JOSH GREEN, M.D.
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CIARA W.K. KAHAHANE
DEPUTY DIRECTOR

STATE OF HAWAIʻI | KA MOKUʻĀINA ʻO HAWAIʻI
DEPARTMENT OF LAND AND NATURAL RESOURCES | KA ʻOIHANA KUMUWAIWAI ʻĀINA
COMMISSION ON WATER RESOURCE MANAGEMENT | KE KAHUWAI PONO
P.O. BOX 621
HONOLULU, HAWAII 96809

STAFF SUBMITTAL

COMMISSION ON WATER RESOURCE MANAGEMENT

September 16, 2025
Honolulu, Hawaiʻi

Approval of Stream Channel Alteration Permit Application (SCAP.6438.3),
Applicant Wasatch Arete TB Holdings
Maintain Drainage Capacity and Stream Flow for New Roadway Access within
Existing Turtle Bay Resort Property,
Landowners TB H2 Holdings, LLC and North Shore Bay Owner LLC,
ʻŌʻio Stream (East Main Drain), Kahuku, Oʻahu, TMK Nos.: (1) 5-7-001:048, 049, and 052

APPLICANT
Wasatch Arete TB Holdings
4670 S Holladay Village Plaza, Suite 200
Salt Lake City, UT 84117

LANDOWNER
North Shore Bay Owner, LCC / Host Hotels & Resorts; and TB H2 Holdings, LLC / Host Hotels & Resorts
4747 Bethesda Ave. Ste 1300
Bethesda, MD 20814

SUMMARY OF REQUEST

Approve Stream Channel Alteration Permit (SCAP.6438.3) by the Wasatch Arete TB Holdings. The project proposes to construct a new Conspan culvert system to accommodate the crossing of the new roadway. This Conspan culvert system will be designed to retain a natural stream bottom and will be sized to accommodate a 100-year flood event.

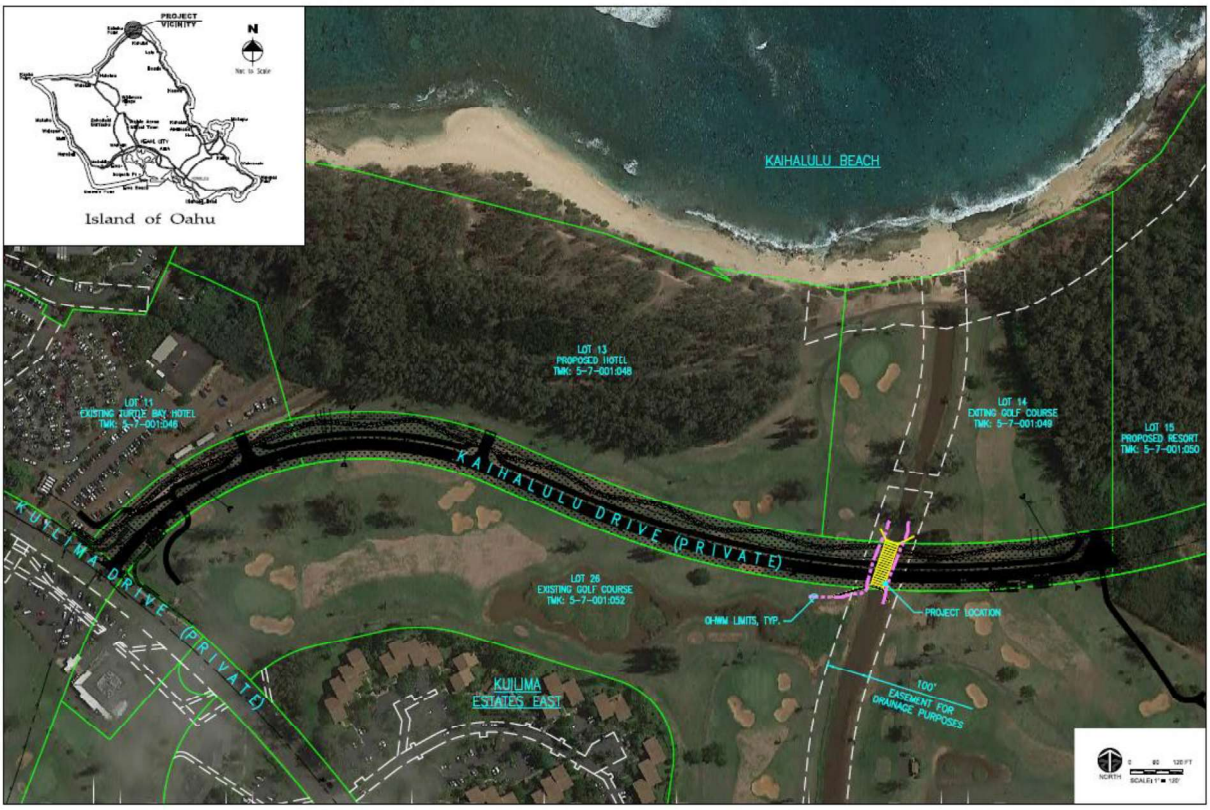
BACKGROUND

This project was previously approved by the Commission on May 17, 2022 and issued a Stream Channel Alteration Permit (SCAP.5860.3), but changes in land ownership resulted in project delays and the original SCAP.5860.3 expired. There are no changes to the original scope of the project.

On May 8, 2025, the Wasatch Arete TB Holdings filed a complete stream channel alteration permit application that is available online at https://files.hawaii.gov/dlnr/cwrm/swreview/SCAP_6438_3.pdf.

LOCATION: ʻŌʻio Stream, Kahuku, Oʻahu. See **Figure 1**.

Figure 1: Location, Ōʻio Stream, Kahuku, Oʻahu.



STREAM DESCRIPTION

The National Hydrography Dataset classified the ʻŌʻio Stream as intermittent. The Division of Aquatic Resources classified the ʻŌʻio Stream as perennial. The total drainage area is 3.9 square miles and a maximum basin elevation of 1,725 feet. The mean annual precipitation is 59.1 inches and the longest flow path is approximately 7.52 miles.

PROJECT DESCRIPTION

The project proposes to maintain drainage capacity and stream flow within the ʻŌʻio Stream and to allow construction of a new private roadway within the existing Turtle Bay Resort. A new Conspan culvert system is proposed to accommodate the crossing of the new roadway. This Conspan culvert system will be designed to retain a natural stream bottom and will be sized to accommodate a 100-year flood event. It is expected to be approximately 30 feet wide with a clearance height of 8 feet. The Conspan culvert structures will be made of pre-cast concrete and will be installed in sections for a total length of approximately 108 feet along the stream.

Concrete wing walls ranging from 30 feet to 92 feet in length will also be installed on both the upstream and downstream ends of the culverts to protect the roadway embankment from erosion.

The use of a foundation and deep foundation system will be required to support the Conspan culvert structures. A deep foundation will be accomplished by either jet grout columns or micropiles. Both methods require installation of subgrade support columns to depths of approximately 18 feet below existing ground level. A foundation approximately 6 feet wide and 3 feet deep will then be placed upon the deep foundation. The foundation is proposed to be constructed using pre-cast concrete but may be cast-in-place depending on site characteristics and constructability issues. To protect the structure from scour, riprap is proposed to be placed at a depth of 3 feet at grade along the wing walls and in scour prone areas at the upstream end of the structure. See **Figure 2:** Plan view of Conspan culvert installation.

Figure 2: Plan view of Conspan culvert installation.

AGENCY REVIEW COMMENTS

City and County of Honolulu, Department of Planning and Permitting: No comments received.

Department of Hawaiian Home Lands (DHHL): No comments received.

Department of Land and Natural Resources (DLNR), Aha Moku: No comments received.

DLNR, Aquatic Resources: Based on the materials provided, including the AECOS Environmental Survey dated July 7, 2021, and our internal knowledge of native aquatic ecosystems, we respectfully offer the following comments: See **Exhibit 1.**

Native Aquatic Species and Habitat Value
The AECOS survey documented the presence of two native aquatic species in the estuary of ʻŌʻio Stream:

- ʻOʻopu naniha (Stenogobius hawaiiensis) – endemic amphidromous goby
- ʻAmaʻama (Mugil cephalus) – native striped mullet

Both are listed as Species of Greatest Conservation Need (SGCN) in the Hawaiʻi State Wildlife Action Plan (SWAP), indicating their ecological significance and need for conservation. Their presence highlights the importance of maintaining hydrologic connectivity and water quality in this stream-estuary system.

Water Quality Observations
The AECOS report noted very high concentrations of ammonium and total nitrogen across all monitoring stations, indicating elevated nutrient levels. While total phosphorus was low, these results suggest eutrophic conditions that may negatively affect aquatic life and ecosystem health, especially if hydrology or sediment patterns are further altered.

Culvert Design and Hydraulic Concerns
The SCAP application notes a proposed 30-ft wide x 8-ft high ConSpan culvert that: "...will be designed to retain a natural stream bottom and will be sized to accommodate a 100-year flood event." (p. 39). However, based on data from the AECOS report and USGS StreamStats, the 100-year peak flow for ʻŌʻio Stream is estimated at 8,670 cfs. Based on standard open-channel hydraulics, the proposed culvert dimensions are likely insufficient to fully convey that discharge without overtopping. Key Concerns:

- The proposed culvert dimensions are unlikely to convey this volume without overtopping, especially under storm or high flow events.
- The statement in the SCAP document may be misleading if it implies full conveyance within the culvert.

Stream Connectivity and Downstream Barriers and Cumulative Effects
The proposed project involves the construction of a new stream crossing and culvert over ʻŌʻio Stream, but it does not include modifications to the existing culverts near the stream mouth. These downstream structures and may be undersized, potentially contributing to: sediment buildup, intermittent disconnection from the ocean, impaired flow conveyance, and restricted migration of native amphidromous species. While the new upstream culvert may be designed to

support flow and biotic movement, its overall effectiveness will likely be limited by these downstream constraints. In addition, the introduction of new in-stream infrastructure without improving downstream connectivity may contribute to cumulative impacts on habitat quality, species movement, and overall stream health. Consideration of cumulative effects and existing barriers is critical when evaluating the ecological impacts of new infrastructure in stream systems, especially those supporting native and sensitive aquatic species.

Recommendations
To ensure effective habitat protection and compliance with DLNR's aquatic resource goals, DAR recommends:

1. Hydraulic modeling documentation showing how the culvert will accommodate the Q100 flow (with or without overtopping).
2. Clarification on whether overtopping is part of the design intent.
3. If possible, a copy of the as-built drawings or final structure dimensions be shared after construction. This would help us better understand the final conditions and how they may relate to stream flow, fish passage, and aquatic habitat.

Applicant response: **Hydraulic modeling documentation showing how the culvert will accommodate the Q100 flow with or without overtopping**. A hydraulic and scour analysis titled "Turtle Bay Resort, Kaihalulu East Roadway Extension, Proposed Crossing – East Main Drain, Study Report" prepared by River Focus and dated October 2024 (Hydraulic Analysis) is enclosed with this letter. The analysis evaluated the hydrologic and hydraulic conditions of the project under a Q100 storm event. The report concludes that the proposed Con/Span culvert (along with other proposed pipe culverts) is designed to convey the Q100 flow to the ocean outfall without overtopping the new roadway.

Clarification on whether overtopping is part of the design intent. As noted above, overtopping of the new roadway is not part of the design intent. The system has been designed to convey the full Q100 flow without overtopping the roadway.

If possible, a copy of the as-built drawings or final structure dimensions be shared after construction. This would help us better understand the final conditions and how they may relate to stream flow, fish passage, and aquatic habitat. A copy of the as-built drawings can be provided upon project completion. See **Exhibit 2**.

CWRM staff response: Commission staff believes DAR's recommendations have been met.

DLNR, Engineering: 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, Chapter 1, Subchapter B, Part 60 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 for researching the Flood Hazard Zone designation for

the project. Flood zones subject to NFIP requirements are identified on FEMA' s Flood Insurance Rate Maps (FIRM). The official FIRMs can be accessed through FEMA' s Map Service Center (msc.fema.gov). Our Flood Hazard Assessment Tool (FHAT) (fbat.hawaii.gov) could also be used to research flood hazard information. See **Exhibit 3**.

> *CWRM staff response:* The project site is in Zone VE, or areas subject to inundation by the 1-percent-annual-chance flood event with additional hazards due to storm induced velocity wave action, and Zone AE or areas subject to inundation by the 1-percent-annual-chance flood event determined by detailed methods.

DLNR, Forestry and Wildlife (DOFAW): No comments received.

DLNR, Historic Preservation (SHPD): On November 13, 2020, SHPD Project No. 2019.00055 concurred with Commission's project effect determination the project.

> *CWRM Staff Response:* Staff believes that SHPD review is satisfied. See **Exhibit 4**.

DLNR, Land Division: No comments received.

DLNR, State Parks: No comments received.

Dept. of Health (DOH), Clean Water Branch: The DOH standard comments can be reviewed on the DOH website at: https://health.hawaii.gov/cwb/files/2018/05/Memo-CWB-Standard-Comments.pdf.

> *CWRM staff response:* The lead agency for the protection of water quality is the Department of Health, Clean Water Branch, which administers the Federal Clean Water Act (33 U.S.C. §1251 et seq.) and the State Water Pollution Act (HRS Ch. 342D; HAR Ch. 11-54 Water Quality Standards; and HAR Ch. 11-55 Water Pollution Control). HAR §11-54-1 through §11-54-8 defines Best Management Practices and water quality criteria applicable to inland and nearshore waters and are based on the Federal Clean Water Act. HAR Ch. 11-55 Appendix C defines discharges of storm water associated with construction activity. HRS 174C-66 states that the DOH oversees the State's water quality control program.

Office of Hawaiian Affairs: No comments received.

US Army Corps of Engineers: No comments received.

US Fish and Wildlife Service (FWS): No comments received.

Public Comments: No comments received.

TRADITIONAL AND CUSTOMARY PRACTICES

1) The identity and scope of cultural, historical, or natural resources in which traditional and customary native Hawaiian rights are exercised in the area.

   The Applicant stated, "A Cultural Impact Assessment (CIA) dated August 2012 was prepared in support of the 2013 FSEIS. The CIA found that the TBR property and surrounding areas contain an array of cultural resources that are currently used for traditional cultural practices, including marine food sources, medicinal plants, plants used in crafts, wood for woodcarving, and salt for various uses. Also, the land and sea are used for a variety of traditional and non-traditional sports and recreational activities such as swimming, diving, fishing, surfing, and canoeing. With respect to the current Project Area there are no significant cultural, historical and natural resources in which traditional and customary native Hawaiian rights are exercised. The closest such activities take place offshore in shallow waters approximately 500 to 700 feet to the north and east of the Project Area.

   ASM Affiliates has completed the most recent archaeological work within the TBR development area and the locations of all the archaeological sites slated for preservation relative to the current Project Area are shown on Figure 3 (in the application). There are no known archaeological sites within the Project Area, and ASM Affiliates has also completed an Archaeological Monitoring Plan that has been accepted by SHPD, which will be followed during project implementation. A copy of SHPD's acceptance letter for the Archaeological Monitoring Plan along with SHPD's letters accepting the other mitigation plans prepared for TBR are provided in Exhibit B (in the application)."

   CWRM Staff Response: No comments were received by DLNR Aha Moku. No comments were received from the public. No impacts to traditional and customary native Hawaiian rights which may be exercised in the area are anticipated.

2) The extent to which those resources, including traditional and customary native Hawaiian rights, will be affected or impaired by the proposed action.

   The Applicant stated, "Marine and Terrestrial Resources - No impacts to terrestrial resources are anticipated as none have been identified to occur within the Project Area. Potential impacts to near shore marine resources will be mitigated during construction through the implementation of a BMP plan that will restrict the discharge of contaminants to wetlands, streams, and the ocean. The project will also be subject to the conditions of regulatory permits and controls, such as a Department of the Army Nationwide Permit, Section 401 Water Quality Certification, NPDES permit, State Water Quality Standards, and the City and County of Honolulu's Rules Relating to Water Quality. In the long-term, all future development will be subject to State Water Quality Standards and the City's Rules Relating to Water Quality. Moreover, the Applicant and/or its successors will be responsible for preparing a Coastal Resources Management Plan and developing an education program to be implemented with the future build out of the resort. Contemporary Use of Land and Sea - No impacts on contemporary and ancient versions of traditional activities as well as non-traditional activities or uses of the land and sea are anticipated with this project. Access to the shoreline areas and other

areas used for traditional and non-traditional activities will be maintained during construction and generous shoreline setbacks provide unencumbered coastal access into the future. The Applicant will provide alternate access routes to near shore marine resources and activities should current routes be obstructed during construction."

CWRM Staff Response: There are no anticipated impacts to traditional and customary practices or upstream/downstream movement of native macrofauna.

3) What feasible action, if any, could be taken by the Commission in regards to this application to reasonably protect native Hawaiian rights.

The Applicant stated, "The owners at the time the 2013 SEIS was prepared re-reinforced meaningful community relationship with the public and particularly with the range of stakeholders involved with the lands at TBR. As a result, extensive public outreach went into the preparation of the accepted SEIS. Engagement strategies included individual and small talk story sessions, group meetings, traditional public meetings, convening of a Cultural Advisory Council and the Kahuku Burial Committee, establishing a website, public notices, and ethnographic interviews. What ultimately transpired was a commitment to reduce the proposed 3,500 units to only 725 units reflecting a significantly less density and a more culturally and environmentally sensitive approach to development in the area. Hundreds of acres were also entered into a conservation easement further reflecting the collaboration between the owners, government leaders, and North Shore community groups. The Applicant shares the same commitment and desire as its predecessor to maintain a meaningful relationship with the community and stakeholders, and to ensure a more culturally and environmentally sensitive approach to development is implemented. As such, the Applicant will continue to build off previous outreach efforts and will continue to consult with the community and numerous stakeholders to implement the previously defined recommendations that will reasonably protect cultural, historical, and natural resources at TBR, including traditional and customary Native Hawaiian rights."

CWRM Staff Response: The project BMPs are feasible actions that will be employed during the project period to ensure water and stream resources mauka and makai of the project area are not impacted to the detriment of traditional and customary practices of Native Hawaiians.

HRS CHAPTER 343 – ENVIRONMENTAL ASSESSMENT (EA) COMPLIANCE

Under Hawaii Revised Statutes (HRS) §343-5(a), an EA shall be required for actions, as summarized in part below, that propose:

(1) use of state land or county lands, or the use of state or county funds;
(2) use within any land classified as a conservation district;
(3) use within a shoreline area;
(4) use within any historic site as designated in the National Register or Hawaii Register;
(5) use within the Waikiki area of Oʻahu;

(6) any amendments to existing county general plans where the amendment would result in designations other than agriculture, conservation, or preservation;
(7) any reclassification of any land classified as a conservation district;
(8) construction of new or the expansion or modification of existing helicopter facilities within the State, that may affect: (A) any land classified as a conservation district; (B) a shoreline area; or (C) any historic site as designated in the National Register or Hawaii Register;
(9) any (A) wastewater treatment unit, except an individual wastewater system or a wastewater treatment unit serving fewer than fifty single-family dwellings or the equivalent; (B) Waste-to-energy facility; (C) Landfill; (D) Oil refinery; or (E) Power-generating facility.

CWRM Staff Response: The proposed action does not trigger an EA.

ROH CHAPTER 25 - SPECIAL MANAGEMENT AREA (SMA) COMPLIANCE

Under Revised Ordinances of Honolulu (ROH), Chapter 25, Special Management Area, the SMA is under the jurisdiction of the City and County of Honolulu, Department of Planning and Permitting. The proposed action is located within the SMA. On October 1, 1986, the Council of the City and County of Honolulu adopted Resolution 86-308 approving the SMA permit application.

CONSISTENCY WITH THE HAWAIʻI WATER PLAN

The Water Resource Protection Plan (WRPP), updated in 2019, provides an outline for the conservation, augmentation, and protection of statewide ground and surface water resources, watersheds, and natural stream environments. The legal framework of the Code for the issuance of Stream Channel Alteration Permits, as outlined in this submittal, is covered in more detail and context in the WRPP, Appendix I.

STAFF REVIEW

Review of the permit application by Commission staff is subject to the consideration of the legal authorities cited in **Exhibit 6**.

HAR §13-169-52(b) Based upon the findings of fact concerning an application for a stream channel alteration permit, the Commission shall either approve in whole, approve in part, approve with modifications, or reject the application for a permit.

(1) Channel alterations that would adversely affect the quantity and quality of the stream water or the stream ecology should be minimized or not be allowed.

CWRM Staff Response: Upon approval of the construction plans as proposed, the quantity and quality of stream water should not be adversely affected.

(2) Where instream flow standards or interim instream flow standards have been established pursuant to subchapters 3 and 4, no permit shall be granted for any channel alteration which diminishes the quantity or quality of stream water below the minimum established to support identified instream uses, as expressed in the standards.

CWRM Staff Response: HRS §174C-71 requires the Commission to protect stream channels from alteration whenever practicable to provide for fishery, wildlife, recreational, aesthetic, scenic, and other beneficial instream uses. The identified instream uses include fish habitat and streamflow contribution to the nearshore waters, among others. The project is not anticipated to impact the status quo interim instream flow standard which was established on April 19, 1989, pursuant to HAR §13-169-49.1.

(3) The proposed channel alteration should not interfere substantially and materially with existing instream or non-instream uses or with channel alterations previously permitted.

CWRM Staff Response: The proposed work plan is limited to the project area and should not interfere with instream or non-instream uses, including existing diversions. Commission records indicate that there are no active diversions located downstream of the project area. No adverse impacts are anticipated.

RECOMMENDATION

That the Commission:

1. Approve Stream Channel Alteration Permit (SCAP.6438.3) Application that proposes to construct a new Conspan culvert system to accommodate the crossing of the new roadway. This Conspan culvert system will be designed to retain a natural stream bottom and will be sized to accommodate a 100-year flood event. It is expected to be approximately 30 feet wide with a clearance height of 8 feet. The Conspan culvert structures will be made of pre-cast concrete and will be installed in sections for a total length of approximately 108 feet along the stream. Concrete wing walls ranging from 30 feet to 92 feet in length will also be installed on both the upstream and downstream ends of the culverts to protect the roadway embankment from erosion, subject to the standard conditions in **Exhibit 5**.

Ola i ka wai,

CIARA W.K. KAHAHANE
Deputy Director

Exhibits:
1. DLNR, Division of Aquatic Resources, letter dated July 1, 2025.
2. Applicant Consultant, Wilson Okamoto, response to DAR, letter dated July 7, 2025.
3. DLNR, Engineering Division, letter dated July 3, 2025.

4. DLNR, SHPD, letter dated November 13, 2020.
5. Standard Stream Channel Alteration Permit Conditions.
6. Legal Authorities.

APPROVED FOR SUBMITTAL:

DAWN N.S. CHANG
Chairperson

JOSH GREEN, M.D.
GOVERNOR | KE KIAʻĀINA
SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIAʻĀINA

STATE OF HAWAIʻI | KA MOKUʻĀINA ʻO HAWAIʻI
DEPARTMENT OF LAND AND NATURAL
RESOURCES DIVISION OF AQUATIC RESOURCES
1151 PUNCHBOWL STREET, ROOM 330
HONOLULU, HAWAII 96813

Date: 06/26/2025
DAR # AR6906

DAWN N.S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
RYAN K.P. KANAKAʻOLE
FIRST DEPUTY
DEAN G. UYENO
ACTING 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

MEMORANDUM

TO: Brian J. Neilson
DAR Administrator

FROM: Anthony Olegario, Aquatic Biologist

SUBJECT: SCAP.6438.3 Turtle Bay, Oio Stream

Request Submitted by: CWRM

Location of Project: 5-7-00:1:048, 049, and 052; Turtle Bay Resort, ʻOʻio Stream (East Main Drain), Kahuku, Koʻolauloa District, Oʻahu, Hawaiʻi

Brief Description of Project:
Turtle Bay Resort proposes to construct a new road, Kaihalulu Drive ("Project"), over the estuarine reach of ʻŌʻio Stream (also known as East Main Drain) near Kahuku on the north shore of Oʻahu. The purpose of the proposed project is to maintain drainage capacity and stream flow within the ʻOlo
Stream and to allow construction of a new private roadway within the existing Turtle Bay Resort. The proposed road, Kaihalulu Drive, will run parallel and approximately 500 feet mauka of the shoreline within the existing TBR property and will provide access to various resort facilities and amenities pursuant to the master plan for the resort.

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: _____ Date: 07/01/2025
Brian J. Neilson
DAR Administrator

EXHIBIT 1

DAR# AR6906

Comments

CMahalo for the opportunity to review the proposed infrastructure improvements under SCAP.6438.3 at Turtle Bay Resort, specifically the proposed construction of a new culvert and access road over ʻŌʻio Stream. Based on the materials provided, including the AECOS Environmental Survey dated July 7, 2021, and our internal knowledge of native aquatic ecosystems, we respectfully offer the following comments:

Native Aquatic Species and Habitat Value
The AECOS survey documented the presence of two native aquatic species in the estuary of ʻŌʻio Stream:

- ʻOʻopu naniha (Stenogobius hawaiiensis) – endemic amphidromous goby
- ʻAmaʻama (Mugil cephalus) – native striped mullet

Both are listed as Species of Greatest Conservation Need (SGCN) in the Hawaiʻi State Wildlife Action Plan (SWAP), indicating their ecological significance and need for conservation. Their presence highlights the importance of maintaining hydrologic connectivity and water quality in this stream-estuary system.

Water Quality Observations
The AECOS report noted very high concentrations of ammonium and total nitrogen across all monitoring stations, indicating elevated nutrient levels. While total phosphoru was low, these results suggest eutrophic conditions that may negatively affect aquatic life and ecosystem health, especially if hydrology or sediment patterns are further altered.

Culvert Design and Hydraulic Concerns
The SCAP application notes a proposed 30-ft wide × 8-ft high ConSpan culvert that: "...will be designed to retain a natural stream bottom and will be sized to accommodate a 100-year flood event." (p. 39)
However, based on data from the AECOS report and USGS StreamStats, the 100-year peak flow for ʻŌʻio Stream is estimated at 8,670 cfs. Based on standard open-channel hydraulics, the proposed culvert dimensions are likely insufficient to fully convey that discharge without overtopping.
Key Concerns:

- The proposed culvert dimensions are unlikely to convey this volume without overtopping, especially under storm or high flow events.
- The statement in the SCAP document may be misleading if it implies full conveyance within the culvert.

Stream Connectivity and Downstream Barriers and Cumulative Effects

The proposed project involves the construction of a new stream crossing and culvert over ʻŌʻio Stream, but it does not include modifications to the existing culverts near the stream mouth. These downstream structures and may be undersized, potentially contributing to: sediment buildup, intermittent disconnection from the ocean, impaired flow conveyance, and restricted migration of native amphidromous species.

While the new upstream culvert may be designed to support flow and biotic movement, its overall effectiveness will likely be limited by these downstream constraints. In addition, the introduction of new in-stream infrastructure without improving downstream connectivity may contribute to cumulative impacts on habitat quality, species movement, and overall stream health. Consideration of cumulative effects and existing barriers is critical when evaluating the ecological impacts of new infrastructure in stream systems, especially those supporting native and sensitive aquatic species.

Recommendations

To ensure effective habitat protection and compliance with DLNR's aquatic resource goals, DAR recommends:

1. Hydraulic modeling documentation showing how the culvert will accommodate the Q100 flow (with or without overtopping).
2. Clarification on whether overtopping is part of the design intent.
3. If possible, a copy of the as-built drawings or final structure dimensions be shared after construction. This would help us better understand the final conditions and how they may relate to stream flow, fish passage, and aquatic habitat.

WILSON OKAMOTO CORPORATION
INNOVATORS · PLANNERS · ENGINEERS

10393-01
July 7, 2025

Rebecca Alakai
Regulatory Section
Commission on Water Resource Management
1151 Punchbowl Street, Rm 227
Honolulu, HI 96813

Subject: **Response to Recommendations**
Turtle Bay Resort - ʻŌʻio Stream (East Main Drain)
TMK: (1) 5-7-001:048, 049, and 052
Kahuku, Koʻolauloa District, Oʻahu, Hawaiʻi
SCAP.6438.3; DAR#AR6906

Dear Ms. Alakai:

Wilson Okamoto Corporation (WOC) is the civil engineering consultant for the subject project. The purpose of this letter is to formally respond to the recommendations provided in the Department of Land and Natural Resources, Division of Aquatic Resources (DLNR) letter dated June 26, 2025 (see enclosures).

Below are the recommendations noted, along with our responses:

1. **Hydraulic modeling documentation showing how the culvert will accommodate the Q100 flow (with or without overtopping).**

   A hydraulic and scour analysis titled *"Turtle Bay Resort, Kaihalulu East Roadway Extension, Proposed Crossing – East Main Drain, Study Report"* prepared by River Focus and dated October 2024 (Hydraulic Analysis) is enclosed with this letter. The analysis evaluated the hydrologic and hydraulic conditions of the project under a Q100 storm event. The report concludes that the proposed Con/Span culvert (along with other proposed pipe culverts) is designed to convey the Q100 flow to the ocean outfall without overtopping the new roadway.

2. **Clarification on whether overtopping is part of the design intent.**

   As noted above, overtopping of the new roadway is not part of the design intent. The system has been designed to convey the full Q100 flow without overtopping the roadway.

1907 S. Beretania Street, Suite 400 • Honolulu, Hawaii • 96826 • (808) 946-2277

EXHIBIT 2

10393-01
Turtle Bay Resort - ʻŌʻio Stream (East Main Drain)
SCAP.6438.3; DAR#AR6906
July 7, 2025

3. **If possible, a copy of the as-built drawings or final structure dimensions be shared after construction. This would help us better understand the final conditions and how they may relate to stream flow, fish passage, and aquatic habitat.**

   A copy of the as-built drawings can be provided upon project completion.

Please feel free to contact me at (808) 946-2277 should you have any questions or require any additional information.

Sincerely,

Brett Kuamoo, P.E.

Enclosures:

- DLNR Comment Letter dated June 26, 2025
- Hydraulic Analysis dated October 2024:
  "Turtle Bay Resort, Kaihalulu East Roadway Extension, Proposed Crossing – East Main Drain, Study Report", by River Focus.

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

CWRM/Ciara W.K. Kahahane

Ref: Request for Comments, Stream Channel Alteration Permit Application (SCAP.6438.3), Wasatch Arete TB Holdings, Maintain Drainage Capacity and Stream Flow for New Roadway Access, ʻŌʻio Stream (East Main Drain)
Location: Kahuku, Oʻahu
TMK(s): (1) 5-7-001:048, 049, and 052
Applicant: Wasatch Arete TB Holdings

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, Chapter 1, Subchapter B, Part 60 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 for researching the Flood Hazard Zone designation for the project. Flood zones subject to NFIP requirements are identified on FEMA's Flood Insurance Rate Maps (FIRM). The official FIRMs can be accessed through FEMA's Map Service Center (msc.fema.gov). Our Flood Hazard Assessment Tool (FHAT) (fhat.hawaii.gov) could also be used to research flood hazard information.

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) 270-7139.
- Kauai: County of Kauai, Department of Public Works (808) 241-4849.

Signed: _____
DINA U. LAU, ACTING CHIEF ENGINEER

Date: Jul 3, 2025

EXHIBIT 3

DAVID Y. IGE
GOVERNOR OF HAWAII

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

ROBERT K. MASUDA
FIRST DEPUTY

M. KALEO MANUEL
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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING
601 KAMOKILA BLVD, STE 555
KAPOLEI, HAWAII 96707

November 13, 2020

IN REPLY REFER TO:
Log No. 2019.00055
Doc No. 2011GC06
Archaeology

Kathy K. Sokugawa., Director
Department of Permitting and Planning
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Samantha Canon
BRE Turtle Bay Development, LLC
57-091 Kamehameha Highway
Kahuku, HI 96731
scanon@tbrdevelopment.com

Dear Ms. Sokugawa and Ms. Canon:

SUBJECT: **Chapter 6E-42Historic Preservation Review –**
Subdivision Application No. 2014/SUB-145 - Turtle Bay Resort
Archaeological Monitoring Plan
ʻŌpana, Kawela, Hanakaoe, Ulupehupehu, Ōʻio, Punalau, and Kahuku Ahupuaʻa, Koʻolauloa District, Island of Oʻahu,
TMK: (1) 5-6-003:054-062; (1) 5-7-001:013, 027-029, and 043-053; and (1) 5-7- 006:024-030

This letter provides the State Historic Preservation Division's (SHPD's) review of the archaeological monitoring plan (AMP) titled, *Archaeological Monitoring Plan for Activities within the Turtle Bay Resort Development Area, ʻŌpana, Kawela, Hanakaoe, Ulupehupehu, Ōʻio, Punalau, and Kahuku Ahupuaʻa, Koʻolauloa District, Island of Oʻahu, TMK: (1) 5-6-003:054-062; (1) 5-7-001:013, 027-029, and 043-053; and (1) 5-7-006:024-030* (Gotay and Rechtman, December 2018).

ASM Affiliates (ASM) prepared this draft archaeological monitoring (AMP) on behalf of BRE Turtle Bay Development, LLC, in support of all proposed development activities that include subsurface disturbance within the Turtle Bay Resort development area on be. The Turtle Bay Resort property, totaling 840 acres is owned by a series of related entities, all private, including BRE Turtle Bay Development LLC (BRE), BRE Turtle Bay Resort LLC, and BRE Mauka Lands LLC. The resort property is bounded to the south by Kamehameha Highway (Hwy 83), to the east by Marconi Road, and to the west and North by the ocean.

The proposed development will expand the existing resort to include some combination of resort hotels, condo hotels, residential, commercial and recreation development on three defined, entitled and zoned oceanfront and other supporting infrastructure sites; as well as parks, shoreline setbacks, and public shoreline access points.

In 2014, the previous owner, Turtle Bay Resort LLC, agreed to designate more than 600 acres (out of the total 840 acres) as a conservation easement, to be called Punahoʻolapa Wildlife Preserve. The previous owner and current owner each agreed, in consultation with SHPD, to prepare and implement four archaeological mitigation plans: a data recovery plan, a burial treatment plan, an archaeological monitoring plan (current document), and an archaeological preservation plan.

EXHIBIT 4

The burial treatment plan was submitted to the Oʻahu Island Burial Council (OIBC) which made a determination of preservation for Sites 50-80-02-4488, 50-80-02-6411, 50-80-02-7289, and the Daniel Pahu grave site and reinternment area; relocation of Site 50-80-02-7288 to the Daniel Pahu grave site; and recommended that SHPD accept the BTP. SHPD accepted the BTP in a letter dated October 12, 2018 (Log No. 2018.02260, Doc. No. 1810RKH07).

The AMP stipulates the following monitoring procedures:

- A coordination meeting shall be conducted between construction team, representatives of the project proponent and the monitoring archaeologist(s) prior to construction activities so the construction team is aware of the plan. At this time, the archaeologist shall advise the participants of the monitor's responsibilities for daily documentation of construction activities, the ability to temporarily stop construction to investigate potential cultural remains, and the documentation requirements;
- On-site monitoring shall be conducted for all project-related ground disturbing activities. One monitor is required for each piece of ground altering machinery during this project;
- The archaeological monitor has the authority to temporarily halt all activity in the area in the event of a potential historic property being identified, or to record archaeological information for cultural deposits or features;
- If non-burial historic properties are identified, documentation shall include, as appropriate, recording stratigraphy using USDA soil descriptions, GPS point collection with a receiver capable of sub meter accuracy, recordation of feature contents through excavation or sampling of features, screening of features, representative scaled profile drawings, photo documentation using a scale and north arrow, and appropriate laboratory analysis of collected samples and artifacts. Additionally, photographs and profiles of excavations shall be collected from across the project area even if no significant historic properties are encountered. Representative profiles shall be a minimum of two-meter-long sections;
- If human remains are identified, work will cease in the vicinity and the find shall be secured, and provisions outlined within the Hawaii Revised Statutes (HRS) §6E-43 and HAR §13-300-40, and any SHPD directives, shall be followed;
- Project materials will be stored temporarily with ASM and final curation facilities shall be determined in consultation with SHPD and the landowner;
- Any samples suitable for radiocarbon analysis shall be submitted for wood taxa identification prior to radiocarbon dating;
- Final curation of collected items shall be determined in consultation with the landowner and the SHPD; and
- Any deviation from these provisions shall occur only in consultation with the SHPD.

The plan is well written and meets the minimum requirements of HAR §13-279-4. **It is accepted**. Please send one hard copy of the document, clearly marked FINAL, along with a copy of this letter and a text-searchable PDF version to the Kapolei SHPD office, attention SHPD Library. Please also provide a PDF copy of the plan to Lehua.K.Soares@hawaii.gov.

SHPD hereby notifies the DPP that construction activities for the current project shall proceed in accordance with the approved monitoring plan. The permit has already been issued.

Upon completion of archaeological monitoring fieldwork, SHPD looks forward for review and acceptance a brief end of field work report within 30 days of completion of archaeological field monitoring. SHPD looks forward to reviewing an archaeological monitoring report meeting the requirements of HAR §13-279-5 within 60 days after completion of fieldwork.

Please contact Dr. Susan A. Lebo, Archaeology Branch Chief, at Susan.A.Lebo@hawaii.gov or at (808) 321-9000, for any questions regarding this letter.

Aloha,

Alan Downer

Alan S. Downer, PhD
Administrator, State Historic Preservation Division
Deputy State Historic Preservation Officer

STREAM CHANNEL ALTERATION PERMIT STANDARD CONDITIONS
(Revised December 15, 2020)

1. The permit application and staff submittal approved by the Commission at its meeting on the above date shall be incorporated herein by reference.
2. The project may require other agency approvals regarding wetlands, water quality, grading, stockpiling, endangered species, and floodways. The permittee shall comply with all other applicable statutes, ordinances, and regulations of the Federal, State and county governments, including, but not limited to, instream flow standards.
3. The permittee, his successors, assigns, officers, employees, contractors, agents, and representatives, shall indemnify, defend, and hold the State of Hawaii harmless from and against any claim or demand for loss, liability, or damage including claims for property damage, personal injury, or death arising out of any act or omission of the permittee or his successors, assigns, officers, employees, contractors, and agents under this permit or related to the granting of this permit.
4. The permittee shall notify the Commission, by letter, of the actual dates of project initiation and completion. The permittee shall submit a set of as-built plans and photos in pdf format of the completed work to the Commission upon completion of this project. This permit may be revoked if work is not started within six (6) months after the date of approval or if work is suspended or abandoned for six (6) months, unless otherwise specified. The proposed work under this stream channel alteration permit shall be completed within two (2) years from the date of permit approval, unless otherwise specified. The permit may be extended by the Commission upon showing of good cause and good-faith performance. A request to extend the permit shall be submitted to the Commission no later than three (3) months prior to the date the permit expires. If the commencement or completion date is not met, the Commission may revoke the permit after giving the permittee notice of the proposed action and an opportunity to be heard.
5. Before proceeding with any work authorized by the Commission, the permittee shall submit one set of construction plans and specifications in PDF format to determine consistency with the conditions of the permit and the declarations set forth in the permit application.
6. The permittee shall implement site-specific, construction Best Management Practices in consultation with the DOH Clean Water Branch and other agencies as applicable, that are designed, implemented, operated, and maintained by the permittee and its contractor to properly isolate and confine activities and to contain and prevent any potential pollutant(s) discharges from adversely impacting State waters per HRS Ch. 342D Water Pollution; HAR §11-54-1 through §11-54-8 Water Quality Standards; and HAR Ch. 11-55 Water Pollution Control, Appendix C.
7. The permittee shall protect and preserve the natural character of the stream bank and stream bed to the greatest extent possible. The permittee shall plant or cover lands denuded of vegetation as quickly as possible to prevent erosion and use native plant species common to riparian environments to improve the habitat quality of the stream environment.
8. In the event that subsurface cultural remains such as artifacts, burials or deposits of shells or charcoal are encountered during excavation work, the permittee shall stop work in the area of the find and contact the Department's Historic Preservation Division immediately. Work may commence only after written concurrence by the State Historic Preservation Division.

EXHIBIT 5

LEGAL AUTHORITIES

Water as a Public Trust. The four public trust purposes are:

1. Maintenance of waters in their natural state;
2. Domestic water use of the general public, particularly drinking water;
3. The exercise of Native Hawaiian and traditional and customary rights, including appurtenant rights. Waiahole I, 94 Hawaii 97; 9 P.3d 409 (2000).
4. Reservations of water for use on Hawaiian home lands. Waiola O Molokai, Inc., 103 Hawaii 401; 83 P.3d 664 (2004).

Activities on undeveloped lands. Public Access Shoreline Hawaii v. Hawaii County Planning Commission (PASH I). 79 Hawaii 246 (1993).

HRS §174C-71 Protection of instream uses. The commission shall establish and administer a statewide instream use protection program. In carrying out this part, the commission shall cooperate with the United States government or any of its agencies, other state agencies, and the county governments and any of their agencies. In the performance of its duties the commission shall:

(2) Establish interim instream flow standards;
  (D) In considering a petition to adopt an interim instream flow standard, the commission shall weigh the importance of the present or potential instream values with the importance of the present or potential uses of water for non-instream purposes, including the economic impact of restricting such uses;
(3) Protect stream channels from alteration whenever practicable to provide for fishery, wildlife, recreational, aesthetic, scenic, and other beneficial instream uses;
  (A) The commission shall require persons to obtain a permit from the commission prior to undertaking a stream channel alteration; provided that routine streambed and drainageway maintenance activities and maintenance of existing facilities are exempt from obtaining a permit;
  (C) The commission shall establish guidelines for processing and considering applications for stream channel alterations consistent with section 174C-93;

HAR §13-169-2 Definitions.

"Channel alteration" means to obstruct, diminish, destroy, modify, or relocate a stream channel; to change the direction of flow of water in a stream channel; to place any material or structures in a stream channel; or to remove any material or structures from a stream channel.

"Stream channel" means a natural or artificial watercourse with a definite bed and banks which periodically or continuously contains flowing water.

§13-169-49.1 Interim instream flow standard for Windward Oahu. The Interim Instream Flow Standard for all streams on Windward Oahu, as adopted by the commission on water resource management on April 19, 1989, shall be that amount of water flowing in each stream on the effective date of this standard.

HAR §13-169-50 Permit required. (a) Stream channels shall be protected from alteration whenever practicable to provide for fishery, wildlife, recreational, aesthetic, scenic, and other

beneficial instream uses. No stream channel shall be altered until an application for a permit to undertake the work has been filed and a permit is issued by the commission; provided that routine streambed and drainageway maintenance activities and maintenance of existing facilities are exempt from obtaining a permit.

HAR §13-169-52 Criteria for ruling on application. (a) The commission shall act upon an application within ninety calendar days after acceptance of the application.

(b) Based upon the findings of fact concerning an application for a stream channel alteration permit, the commission shall either approve in whole, approve in part, approve with modifications, or reject the application for a permit.

(c) In reviewing an application for a permit, the commission shall cooperate with persons having direct interest in the channel alteration and be guided by the following general considerations:

(1) Channel alterations that would adversely affect the quantity and quality of the stream water or the stream ecology should be minimized or not be allowed.
(2) Where instream flow standards or interim instream flow standards have been established pursuant to subchapters 3 and 4, no permit shall be granted for any channel alteration which diminishes the quantity or quality of stream water below the minimum established to support identified instream uses, as expressed in the standards.
(3) The proposed channel alteration should not interfere substantially and materially with existing instream or non-instream uses or with channel alterations previously permitted.

(c) Notwithstanding subparagraph (b) above, the commission may approve a permit pursuant to subparagraph (a) above in those situations where it is clear that the best interest of the public will be served, as determined by the commission.

HAR §13-169-53 Term of permit. (a) Every permit approved and issued by the commission shall be for a specified period, not to exceed two years, unless otherwise specified in the permit.