	24	33.3%	0.2%	9,947	3.9%
2010	2,322	-3.9%	24.1%	6,661	-2.9%	69.0%	562	2.0%	5.8%	91	-3.2%	0.9%	18	-25.0%	0.2%	9,654	-2.9%
2011	2,375	2.3%	23.8%	6,961	4.5%	69.9%	503	-10.5%	5.0%	102	12.1%	1.0%	20	11.1%	0.2%	9,961	3.2%
2012	2,480	4.4%	23.9%	7,255	4.2%	70.0%	506	0.6%	4.9%	102	0.0%	1.0%	20	0.0%	0.2%	10,363	4.0%
2013	2,302	-7.2%	21.8%	7,582	4.5%	71.7%	542	7.1%	5.1%	131	28.4%	1.2%	19	-5.0%	0.2%	10,576	2.1%
2014	2,306	0.2%	21.2%	7,908	4.3%	72.6%	504	-7.0%	4.6%	146	11.5%	1.3%	22	15.8%	0.2%	10,886	2.9%
2015	2,399	4.0%	21.4%	8,097	2.4%	72.2%	559	10.9%	5.0%	141	-3.4%	1.3%	19	-13.6%	0.2%	11,215	3.0%
<b>Compounded Annual Growth</b>	<b>0.2%</b>	<b>-2.0%</b>		<b>3.8%</b>	<b>1.6%</b>		<b>0.4%</b>	<b>-1.8%</b>		<b>8.2%</b>	<b>6.3%</b>		<b>0.1%</b>	<b>-2.0%</b>		<b>2.2%</b>	

Note: 2015 data most recent year available  
 \*Includes entombment.  
 Source: State of Hawaii Data Book, Table 2.20 "Deaths by Disposition", from Hawaii State Department of Health, Office of Health Status Monitoring, records and CBRE/Hallstrom Team

The focal Burial and Cremation disposal alternatives are broken-out and shown separately in the table below. The number and trending percentages of all dispositions, combined with the Oahu death forecasts to 2040, form the basis for going-forward projections.

STATE OF HAWAII HISTORICAL DISPOSITION BY BURIAL AND CREMATION 1970-2015									
Year	Burials			Cremations			Total Burial & Cremations		
	Number	Percent Annual Change	Percent of Total Dispositions	Number	Percent Annual Change	Percent of Total Dispositions	Number	Percent Annual Change	Percent of Total Dispositions
1970	2,197	---	52.4%	1,509	---	36.0%	3,706	---	88.4%
1980	2,241	0.2%	43.1%	2,343	5.5%	45.0%	4,584	2.4%	88.1%
1990	3,564	5.9%	50.5%	2,798	1.9%	39.7%	6,362	3.9%	90.2%
2000	2,767	-2.2%	32.5%	5,092	8.2%	59.8%	7,859	2.4%	92.3%
2001	2,689	-2.8%	31.2%	5,241	2.9%	60.9%	7,930	0.9%	92.1%
2002	2,770	3.0%	30.8%	5,505	5.0%	61.3%	8,275	4.4%	92.1%
2003	2,800	1.1%	30.5%	5,778	5.0%	62.9%	8,578	3.7%	93.5%
2004	2,696	-3.7%	29.1%	5,900	2.1%	63.8%	8,596	0.2%	92.9%
2005	2,667	-1.1%	28.6%	5,964	1.1%	63.9%	8,631	0.4%	92.5%
2006	2,648	-0.7%	27.5%	6,292	5.5%	65.4%	8,940	3.6%	92.9%
2007	2,597	-1.9%	27.0%	6,372	1.3%	66.2%	8,969	0.3%	93.2%
2008	2,455	-5.5%	25.6%	6,506	2.1%	68.0%	8,961	-0.1%	93.6%
2009	2,416	-1.6%	24.3%	6,862	5.5%	69.0%	9,278	3.5%	93.3%
2010	2,322	-3.9%	24.1%	6,661	-2.9%	69.0%	8,983	-3.2%	93.0%
2011	2,375	2.3%	23.8%	6,961	4.5%	69.9%	9,336	3.9%	93.7%
2012	2,480	4.4%	23.9%	7,255	4.2%	70.0%	9,735	4.3%	93.9%
2013	2,302	-7.2%	21.8%	7,582	4.5%	71.7%	9,884	1.5%	93.5%
2014	2,306	0.2%	21.2%	7,908	4.3%	72.6%	10,214	3.3%	93.8%
2015	2,399	4.0%	21.4%	8,097	2.4%	72.2%	10,496	2.8%	93.6%
<b>Compounded Annual Growth</b>	<b>0.2%</b>	<b>-2.0%</b>		<b>3.8%</b>	<b>1.6%</b>		<b>2.3%</b>	<b>0.1%</b>	

Note: 2015 data most recent year available  
 Source: State of Hawaii Data Book (previously cited) and CBRE/Hallstrom Team

### Projection of Interred Cremations

Some cremations result in interment and therefore create demand for additional burial spaces. On a national level, according to the Cremation Association, about 39 percent of persons considering cremation request having their ashes scattered, with about 35 percent being actualized. About 10 percent request to have their urn kept in a family home, and its estimated perhaps 8 percent have their request realized.

Hawaii residents have a longer and greater experience with cremation and are more respectful of interment than the mainland population due to its large and strong Asian-based heritage. Discussion with Oahu mortuaries indicates that at most one-quarter of cremated decedents have their ashes scattered (some opined as few as 15 to 20 percent), and well less than 10 percent have their urns on the family mantle.

Scenario One, resulting in minimum burial space demand, estimated that 25 percent of Oahu cremations result in a scattering of ashes and four percent are otherwise disposed. As shown on the following table this results in an estimated 139,275 interred cremations on the island between 2018 and 2040.

ESTIMATE OF TOTAL OAHU CREMATIONS INTERRED 2018 THROUGH 2040					
Scenario One: Minimum Demand					
Year	Total Deaths	Total Annual Cremations (1)	Ashes Are Scattered (2)	Other Forms of Disposal (3)	Total Interred Cremations
2018	8,085	5,821	(1,048)	(323)	4,450
2019	8,212	5,966	(1,074)	(328)	4,564
2020	8,342	6,115	(1,101)	(334)	4,680
2021	8,492	6,281	(1,131)	(340)	4,811
2022	8,646	6,452	(1,161)	(346)	4,945
2023	8,802	6,628	(1,193)	(352)	5,083
2024	8,961	6,808	(1,225)	(358)	5,224
2025	9,126	6,996	(1,259)	(365)	5,372
2026	9,282	7,179	(1,292)	(371)	5,516
2027	9,440	7,367	(1,326)	(378)	5,664
2028	9,601	7,561	(1,361)	(384)	5,816
2029	9,765	7,759	(1,397)	(391)	5,972
2030	9,950	7,977	(1,436)	(398)	6,143
2031	10,119	8,186	(1,473)	(405)	6,308
2032	10,292	8,400	(1,512)	(412)	6,477
2033	10,467	8,621	(1,552)	(419)	6,650
2034	10,646	8,846	(1,592)	(426)	6,828
2035	10,806	9,060	(1,631)	(432)	6,997
2036	10,979	9,289	(1,672)	(439)	7,177
2037	11,155	9,522	(1,714)	(446)	7,362
2038	11,334	9,762	(1,757)	(453)	7,552
2039	11,516	10,008	(1,801)	(461)	7,746
2040	11,694	10,254	(1,846)	(468)	7,940
<b>Totals</b>	<b>225,711</b>	<b>180,858</b>	<b>(32,555)</b>	<b>(9,028)</b>	<b>139,275</b>

(1) Projected to follow trends of last five years of 0.9% growth in percent total deaths ending in cremations on going-forward basis. Currently at 72 percent of total deaths.

(2) Estimated 39% of decedents cremated nationally request this but only about 35% estimated actualized. Hawaii, owing to its Asian cultural components, has higher percentage of cremations and interrs a much higher percentage. We estimate 18% of Hawaii cremations have ashes scattered, one-half national average.

(3) Includes urns kept at home or other location. Estimated 10% of decedents nationally request this, with estimated 8% actualized. Again we estimate Hawaii at on-half the national average.

Compiled by CBRE/Hallstrom Team

Scenario Two, representing the maximum burial space demand alternative, assumes only 12 percent of Oahu cremations result in the ashes being scattered and 3 percent being otherwise

disposed than burial. In this scenario, the total number of interred cremations over the next 23 years is forecast to be 158,409 persons.

<b>ESTIMATE OF TOTAL OAHU CREMATIONS INTERRED 2018 THROUGH 2040</b>					
<b>Scenario Two: Maximum Demand</b>					
<b>Year</b>	<b>Total Deaths</b>	<b>Total Annual Cremations (1)</b>	<b>Ashes Are Scattered (2)</b>	<b>Other Forms of Disposal (3)</b>	<b>Total Interred Cremations</b>
2018	8,147	5,866	(704)	(176)	4,986
2019	8,340	6,032	(724)	(181)	5,127
2020	8,537	6,202	(744)	(186)	5,272
2021	8,738	6,377	(765)	(191)	5,420
2022	8,944	6,557	(787)	(197)	5,573
2023	9,156	6,742	(809)	(202)	5,730
2024	9,372	6,932	(832)	(208)	5,892
2025	9,593	7,127	(855)	(214)	6,058
2026	9,819	7,328	(879)	(220)	6,229
2027	10,051	7,535	(904)	(226)	6,405
2028	10,288	7,748	(930)	(232)	6,586
2029	10,531	7,966	(956)	(239)	6,771
2030	10,780	8,191	(983)	(246)	6,962
2031	11,034	8,422	(1,011)	(253)	7,159
2032	11,295	8,660	(1,039)	(260)	7,361
2033	11,561	8,904	(1,068)	(267)	7,569
2034	11,834	9,155	(1,099)	(275)	7,782
2035	12,114	9,414	(1,130)	(282)	8,002
2036	12,400	9,679	(1,162)	(290)	8,227
2037	12,692	9,952	(1,194)	(299)	8,459
2038	12,992	10,233	(1,228)	(307)	8,698
2039	13,299	10,522	(1,263)	(316)	8,943
2040	13,612	10,819	(1,298)	(325)	9,196
<b>Totals</b>	<b>245,130</b>	<b>186,363</b>	<b>(22,364)</b>	<b>(5,591)</b>	<b>158,409</b>

(1) Projected to follow trends at one-half growth rate for last five years or 0.45% growth in percent total deaths ending in cremations on going-forward basis. Currently at 72 percent of total deaths.

(2) Estimated at 12% of Hawaii cremations having ashes scattered, two-thirds of Scenario One: Minimum projection.

(3) Estimated at 3% of Hawaii cremations having ashes scattered, three-quarters of Scenario One: Minimum projection.

Compiled by CBRE/Hallstrom Team

### Number of Burials

The number of in-ground (casket) burials forecast for the period 2018 through 2040, is a residual estimated calculated by deducting the number of cremations projected in each scenario from their respective total burial estimates previously presented.

The following table displays estimates for burials over the projection period.

In Scenario One, minimum demand perspective, the ratio of deaths which are interred increases at a rate of 0.01 percent compounded annually, resulting in a total of 75,402 burials in the next 23 years.

In Scenario Two, maximum demand perspective, the ratio of deaths which are interred increases at a rate of 0.015 percent compounded annually, resulting in a total of 76,924 burials in the next 23 years



<b>ESTIMATE OF TOTAL BURIALS ON OAHU 2018 THROUGH 2040</b>				
<b>Year</b>	<b>Scenario One: Minium Demand</b>		<b>Scenario Two: Maximum Demand</b>	
	<b>Total Deaths</b>	<b>Number of Burials (1)</b>	<b>Total Deaths</b>	<b>Number of Burials (2)</b>
2018	8,085	3,150	8,147	2,672
2019	8,212	3,164	8,340	2,726
2020	8,342	3,177	8,537	2,781
2021	8,492	3,196	8,738	2,837
2022	8,646	3,215	8,944	2,894
2023	8,802	3,233	9,156	2,951
2024	8,961	3,250	9,372	3,010
2025	9,126	3,267	9,593	3,070
2026	9,282	3,279	9,819	3,131
2027	9,440	3,290	10,051	3,193
2028	9,601	3,300	10,288	3,256
2029	9,765	3,309	10,531	3,320
2030	9,950	3,322	10,780	3,385
2031	10,119	3,329	11,034	3,452
2032	10,292	3,334	11,295	3,519
2033	10,467	3,338	11,561	3,588
2034	10,646	3,340	11,834	3,658
2035	10,806	3,334	12,114	3,729
2036	10,979	3,330	12,400	3,801
2037	11,155	3,325	12,692	3,874
2038	11,334	3,318	12,992	3,949
2039	11,516	3,309	13,299	4,025
2040	11,694	3,296	13,612	4,102
<b>Totals</b>	<b>225,711</b>	<b>75,402</b>	<b>245,130</b>	<b>76,924</b>

(1) Total Disposal by Burial and Cremation is currently at 94% (rounded), increasing at estimated rate of .01% annually, one-half higher than minimum scenario. Burial figure is residual of total Burial & Cremations less estimated Cremations.

(2) Total Disposal by Burial and Cremation is currently at 94% (rounded), increasing at rate of .015% annually over study period and last five years. Burial figure is residual of total Burial & Cremations less estimated Cremations.

Compiled by CBRE/Hallstrom Team

### Number of Veterans Interred at Military/Veterans Cemeteries

Military veterans represent just over 8 percent of the Oahu population, a figure which has been decreasing at .05 percent compounded annually over the past two decades. These individuals have alternative cemetery spaces available to them in Federal and/or State and Local memorial parks; such as the Hawaii State Veterans Cemetery adjacent to HMP.

A national study in 2001 (published 2003) concluded approximately 18 percent of Veterans desiring interment would be buried in military/veteran facilities.

Application of this ratio to the projected Oahu veteran population, using a mid-point estimate, is shown following. The forecast number of veterans buried in veteran cemeteries is estimated at 3,383 persons by 2040.

The purpose of this application is to remove both veteran cemetery burials from demand and veteran cemetery plots from supply.

PROJECTION OF OAHU VETERANS POPULATION TO BE BURIED IN VETERAN CEMETERIES							
Year	Projected Oahu Population, Mid-Point (1)	Percent of Population Who Are Veterans (2)	Projected Oahu Veteran Population	Projected Veteran Population Annual Death Rate (3)	Projected Annual Oahu Veteran Deaths	Percent Interred in Veterans Cemeteries (4)	Projected Annual Oahu Veteran Cemetery Interments
2018	999,924	8.4%	83,994	0.8%	690	18.2%	126
2019	1,004,283	8.4%	83,938	0.8%	699	18.2%	127
2020	1,008,661	8.3%	83,882	0.8%	709	18.2%	129
2021	1,014,211	8.3%	83,922	0.9%	719	18.2%	131
2022	1,019,792	8.2%	83,962	0.9%	729	18.2%	133
2023	1,025,403	8.2%	84,002	0.9%	740	18.2%	135
2024	1,031,046	8.2%	84,042	0.9%	751	18.2%	137
2025	1,036,898	8.1%	84,096	0.9%	762	18.2%	139
2026	1,042,090	8.1%	84,095	0.9%	772	18.2%	141
2027	1,047,309	8.0%	84,093	0.9%	783	18.2%	143
2028	1,052,555	8.0%	84,092	0.9%	794	18.2%	145
2029	1,057,829	7.9%	84,091	1.0%	805	18.2%	147
2030	1,064,113	7.9%	84,167	1.0%	817	18.2%	149
2031	1,069,446	7.9%	84,166	1.0%	829	18.2%	151
2032	1,074,806	7.8%	84,165	1.0%	840	18.2%	153
2033	1,080,194	7.8%	84,164	1.0%	852	18.2%	155
2034	1,085,611	7.8%	84,163	1.0%	864	18.2%	157
2035	1,089,994	7.7%	84,081	1.0%	875	18.2%	159
2036	1,094,928	7.7%	84,039	1.1%	887	18.2%	161
2037	1,099,886	7.6%	83,997	1.1%	899	18.2%	164
2038	1,104,868	7.6%	83,956	1.1%	911	18.2%	166
2039	1,109,876	7.6%	83,915	1.1%	923	18.2%	168
2040	1,114,572	7.5%	83,848	1.1%	936	18.2%	170
<b>Totals</b>					<b>18,586</b>		<b>3,383</b>
<b>Compounded Annual Growth Rate</b>		<b>-0.5%</b>	<b>0.0%</b>	<b>1.4%</b>	<b>1.4%</b>		<b>1.4%</b>

(1) Mid-point population projection from Tables 2 and 3.  
(2) From State of Hawaii Data Book Table 10.34 "Distribution of Veterans Affairs Population and Expenditures, By County", as trending over time.  
(3) From State of Hawaii Data Book Table 2.15 "Selected Life Table Values", based on assumptions Veterans are 25 years or older, with rate of death at 1.3% times the total population (all ages).  
(4) From 2001 National Survey of Veterans, published March 2003, Table 9-20 "Percent Distribution of Veterans by Plans for Burial in Veterans Cemetery", assumed static.

Source: As Cited, and CBRE/Hallstrom Team

### Identification and Allowances for Other Factors

When calculating the going-forward net demand for burial spaces on Oahu there are three additional items which must be accounted for; the first two are deductions from gross demand estimates, the third is an addition to demand.

- **Existing burial spaces that have been purchased but are still unused.** Every major cemetery on Oahu has sold plots, niches, crypt spaces to families/individuals who are still living and won't be "absorbed" until the owner is interred. For any other land use type, this would be considered "over-hanging inventory" that must be absorbed prior to further development.

Our survey of the major cemeteries on Oahu indicates there are some 50,000 burial spaces in this on-hold category, about 25,000 of which are in the existing HMP facility. For analytical purposes, we conservatively forecast all these plots will be used during the 23-year projection time-frame to 2040, at the rate of 2,200 per year through 2035 and 2,080 annually over the last five-year period.

- **Oahu residents being buried on the neighbor islands.** An increasing number of Oahu resident families are electing to inter their relatives in Neighbor Island cemeteries due to the meaningfully higher average costs on Oahu. Based on discussions with funeral and cemetery directors in Hilo and on Maui, and review of available media publications, it is estimated the number at 250 per year through 2025, increasing to 400 per year through 2035, and 500 per year through 2040.

- **Allowance for off-shore persons being buried on Oahu.** Acknowledged to be a generally rare occurrence, an allocation of 15 burials of this type of year contributing to net Oahu demand was made.

### Construction and Application of Model for Net Demand for Burial Spaces

All the preceding variables, allocations and assumptions were used to construct a model forecasting the net demand for additional burial spaces on Oahu from 2018 through 2040 in five intervals, the first being 3 years (2018-20) the remainder being 5-years each (2021-25, 2026-30, 2031-35 and 2036-40).

The model is shown on the following page.

In Scenario One – Minimum Demand, the net additional Oahu burial demand is quantified at 145,025 burial spaces by 2040.

In Scenario Two – Maximum Demand, the net additional Oahu burial demand is quantified at 165,795 burial spaces by 2040.

The mid-point demand is 155,400 burial spaces (rounded).

**PROJECTION OF NET DEMAND FOR NON-VETERAN CEMETERY INTERMENTS ON OAHU 2018 THROUGH 2040**

	2018-2020	2021-2025	2026-2030	2031-2035	2036-2040	Totals
<b>Scenario One: Minimum Demand (Table 2)</b>						
Projected Number of Interred Cremations	13,694	25,434	29,110	33,260	37,778	139,275
Projected Number of Burials	9,490	16,160	16,500	16,675	16,578	75,402
<b>Total Interments</b>	<b>23,184</b>	<b>41,594</b>	<b>45,609</b>	<b>49,935</b>	<b>54,355</b>	<b>214,678</b>
Less Burial Spaces Purchased and Previously Unused (1)	(6,600)	(11,000)	(11,000)	(11,000)	(10,400)	(50,000)
Less Veterans Interred at Veterans Cemeteries	(382)	(673)	(723)	(775)	(829)	(3,383)
Less Oahu Residents Interred on Other Islands (2)	(1,500)	(2,500)	(3,750)	(3,750)	(5,000)	(16,500)
Plus Allowances for Off-Shore Persons Being Buried on Oahu (Ten Per Year)	30	50	50	50	50	230
<b>Total Periodic Net Demand for Additional Burial Spaces On Oahu</b>	<b>14,732</b>	<b>27,471</b>	<b>30,186</b>	<b>34,460</b>	<b>38,176</b>	<b>145,025</b>
<b>Scenario Two: Maximum Demand (Table 3)</b>						
Projected Number of Interred Cremations	15,385	28,674	32,954	37,872	43,524	158,409
Projected Number of Burials	8,180	14,762	16,286	17,946	19,751	76,924
<b>Total Interments</b>	<b>23,564</b>	<b>43,436</b>	<b>49,239</b>	<b>55,818</b>	<b>63,275</b>	<b>235,332</b>
Less Burial Spaces Purchased and Unused (1)	(6,600)	(11,000)	(11,000)	(11,000)	(10,400)	(50,000)
Less Veterans Interred at Veterans Cemeteries	(382)	(673)	(723)	(775)	(829)	(3,383)
Less Oahu Residents Interred on Other Islands (2)	(1,500)	(2,500)	(3,750)	(3,750)	(5,000)	(16,500)
Plus Allowances for Off-Shore Persons Being Buried on Oahu (15 Per Year)	45	75	75	75	75	345
<b>Total Periodic Net Demand for Additional Burial Spaces On Oahu</b>	<b>15,128</b>	<b>29,338</b>	<b>33,841</b>	<b>40,367</b>	<b>47,120</b>	<b>165,795</b>
<b>Mid-Point Total Periodic Interments</b>	<b>14,930</b>	<b>28,404</b>	<b>32,014</b>	<b>37,414</b>	<b>42,648</b>	<b>155,410</b>

(1) There are an estimated 50,000 burial spaces in existing Oahu cemeteries which have been pre-purchased for future use. We have assumed these will be absorbed at the rate of 2,200 per years for next 18-years and (39,600 total) and 2,080 per year for the final five projection years (10,400 total)













(2) An increasing number of resident families are electing to inter their relatives in Neighbor Island cemeteries due to the meaningfully higher average costs on Oahu. We have estimated the number at 250 per year through 2025, increasing to 400 per year through 2035, and 500 per year through 2040.

Source: CBRE/Hallstrom Team

## IDENTIFICATION OF EXISTING AND PROPOSED SUPPLY

### Identify Existing Major Cemeteries with Burial Spaces for Purchase

The six major cemeteries on Oahu still offering burial plot inventory are summarized on the table below and identified on the subsequent map.

SUMMARY OF ACTIVE OAHU CEMETERIES		Diamond Head Memorial Park		Nuuanu Memorial Park		Oahu Cemetery		Valley of the Temples Memorial Park		Milliani Memorial Park		Laike Cemeteries	
Property													
Interior Site Photo													
Aerial Photo													
Address	509 18th Ave	223 Nuuanu Avenue	2162 Nuuanu Ave	47-200 Kahaikili Hwy	94-580 Kamehameha Hwy	55-710 Waihinape Street							
Location	Honolulu	Honolulu	Honolulu	Kaneohe	Milliani	Laike							
Year Opened	1936	1949	1844	1963	1965	1922							
Gross Acreage	25.0	3.5	15.5	244.0	143.0	5.0							
Burial Area Acreage	22.8	3	15	85	63	5							
Existing Burials (Including Plots, Crypts, Niches)	30,500	7,800+/-	25,000	88,000	70,000	4,200							
Estimated Saleable Available	300+/- Plots, 1,000+ Niches	0 plots, 200 crypts, 500+ niches	100 Plots, 600+ Niches	7,500 plots/crypts, 2,200 niches	3,800	300+							
Potential Expansion Acres	None	None	None	44	35 Potential, 17 proposed	Possible							
Proposed Plots/Niches	0	0	0	46,000	19,000	Unpurchased at Present							
Full Size Plot Price	\$8,800 - \$9,300	\$6,700 - \$11,000 (Crypts)	\$10,000 - \$15,000	\$3,000 - \$81,001	\$6,100	\$2,000							
Urn Plots	\$4,250 - \$5,550	\$5,670 - \$5,880	\$3,500 - \$5,500	\$2,100 single, \$2,900 Double	\$700 Single, \$3,400 Double	\$2,000							
Source:	Cited Cemeteries, State DCCA and CBRE/Hallstrom Team												





Nuuanu Memorial Park (abutting Oahu Cemetery) is also included on the table although it is effectively sold out apart from a limited number of crypts (less than 200) and niches (about 500).

**Quantify the Amount of Remaining Inventory in Existing Phases**

Based on our interviews with cemetery personnel and review of available records, it is estimated there are currently some 16,400 burial plots remaining in the six major Oahu cemeteries (excluding HMP).

ESTIMATED TOTAL EXISTING SUPPLY OF BURIAL SPACES IN MAJOR OAHU CEMETERIES	
Combined Burial Plots, Crypts and Niche Spaces	
Cemetery	Existing Available
Diamond Head Memorial Park	1,300
Nuuanau Memorial Park	700
Oahu Cemetery	700
Valley of the Temples Memorial Park	9,700
Mililani Memorial Park	3,800
Laie Cemeteries	300
<b>TOTALS</b>	<b>16,500</b>

Complied by CBRE/Hallstrom Team



### Project the Number of Additional Inventory to be Provided in Expansion or New Projects

There is a high barrier to entry in the Oahu cemetery sector due to the scarcity of available sites, high land costs and infrastructure expenses, and community issues. There hasn't been a new public cemetery opened on the island in circa 50 years despite evident rising demand and dwindling supply.

In mid-2007 plans surfaced for a new cemetery that would total approximately 60,000 plots on a 69.01-acre parcel in Kamilo Nui Valley in Hawaii Kai named Paradise Memorial Park, which was to have an address of 7488 Hawaii Kai Drive.

In 2010, entities involved with the development entered bankruptcy. Later that year the project was restructured and subsequently has been periodically announced to be moving forward; though no additional details or project schedules have proven determinative. The first phase is to contain 12,000 burial plots. For purposes of this analysis, we have assumed it will break-ground and complete and sell-out the first two phases of the facility within our 2018-2040 projection period.

We estimate the total number of existing and proposed burial space inventory available to service the Oahu disposal demand over the coming 23-years, apart from HMP, will total some 105,500 plots, as summarized below.

<b>MAXIMUM ESTIMATED TOTAL EXISTING AND PROPOSED SUPPLY OF MAJOR OAHU INTERMENT OPTIONS BY 2040</b>			
<b>Cemetery</b>	<b>Combined Burial Plots, Crypts and Niche Spaces</b>		
	<b>Existing Available</b>	<b>Currently Proposed</b>	<b>Total Available and Proposed</b>
Diamond Head Memorial Park	1,300	0	1,300
Nuuanau Memorial Park	700	0	700
Oahu Cemetery	700	0	700
Valley of the Temples Memorial Park	9,700	46,000	55,700
Mililani Memorial Park	3,800	19,000	22,800
Laie Cemeteries	300	0	300
Hawaii Kai Cemetery (Proposed) (1)	0	24,000	24,000
<b>TOTALS</b>	<b>16,500</b>	<b>89,000</b>	<b>105,500</b>

(1) Phase I will have 12,000 burial spaces of total build-out of 60,000. We have assumed two phases, or 24,000 spaces, will be made available in projection time-frame to 2040.

Compiled by CBRE/Hallstrom Team

## Appropriateness of the Subject Property for Proposed Use and Absorption Estimates

### APPROPRIATENESS ANALYSIS

Considering the quantified market support for the proposed subject cemetery development, the next step in analysis is to assess whether the site and concept are appropriate from a market perspective, are in concert with macro demand trends, and forecast the probable standing of the HMP product therein. These insights determine the competitiveness and resulting probable market shares for the HMP Expansion project inventory.

The master plan for the subject project is consistent with modern cemetery planning objectives, including considerations for view, maximizing use of easily walkable terrain, creating individual/exclusive burial areas, and addressing feng shui issues (a critical concern in Hawaii). As previously presented, among the features considered most relevant relative to achieving full-market acceptance:

- Exceptional panoramas stretching for miles along the Koolau Pali, encompassing the hills of Mokapu Peninsula and the waters of Kaneohe Bay.
- Feelings of serenity enhanced by a surrounding buffer of dense rain forest flora and open spaces and insulation from future intruding land uses.
- Gently flowing terrain creating discrete memorial gardens within the larger park.
- Excellent exposure and direct access from Kamehameha Highway, and immediately north of the H-3 Freeway, 1.5 miles north and south, respectively of the Pali and Likelike Highways.
- Proximity to Kaneohe and Kailua, the two largest windward towns, and only ten miles from Downtown Honolulu. It is the closest cemetery to Honolulu with significant numbers of burial spaces available.
- Favorable windward climate which keeps lawns green and air fresh.

The HMP Expansion plan is an appropriate use of the subject property from an economic acceptance perspective based on a variety of criteria, including:

- It will convert a currently non-productive, sloping holding into a comprehensively-designed sustainable development which will help meet future burial needs in the region and islandwide.
- It will attract significant capital investment into the community and create jobs during its construction.
- It will provide for the continuation of dozens of cemetery sales, services, management and maintenance jobs that would otherwise be diminished once the existing HMP is fully occupied.
- It will enhance economic activity in the Oahu death services industry.

- It will provide a permanent buffer for southerly Kaneohe enabling the town to resist urban sprawl.
- It is consistent with regional Honolulu County community sustainable plans.

We conclude the proposed HMP Expansion project master plan represents a highest and best use of the underlying site, will provide a positive return to the land, and will bring economic activity to a site currently hosting none. The use and the proposed project are appropriate for the property.

### APPLICATION OF ABSORPTION ESTIMATING TECHNIQUES

Based on these attributes of the subject property, analysis of the Oahu cemetery sector, and the historic experience of HMP and competitive projects in the islandwide marketplace, the probable absorption velocity for the subject inventory was estimated using three methodologies:

- Gross Demand/Supply Comparison -- This technique assumes that if there is insufficient existing and planned supply to meet projected market gross demand levels during the projection period there is rational support for the subject units.
- The Residual Method -- In this technique, all the competitive inventory existing and proposed for development on Oahu during the 2018-2040 projection period is placed on a time-line depicting their combined anticipated rates of absorption or assuming a reasonable market share. To the extent this periodic supply of burial spaces falls short of the forecast periodic demand for product on Oahu an undersupply situation is present and there is "residual" demand remaining for the HMP Expansion inventory. This method is considered the most conservative as it allows the maximal competitive product to achieve their full absorption potential before any residual demand flows to absorb the subject.
- The Market Shares Method -- This approach accounts for the probable competitiveness of the subject inventory regardless of the total level of product being otherwise offered on the market. It is an estimate of how much of the total forecast net demand for additional burial spaces on Oahu the proposed project could expect to capture on an annual basis considering its history, location, product type, probable pricing, perceived competitiveness, and other characteristics.

On a islandwide basis, the Gross Demand method indicates there is strong- support for the HMP Expansion project. The net demand for non-military burial spaces on Oahu through 2040 is forecast to be between 145,000 and 164,800 total plots (rounded). The remaining unsold existing and proposed inventory (apart from HMP) total some 105,500 units or only 64 to 73 percent of the needed product.

Therefore, this method is highly supportive of sufficient market demand existing over the coming two-plus decades to successfully absorb all the subject product during a reasonable exposure period.

If it is optimistically assumed the (reasonably) proposed burial space inventory in existing and unbuilt projects will be built out by 2040 placing some 105,500 new plots on the Oahu market there will remain substantial unmet Residual Demand for product in every projection period from 2017-2020 through 2018-2020 through 2036-2040, as shown on the chart below.


**PROJECTION OF POTENTIAL SUBJECT PLOT ABSORPTION USING THE RESIDUAL METHOD BASED ON ESTIMATED EXISTING AND PROPOSED PLOTS IN MAJOR OAHU CEMETERIES 2018 THROUGH 2040**

Segment	2018-2020	2021-2025	2026-2030	2031-2035	2036-2040	TOTALS
<b>1. Minimum Demand</b>						
Assumed Supply of Burial Plots, Crypts and Cremation Niches Major Cemeteries	13,761	22,935	22,935	22,935	22,935	105,500
Oahu Net Burial Spaces Demand	14,732	27,471	30,186	34,460	38,176	145,025
Shortage or (Excess) Supply	971	4,536	7,252	11,525	15,241	39,525
<b>Potential Residual Subject Minimum Demand</b>						
at 100% Capture Rate	971	4,536	7,252	11,525	15,241	39,525
at 95% Capture Rate	923	4,309	6,889	10,949	14,479	37,549

<b>2. Maximum Demand</b>						
Assumed Supply of Burial Plots, Crypts and Cremation Niches Major Cemeteries	13,761	22,935	22,935	22,935	22,935	105,500
Oahu Net Burial Spaces Demand	15,128	29,338	33,841	40,367	47,120	165,795
Shortage or (Excess) Supply	1,367	6,403	10,907	17,432	24,186	60,295
<b>Potential Residual Subject Minimum Demand</b>						
at 100% Capture Rate	1,367	6,403	10,907	17,432	24,186	60,295
at 95% Capture Rate	1,298	6,083	10,361	16,561	22,976	57,280

<b>3. Mid-Point Demand</b>						
Oahu Burial Spaces Demand	14,930	28,404	32,014	37,414	42,648	155,410
Shortage or (Excess) Supply	1,169	5,469	9,079	14,479	19,713	49,910
<b>Potential Residual Subject Minimum Demand</b>						
at 95% Capture Rate	1,169	5,469	9,079	14,479	19,713	49,910
at 90% Capture Rate	1,111	5,196	8,625	13,755	18,728	47,414

(1) Includes spaces in existing cemeteries not being marketed/open to other purchasers, sold-out cemeteries, church cemeteries and other specialty burial sites. Allowance of 1,500 per year through 2030, 1,000 per year through 2035, and 500 per year thereafter.

 = Probable Absorption period for 33,600 remaining and proposed subject burial spaces. Circa 19 years in Minimum Scenario and 15 Years in Maximum. Mid-Point of 17 years.

Source: Cited Cemeteries and CBRE/Hallstrom Team

Even if the assumed supply brought on-line at other cemeteries achieves full absorption within reasonable periods, there will be excess residual demand available for the 33,600-total remaining HMP spaces (estimated 3,600 in existing acreage and 30,000 in expansion project), which would be expected to capture 95 and 100 percent of the left-over, unmet demand.

Using the residual analysis the remaining and additional burial space inventory at HMP would be full-absorbed (sold-out to final users) within 15 to 19 years, with a mid-point of 17 years.

Given the desirable location, the unique qualities of its product, its historic market standing and anticipated pricing envisioned for the HMP Expansion inventory, it will achieve a solid market standing and prove competitive in the Oahu burial plot market; and able to garner a reasonable share of total island net demand regardless of the numbers of competing plots offered.

We estimate the proposed project could readily achieve an average Market Shares (or "Capture") Rate of 30 percent to 33 percent of the total Oahu net burial space demand during the projection period extending through 2040. This is an appropriate fraction of the total demand given its

historic market penetration and that there will only be two or three other cemeteries offering competing (though less desirable) product.

Application of this method is shown for the remaining HMP plots commencing in 2021 in the chart below.

SUMMARY OF SUBJECT PROJECTED BURIAL SPACE DEMAND LEVELS USING THE MARKET SHARES METHOD				
Assuming 3,600 Existing Inventory and 30,000 Proposed Spaces				
Scenario One: Using Minimum Demand Assumptions				
Sales Year		Total Net Oahu Space Demand	Effective Subject Share	Indicated Total Subject Space Absorption
Date	Period			
Infrastructure Emplacement				
2020	1			
2021	2	5,494	30.00%	1,648
2022	3	5,494	30.00%	1,648
2023	4	5,494	30.00%	1,648
2024	5	5,494	30.00%	1,648
2025	6	5,494	30.00%	1,648
2026	7	6,037	30.00%	1,811
2027	8	6,037	30.00%	1,811
2028	9	6,037	30.00%	1,811
2029	10	6,037	30.00%	1,811
2030	11	6,037	30.00%	1,811
2031	12	6,892	30.00%	2,068
2032	13	6,892	30.00%	2,068
2033	14	6,892	30.00%	2,068
2034	15	6,892	30.00%	2,068
2035	16	6,892	30.00%	2,068
2036	17	7,635	30.00%	2,291
2037	18	7,635	30.00%	2,291
2038	19	7,635	5.03%	384
<b>Totals</b>		<b>115,023</b>	<b>28.34%</b>	<b>32,600</b>
Scenario Two: Using Maximum Demand Assumptions				
Sales Year		Total Net Oahu Space Demand	Effective Subject Share	Indicated Total Subject Space Absorption
Date	Period			
Infrastructure Emplacement				
2020	1			
2021	2	5,868	33.00%	1,936
2022	3	5,868	33.00%	1,936
2023	4	5,868	33.00%	1,936
2024	5	5,868	33.00%	1,936
2025	6	5,868	33.00%	1,936
2026	7	6,768	33.00%	2,234
2027	8	6,768	33.00%	2,234
2028	9	6,768	33.00%	2,234
2029	10	6,768	33.00%	2,234
2030	11	6,768	33.00%	2,234
2031	12	8,073	33.00%	2,664
2032	13	8,073	33.00%	2,664
2033	14	8,073	33.00%	2,664
2034	15	8,073	33.00%	2,664
2035	16	8,073	13.55%	1,094
<b>Totals</b>		<b>103,547</b>	<b>31.48%</b>	<b>32,600</b>
<b>ANALYSIS MID-POINT</b>				
<b>16.8 Years</b>		<b>109,285</b>	<b>29.83%</b>	<b>32,600</b>
Source: CBRE/Hallstrom Team				

**A total absorption period for the subject burial spaces would be between 15.4-years and 18.2-years, with a mid-point at 16.8 years.** This equates to an average market capture rate of 29.8 percent with an average annual absorption of 1,975 plots.

Correlation of the three absorption quantification techniques indicates the 33,600 burial spaces which will be remaining at HMP in the existing and expansion areas once the latter is opened for sale and interment in 2021-will achieve full sell-out/absorption within approximately 17 years of offering.



## Economic Impacts of the Proposed Development

The tables containing the data, analysis and modeling comprising this section of our study are contained in the addenda, including the full-size print-outs of those excerpted into the narrative section.

The expansion of HMP will result in significant expenditures that will favorably impact the Oahu economy on both a direct and indirect basis, increasing the level of capital investment and capital flow in the region, which will in turn contribute to and extend employment opportunities and the tax base.

From a direct perspective, the project will create numerous construction, equipment operator and specialty trade jobs on- and off-site, directly and indirectly, during the planning and emplacement of the infrastructure.

After completion of the common systems the existing employment at the HMP will be extended (and marginally enhanced) for several additional decades; including positions which would otherwise gradually fade away as the currently available plots are sold and utilized.

There are currently 38 staff positions at HMP, include 20 maintenance workers, 10 administrative, 5 in funeral services and 3 for community services. The expansion project will keep this core in demand until mid-century or beyond as the 32,600 plots (remaining in existing park area and in expansion area) are sold-out (by 2035) and interments continue thereafter.

We estimate the expansion area, adding 28 acres to the existing 80-acre park, will proportionately increase the need for maintenance workers by a similar percentage over time, up from the current 20 to 27 positions. In the long-term there may be some diminishment in the total number of administrative and service positions, but we consider such would be nominal as burials and resale of plots, and oversight of the HMP will continue long after they are sold-out.

We have estimated the wages and benefits for the construction and operating personnel during the absorption period (2020 through 2035) and on a generally stabilized basis following. In addition to the on-site workers there will be significant off-site worker-years created on Oahu servicing the construction effort and the HMP employees and operations.

Numerous local businesses will see significant profit opportunities arising for contracting companies emplacing the infrastructure, and for local businesses which would supply a substantial portion of the materials needed in the effort.

The general island economy also will benefit from the subject development, as its employees will spend their discretionary income in shops, restaurants, and service establishments throughout Oahu, and in purchasing goods and services.

Indirectly, as these wages, profits, and expenditures move through the regional economy, they will have a ripple, or "multiplier," effect which increases the amount of capital flowing to the entire community resulting from the development of the subject.

Construction, operational and other workers earning wages via HMP expansion and associated off-site/supporting efforts will spend the majority of their income on living and entertainment expenses while supporting and patronizing other island businesses. Much of this spending would be re-directed by these businesses to other island industries, and significant portions of these secondary profits would in turn be put back through the region's economic and tax structure.

These substantial direct and indirect economic impacts associated with the proposed subject project, as quantified following, are all the result of the capital investment and entrepreneurship necessary to convert undeveloped preservation lands into a cemetery. The Honolulu County economy will be meaningfully stimulated by the capital investments, worker spending and business operations of the development.

Our economic analysis was based on a 16-year build-out and sell-out/absorption modeling period (2020 through 2035). The full entitlement and construction could possibly take a shorter or longer period; however, whether full development and sales takes 16 or 20 years, the economic impact during the build-out period and stabilized "operation" of the cemetery will be the same following completion. As constant, uninflated 2018 dollars are used throughout the model, time is not a significant variable in the analysis.

For modeling purposes, the life-span of the project from final approvals through build-out and stabilization are assumed as shown in the following table.

PROJECTED HAWAII MEMORIAL PARK EXPANSION INFRASTRUCTURE, SALES/ABSORPTION AND INTERMENT TIMING		
Year	Project Year	Activity
2018-19	1 & 2	Achieve full-entitlement, approvals and permits
2020	3	Site preparation and emplacement of infrastructure
2021	4	Expansion area sales and interments commence
2022-2035	5 through 16	Sales of plots and interments continue, with full sell-out/absorption by 2035
Post-2035	17 and Beyond	Interments continue at lower-velocity along with re-sales of plots over the long-term

It is anticipated that final approvals, surveys and planning will require approximately 18 months (through 2018 and 2019), the site work and infrastructure will be completed in 2020, plot sales and initial interments commence in 2021, with total sell-out/absorption completed by 2035. Interments and plot re-sales would continue thereafter.

## CAPITAL INVESTMENT AND CONSTRUCTION COSTS

The subject will bring an estimated \$29.3 million in direct development capital into Oahu during one-year infrastructure emplacement period for the project, as shown below. All-in costs were estimated by Sam O. Hirota, Inc. in April 2018.

PROPOSED DEVELOPMENT SCHEDULE AND ESTIMATED CONSTRUCTION COSTS				
All Amounts Expressed in Constant 2018 Dollars				
Item	Development and Sales Period			Totals During Build-Out
	2020 to 2025	2026 to 2030	2031-2035	
Infrastructure Emplacement (1)	\$29,304,000	\$0	\$0	\$29,304,000
<b>TOTAL PERIODIC CONSTRUCTION COSTS</b>	<b>\$29,304,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$29,304,000</b>
Contractor Profits	\$2,930,400	\$0	\$0	\$2,930,400
Supplier Profits	\$1,172,160	\$0	\$0	\$1,172,160

(1) "Hawaiian Memorail Park Expansion Cost Estimate" Sam O. Hirota, Inc., April 30, 2018. Includes site work, on and off-site infrastructure, roadways and contingency; engineering & architecture, permits and study fees.

Source: CBRE/Hallstrom Team

## DIRECT BUSINESS PROFITS FROM CONSTRUCTION

While a significant percentage of the materials needed to build the subject infrastructure must be imported to Oahu, a portion of the construction costs spent in the development will directly flow to local businesses in the form of contractor profits and supplier profits.

Typically, within the industry net contractor profit margins are expected to be at 8 to 20 percent of total construction costs. We have used a conservative ten percent figure. Supplier profits were extrapolated at four percent of total costs

The cumulative Contractor's Profit generated by the HMP expansion for local building companies will total an estimated \$2.9 million over the construction period. The total Supplier's Profit would be some \$1.2 million in aggregate.

## EMPLOYMENT OPPORTUNITIES CREATED

Based on indicators provided by the construction of comparable sized projects and Hawaii industry averages, we have estimated the demand for on- and off-site, direct and indirect, full-time

equivalent employment positions associated with laying of initial infrastructure systems and in providing continuing maintenance and operating services to the expanded park.

The construction, maintenance, and indirect/off-site employment opportunities created/sustained by the subject development will not all be "new" jobs and will not require new Oahu residents. They will be new opportunities for in-place resident construction trade workers and existing local supply businesses, and to maintain the existing HMP job count which would otherwise be diminished or falter as the current Park plots are filled and no new inventory is available.

It is assumed the off-site/indirect work created will be steered towards existing Oahu supply and equipment providers and in-place businesses.

The following table summarizes our worker-years, full-time equivalent (FTE) projections for the HMP expansion during construction and sell-out absorption and on a stabilized on-going annual basis thereafter.

ESTIMATED YEARLY FULL-TIME EQUIVALENT EMPLOYMENT POSITIONS CREATED BY DEVELOPMENT				
Construction Employment (1)	Development and Sales Period			Totals During Build-Out
	2020 to 2025	2026 to 2030	2031-2035	
<b>Infrastructure Employment</b>	73			73
<b>Total Periodic Construction Jobs</b>	<b>73</b>	<b>0</b>	<b>0</b>	<b>73</b>
<b>On-Going Employment</b>				
Maintenance, Administrative and Services	190	210	225	625
<b>Total FTE Jobs in Place at End of Period</b>	<b>38</b>	<b>42</b>	<b>45</b>	<b>45</b>
Off-Site Employment (3)	88	70	75	233
<b>Total FTE Jobs in Place at End of Period</b>	<b>37</b>	<b>14</b>	<b>15</b>	<b>15</b>
<b>TOTAL PERIODIC WORKER YEARS</b>	<b>351</b>	<b>280</b>	<b>300</b>	<b>931</b>
<b>TOTAL END-OF-PERIOD PERMANENT JOBCOUNT</b>	<b>51</b>	<b>56</b>	<b>60</b>	<b>60</b>

(1) Infrastructure construction employment estimated at 1 worker-year for every \$400,000 in costs. Includes all direct employment associated with construction, on and off-site.  
 (2) Current staff of 38 employees, including 20 maintenance, 10 administrative, 5 funeral services and 3 community services. Expansion of existing park from 80 acres to 108 acres will create an additional 7 maintenance positions.  
 (3) Estimated at one cumulative off-site employment position for every three on site positions.

Source: CBRE/Hallstrom Team

A total of 73 worker-years of employment in the construction trades will be needed for site work and emplacing the infrastructure for the HMP expansion project.

The existing operating staff of 38 workers is assumed to continue at that job count with the exception of seven added maintenance workers over time to care for the additional 28 acres of grave sites. It is assumed this level of staffing will continue into the long-term after 2035, although we acknowledge there may be some slippage in the administrative, sales and servicing departments,

Off-Site/Indirect/Secondary employment created by the HMP expansion, estimated at one-third the on-site/direct job count will total 233 worker-years from 2020 through 2023 and 15 FTE positions per year as stabilized.

## WAGE INCOME GENERATED

In accordance with data compiled by the state Department of Labor and Industry Relations, as tempered through our analysis, and the actual current operating payroll of HMP, we have estimated the personal income (in the form of wages) which will flow to Oahu workers as a result of HMP expansion construction and use. The results are shown on the table below.

ESTIMATED YEARLY EMPLOYEE WAGES CREATED BY DEVELOPMENT				
All Amounts Expressed in Constant 2018 Dollars				
Construction Wages (1)	Development and Sales Period			Totals During
	2020 to 2025	2026 to 2030	2031-2035	Build-Out
Infrastructure Employment	\$5,942,851			\$5,942,851
<b>Total Periodic Construction Wages</b>	<b>\$5,942,851</b>	<b>\$0</b>	<b>\$0</b>	<b>\$5,942,851</b>
<b>Maintenance, Administrative and Services (2)</b>				
Annual Wages	\$2,665,485	\$2,946,062	\$3,156,495	\$8,768,043
<b>Total Periodic Wages</b>	<b>\$13,327,425</b>	<b>\$14,730,312</b>	<b>\$15,782,477</b>	<b>\$43,840,214</b>
<b>Off-Site Employment Wages (3)</b>				
Annual Average Wages	\$821,371	\$786,240	\$842,400	\$2,178,571
<b>Total Periodic Wages</b>	<b>\$4,928,227</b>	<b>\$3,931,200</b>	<b>\$4,212,000</b>	<b>\$13,071,427</b>
<b>TOTAL PERIODIC WAGES</b>	<b>\$24,198,503</b>	<b>\$18,661,512</b>	<b>\$19,994,477</b>	<b>\$62,854,492</b>
				<b>Stabilized Annually</b>
				<b>\$3,156,495</b>
				<b>\$842,400</b>
				<b>\$3,998,895</b>

(1) Average annual wage for full-time-equivalent construction worker (equipment operators and other infrastructure-related trades ) at \$81,120 (\$39/hour X 2,080 hours).  
 (2) Based on current payroll of HMP. Added workers due to expansion assumed to be at average proportional wage.  
 (3) Average annual wage for full-time-equivalent general worker at \$56,160 (\$27/hour), the average wage for all "All Occupations" in the state.

Wages taken from US Department of Labor "May 2017 Metropolitan and Non-Metropolitan Area Occupational Employment and Wage Estimates - Urban Honolulu, HI" escalated one year.

Source: CBRE/Hallstrom Team

Total construction wages paid during infrastructure emplacement will be \$5.9 million.

Current payroll at the HMP is some \$2.7 million annually for the 38-member staff. We have assumed this amount will continue on a going-forward basis apart from the addition of new maintenance staff to service the expansion area, paid proportionately to the existing workers. Total HMP employee wages during the modeling period will be \$43.8 million and stabilize at \$3.2 million thereafter.

Off-sits/indirect employee wages will total \$13.1 million during build-out and be \$842,400 annually on a stabilized basis.

## OPERATING ECONOMIC ACTIVITY

We estimate the operating economic activity within the HMP expansion area will be comprised of three components:

- The \$29.3 million in infrastructure expenditures.

- Some \$7 million annually, and \$115.9 million during the 16-year modeling period, in HMP operations, which will not be “new” economic activity but a sustenance of the current operations. These are gross revenues that would otherwise be diminished as the existing Park is fully absorbed and used. However, in acknowledgement that once the expansion area plots are fully sold-out there will be lessened revenues post-2035, we have decreased the Park revenues/operating budget to \$5 million annually on a stabilized basis (with revenues continuing to flow in from the maintenance trust fund, funeral services and plot resales).
- An estimated \$13.1 million from off-site wages and their expenditures in the local economy from 220 through 2035, and \$842,400 annually thereafter.

### SUMMARY OF DIRECT, LOCAL ECONOMIC IMPACTS

As correlated on the table below, annual Total Base Economic Impact on a stabilized after build-out will be \$5.9 million per year. During the development and sales/absorption period, the aggregate total is \$141.0 million.

SUMMARY OF ECONOMIC IMPACTS ASSOCIATED WITH DEVELOPMENT					
All Amounts Expressed in Constant 2018 Dollars					
	Development and Sales Period			Totals During Build-Out	Stabilized Annually
	2020 to 2025	2026 to 2030	2031-2035		
<b>Construction Activity</b>					
Construction Wages	\$5,942,851	\$0	\$0	\$5,942,851	
Contractor Profits	\$2,930,400	\$0	\$0	\$2,930,400	
Supplier Profits	\$1,172,160	\$0	\$0	\$1,172,160	
Other Construction Costs	\$19,258,589	\$0	\$0	\$19,258,589	
<b>Total Construction Impact</b>	<b>\$29,304,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$29,304,000</b>	
<b>Memorial Park Gross Revenues</b>					
Annually	\$7,000,000	\$7,700,000	\$8,470,000		\$5,000,000
<b>Total During Entire Period</b>	<b>\$35,000,000</b>	<b>\$38,500,000</b>	<b>\$42,350,000</b>	<b>\$115,850,000</b>	
<b>Off-Site Wages</b>					
Annually	\$821,371	\$786,240	\$842,400		
<b>Total During Entire Period</b>	<b>\$4,928,227</b>	<b>\$3,931,200</b>	<b>\$4,212,000</b>	<b>\$13,071,427</b>	<b>\$842,400</b>
<b>TOTAL BASE ECONOMIC IMPACT</b>	<b>\$34,232,227</b>	<b>\$50,917,440</b>	<b>\$55,874,400</b>	<b>\$141,024,067</b>	<b>\$5,842,400</b>

(1) Estimated at \$1,000 per home per month.

Source: CBRE/Hallstrom Team

### STATE INPUT/OUTPUT MODEL

We have also analyzed the impacts of the project for Oahu and Statewide using the State of Hawaii DBEDT *Inter-County Input-Output Economic Model* Type II multipliers (2012 analysis approved in August 2016). These factors quantify the total Direct, Indirect and Induced "effects" of various forms of business and spending activity as it flows through the economy of the islands.

In every instance, application of the macro Input-Output multipliers resulted in higher dollar, employment, and tax revenue indicators than in our subject-focused micro model which was designed to reflect Direct and upper-level Indirect impacts only.



Among the construction-based outputs using the State method, shown on the table below:

- The \$19.3 million in cumulative HMP expansion construction costs will generate a total State Economic Output of \$57.4 million during build-out.
- Direct subject construction wage earnings of \$5.9 million will yield \$10.3 million in statewide wage earnings.
- Indirect and induced State taxes during will total \$3.6 million during construction.
- Direct effect jobs created by construction employment will be 2.25 times the number of on-site workers, or a total of 164.8 worker years of employment.

**ESTIMATES OF TOTAL ECONOMIC IMPACT FROM SUBJECT CONSTRUCTION  
USING INTER-COUNTY INPUT-OUTPUT MODEL "TYPE II" MULTIPLIERS FOR OAHU**  
All Amounts Expressed in Constant 2018 Dollars

Year	Development and Sales Period			Totals	Stabilized Annually
	2020 to 2025	2026 to 2030	2031-2035		
<b><u>Construction Costs</u></b>	<b>\$29,304,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$29,304,000</b>	<b>\$0</b>
1. Economic Output Multiplier	1.96	1.96	1.96	1.96	1.96
<b>Total State Economic Output</b>	<b>\$57,435,840</b>	<b>\$0</b>	<b>\$0</b>	<b>\$57,435,840</b>	<b>\$0</b>
2. Earnings Multiplier	0.60	0.60	0.60	0.60	0.60
<b>Total Increase in State Earnings</b>	<b>\$17,582,400</b>	<b>\$0</b>	<b>\$0</b>	<b>\$17,582,400</b>	<b>\$0</b>
3. State Tax Multipliers	0.12	0.12	0.12	0.12	0.12
<b>Total Increase in State Taxes</b>	<b>\$3,654,209</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,654,209</b>	<b>\$0</b>
4. Total Job Multipliers	11.00	11.00	11.00	11.00	11.00
<b>Total State Jobs Created</b>	<b>322.3</b>	<b>0.0</b>	<b>0.0</b>	<b>322.3</b>	<b>0.0</b>
<b><u>Construction Employment</u></b>	<b>73</b>	<b>0</b>	<b>0</b>	<b>73</b>	<b>27</b>
5. Direct-Effect Job Multipliers	2.25	2.25	2.25	2.25	2.25
<b>Total Direct Jobs Created</b>	<b>164.8</b>	<b>0.0</b>	<b>0.0</b>	<b>164.8</b>	<b>60.8</b>
<b><u>Construction Wages</u></b>	<b>\$5,942,851</b>	<b>\$0</b>	<b>\$0</b>	<b>\$5,942,851</b>	<b>\$0</b>
6. Direct-Effect Earnings	1.74	1.74	1.74	1.74	1.74
<b>Total Increase in Direct Earnings</b>	<b>\$10,340,561</b>	<b>\$0</b>	<b>\$0</b>	<b>\$10,340,561</b>	<b>\$0</b>

Using Type II "Construction" Multipliers

Source: The 2012 Hawaii Inter-County Input-Output Model (approved August 2016), and CBRE/Hallstrom Team

Among the operations-based outputs using the State method, shown on the table below:

- The \$128.9 million in cumulative HMP expansion operating economic activity will generate a total State Economic Output of \$237.2 million during the 16-year modeling period with subsequent operating activity averaging \$10.8 million annually on a stabilized basis.
- On-going earnings activity will generate \$67 million during the modeling period and \$3 million each stabilized year.
- Indirect and induced State taxes during operations will total \$15 million during construction and \$681,224 annually thereafter.
- Direct effect jobs created by operating employment will be 1.58 times the number of on-site workers, or a total of 263.1 worker years of employment from 2020 through 2035 and 94.8 annually thereafter.

**ESTIMATES OF TOTAL ECONOMIC IMPACT FROM SUBJECT OPERATIONS  
USING INTER-COUNTY INPUT-OUTPUT MODEL "TYPE II" MULTIPLIERS FOR OAHU**  
All Amounts Expressed in Constant 2018 Dollars

Year	Development Year			Totals	Stabilized Annually
	2020 to 2025	2026 to 2030	2031-2035		
<b><i>Total On-Going Economic Activity</i></b>	<b>\$39,928,227</b>	<b>\$42,431,200</b>	<b>\$46,562,000</b>	<b>\$128,921,427</b>	<b>\$5,842,400</b>
1. Economic Output Multiplier <b>Total State Economic Output</b>	<u>1.84</u> <b>\$73,467,938</b>	<u>1.84</u> <b>\$78,073,408</b>	<u>1.84</u> <b>\$85,674,080</b>	<u>1.84</u> <b>\$237,215,426</b>	<u>1.84</u> <b>\$10,750,016</b>
2. Earnings Multiplier <b>Total Increase in State Earnings</b>	<u>0.52</u> <b>\$20,762,678</b>	<u>0.52</u> <b>\$22,064,224</b>	<u>0.52</u> <b>\$24,212,240</b>	<u>0.52</u> <b>\$67,039,142</b>	<u>0.52</u> <b>\$3,038,048</b>
3. State Tax Multipliers <b>Total Increase in State Taxes</b>	<u>0.12</u> <b>\$4,655,631</b>	<u>0.12</u> <b>\$4,947,478</b>	<u>0.12</u> <b>\$5,429,129</b>	<u>0.12</u> <b>\$15,032,238</b>	<u>0.12</u> <b>\$681,224</b>
4. Total Job Multipliers <b>Total State Jobs Created</b>	<u>20.10</u> <b>802.6</b>	<u>20.10</u> <b>852.9</b>	<u>20.10</u> <b>935.9</b>	<u>20.10</u> <b>2,591.3</b>	<u>20.10</u> <b>117.4</b>
<b><i>Operating Employment</i></b>	<b>50.5</b>	<b>56.0</b>	<b>60.0</b>	<b>166.5</b>	<b>60.0</b>
5. Direct-Effect Job Multipliers <b>Total Direct Jobs Created</b>	<u>1.58</u> <b>79.9</b>	<u>1.58</u> <b>88.5</b>	<u>1.58</u> <b>94.8</b>	<u>1.58</u> <b>263.1</b>	<u>1.58</u> <b>94.8</b>
<b><i>Operating Wages</i></b>	<b>\$16,659,281</b>	<b>\$18,412,890</b>	<b>\$19,728,096</b>	<b>\$54,800,267</b>	<b>\$3,998,895</b>
6. Direct-Effect Earnings <b>Total Increase in Direct Earnings</b>	<u>1.70</u> <b>\$28,320,778</b>	<u>1.70</u> <b>\$31,301,913</b>	<u>1.70</u> <b>\$33,537,764</b>	<u>1.70</u> <b>\$93,160,454</b>	<u>1.70</u> <b>\$6,798,122</b>

Using Type II "Services" and "Other Services" Multipliers

Source: The 2012 Hawaii Inter-County Input-Output Model (approved August 2016), and CBRE/Hallstrom Team

## ANCILLARY ECONOMIC (PHASE II) IMPACTS

HMP will have nominal to minor impacts on the socio-economic aspects of the surrounding community that relate to real estate issues.

- There are no neighboring uses on three sides of the HMP Expansion acreage property. The existing park is to the west, open lands to the east, and hills, open space and old quarry lands to the south. To the north are built-out single family residential subdivisions which will be buffered from the plot gardens in the expansion project.
- The site is appropriately called a Memorial Park, a vast greensward having several small central structures and highly limited activity; with just a handful of internment services daily, graveside visitations and maintenance activities. There will be no additional structures on the expansion acreage and similarly limited, subdued activities.
- The HMP Expansion will not meaningfully impact the property values or real estate taxes of the northerly-abutting homes. Property values throughout Windward Oahu are largely driven by external, cyclical economic factors within an existing (and expanding) cumulative mass, not by the expansion of a cemetery which has been in-place for decades.
- There is not expected to be any in-migration to Oahu as a direct result of the project.

## Public Fiscal (Costs/Benefits) from the Proposed Development

The full-size tables depicting the modeling process summarized in this study section are contained in the addenda.

As previously noted, public fiscal (or cost/benefit) impacts are typically estimated on a per capita basis founded on a conservative assumption that each new person added to the Oahu community is "responsible for" a similar tax cost/obligation as every other person on the island.

As there will be no new residents resulting from the HMP Expansion there will be no new per capita costs. We have therefore focused on any additional costs the State and County will incur beyond current levels as a result of the expansion project.

Our analytical focus is on "new" or additional fiscal impacts (incoming tax dollars and outgoing government expenditures) to the State and County arising from the development of the HMP Expansion project not those monies/costs which are already in-place due to the existing HMP facility and operation.

### NEW/SUSTAINED HONOLULU COUNTY REVENUES

The City and County of Honolulu currently receives some \$530 per year of real property taxes on the 164-acre subject site (split between "Preservation" and "Residential" use designations.). This total is not anticipated to meaningfully change, if at all, as a result of the HMP expansion.

The County will receive an estimated \$500,000 in one-time permit, license and other fees at the commencement of the project; otherwise there will be no enhancement in benefits from the project.

### NEW/SUSTAINED STATE OF HAWAII REVENUES

The State of Hawaii will receive an estimated \$5.0 million in primary receipts from State Income Taxes from on and off-site construction and operations worker wages, and profits from local businesses from the HMP expansion during its 16-year modeling period.

This is based on average statewide corporate and personal payments rates of 4.4 percent and 5.1 percent, respectively, applied against the economic model forecasts.

On an annualized basis after stabilization in 2035, the State will generate income taxes of \$266,581.

QUANTIFICATION OF PUBLIC FISCAL COSTS AND BENEFITS FROM HAWAIIAN MEMORIAL PARK EXPANSION					
All Amounts Expressed in Constant 2018 Dollars					
Development Period	Development and Sales Period			Totals During Build-Out Period	Stabilized Annually After Build-out
	2020 to 2025	2026 to 2030	2031-2035		
<b>PUBLIC BENEFITS (Revenues)</b>					
<b>1. STATE INCOME TAXES</b>					
Taxable Personal Income	\$24,198,503	\$18,661,512	\$19,994,477	\$62,854,492	\$3,156,495
Taxable Corporate Profits	\$14,400,000	\$13,200,000	\$14,400,000	\$42,000,000	\$2,400,000
Personal Taxes Paid	\$1,234,124	\$951,737	\$1,019,718	\$3,205,579	\$160,981
Corporate Taxes Paid	\$633,600	\$580,800	\$633,600	\$1,848,000	\$105,600
<b>TOTAL STATE INCOME TAXES</b>	<b>\$1,867,724</b>	<b>\$1,532,537</b>	<b>\$1,653,318</b>	<b>\$5,053,579</b>	<b>\$266,581</b>

## Public Costs/Benefits from the Proposed Development

The State will collect Gross Excise Taxes (GET) of 4.712 percent on the gross amount of building contracts, construction supplies, spending by workers and residents, and from the on-going business activity of HMP as sustained by its expansion.

During the 16-year construction and sales/ absorption period these receipts will total \$2.5 million and a stabilized amount of \$83,311 annually.

QUANTIFICATION OF PUBLIC FISCAL COSTS AND BENEFITS FROM HAWAIIAN MEMORIAL PARK EXPANSION					
All Amounts Expressed in Constant 2018 Dollars					
Development Period	Development and Sales Period			Totals During Build-Out Period	Stabilized Annually After Build-out
	2020 to 2025	2026 to 2030	2031-2035		
<b>PUBLIC BENEFITS (Revenues)</b>					
<b>2. STATE GROSS EXCISE TAX</b>					
Taxable Transactions					
Construction Contracts	\$29,304,000	\$0	\$0	\$29,304,000	\$0
Worker Disposable Income Purchases	\$12,099,252	\$9,330,756	\$9,997,238	\$31,427,246	\$1,999,448
	\$41,403,252	\$9,330,756	\$9,997,238	\$60,731,246	\$1,999,448
<b>TOTAL STATE EXCISE TAX</b>	<b>\$1,725,149</b>	<b>\$388,785</b>	<b>\$416,555</b>	<b>\$2,530,489</b>	<b>\$83,311</b>

## TOTAL NEW/SUSTAINED PUBLIC GROSS REVENUES

The table below summarizes the new/sustained gross public revenue which will be flowing to the County and State from the expansion of the HMP.

QUANTIFICATION OF PUBLIC FISCAL COSTS AND BENEFITS FROM HAWAIIAN MEMORIAL PARK EXPANSION					
All Amounts Expressed in Constant 2018 Dollars					
Development Period	Development and Sales Period			Totals During Build-Out Period	Stabilized Annually After Build-out
	2020 to 2025	2026 to 2030	2031-2035		
<b>INCLUDES "NEW" COUNTY AND STATE TAXES AND COSTS ONLY</b>					
<b>TOTAL GROSS PUBLIC REVENUES</b>					
Real Property Taxes To City & County of Honolulu	\$0	\$0	\$0	\$0	\$0
Adjustment for Other Proportional Taxes (1)	1.99	1.99	1.99	1.99	1.99
Adjusted Honolulu County Revenues	\$0	\$0	\$0	\$0	\$0
Plus Impact Fees (2)	\$500,000	\$0	\$0	\$500,000	\$0
<b>Total Honolulu County Receipts</b>	<b>\$500,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$500,000</b>	<b>\$0</b>
To State (Income Taxes and GET)	\$3,592,873	\$1,921,322	\$2,069,873	\$7,584,068	\$349,892
Adjustment for Other Proportional Taxes	1.15	1.15	1.15	1.15	1.15
Adjusted State Revenues	\$4,131,804	\$2,209,520	\$2,380,354	\$8,721,678	\$402,376
Plus Impact Fees	\$0	\$0	\$0	\$0	\$0
<b>Total State of Hawaii Receipts</b>	<b>\$4,131,804</b>	<b>\$2,209,520</b>	<b>\$2,380,354</b>	<b>\$8,721,678</b>	<b>\$402,376</b>
<b>AGGREGATE TAX REVENUES</b>	<b>\$4,131,804</b>	<b>\$2,209,520</b>	<b>\$2,380,354</b>	<b>\$8,721,678</b>	<b>\$402,376</b>

Real Property Taxes (RPT) are forecast to generate about 50.17 percent of total Honolulu County General Fund revenues in the 2018 fiscal-year budget, with secondary taxes and fees the forming the remainder. It is logical to assume the HMP development and business activities will generate secondary taxes in proportion to RPT as does the overall Maui community.

The secondary Honolulu County receipts are equal to an additional 199 percent of the RPT total (58.8% divided by 41.2%).

This point is moot as there are no additional/new real property taxes projected to be paid as a result of the HMP expansion.

However, we have included an estimated/allocated expense of \$500,000 for any County impact, filing, permit or other fees which may be assessed. This is the only amount attributed to the County coffers.

In recent fiscal years, Income Tax and GET have generated about 87 percent of total State general fund revenues (excluding carry-over funds), and secondary taxes and fees the remainder. We anticipate HMP economic activity expressed in the primary tax sources will result in secondary taxes equivalent to statewide averages.

The secondary State receipts are equal to 1.15 times the Income Tax and GET totals (74% divided by 26%).

Application of this ratio to the HMP expansion income tax and GET sums results in a cumulative total estimated tax collection from the subject of \$8.7 million during the initial forecasting period through 2035, and \$402,376 annually on a stabilized basis.

### NEW/ADDED PUBLIC COSTS

We, along with the HMP owners do not expect there will be any or “new” or additional per capita or actual costs beyond the nominal amounts already incurred by either the State or County resulting from the expansion of HMP.

The expansion area will merely sustain existing operational parameters. No additional emergency/policing services will be required, extension of public infrastructure or road systems, or school and other public facilities enhanced/developed.

This results in all added public revenues generated by the HMP expansion being “marginal profits”.

QUANTIFICATION OF PUBLIC FISCAL COSTS AND BENEFITS FROM HAWAIIAN MEMORIAL PARK EXPANSION					
All Amounts Expressed in Constant 2018 Dollars					
Development Period	Development and Sales Period			Totals During Build-Out Period	Stabilized Annually After Build-out
	2020 to 2025	2026 to 2030	2031-2035		
INCLUDES "NEW" COUNTY AND STATE TAXES AND COSTS ONLY					
<b>ADDED PUBLIC COSTS (Expenses)</b>					
By City & County of Honolulu	\$0	\$0	\$0	\$0	\$0
By State of Hawaii	\$0	\$0	\$0	\$0	\$0
<b>TOTAL PUBLIC COSTS</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

### NET PUBLIC BENEFITS (PROFIT)

As shown in the following table the net public benefits (revenues less costs) flowing to the City & County of Honolulu from the proposed HMP Expansion project will total an estimated \$500,000 in upfront licensing, permit and other fees, with no other benefits or costs during the modeling period or on a stabilized basis thereafter.

The State of Hawaii will receive net benefits (“profits”) of \$8.7 million from 2020 through 2035 and an annual benefit of \$402,376 on a stabilized basis.



# Public Costs/Benefits from the Proposed Development

QUANTIFICATION OF PUBLIC FISCAL COSTS AND BENEFITS FROM HAWAIIAN MEMORIAL PARK EXPANSION					
All Amounts Expressed in Constant 2018 Dollars					
Development Period	Development and Sales Period			Totals During Build-Out Period	Stabilized Annually After Build-out
	2020 to 2025	2026 to 2030	2031-2035		
INCLUDES "NEW" COUNTY AND STATE TAXES AND COSTS ONLY					
<b>TOTAL NET PUBLIC BENEFITS</b>					
City & County of Honolulu	\$500,000	\$0	\$0	\$500,000	\$0
State of Hawaii	<u>\$4,131,804</u>	<u>\$2,209,520</u>	<u>\$2,380,354</u>	<u>\$8,721,678</u>	<u>\$402,376</u>
<b>AGGREGATE NET BENEFITS</b>	<b>\$4,631,804</b>	<b>\$2,209,520</b>	<b>\$2,380,354</b>	<b>\$9,221,678</b>	<b>\$402,376</b>

(1) Real property taxes comprise 50.17 percent of new General Funds in the Honolulu County FY 2018 budget. Economic activity generates other revenue items of 49.83 percent or additional 99.32 percent above real property taxes.

(2) For DOE estimated at \$5,800 per home.

(3) In recent fiscal years, Gross Excise and Income Taxes have averaged some 87 percent of total State revenues; other revenue items 13 percent, or 15 percent above income and gross excise taxes.

Source: CBRE/Hallstrom Team

## Assumptions and Limiting Conditions

1. CBRE, Inc. through its appraiser (collectively, "CBRE") has inspected through reasonable observation the subject property. However, it is not possible or reasonably practicable to personally inspect conditions beneath the soil and the entire interior and exterior of the improvements on the subject property. Therefore, no representation is made as to such matters.
2. The report, including its conclusions and any portion of such report (the "Report"), is as of the date set forth in the letter of transmittal and based upon the information, market, economic, and property conditions and projected levels of operation existing as of such date. The dollar amount of any conclusion as to value in the Report is based upon the purchasing power of the U.S. Dollar on such date. The Report is subject to change as a result of fluctuations in any of the foregoing. CBRE has no obligation to revise the Report to reflect any such fluctuations or other events or conditions which occur subsequent to such date.
3. Unless otherwise expressly noted in the Report, CBRE has assumed that:
  - (i) Title to the subject property is clear and marketable and that there are no recorded or unrecorded matters or exceptions to title that would adversely affect marketability or value. CBRE has not examined title records (including without limitation liens, encumbrances, easements, deed restrictions, and other conditions that may affect the title or use of the subject property) and makes no representations regarding title or its limitations on the use of the subject property. Insurance against financial loss that may arise out of defects in title should be sought from a qualified title insurance company.
  - (ii) Existing improvements on the subject property conform to applicable local, state, and federal building codes and ordinances, are structurally sound and seismically safe, and have been built and repaired in a workmanlike manner according to standard practices; all building systems (mechanical/electrical, HVAC, elevator, plumbing, etc.) are in good working order with no major deferred maintenance or repair required; and the roof and exterior are in good condition and free from intrusion by the elements. CBRE has not retained independent structural, mechanical, electrical, or civil engineers in connection with this appraisal and, therefore, makes no representations relative to the condition of improvements. CBRE appraisers are not engineers and are not qualified to judge matters of an engineering nature, and furthermore structural problems or building system problems may not be visible. It is expressly assumed that any purchaser would, as a precondition to closing a sale, obtain a satisfactory engineering report relative to the structural integrity of the property and the integrity of building systems.
  - (iii) Any proposed improvements, on or off-site, as well as any alterations or repairs considered will be completed in a workmanlike manner according to standard practices.
  - (iv) Hazardous materials are not present on the subject property. CBRE is not qualified to detect such substances. The presence of substances such as asbestos, urea formaldehyde foam insulation, contaminated groundwater, mold, or other potentially hazardous materials may affect the value of the property.
  - (v) No mineral deposit or subsurface rights of value exist with respect to the subject property, whether gas, liquid, or solid, and no air or development rights of value may be transferred. CBRE has not considered any rights associated with extraction or exploration of any resources, unless otherwise expressly noted in the Report.
  - (vi) There are no contemplated public initiatives, governmental development controls, rent controls, or changes in the present zoning ordinances or regulations governing use, density, or shape that would significantly affect the value of the subject property.
  - (vii) All required licenses, certificates of occupancy, consents, or other legislative or administrative authority from any local, state, nor national government or private entity or organization have been or can be readily obtained or renewed for any use on which the Report is based.
  - (viii) The subject property is managed and operated in a prudent and competent manner, neither inefficiently or super-efficiently.
  - (ix) The subject property and its use, management, and operation are in full compliance with all applicable federal, state, and local regulations, laws, and restrictions, including without limitation environmental laws, seismic hazards, flight patterns, decibel levels/noise envelopes, fire hazards, hillside ordinances, density, allowable uses, building codes, permits, and licenses.

- (x) The subject property is in full compliance with the Americans with Disabilities Act (ADA). CBRE is not qualified to assess the subject property's compliance with the ADA, notwithstanding any discussion of possible readily achievable barrier removal construction items in the Report.
- (xi) All information regarding the areas and dimensions of the subject property furnished to CBRE are correct, and no encroachments exist. CBRE has neither undertaken any survey of the boundaries of the subject property nor reviewed or confirmed the accuracy of any legal description of the subject property.

Unless otherwise expressly noted in the Report, no issues regarding the foregoing were brought to CBRE's attention, and CBRE has no knowledge of any such facts affecting the subject property. If any information inconsistent with any of the foregoing assumptions is discovered, such information could have a substantial negative impact on the Report. Accordingly, if any such information is subsequently made known to CBRE, CBRE reserves the right to amend the Report, which may include the conclusions of the Report. CBRE assumes no responsibility for any conditions regarding the foregoing, or for any expertise or knowledge required to discover them. Any user of the Report is urged to retain an expert in the applicable field(s) for information regarding such conditions.

4. CBRE has assumed that all documents, data and information furnished by or behalf of the client, property owner, or owner's representative are accurate and correct, unless otherwise expressly noted in the Report. Such data and information include, without limitation, numerical street addresses, lot and block numbers, Assessor's Parcel Numbers, land dimensions, square footage area of the land, dimensions of the improvements, gross building areas, net rentable areas, usable areas, unit count, room count, rent schedules, income data, historical operating expenses, budgets, and related data. Any error in any of the above could have a substantial impact on the Report. Accordingly, if any such errors are subsequently made known to CBRE, CBRE reserves the right to amend the Report, which may include the conclusions of the Report. The client and intended user should carefully review all assumptions, data, relevant calculations, and conclusions of the Report and should immediately notify CBRE of any questions or errors within 30 days after the date of delivery of the Report.
5. CBRE assumes no responsibility (including any obligation to procure the same) for any documents, data or information not provided to CBRE, including without limitation any termite inspection, survey or occupancy permit.
6. All furnishings, equipment and business operations have been disregarded with only real property being considered in the Report, except as otherwise expressly stated and typically considered part of real property.
7. Any cash flows included in the analysis are forecasts of estimated future operating characteristics based upon the information and assumptions contained within the Report. Any projections of income, expenses and economic conditions utilized in the Report, including such cash flows, should be considered as only estimates of the expectations of future income and expenses as of the date of the Report and not predictions of the future. Actual results are affected by a number of factors outside the control of CBRE, including without limitation fluctuating economic, market, and property conditions. Actual results may ultimately differ from these projections, and CBRE does not warrant any such projections.
8. The Report contains professional opinions and is expressly not intended to serve as any warranty, assurance or guarantee of any particular value of the subject property. Other appraisers may reach different conclusions as to the value of the subject property. Furthermore, market value is highly related to exposure time, promotion effort, terms, motivation, and conclusions surrounding the offering of the subject property. The Report is for the sole purpose of providing the intended user with CBRE's independent professional opinion of the value of the subject property as of the date of the Report. Accordingly, CBRE shall not be liable for any losses that arise from any investment or lending decisions based upon the Report that the client, intended user, or any buyer, seller, investor, or lending institution may undertake related to the subject property, and CBRE has not been compensated to assume any of these risks. Nothing contained in the Report shall be construed as any direct or indirect recommendation of CBRE to buy, sell, hold, or finance the subject property.
9. No opinion is expressed on matters which may require legal expertise or specialized investigation or knowledge beyond that customarily employed by real estate appraisers. Any user of the Report is advised to retain experts in areas that fall outside the scope of the real estate appraisal profession for such matters.
10. CBRE assumes no responsibility for any costs or consequences arising due to the need, or the lack of need, for flood hazard insurance. An agent for the Federal Flood Insurance Program should be contacted to determine the actual need for Flood Hazard Insurance.

11. Acceptance or use of the Report constitutes full acceptance of these Assumptions and Limiting Conditions and any special assumptions set forth in the Report. It is the responsibility of the user of the Report to read in full, comprehend and thus become aware of all such assumptions and limiting conditions. CBRE assumes no responsibility for any situation arising out of the user's failure to become familiar with and understand the same.
12. The Report applies to the property as a whole only, and any pro ration or division of the title into fractional interests will invalidate such conclusions, unless the Report expressly assumes such pro ration or division of interests.
13. The allocations of the total value estimate in the Report between land and improvements apply only to the existing use of the subject property. The allocations of values for each of the land and improvements are not intended to be used with any other property or appraisal and are not valid for any such use.
14. The maps, plats, sketches, graphs, photographs, and exhibits included in this Report are for illustration purposes only and shall be utilized only to assist in visualizing matters discussed in the Report. No such items shall be removed, reproduced, or used apart from the Report.
15. The Report shall not be duplicated or provided to any unintended users in whole or in part without the written consent of CBRE, which consent CBRE may withhold in its sole discretion. Exempt from this restriction is duplication for the internal use of the intended user and its attorneys, accountants, or advisors for the sole benefit of the intended user. Also exempt from this restriction is transmission of the Report pursuant to any requirement of any court, governmental authority, or regulatory agency having jurisdiction over the intended user, provided that the Report and its contents shall not be published, in whole or in part, in any public document without the written consent of CBRE, which consent CBRE may withhold in its sole discretion. Finally, the Report shall not be made available to the public or otherwise used in any offering of the property or any security, as defined by applicable law. Any unintended user who may possess the Report is advised that it shall not rely upon the Report or its conclusions and that it should rely on its own appraisers, advisors and other consultants for any decision in connection with the subject property. CBRE shall have no liability or responsibility to any such unintended user.

**ADDENDA**

Addendum A

# MARKET STUDY AND ABSORPTION TABLES



**TABLE 1**

<b>OAHU DEMOGRAPHIC TRENDS 2000 TO 2040</b>			
<b>Year</b>	<b>2000</b>	<b>2017</b> (Current)	<b>2040</b>
Resident Population	878,906	992,605	
Minimum Forecast			1,086,710
Maximum Forecast			1,142,434
Mortality Rate	0.65%	0.80%	
Minimum Forecast			1.08%
Maximum Forecast			1.19%
Percent of Population Over 65	14.00%	18.00%	
Minimum Forecast			24.00%
Maximum Forecast			26.00%
Annual Resident Deaths	5,721	7,960	
Minimum Forecast			11,694
Maximum Forecast			12,864

Compiled by CBRE/Hallstrom Team

<b>ESTIMATED NET ADDITIONAL BURIAL SPACE DEMAND ON OAHU 2018 THROUGH 2040</b>		
<b>Period</b>	<b>One: Minimum</b>	<b>Two: Maximum</b>
2018 to 2020	14,732	15,128
2021 to 2025	27,471	29,338
2026 to 2030	30,186	33,841
2030 to 2035	34,460	40,367
2036 to 2040	38,176	47,120
<b>Total Burial Spaces</b>	<b><u>145,025</u></b>	<b><u>165,795</u></b>

Compiled by CBRE/Hallstrom

TABLE 2

## NATIONAL DEATH STATISTICS (1997-2014)

Year	Total Deaths	Percent Annual Increase	Death Rate (Per 100,000)	Percent Annual Increase	Life Expectancy at Birth	Percent Annual Increase
1997	2,314,245	----	864.7	----	76.5	----
1998	2,337,256	1.0%	864.7	0.0%	76.7	0.3%
1999	2,391,399	2.3%	881.9	2.0%	76.7	0.0%
2000	2,403,351	0.5%	872.0	-1.1%	76.9	0.3%
2001	2,416,425	0.5%	854.5	-2.0%	77.2	0.4%
2002	2,447,864	1.3%	846.8	-0.9%	77.4	0.3%
2003	2,448,288	0.0%	832.7	-1.7%	77.5	0.1%
2004	2,398,343	-2.0%	801.0	-3.8%	77.9	0.5%
2005	2,448,017	2.1%	798.8	-0.3%	77.8	-0.1%
2006	2,426,264	-0.9%	776.5	-2.8%	77.7	-0.1%
2007	2,423,712	-0.1%	760.2	-2.1%	77.9	0.3%
2008	2,471,984	2.0%	758.3	-0.2%	78.1	0.3%
2009	2,437,163	-1.4%	741.1	-2.3%	78.5	0.5%
2010	2,468,435	1.3%	747.0	0.8%	78.7	0.3%
2011	2,515,458	1.9%	741.3	-0.8%	78.7	0.0%
2012	2,543,279	1.1%	732.8	-1.1%	78.8	0.1%
2013	2,596,993	2.1%	731.9	-0.1%	78.8	0.0%
2014	2,626,418	1.1%	742.6	1.5%	78.8	0.0%
2015	2,712,630	3.3%	733.1	-1.3%	78.7	-0.1%
2016	2,744,248	1.2%	728.8	-0.6%	78.6	-0.1%
	<u>0.9%</u>		<u>-0.9%</u>		<u>0.1%</u>	

Source: CDC National Vital Statistics Reports

TABLE 3

## ISLAND OF OAHU HISTORIC DEATH RATE 1997 THROUGH 2017

Year	Population (1)	Percent Annual Change	Resident Deaths (2)	Percent Annual Change	Deaths as Percent of Population	Percent Annual Change
1997	886,711	-	5,467	-	0.6%	-
1998	886,909	0.0%	5,585	2.2%	0.6%	2.1%
1999	878,906	-0.9%	5,776	3.4%	0.7%	4.4%
2000	876,156	-0.3%	5,721	-1.0%	0.7%	-0.6%
2001	882,755	0.8%	5,860	2.4%	0.7%	1.7%
2002	890,473	0.9%	6,081	3.8%	0.7%	2.9%
2003	894,311	0.4%	6,272	3.1%	0.7%	2.7%
2004	907,997	1.5%	6,281	0.1%	0.7%	-1.4%
2005	918,181	1.1%	6,330	0.8%	0.7%	-0.3%
2006	926,954	1.0%	6,505	2.8%	0.7%	1.8%
2007	925,335	-0.2%	6,421	-1.3%	0.7%	-1.1%
2008	933,680	0.9%	6,474	0.8%	0.7%	-0.1%
2009	943,177	1.0%	6,742	4.1%	0.7%	3.1%
2010	953,207	1.1%	6,978	3.5%	0.7%	2.4%
2011	965,629	1.3%	7,125	2.1%	0.7%	0.8%
2012	974,990	1.0%	7,426	4.2%	0.8%	3.2%
2013	984,730	1.0%	7,542	1.6%	0.8%	0.6%
2014	988,586	0.4%	7,754	2.8%	0.8%	2.4%
2015	993,166	0.5%	7,878	1.6%	0.8%	1.1%
2016	992,605	-0.1%	7,806	-0.9%	0.8%	-0.9%
2017	995,583	0.3%	7,960	0.3%	0.8%	0.3%
<b>Compounded Annual Growth Rate</b>		<b>0.6%</b>		<b>1.9%</b>		<b>1.3%</b>

(1) State of Hawaii Data Book. Table 1.06 "Resident Population by County" (2017 extrapolated estimate).

(2) State Department of Health Vital Statistics. "Births, Deaths, Marriages and Civil Unions".

Source: As cited and CBRE/Hallstrom Team

TABLE 4

## SCENARIO ONE: MINIMUM - FORECAST OAHU DEATHS 2018 THROUGH 2040

Year	State of Hawaii 2040 Population Forecast (1)	Percent Annual Change	Trending Deaths as a Percent of Population	Percent Historic Annual Change	Forecast Resident Deaths	Percent Annual Change
2018	998,292	0.27%	0.81%	1.30%	8,085	1.6%
2019	1,001,001	0.27%	0.82%	1.30%	8,212	1.6%
2020	1,003,710	0.27%	0.83%	1.30%	8,342	1.6%
2021	1,008,729	0.50%	0.84%	1.30%	8,492	1.8%
2022	1,013,772	0.50%	0.85%	1.30%	8,646	1.8%
2023	1,018,841	0.50%	0.86%	1.30%	8,802	1.8%
2024	1,023,935	0.50%	0.88%	1.30%	8,961	1.8%
2025	1,029,410	0.50%	0.89%	1.30%	9,126	1.8%
2026	1,033,528	0.40%	0.90%	1.30%	9,282	1.7%
2027	1,037,662	0.40%	0.91%	1.30%	9,440	1.7%
2028	1,041,812	0.40%	0.92%	1.30%	9,601	1.7%
2029	1,045,980	0.40%	0.93%	1.30%	9,765	1.7%
2030	1,052,130	0.40%	0.95%	1.30%	9,950	1.9%
2031	1,056,339	0.40%	0.96%	1.30%	10,119	1.7%
2032	1,060,564	0.40%	0.97%	1.30%	10,292	1.7%
2033	1,064,806	0.40%	0.98%	1.30%	10,467	1.7%
2034	1,069,065	0.40%	1.00%	1.30%	10,646	1.7%
2035	1,071,220	0.40%	1.01%	1.30%	10,806	1.5%
2036	1,074,434	0.30%	1.02%	1.30%	10,979	1.6%
2037	1,077,657	0.30%	1.04%	1.30%	11,155	1.6%
2038	1,080,890	0.30%	1.05%	1.30%	11,334	1.6%
2039	1,084,133	0.30%	1.06%	1.30%	11,516	1.6%
2040	1,086,710	0.30%	1.08%	1.30%	11,694	1.5%
<b>Total Oahu Deaths 2018 through 2040</b>					<b><u>225,711</u></b>	

(1) Using periodic five-year projection figures with state annual growth rates for interim years, except for 2018 & 2019 which uses mid-point growth rate from 2017 estimates.

Source: As cited, and CBRE/Hallstrom Team

TABLE 5

## SCENARIO TWO: MAXIMUM - FORECAST OAHU DEATHS 2018 THROUGH 2040

Year	Using Growth Trends of Last 20 Years	Percent Annual Change	Maximum Deaths as a Percent of Population	Percent Maximum Annual Change	Forecast Resident Deaths	Percent Annual Change
2018	1,001,556	0.6%	0.81%	1.75%	8,147	2.4%
2019	1,007,566	0.6%	0.83%	1.75%	8,340	2.4%
2020	1,013,611	0.6%	0.84%	1.75%	8,537	2.4%
2021	1,019,693	0.6%	0.86%	1.75%	8,738	2.4%
2022	1,025,811	0.6%	0.87%	1.75%	8,944	2.4%
2023	1,031,966	0.6%	0.89%	1.75%	9,156	2.4%
2024	1,038,158	0.6%	0.90%	1.75%	9,372	2.4%
2025	1,044,386	0.6%	0.92%	1.75%	9,593	2.4%
2026	1,050,653	0.6%	0.93%	1.75%	9,819	2.4%
2027	1,056,957	0.6%	0.95%	1.75%	10,051	2.4%
2028	1,063,298	0.6%	0.97%	1.75%	10,288	2.4%
2029	1,069,678	0.6%	0.98%	1.75%	10,531	2.4%
2030	1,076,096	0.6%	1.00%	1.75%	10,780	2.4%
2031	1,082,553	0.6%	1.02%	1.75%	11,034	2.4%
2032	1,089,048	0.6%	1.04%	1.75%	11,295	2.4%
2033	1,095,582	0.6%	1.06%	1.75%	11,561	2.4%
2034	1,102,156	0.6%	1.07%	1.75%	11,834	2.4%
2035	1,108,769	0.6%	1.09%	1.75%	12,114	2.4%
2036	1,115,422	0.6%	1.11%	1.75%	12,400	2.4%
2037	1,122,114	0.6%	1.13%	1.75%	12,692	2.4%
2038	1,128,847	0.6%	1.15%	1.75%	12,992	2.4%
2039	1,135,620	0.6%	1.17%	1.75%	13,299	2.4%
2040	1,142,434	0.6%	1.19%	1.75%	13,612	2.4%
<b>Total Oahu Deaths 2018 through 2040</b>					<b>245,130</b>	

Source: CBRE/Hallstrom Team

**TABLE 6**

**STATE OF HAWAII HISTORICAL DEATHS BY DISPOSITION 1970-2015**

Year	Burials			Cremations			Removal Out of State			Medical Donation			All Others			Total All Methods	
	Number	Percent Annual Change	Percent of Total Dispositions	Number	Percent Annual Change	Percent of Total Dispositions	Number	Percent Annual Change	Percent of Total Dispositions	Number	Percent Annual Change	Percent of Total Dispositions	Number	Percent Annual Change	Percent of Total Dispositions	Number	Percent Annual Change
1970	2,197	---	52.4%	1,509	---	36.0%	470	---	11.2%	Complete Data Unavailable			18	---	0.4%	<b>4,194</b>	---
1980	2,241	0.2%	43.1%	2,343	5.5%	45.0%	567	2.1%	10.9%	Complete Data Unavailable			53	19.4%	1.0%	<b>5,204</b>	2.4%
1990	3,564	5.9%	50.5%	2,798	1.9%	39.7%	656	1.6%	9.3%	Complete Data Unavailable			37	-3.0%	0.5%	<b>7,055</b>	3.6%
2000	2,767	-2.2%	32.5%	5,092	8.2%	59.8%	591	-1.0%	6.9%	40	---	0.5%	21	-4.3%	0.2%	<b>8,511</b>	2.1%
2001	2,689	-2.8%	31.2%	5,241	2.9%	60.9%	608	2.9%	7.1%	50	25.0%	0.6%	21	0.0%	0.2%	<b>8,609</b>	1.2%
2002	2,770	3.0%	30.8%	5,505	5.0%	61.3%	641	5.4%	7.1%	46	-8.0%	0.5%	24	14.3%	0.3%	<b>8,986</b>	4.4%
2003	2,800	1.1%	30.5%	5,778	5.0%	62.9%	540	-15.8%	5.9%	47	2.2%	0.5%	14	-41.7%	0.2%	<b>9,179</b>	2.1%
2004	2,696	-3.7%	29.1%	5,900	2.1%	63.8%	599	10.9%	6.5%	49	4.3%	0.5%	8	-42.9%	0.1%	<b>9,252</b>	0.8%
2005	2,667	-1.1%	28.6%	5,964	1.1%	63.9%	634	5.8%	6.8%	55	12.2%	0.6%	10	25.0%	0.1%	<b>9,330</b>	0.8%
2006	2,648	-0.7%	27.5%	6,292	5.5%	65.4%	591	-6.8%	6.1%	68	23.6%	0.7%	23	130.0%	0.2%	<b>9,622</b>	3.1%
2007	2,597	-1.9%	27.0%	6,372	1.3%	66.2%	580	-1.9%	6.0%	64	-5.9%	0.7%	14	-39.1%	0.1%	<b>9,627</b>	0.1%
2008	2,455	-5.5%	25.6%	6,506	2.1%	68.0%	530	-8.6%	5.5%	63	-1.6%	0.7%	18	28.6%	0.2%	<b>9,572</b>	-0.6%
2009	2,416	-1.6%	24.3%	6,862	5.5%	69.0%	551	4.0%	5.5%	94	49.2%	0.9%	24	33.3%	0.2%	<b>9,947</b>	3.9%
2010	2,322	-3.9%	24.1%	6,661	-2.9%	69.0%	562	2.0%	5.8%	91	-3.2%	0.9%	18	-25.0%	0.2%	<b>9,654</b>	-2.9%
2011	2,375	2.3%	23.8%	6,961	4.5%	69.9%	503	-10.5%	5.0%	102	12.1%	1.0%	20	11.1%	0.2%	<b>9,961</b>	3.2%
2012	2,480	4.4%	23.9%	7,255	4.2%	70.0%	506	0.6%	4.9%	102	0.0%	1.0%	20	0.0%	0.2%	<b>10,363</b>	4.0%
2013	2,302	-7.2%	21.8%	7,582	4.5%	71.7%	542	7.1%	5.1%	131	28.4%	1.2%	19	-5.0%	0.2%	<b>10,576</b>	2.1%
2014	2,306	0.2%	21.2%	7,908	4.3%	72.6%	504	-7.0%	4.6%	146	11.5%	1.3%	22	15.8%	0.2%	<b>10,886</b>	2.9%
2015	2,399	4.0%	21.4%	8,097	2.4%	72.2%	559	10.9%	5.0%	141	-3.4%	1.3%	19	-13.6%	0.2%	<b>11,215</b>	3.0%
<b>Compounded Annual Growth</b>		<b>0.2%</b>	<b>-2.0%</b>		<b>3.8%</b>	<b>1.6%</b>		<b>0.4%</b>	<b>-1.8%</b>		<b>8.2%</b>	<b>6.3%</b>		<b>0.1%</b>	<b>-2.0%</b>		<b>2.2%</b>

Note: 2015 data most recent year available

\*Includes entombment.

Source: State of Hawaii Data Book, Table 2.20 "Deaths by Disposition", from Hawaii State Department of Health, Office of Health Status Monitoring, records and CBRE/Hallstrom Team



**TABLE 7**

**STATE OF HAWAII HISTORICAL DISPOSITION BY BURIAL AND CREMATION 1970-2015**

Year	Burials			Cremations			Total Burial & Cremations		
	Number	Percent Annual Change	Percent of Total Dispositions	Number	Percent Annual Change	Percent of Total Dispositions	Number	Percent Annual Change	Percent of Total Dispositions
1970	2,197	---	52.4%	1,509	---	36.0%	3,706	---	88.4%
1980	2,241	0.2%	43.1%	2,343	5.5%	45.0%	4,584	2.4%	88.1%
1990	3,564	5.9%	50.5%	2,798	1.9%	39.7%	6,362	3.9%	90.2%
2000	2,767	-2.2%	32.5%	5,092	8.2%	59.8%	7,859	2.4%	92.3%
2001	2,689	-2.8%	31.2%	5,241	2.9%	60.9%	7,930	0.9%	92.1%
2002	2,770	3.0%	30.8%	5,505	5.0%	61.3%	8,275	4.4%	92.1%
2003	2,800	1.1%	30.5%	5,778	5.0%	62.9%	8,578	3.7%	93.5%
2004	2,696	-3.7%	29.1%	5,900	2.1%	63.8%	8,596	0.2%	92.9%
2005	2,667	-1.1%	28.6%	5,964	1.1%	63.9%	8,631	0.4%	92.5%
2006	2,648	-0.7%	27.5%	6,292	5.5%	65.4%	8,940	3.6%	92.9%
2007	2,597	-1.9%	27.0%	6,372	1.3%	66.2%	8,969	0.3%	93.2%
2008	2,455	-5.5%	25.6%	6,506	2.1%	68.0%	8,961	-0.1%	93.6%
2009	2,416	-1.6%	24.3%	6,862	5.5%	69.0%	9,278	3.5%	93.3%
2010	2,322	-3.9%	24.1%	6,661	-2.9%	69.0%	8,983	-3.2%	93.0%
2011	2,375	2.3%	23.8%	6,961	4.5%	69.9%	9,336	3.9%	93.7%
2012	2,480	4.4%	23.9%	7,255	4.2%	70.0%	9,735	4.3%	93.9%
2013	2,302	-7.2%	21.8%	7,582	4.5%	71.7%	9,884	1.5%	93.5%
2014	2,306	0.2%	21.2%	7,908	4.3%	72.6%	10,214	3.3%	93.8%
2015	2,399	4.0%	21.4%	8,097	2.4%	72.2%	10,496	2.8%	93.6%
<b>Compounded Annual Growth</b>		<b>0.2%</b>	<b>-2.0%</b>		<b>3.8%</b>	<b>1.6%</b>		<b>2.3%</b>	<b>0.1%</b>

Note: 2015 data most recent year available

Source: State of Hawaii Data Book (previously cited) and CBRE/Hallstrom Team

TABLE 8

## ESTIMATE OF TOTAL OAHU CREMATIONS INTERRED 2018 THROUGH 2040

## Scenario One: Minimum Demand

Year	Total Deaths	Total Annual Cremations (1)	Ashes Are Scattered (2)	Other Forms of Disposal (3)	Total Interred Cremations
2018	8,085	5,821	(1,048)	(323)	4,450
2019	8,212	5,966	(1,074)	(328)	4,564
2020	8,342	6,115	(1,101)	(334)	4,680
2021	8,492	6,281	(1,131)	(340)	4,811
2022	8,646	6,452	(1,161)	(346)	4,945
2023	8,802	6,628	(1,193)	(352)	5,083
2024	8,961	6,808	(1,225)	(358)	5,224
2025	9,126	6,996	(1,259)	(365)	5,372
2026	9,282	7,179	(1,292)	(371)	5,516
2027	9,440	7,367	(1,326)	(378)	5,664
2028	9,601	7,561	(1,361)	(384)	5,816
2029	9,765	7,759	(1,397)	(391)	5,972
2030	9,950	7,977	(1,436)	(398)	6,143
2031	10,119	8,186	(1,473)	(405)	6,308
2032	10,292	8,400	(1,512)	(412)	6,477
2033	10,467	8,621	(1,552)	(419)	6,650
2034	10,646	8,846	(1,592)	(426)	6,828
2035	10,806	9,060	(1,631)	(432)	6,997
2036	10,979	9,289	(1,672)	(439)	7,177
2037	11,155	9,522	(1,714)	(446)	7,362
2038	11,334	9,762	(1,757)	(453)	7,552
2039	11,516	10,008	(1,801)	(461)	7,746
2040	11,694	10,254	(1,846)	(468)	7,940
<b>Totals</b>	<b>225,711</b>	<b>180,858</b>	<b>(32,555)</b>	<b>(9,028)</b>	<b>139,275</b>

(1) Projected to follow trends of last five years of 0.9% growth in percent total deaths ending in cremations on going-forward basis. Currently at 72 percent of total deaths.

(2) Estimated 39% of decedents cremated nationally request this but only about 35% estimated actualized. Hawaii, owing to its Asian cultural components, has higher percentage of cremations and interrs a much higher percentage. We estimate 18% of Hawaii cremations have ashes scattered, one-half national average.

(3) Includes urns kept at home or other location. Estimated 10% of decedents nationally request this, with estimated 8% actualized. Again we estimate Hawaii at on-half the national average.

Compiled by CBRE/Hallstrom Team

TABLE 9

## ESTIMATE OF TOTAL OAHU CREMATIONS INTERRED 2018 THROUGH 2040

## Scenario Two: Maximum Demand

Year	Total Deaths	Total Annual Cremations (1)	Ashes Are Scattered (2)	Other Forms of Disposal (3)	Total Interred Cremations
2018	8,147	5,866	(704)	(176)	4,986
2019	8,340	6,032	(724)	(181)	5,127
2020	8,537	6,202	(744)	(186)	5,272
2021	8,738	6,377	(765)	(191)	5,420
2022	8,944	6,557	(787)	(197)	5,573
2023	9,156	6,742	(809)	(202)	5,730
2024	9,372	6,932	(832)	(208)	5,892
2025	9,593	7,127	(855)	(214)	6,058
2026	9,819	7,328	(879)	(220)	6,229
2027	10,051	7,535	(904)	(226)	6,405
2028	10,288	7,748	(930)	(232)	6,586
2029	10,531	7,966	(956)	(239)	6,771
2030	10,780	8,191	(983)	(246)	6,962
2031	11,034	8,422	(1,011)	(253)	7,159
2032	11,295	8,660	(1,039)	(260)	7,361
2033	11,561	8,904	(1,068)	(267)	7,569
2034	11,834	9,155	(1,099)	(275)	7,782
2035	12,114	9,414	(1,130)	(282)	8,002
2036	12,400	9,679	(1,162)	(290)	8,227
2037	12,692	9,952	(1,194)	(299)	8,459
2038	12,992	10,233	(1,228)	(307)	8,698
2039	13,299	10,522	(1,263)	(316)	8,943
2040	13,612	10,819	(1,298)	(325)	9,196
<b>Totals</b>	<b>245,130</b>	<b>186,363</b>	<b>(22,364)</b>	<b>(5,591)</b>	<b>158,409</b>

(1) Projected to follow trends at one-half growth rate for last five years or 0.45% growth in percent total deaths ending in cremations on going-forward basis. Currently at 72 percent of total deaths.

(2) Estimated at 12% of Hawaii cremations having ashes scattered, two-thirds of Scenario One: Minimum projection.

(3) Estimated at 3% of Hawaii cremations having ashes scattered, three-quarters of Scenario One: Minimum projection.

Compiled by CBRE/Hallstrom Team

**TABLE 10**

**ESTIMATE OF TOTAL BURIALS ON OAHU 2018 THROUGH 2040**

Year	Scenario One: Minium Demand		Scenario Two: Maximum Demand	
	Total Deaths	Number of Burials (1)	Total Deaths	Number of Burials (2)
2018	8,085	3,150	8,147	2,672
2019	8,212	3,164	8,340	2,726
2020	8,342	3,177	8,537	2,781
2021	8,492	3,196	8,738	2,837
2022	8,646	3,215	8,944	2,894
2023	8,802	3,233	9,156	2,951
2024	8,961	3,250	9,372	3,010
2025	9,126	3,267	9,593	3,070
2026	9,282	3,279	9,819	3,131
2027	9,440	3,290	10,051	3,193
2028	9,601	3,300	10,288	3,256
2029	9,765	3,309	10,531	3,320
2030	9,950	3,322	10,780	3,385
2031	10,119	3,329	11,034	3,452
2032	10,292	3,334	11,295	3,519
2033	10,467	3,338	11,561	3,588
2034	10,646	3,340	11,834	3,658
2035	10,806	3,334	12,114	3,729
2036	10,979	3,330	12,400	3,801
2037	11,155	3,325	12,692	3,874
2038	11,334	3,318	12,992	3,949
2039	11,516	3,309	13,299	4,025
2040	11,694	3,296	13,612	4,102
<b>Totals</b>	<b>225,711</b>	<b>75,402</b>	<b>245,130</b>	<b>76,924</b>

(1) Total Disposal by Burial and Cremation is currently at 94% (rounded), increasing at estimated rate of .01% annually, one-half higher than minimum scenario. Burial figure is residual of total Burial & Cremations less estimated Cremations.

(2) Total Disposal by Burial and Cremation is currently at 94% (rounded), increasing at rate of .015% annually over study period and last five years. Burial figure is residual of total Burial & Cremations less estimated Cremations.

Compiled by CBRE/Hallstrom Team

**TABLE 11**

**PROJECTION OF OAHU VETERANS POPULATION TO BE BURIED IN VETERAN CEMETERIES**

Year	Projected Oahu Population, Mid-Point (1)	Percent of Population Who Are Veterans (2)	Projected Oahu Veteran Population	Projected Veteran Population Annual Death Rate (3)	Projected Annual Oahu Veteran Deaths	Percent Interred in Veterans Cemeteries (4)	Projected Annual Oahu Veteran Cemetery Interments
2018	999,924	8.4%	83,994	0.8%	690	18.2%	126
2019	1,004,283	8.4%	83,938	0.8%	699	18.2%	127
2020	1,008,661	8.3%	83,882	0.8%	709	18.2%	129
2021	1,014,211	8.3%	83,922	0.9%	719	18.2%	131
2022	1,019,792	8.2%	83,962	0.9%	729	18.2%	133
2023	1,025,403	8.2%	84,002	0.9%	740	18.2%	135
2024	1,031,046	8.2%	84,042	0.9%	751	18.2%	137
2025	1,036,898	8.1%	84,096	0.9%	762	18.2%	139
2026	1,042,090	8.1%	84,095	0.9%	772	18.2%	141
2027	1,047,309	8.0%	84,093	0.9%	783	18.2%	143
2028	1,052,555	8.0%	84,092	0.9%	794	18.2%	145
2029	1,057,829	7.9%	84,091	1.0%	805	18.2%	147
2030	1,064,113	7.9%	84,167	1.0%	817	18.2%	149
2031	1,069,446	7.9%	84,166	1.0%	829	18.2%	151
2032	1,074,806	7.8%	84,165	1.0%	840	18.2%	153
2033	1,080,194	7.8%	84,164	1.0%	852	18.2%	155
2034	1,085,611	7.8%	84,163	1.0%	864	18.2%	157
2035	1,089,994	7.7%	84,081	1.0%	875	18.2%	159
2036	1,094,928	7.7%	84,039	1.1%	887	18.2%	161
2037	1,099,886	7.6%	83,997	1.1%	899	18.2%	164
2038	1,104,868	7.6%	83,956	1.1%	911	18.2%	166
2039	1,109,876	7.6%	83,915	1.1%	923	18.2%	168
2040	1,114,572	7.5%	83,848	1.1%	936	18.2%	170
<b>Totals</b>					<b>18,586</b>		<b>3,383</b>
<b>Compounded Annual Growth Rate</b>	<b>-0.5%</b>	<b>0.0%</b>	<b>1.4%</b>	<b>1.4%</b>		<b>1.4%</b>	

(1) Mid-point population projection from Tables 2 and 3.

(2) From State of Hawaii Data Book Table 10.34 "Distribution of Veterans Affairs Population and Expenditures, By County", as trending over time.

(3) From State of Hawaii Data Book Table 2.15 "Selected Life Table Values", based on assumptions Veterans are 25 years or older, with rate of death at 1.3% times the total population (all ages).

(4) From 2001 National Survey of Veterans, published March 2003, Table 9-20 "Percent Distribution of Veterans by Plans for Burial in Veterans Cemetery", assumed static.

Source: As Cited, and CBRE/Hallstrom Team

TABLE 12

### PROJECTION OF NET DEMAND FOR NON-VETERAN CEMETERY INTERMENTS ON OAHU 2018 THROUGH 2040

	2018-2020	2021-2025	2026-2030	2031-2035	2036-2040	Totals
<b><u>Scenario One: Minimum Demand (Table 2)</u></b>						
Projected Number of Interred Cremations	13,694	25,434	29,110	33,260	37,778	139,275
Projected Number of Burials	9,490	16,160	16,500	16,675	16,578	75,402
<b>Total Interments</b>	<b>23,184</b>	<b>41,594</b>	<b>45,609</b>	<b>49,935</b>	<b>54,355</b>	<b>214,678</b>
Less Burial Spaces Purchased and Previously Unused (1)	(6,600)	(11,000)	(11,000)	(11,000)	(10,400)	(50,000)
Less Veterans Interred at Veterans Cemeteries	(382)	(673)	(723)	(775)	(829)	(3,383)
Less Oahu Residents Interred on Other Islands (2)	(1,500)	(2,500)	(3,750)	(3,750)	(5,000)	(16,500)
Plus Allowances for Off-Shore Persons Being Buried on Oahu (Ten Per Year)	30	50	50	50	50	230
<b>Total Periodic Net Demand for Additional Burial Spaces On Oahu</b>	<b>14,732</b>	<b>27,471</b>	<b>30,186</b>	<b>34,460</b>	<b>38,176</b>	<b>145,025</b>
<b><u>Scenario Two: Maximum Demand (Table 3)</u></b>						
Projected Number of Interred Cremations	15,385	28,674	32,954	37,872	43,524	158,409
Projected Number of Burials	8,180	14,762	16,286	17,946	19,751	76,924
<b>Total Interments</b>	<b>23,564</b>	<b>43,436</b>	<b>49,239</b>	<b>55,818</b>	<b>63,275</b>	<b>235,332</b>
Less Burial Spaces Purchased and Unused (1)	(6,600)	(11,000)	(11,000)	(11,000)	(10,400)	(50,000)
Less Veterans Interred at Veterans Cemeteries	(382)	(673)	(723)	(775)	(829)	(3,383)
Less Oahu Residents Interred on Other Islands (2)	(1,500)	(2,500)	(3,750)	(3,750)	(5,000)	(16,500)
Plus Allowances for Off-Shore Persons Being Buried on Oahu (15 Per Year)	45	75	75	75	75	345
<b>Total Periodic Net Demand for Additional Burial Spaces On Oahu</b>	<b>15,128</b>	<b>29,338</b>	<b>33,841</b>	<b>40,367</b>	<b>47,120</b>	<b>165,795</b>
<b>Mid-Point Total Periodic Interments</b>	<b>14,930</b>	<b>28,404</b>	<b>32,014</b>	<b>37,414</b>	<b>42,648</b>	<b>155,410</b>

(1) There are an estimated 50,000 burial spaces in existing Oahu cemeteries which have been pre-purchased for future use. We have assumed these will be absorbed at the rate of 2,200 per years for next 18-years and (39,600 total) and 2,080 per year for the final five projection years (10,400 total)













(2) An increasing number of resident families are electing to inter their relatives in Neighbor Island cemeteries due to the meaningfully higher average costs on Oahu. We have estimated the number at 250 per year through 2025, increasing to 400 per year through 2035, and 500 per year through 2040.

Source: CBRE/Hallstrom Team



TABLE 813

SUMMARY OF ACTIVE OAHU CEMETERIES

Property	Diamond Head Memorial Park	Nuuuanu Memorial Park	Oahu Cemetery	Valley of the Temples Memorial Park	Mililani Memorial Park	Laie Cemeteries
Interior Site Photo						
Aerial Photo						
Address	529 18th Ave	223 Nuuanu Avenue	2162 Nuuanu Ave	47-200 Kahekili Hwy	94-560 Kamehameha Hwy	55-710 Wahinepee Street
Location	Honolulu	Honolulu	Honolulu	Kaneohe	Mililani	Laie
Year Opened	1936	1949	1844	1963	1965	1922
Gross Acreage	25.0	3.5	15.5	244.0	143.0	5.0
Burial Area Acreage	22.8	3	15	85	63	5
Existing Burials (Including Plots, Crypts, Niches)	30,500	7,800+/-	25,000	88,000	70,000	4,200
Estimated Saleable Available	300+/- Plots, 1,000+ Niches	0 plots, 200 crypts, 500+ niches	100 Plots, 600+ Niches	7,500 plots/crypts, 2,200 niches	3,800	300+
Potential Expansion Acres	None	None	None	44	35 Potential, 17 proposed	Possible
Proposed Plots/Niches	0	0	0	46,000	19,000	Unplanned at Present
Full Size Plot Price	\$8,800 - \$9,300	\$6,700 - \$11,000 (Crypts)	\$10,000 - \$15,000	\$3,000 - \$81,001	\$6,100	\$2,000
Urn Plots	\$4,250 - \$5,550	\$5,670 - \$5,880	\$3,500 - \$5,500	\$2,100 single, \$2,900 Double	\$700 Single, \$3,400 Double	\$2,000
Source: Cited Cemeteries, State DCCA and CBRE/Hallstrom Team						

**TABLE 14**

## MAXIMUM ESTIMATED TOTAL EXISTING AND PROPOSED SUPPLY OF MAJOR OAHU INTERMENT OPTIONS BY 2040

Cemetery	Combined Burial Plots, Crypts and Niche Spaces		
	Existing Available	Currently Proposed	Total Available and Proposed
Diamond Head Memorial Park	1,300	0	1,300
Nuuanau Memorial Park	700	0	700
Oahu Cemetery	700	0	700
Valley of the Temples Memorial Park	9,700	46,000	55,700
Mililani Memorial Park	3,800	19,000	22,800
Laie Cemeteries	300	0	300
Hawaii Kai Cemetery (Proposed) (1)	0	24,000	24,000
<b>TOTALS</b>	<b>16,500</b>	<b>89,000</b>	<b>105,500</b>

(1) Phase I will have 12,000 burial spaces of total build-out of 60,000. We have assumed two phases, or 24,000 spaces, will be made available in projection time-frame to 2040.

Complied by CBRE/Hallstrom Team

TABLE 15

**PROJECTION OF POTENTIAL SUBJECT PLOT ABSORPTION USING THE RESIDUAL METHOD BASED ON ESTIMATED EXISTING AND PROPOSED PLOTS IN MAJOR OAHU CEMETERIES 2018 THROUGH 2040**

Segment	2018-2020	2021-2025	2026-2030	2031-2035	2036-2040	TOTALS
<b><i>1. Minimum Demand</i></b>						
Assumed Supply of Burial Plots, Crypts and Cremation Niches Major Cemeteries	13,761	22,935	22,935	22,935	22,935	105,500
Oahu Net Burial Spaces Demand	14,732	27,471	30,186	34,460	38,176	145,025
Shortage or (Excess) Supply	<u>971</u>	<u>4,536</u>	<u>7,252</u>	<u>11,525</u>	<u>15,241</u>	<u>39,525</u>
<b>Potential Residual Subject Minimum Demand</b>						
at 100% Capture Rate	971	4,536	7,252	11,525	15,241	39,525
at 95% Capture Rate	923	4,309	6,889	10,949	14,479	37,549

<b><i>2. Maximum Demand</i></b>						
Assumed Supply of Burial Plots, Crypts and Cremation Niches Major Cemeteries	13,761	22,935	22,935	22,935	22,935	105,500
Oahu Net Burial Spaces Demand	15,128	29,338	33,841	40,367	47,120	165,795
Shortage or (Excess) Supply	<u>1,367</u>	<u>6,403</u>	<u>10,907</u>	<u>17,432</u>	<u>24,186</u>	<u>60,295</u>
<b>Potential Residual Subject Minimum Demand</b>						
at 100% Capture Rate	1,367	6,403	10,907	17,432	24,186	60,295
at 95% Capture Rate	1,298	6,083	10,361	16,561	22,976	57,280

<b><i>3. Mid-Point Demand</i></b>						
Oahu Burial Spaces Demand	14,930	28,404	32,014	37,414	42,648	155,410
Shortage or (Excess) Supply	<u>1,169</u>	<u>5,469</u>	<u>9,079</u>	<u>14,479</u>	<u>19,713</u>	<u>49,910</u>
<b>Potential Residual Subject Minimum Demand</b>						
at 95% Capture Rate	1,169	5,469	9,079	14,479	19,713	49,910
at 90% Capture Rate	1,111	5,196	8,625	13,755	18,728	47,414

(1) Includes spaces in existing cemeteries not being marketed/open to other purchasers, sold-out cemeteries, church cemeteries and other specialty burial sites. Allowance of 1,500 per year through 2030, 1,000 per year through 2035, and 500 per year thereafter.



= Probable Absorption period for 33,600 remaining and proposed subject burial spaces. Circa 19 years in Minimum Scenario and 15 Years in Maximum. Mid-Point of 17 years.

TABLE 16

## SUMMARY OF SUBJECT PROJECTED BURIAL SPACE DEMAND LEVELS USING THE MARKET SHARES METHOD

Assuming 3,600 Existing Inventory and 30,000 Proposed Spaces

### Scenario One: Using Minimum Demand Assumptions

Sales Year		Total Net Oahu Space Demand	Effective Subject Share	Indicated Total Subject Space Absorption
Date	Period			
Infrastructure Emplacement				
2020	1			
2021	2	5,494	30.00%	1,648
2022	3	5,494	30.00%	1,648
2023	4	5,494	30.00%	1,648
2024	5	5,494	30.00%	1,648
2025	6	5,494	30.00%	1,648
2026	7	6,037	30.00%	1,811
2027	8	6,037	30.00%	1,811
2028	9	6,037	30.00%	1,811
2029	10	6,037	30.00%	1,811
2030	11	6,037	30.00%	1,811
2031	12	6,892	30.00%	2,068
2032	13	6,892	30.00%	2,068
2033	14	6,892	30.00%	2,068
2034	15	6,892	30.00%	2,068
2035	16	6,892	30.00%	2,068
2036	17	7,635	30.00%	2,291
2037	18	7,635	30.00%	2,291
2038	19	7,635	5.03%	384
<b>Totals</b>		<b>115,023</b>	<b>28.34%</b>	<b>32,600</b>

### Scenario Two: Using Maximum Demand Assumptions

Sales Year		Total Net Oahu Space Demand	Effective Subject Share	Indicated Total Subject Space Absorption
Date	Period			
Infrastructure Emplacement				
2020	1			
2021	2	5,868	33.00%	1,936
2022	3	5,868	33.00%	1,936
2023	4	5,868	33.00%	1,936
2024	5	5,868	33.00%	1,936
2025	6	5,868	33.00%	1,936
2026	7	6,768	33.00%	2,234
2027	8	6,768	33.00%	2,234
2028	9	6,768	33.00%	2,234
2029	10	6,768	33.00%	2,234
2030	11	6,768	33.00%	2,234
2031	12	8,073	33.00%	2,664
2032	13	8,073	33.00%	2,664
2033	14	8,073	33.00%	2,664
2034	15	8,073	33.00%	2,664
2035	16	8,073	13.55%	1,094
<b>Totals</b>		<b>103,547</b>	<b>31.48%</b>	<b>32,600</b>

#### ANALYSIS MID-POINT

<b>16.8 Years</b>	<b>109,285</b>	<b>29.83%</b>	<b>32,600</b>
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Source: CBRE/Hallstrom Team

Addendum B

**ECONOMIC IMPACT ANALYSIS TABLES**

TABLE 17

**SUMMARY COMPARISON OF MAJOR ECONOMIC IMPACTS  
AND PUBLIC FISCAL COSTS/BENEFITS**

All Amounts Expressed in Constant, Uninflated 2018 Dollars

Analysis Item	Cumulative During Build-Out Period	Stabilized Annually Thereafter
Direct Capital Investment	\$29,304,000	
Local Contractor's Profits	\$2,930,400	
Local Supplier's Profits	\$1,172,160	
Worker Years of Jobs	931	60
Employee Wages	\$62,854,492	\$3,998,895
Total Oahu "Base" Economic Impact	\$141,024,067	\$5,842,400
<b>Accounting for "New" Impacts Only</b>		
Honolulu County Gross Tax Receipts	\$500,000	\$0
State of Hawaii Gross Tax Receipts	\$8,721,678	\$402,376
Added Honolulu County Costs of Services	\$0	\$0
Added State of Hawaii Costs of Services	\$0	\$0
Honolulu County Net Benefits or (Loss)	\$500,000	\$0
State of Hawaii Net Benefits or (Loss)	\$8,721,678	\$402,376
Source: CBRE/Hallstrom Team		



TABLE 18

PROJECTED HAWAII MEMORIAL PARK EXPANSION INFRASTRUCTURE,  
SALES/ABSORPTION AND INTERMENT TIMING

Year	Project Year	Activity
2018-19	1 & 2	Achieve full-entitlement, approvals and permits
2020	3	Site preparation and emplacement of infrastructure
2021	4	Expansion area sales and interments commence
2022-2035	5 through 16	Sales of plots and interments continue, with full sell-out/absorption by 2035
Post-2035	17 and Beyond	Interments continue at lower-velocity along with re-sales of plots over the long-term

TABLE 19

**PROPOSED DEVELOPMENT SCHEDULE AND ESTIMATED CONSTRUCTION COSTS**

All Amounts Expressed in Constant 2018 Dollars

Item	Development and Sales Period			Totals During
	2020 to 2025	2026 to 2030	2031-2035	Build-Out
Infrastructure Emplacement (1)	\$29,304,000	\$0	\$0	\$29,304,000
<b>TOTAL PERIODIC CONSTRUCTION COSTS</b>	<b>\$29,304,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$29,304,000</b>
Contractor Profits	\$2,930,400	\$0	\$0	\$2,930,400
Supplier Profits	\$1,172,160	\$0	\$0	\$1,172,160

(1) "Hawaiian Memorail Park Expansion Cost Estimate" Sam O. Hirota, Inc., April 30, 2018. Includes site work, on and off-site infrastructure, roadways and contingency; engineering & architecture, permits and study fees.

Source: CBRE/Hallstrom Team

TABLE 20

## ESTIMATED YEARLY FULL-TIME EQUIVALENT EMPLOYMENT POSITIONS CREATED BY DEVELOPMENT

Construction Employment (1)	Development and Sales Period			Totals During	Stabilized Annually
	2020 to 2025	2026 to 2030	2031-2035	Build-Out	
<b>Infrastructure Placement</b>	73			73	
<b>Total Periodic Construction Jobs</b>	<b>73</b>	<b>0</b>	<b>0</b>	<b>73</b>	
<b>On-Going Employment</b>					
Maintenance, Administrative and Services	190	210	225	625	
<b>Total FTE Jobs in Place at End of Period</b>	<b>38</b>	<b>42</b>	<b>45</b>		<b>45</b>
Off-Site Employment (3)	88	70	75	233	
<b>Total FTE Jobs in Place at End of Period</b>	<b>37</b>	<b>14</b>	<b>15</b>		<b>15</b>
<b>TOTAL PERIODIC WORKER YEARS</b>	<b>351</b>	<b>280</b>	<b>300</b>	<b>931</b>	
<b>TOTAL END-OF-PERIOD PERMANENT JOBCOUNT</b>	<b>51</b>	<b>56</b>	<b>60</b>		<b>60</b>

(1) Infrastructure construction employment estimated at 1 worker-year for every \$400,000 in costs. Includes all direct employment associated with construction, on and off-site.

(2) Current staff of 38 employees, including 20 maintenance, 10 administrative, 5 funeral services and 3 community services. Expansion of existing park from 80 acres to 108 acres will create an additional 7 maintenance positions.

(3) Estimated at one cumulative off-site employment position for every three on site positions.

Source: CBRE/Hallstrom Team

TABLE 21

## ESTIMATED YEARLY EMPLOYEE WAGES CREATED BY DEVELOPMENT

All Amounts Expressed in Constant 2018 Dollars

Construction Wages (1)	Development and Sales Period			Totals During	Stabilized Annually
	2020 to 2025	2026 to 2030	2031-2035	Build-Out	
Infrastructure Placement	\$5,942,851			\$5,942,851	
<b>Total Periodic Construction Wages</b>	<b>\$5,942,851</b>	<b>\$0</b>	<b>\$0</b>	<b>\$5,942,851</b>	
<b>Maintenance, Administrative and Services (2)</b>					
Annual Wages	\$2,665,485	\$2,946,062	\$3,156,495	\$8,768,043	\$3,156,495
<b>Total Periodic Wages</b>	<b>\$13,327,425</b>	<b>\$14,730,312</b>	<b>\$15,782,477</b>	<b>\$43,840,214</b>	
<b>Off-Site Employment Wages (3)</b>					
Annual Average Wages	\$821,371	\$786,240	\$842,400	\$2,178,571	
<b>Total Periodic Wages</b>	<b>\$4,928,227</b>	<b>\$3,931,200</b>	<b>\$4,212,000</b>	<b>\$13,071,427</b>	<b>\$842,400</b>
<b>TOTAL PERIODIC WAGES</b>	<b>\$24,198,503</b>	<b>\$18,661,512</b>	<b>\$19,994,477</b>	<b>\$62,854,492</b>	<b>\$3,998,895</b>

(1) Average annual wage for full-time-equivalent construction worker (equipment operators and other infrastructure-related trades ) at \$81,120 (\$39/hour X 2,080 hours).

(2) Based on current payroll of HMP. Added workers due to expansion assumed to be at average proportional wage.

(3) Average annual wage for full-time-equivalent general worker at \$56,160 (\$27/hour), the average wage for all "All Occupations" in the state.

Wages taken from US Department of Labor "May 2017 Metropolitan and Non-Metropolitan Area Occupational Employment and Wage Estimates - Urban Honolulu, HI" escalated one year.

Source: CBRE/Hallstrom Team

TABLE 22

## SUMMARY OF ECONOMIC IMPACTS ASSOCIATED WITH DEVELOPMENT

All Amounts Expressed in Constant 2018 Dollars

	Development and Sales Period			Totals During Build-Out	Stabilized Annually
	2020 to 2025	2026 to 2030	2031-2035		
<b><u>Construction Activity</u></b>					
Construction Wages	\$5,942,851	\$0	\$0	\$5,942,851	
Contractor Profits	\$2,930,400	\$0	\$0	\$2,930,400	
Supplier Profits	\$1,172,160	\$0	\$0	\$1,172,160	
Other Construction Costs	\$19,258,589	\$0	\$0	\$19,258,589	
<b>Total Construction Impact</b>	<b>\$29,304,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$29,304,000</b>	
<b><u>Memorial Park Gross Revenues</u></b>					
Annually	\$7,000,000	\$7,700,000	\$8,470,000		\$5,000,000
<b>Total During Entire Period</b>	<b>\$35,000,000</b>	<b>\$38,500,000</b>	<b>\$42,350,000</b>	<b>\$115,850,000</b>	
<b><u>Off-Site Wages</u></b>					
Annually	\$821,371	\$786,240	\$842,400		
<b>Total During Entire Period</b>	<b>\$4,928,227</b>	<b>\$3,931,200</b>	<b>\$4,212,000</b>	<b>\$13,071,427</b>	<b>\$842,400</b>
<b>TOTAL BASE ECONOMIC IMPACT</b>	<b>\$34,232,227</b>	<b>\$50,917,440</b>	<b>\$55,874,400</b>	<b>\$141,024,067</b>	<b>\$5,842,400</b>

(1) Estimated at \$1,000 per home per month.

Source: CBRE/Hallstrom Team

TABLE 23

**ESTIMATES OF TOTAL ECONOMIC IMPACT FROM SUBJECT CONSTRUCTION  
USING INTER-COUNTY INPUT-OUTPUT MODEL "TYPE II" MULTIPLIERS FOR OAHU**  
All Amounts Expressed in Constant 2018 Dollars

Year	Development and Sales Period			Totals	Stabilized Annually
	2020 to 2025	2026 to 2030	2031-2035		
<b><i>Construction Costs</i></b>	<b>\$29,304,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$29,304,000</b>	<b>\$0</b>
1. Economic Output Multiplier	1.96	1.96	1.96	1.96	1.96
<b>Total State Economic Output</b>	<b>\$57,435,840</b>	<b>\$0</b>	<b>\$0</b>	<b>\$57,435,840</b>	<b>\$0</b>
2. Earnings Multiplier	0.60	0.60	0.60	0.60	0.60
<b>Total Increase in State Earnings</b>	<b>\$17,582,400</b>	<b>\$0</b>	<b>\$0</b>	<b>\$17,582,400</b>	<b>\$0</b>
3. State Tax Multipliers	0.12	0.12	0.12	0.12	0.12
<b>Total Increase in State Taxes</b>	<b>\$3,654,209</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,654,209</b>	<b>\$0</b>
4. Total Job Multipliers	11.00	11.00	11.00	11.00	11.00
<b>Total State Jobs Created</b>	<b>322.3</b>	<b>0.0</b>	<b>0.0</b>	<b>322.3</b>	<b>0.0</b>
<b><i>Construction Employment</i></b>	<b>73</b>	<b>0</b>	<b>0</b>	<b>73</b>	<b>27</b>
5. Direct-Effect Job Multipliers	2.25	2.25	2.25	2.25	2.25
<b>Total Direct Jobs Created</b>	<b>164.8</b>	<b>0.0</b>	<b>0.0</b>	<b>164.8</b>	<b>60.8</b>
<b><i>Construction Wages</i></b>	<b>\$5,942,851</b>	<b>\$0</b>	<b>\$0</b>	<b>\$5,942,851</b>	<b>\$0</b>
6. Direct-Effect Earnings	1.74	1.74	1.74	1.74	1.74
<b>Total Increase in Direct Earnings</b>	<b>\$10,340,561</b>	<b>\$0</b>	<b>\$0</b>	<b>\$10,340,561</b>	<b>\$0</b>

Using Type II "Construction" Multipliers

Source: The 2012 Hawaii Inter-County Input-Output Model (approved August 2016), and CBRE/Hallstrom Team

TABLE 24

**ESTIMATES OF TOTAL ECONOMIC IMPACT FROM SUBJECT OPERATIONS  
USING INTER-COUNTY INPUT-OUTPUT MODEL "TYPE II" MULTIPLIERS FOR OAHU**  
All Amounts Expressed in Constant 2018 Dollars

Year	Development Year			Totals	Stabilized Annually
	2020 to 2025	2026 to 2030	2031-2035		
<b><i>Total On-Going Economic Activity</i></b>	<b>\$39,928,227</b>	<b>\$42,431,200</b>	<b>\$46,562,000</b>	<b>\$128,921,427</b>	<b>\$5,842,400</b>
1. Economic Output Multiplier	1.84	1.84	1.84	1.84	1.84
<b>Total State Economic Output</b>	<b>\$73,467,938</b>	<b>\$78,073,408</b>	<b>\$85,674,080</b>	<b>\$237,215,426</b>	<b>\$10,750,016</b>
2. Earnings Multiplier	0.52	0.52	0.52	0.52	0.52
<b>Total Increase in State Earnings</b>	<b>\$20,762,678</b>	<b>\$22,064,224</b>	<b>\$24,212,240</b>	<b>\$67,039,142</b>	<b>\$3,038,048</b>
3. State Tax Multipliers	0.12	0.12	0.12	0.12	0.12
<b>Total Increase in State Taxes</b>	<b>\$4,655,631</b>	<b>\$4,947,478</b>	<b>\$5,429,129</b>	<b>\$15,032,238</b>	<b>\$681,224</b>
4. Total Job Multipliers	20.10	20.10	20.10	20.10	20.10
<b>Total State Jobs Created</b>	<b>802.6</b>	<b>852.9</b>	<b>935.9</b>	<b>2,591.3</b>	<b>117.4</b>
<b><i>Operating Employment</i></b>	<b>50.5</b>	<b>56.0</b>	<b>60.0</b>	<b>166.5</b>	<b>60.0</b>
5. Direct-Effect Job Multipliers	1.58	1.58	1.58	1.58	1.58
<b>Total Direct Jobs Created</b>	<b>79.9</b>	<b>88.5</b>	<b>94.8</b>	<b>263.1</b>	<b>94.8</b>
<b><i>Operating Wages</i></b>	<b>\$16,659,281</b>	<b>\$18,412,890</b>	<b>\$19,728,096</b>	<b>\$54,800,267</b>	<b>\$3,998,895</b>
6. Direct-Effect Earnings	1.70	1.70	1.70	1.70	1.70
<b>Total Increase in Direct Earnings</b>	<b>\$28,320,778</b>	<b>\$31,301,913</b>	<b>\$33,537,764</b>	<b>\$93,160,454</b>	<b>\$6,798,122</b>

Using Type II "Services" and "Other Services" Multipliers

Source: The 2012 Hawaii Inter-County Input-Output Model (approved August 2016), and CBRE/Hallstrom Team



Addendum C

**PUBLIC FISCAL (COST BENEFIT) ASSESSMENT  
TABLES**

TABLE 25A

QUANTIFICATION OF PUBLIC FISCAL COSTS AND BENEFITS FROM HAWAIIAN MEMORIAL PARK EXPANSION					
All Amounts Expressed in Constant 2018 Dollars					
Development Period	Development and Sales Period			Totals During Build-Out Period	Stabilized Annually After Build-out
	2020 to 2025	2026 to 2030	2031-2035		
<b>PUBLIC BENEFITS (Revenues)</b>					
<b>1. STATE INCOME TAXES</b>					
Taxable Personal Income	\$24,198,503	\$18,661,512	\$19,994,477	\$62,854,492	\$3,156,495
Taxable Corporate Profits	\$14,400,000	\$13,200,000	\$14,400,000	\$42,000,000	\$2,400,000
Personal Taxes Paid	\$1,234,124	\$951,737	\$1,019,718	\$3,205,579	\$160,981
Corporate Taxes Paid	\$633,600	\$580,800	\$633,600	\$1,848,000	\$105,600
<b>TOTAL STATE INCOME TAXES</b>	<b>\$1,867,724</b>	<b>\$1,532,537</b>	<b>\$1,653,318</b>	<b>\$5,053,579</b>	<b>\$266,581</b>
<b>2. STATE GROSS EXCISE TAX</b>					
Taxable Transactions					
Construction Contracts	\$29,304,000	\$0	\$0	\$29,304,000	\$0
Worker Disposable Income Purchases	\$12,099,252	\$9,330,756	\$9,997,238	\$31,427,246	\$1,999,448
	\$41,403,252	\$9,330,756	\$9,997,238	\$60,731,246	\$1,999,448
<b>TOTAL STATE EXCISE TAX</b>	<b>\$1,725,149</b>	<b>\$388,785</b>	<b>\$416,555</b>	<b>\$2,530,489</b>	<b>\$83,311</b>
<b>INCLUDES "NEW" COUNTY AND STATE TAXES AND COSTS ONLY</b>					
<b>TOTAL GROSS PUBLIC REVENUES</b>					
Real Property Taxes To City & County of Honolulu	\$0	\$0	\$0	\$0	\$0
Adjustment for Other Proportional Taxes (1)	1.99	1.99	1.99	1.99	1.99
Adjusted Honolulu County Revenues	\$0	\$0	\$0	\$0	\$0
Plus Impact Fees (2)	\$500,000	\$0	\$0	\$500,000	
<b>Total Honolulu County Receipts</b>	<b>\$500,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$500,000</b>	<b>\$0</b>
To State (Income Taxes and GET)	\$3,592,873	\$1,921,322	\$2,069,873	\$7,584,068	\$349,892
Adjustment for Other Proportional Taxes	1.15	1.15	1.15	1.15	1.15
Adjusted State Revenues	\$4,131,804	\$2,209,520	\$2,380,354	\$8,721,678	\$402,376
Plus Impact Fees	\$0	\$0	\$0	\$0	
<b>Total State of Hawaii Receipts</b>	<b>\$4,131,804</b>	<b>\$2,209,520</b>	<b>\$2,380,354</b>	<b>\$8,721,678</b>	<b>\$402,376</b>
<b>AGGREGATE TAX REVENUES</b>	<b>\$4,131,804</b>	<b>\$2,209,520</b>	<b>\$2,380,354</b>	<b>\$8,721,678</b>	<b>\$402,376</b>
<b>ADDED PUBLIC COSTS (Expenses)</b>					
By City & County of Honolulu	\$0	\$0	\$0	\$0	\$0
By State of Hawaii	\$0	\$0	\$0	\$0	\$0
<b>TOTAL PUBLIC COSTS</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>TOTAL NET PUBLIC BENEFITS</b>					
City & County of Honolulu	\$500,000	\$0	\$0	\$500,000	\$0
State of Hawaii	\$4,131,804	\$2,209,520	\$2,380,354	\$8,721,678	\$402,376
<b>AGGREGATE NET BENEFITS</b>	<b>\$4,631,804</b>	<b>\$2,209,520</b>	<b>\$2,380,354</b>	<b>\$9,221,678</b>	<b>\$402,376</b>
(1) Real property taxes comprise 50.17 percent of new General Funds in the Honolulu County FY 2018 budget. Economic activity generates other revenue items of 49.83 percent or additional 99.32 percent above real property taxes.					
(2) For DOE estimated at \$5,800 per home.					
(3) In recent fiscal years, Gross Excise and Income Taxes have averaged some 87 percent of total State revenues; other revenue items 13 percent, or 15 percent above income and gross excise taxes.					
Source: CBRE/Hallstrom Team					

TABLE 25B

**QUANTIFICATION OF PUBLIC FISCAL COSTS AND BENEFITS FROM HAWAIIAN MEMORIAL PARK EXPANSION**  
All Amounts Expressed in Constant 2018 Dollars

Development Period	Development and Sales Period			Totals During Build-Out Period	Stabilized Annually After Build-out
	2020 to 2025	2026 to 2030	2031-2035		
<b>PUBLIC BENEFITS (Revenues)</b>					
<b>1. STATE INCOME TAXES</b>					
Taxable Personal Income	\$24,198,503	\$18,661,512	\$19,994,477	\$62,854,492	\$3,156,495
Taxable Corporate Profits	\$14,400,000	\$13,200,000	\$14,400,000	\$42,000,000	\$2,400,000
Personal Taxes Paid	\$1,234,124	\$951,737	\$1,019,718	\$3,205,579	\$160,981
Corporate Taxes Paid	\$633,600	\$580,800	\$633,600	\$1,848,000	\$105,600
<b>TOTAL STATE INCOME TAXES</b>	<b>\$1,867,724</b>	<b>\$1,532,537</b>	<b>\$1,653,318</b>	<b>\$5,053,579</b>	<b>\$266,581</b>
<b>2. STATE GROSS EXCISE TAX</b>					
<b>Taxable Transactions</b>					
Construction Contracts	\$29,304,000	\$0	\$0	\$29,304,000	\$0
Worker Disposable Income Purchases	\$12,099,252	\$9,330,756	\$9,997,238	\$31,427,246	\$1,999,448
	\$41,403,252	\$9,330,756	\$9,997,238	\$60,731,246	\$1,999,448
<b>TOTAL STATE EXCISE TAX</b>	<b>\$1,725,149</b>	<b>\$388,785</b>	<b>\$416,555</b>	<b>\$2,530,489</b>	<b>\$83,311</b>

Source: CBRE/Hallstrom Team

TABLE 25C

**QUANTIFICATION OF PUBLIC FISCAL COSTS AND BENEFITS FROM HAWAIIAN MEMORIAL PARK EXPANSION**  
All Amounts Expressed in Constant 2018 Dollars

Development Period	Development and Sales Period			Totals During Build-Out Period	Stabilized Annually After Build-out
	2020 to 2025	2026 to 2030	2031-2035		
<b>INCLUDES "NEW" COUNTY AND STATE TAXES AND COSTS ONLY</b>					
<b>TOTAL GROSS PUBLIC REVENUES</b>					
Real Property Taxes To City & County of Honolulu	\$0	\$0	\$0	\$0	\$0
Adjustment for Other Proportional Taxes (1)	1.99	1.99	1.99	1.99	1.99
Adjusted Honolulu County Revenues	\$0	\$0	\$0	\$0	\$0
Plus Impact Fees (2)	\$500,000	\$0	\$0	\$500,000	\$0
<b>Total Honolulu County Receipts</b>	<b>\$500,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$500,000</b>	<b>\$0</b>
To State (Income Taxes and GET)	\$3,592,873	\$1,921,322	\$2,069,873	\$7,584,068	\$349,892
Adjustment for Other Proportional Taxes	1.15	1.15	1.15	1.15	1.15
Adjusted State Revenues	\$4,131,804	\$2,209,520	\$2,380,354	\$8,721,678	\$402,376
Plus Impact Fees	\$0	\$0	\$0	\$0	\$0
<b>Total State of Hawaii Receipts</b>	<b>\$4,131,804</b>	<b>\$2,209,520</b>	<b>\$2,380,354</b>	<b>\$8,721,678</b>	<b>\$402,376</b>
<b>AGGREGATE TAX REVENUES</b>	<b>\$4,131,804</b>	<b>\$2,209,520</b>	<b>\$2,380,354</b>	<b>\$8,721,678</b>	<b>\$402,376</b>
<b>ADDED PUBLIC COSTS (Expenses)</b>					
By City & County of Honolulu	\$0	\$0	\$0	\$0	\$0
By State of Hawaii	\$0	\$0	\$0	\$0	\$0
<b>TOTAL PUBLIC COSTS</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>TOTAL NET PUBLIC BENEFITS</b>					
City & County of Honolulu	\$500,000	\$0	\$0	\$500,000	\$0
State of Hawaii	\$4,131,804	\$2,209,520	\$2,380,354	\$8,721,678	\$402,376
<b>AGGREGATE NET BENEFITS</b>	<b>\$4,631,804</b>	<b>\$2,209,520</b>	<b>\$2,380,354</b>	<b>\$9,221,678</b>	<b>\$402,376</b>

(1) Real property taxes comprise 50.17 percent of new General Funds in the Honolulu County FY 2018 budget. Economic activity generates other revenue items of 49.83 percent or additional 99.32 percent above real property taxes.

(2) For DOE estimated at \$5,800 per home.

(3) In recent fiscal years, Gross Excise and Income Taxes have averaged some 87 percent of total State revenues; other revenue items 13 percent, or 15 percent above income and gross excise taxes.

Source: CBRE/Hallstrom Team

**Addendum D**

**QUALIFICATIONS**

## PROFESSIONAL QUALIFICATIONS OF THOMAS W. HOLLIDAY, CRE, FRICS

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<b>Business Affiliation</b>	Director	The Hallstrom Team   CBRE, Inc. Valuation & Advisory Services Honolulu, Hawaii (2015 - Present)
	Senior Analyst/ Supervisor	The Hallstrom Group, Inc. Honolulu, Hawaii (1980 - 2014)
	Former Staff Appraiser	Davis-Baker Appraisal Co. Avalon, Santa Catalina Island, California (1977 -1979)
<b>International Designation and Membership</b>		<ul style="list-style-type: none"><li>• CRE Designation (2015) - The Counselors of Real Estate</li><li>• FRICS Designation (2016)-Fellow of the Royal Institution of Chartered Surveyors</li></ul>
<b>Education/Qualifications</b>		<ul style="list-style-type: none"><li>• California State University, Fullerton (Communications/Journalism)</li><li>• More than 600 Hawaii Hotel/Hospitality Valuation and Consulting Assignments</li><li>• More than 150 Market Studies, Economic Impact Analyses and Public Fiscal Assessments for Proposed Projects and Entitlement Purposes</li><li>• Qualified expert witness testimony before State of Hawaii Land Use Commission, County Planning Commissions, County Councils and various state and county boards and agencies since 1983.</li><li>• Only certified real estate economist by County of Kauai for workforce housing assessments.</li><li>• Numerous SREA, Appraisal Institute and RICS Courses</li><li>• Numerous professional seminars and clinics.</li><li>• Contributing author to Hawaii Real Estate Investor, Honolulu Star Bulletin, Pacific Business News, Other Publications</li></ul> <p>On January 1, 1991, the American Institute of Real Estate Appraisers (AIREA) and the Society of Real Estate Appraisers (SREA) consolidated, forming the Appraisal Institute (AI).</p>
<b>Recent Assignments</b>		<ul style="list-style-type: none"><li>• Market Study, Economic Impact Analyses and Public Costs/ Benefits (Fiscal Impact) Assessments</li></ul> <p><u>Oahu</u></p> <ul style="list-style-type: none"><li>-- OHA Kakaako Makai (Mixed-Use Project)</li><li>-- Howard Hughes/Ward Kewalo Basin (Retail Project)</li><li>-- Marriott Waikiki Parking Lot (Hotel/Timeshare Project)</li><li>-- Residence Inn Kapolei (Hotel)</li><li>-- Turtle Bay Resort (Destination Resort Community)</li><li>-- Waikapu Country Town (Mixed-Use Community)</li><li>-- Oahu Community Correctional Center Relocation</li><li>-- Oahu Tourism Spending/Tax Impact Analysis</li><li>-- Waikapu Country Town (Mixed-Use Community)</li></ul>

## Professional Qualifications of Thomas W. Holliday (continued)

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### Maui County

- Waikapu Country Town (Mixed-Use Community)
- Lanai City Expansion (Mixed-Use/201H Community)
- Polanui Garden (201H Residential Community)
- Molokai Ranch Holdings (Mixed-Use)
- Makila Rural Subdivision (201H Residential Community)
- Makila Kai (201H Residential Community)
- Maui Research & Tech Park (Mixed-Use Community)
- Maui Lani (Mixed-Use Community)
- Honuaula (Mixed-Use Community)
- Makena Beach Resort
- Maui Business Park, Phase II (Industrial/Commercial)
- Kapalua Mauka (Master Planned Community)
- Hailiimaile (Mixed-Use Master Planned Community)
- Pulelehua (Master Planned Community)
- Westin Kaanapali Ocean Villas Expansion (Resort/Timeshare)

### Big Island

- Parker Ranch Waimea Town Center (Mixed-Use)
- West Hawaii/Gold Coast Tourism & Hotel Analysis
- Puako Farms/Kamakoa (Residential Subdivision)
- Kau Tea Farm (Agricultural/Mixed-Use Project)
- Kamakana Villages (Mixed-Use Residential Development)
- W.H. Shipman Ltd, Master Plan (Various Urban Uses)
- Nani Kahuku Aina (Mixed-Use Resort Community)
- Kona Kai Ola (Mixed-Use Resort Community)
- Waikoloa Highlands (Residential)
- Waikoloa Heights (Mixed-Use Residential Development)

### Kauai

- Princeville Lodge (Hotel)
- Princeville Phase II (Destination Resort Community)
- Hanalei Plantation Workforce Housing (Resort)
- Lima Ola (Residential Community)
- Coco Palms (Hotel)
- Sheraton Kauai Workforce Housing (Resort)
- Coconut Coast Tourism and Hotel Analysis
- Hanalei Plantation Resort (Resort/Residential)
- Kukuiula (Resort/Residential)
- Waipono/Puhi (Mixed-Use Planned Development)
- Eleele Commercial Expansion (Commercial)
- Village at Poipu (Resort/Residential)
- Ocean Bay Plantation (Resort/Residential)



## Professional Qualifications of Thomas W. Holliday (continued)

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- Major Neighbor Island Valuation Assignments
  - Mauna Lani Bay Hotel
  - Courtyard Kahului Airport Hotel
  - Maui Oceanfront Days Inn
  - Holiday Inn Express - Kona Hotel (proposed)
  - Keauhou Beach Hotel
  - Courtyard King Kamehameha Kona Beach Hotel
  - Aloha Beach Resort
  - Coco Palms Resort
  - Grand Hyatt Kauai
  - Islander on the Beach
  - Waimea Plantation Cottages
  - Coconut Beach Resort
  - Sheraton Maui Hotel
  - Outrigger Wailea Resort Hotel
  - Maui Lu Hotel
  - Coconut Grove Condominiums
  - Palauea Bay Holdings
  - Wailea Ranch
  - Maui Coast Hotel
  - Westin Maui Hotel
  - Maui Marriott Hotel
  - Waihee Beach
  - Kapalua Bay Hotel and The Shops at Kapalua

**Email Address**

[Tom.Holliday@cbre.com](mailto:Tom.Holliday@cbre.com)