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IN REPLY REFER TO:

HAR-EP.24.3086

June 3, 2024

TO: JAMES KUNANE TOKIOKA, DIRECTOR  
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT AND TOURISM

ATTENTION: MARY ALICE EVANS, DIRECTOR  
OFFICE OF PLANNING AND SUSTAINABLE DEVELOPMENT  
ENVIRONMENTAL REVIEW PROGRAM

FROM: EDWIN H. SNIFFEN   
DIRECTOR OF TRANSPORTATION

SUBJECT: FINAL ENVIRONMENTAL ASSESSMENT AND FINDING OF  
NO SIGNIFICANT IMPACT  
REMOVAL OF *FALLS OF CLYDE* FROM HONOLULU HARBOR  
HONOLULU, HAWAII

With this memo, the State of Hawaii, Department of Transportation (HDOT) hereby submits the Final Environmental Assessment and Finding of No Significant Impact (FEA-FONSI) for the proposed Removal of *Falls of Clyde* from Honolulu Harbor.

As the Proposing/Determining Agency under Hawaii Revised Statutes, Chapter 343, HDOT has determined that the Proposed Action will not have a significant impact on the environment. This determination is based on the information contained in this FEA-FONSI and a review of the significance criteria in Hawaii Administrative Rules (HAR), § 11-200.1-13, including HAR, § 11-200.1-13 (b)(1), “*irrevocably commit a natural, cultural, or historic resource.*”

The *Falls of Clyde* has been delisted from the State of Hawaii and National Registers of Historic Places due to its significant deterioration and the resulting loss of qualities of historic significance and integrity. In May 2024, the National Historic Landmark (NHL) Committee of the National Park System Advisory Board recommended withdrawal of the ship's NHL status. It is anticipated that the procedural removal of the *Falls of Clyde*'s NHL designation will be completed by the time the Proposed Action is implemented. Please publish notice of availability in the next available edition of the Office of Planning and Sustainable Development's *The Environmental Notice*. A copy of the FEA-FONSI and a Project Location Map have been submitted via Environmental Review Program's online portal.

Should you have any questions, please contact Ms. DreanaLee K. Kalili, Deputy Director of Transportation for Harbors, at (808) 587-3651 or by email at [dreanalee.k.kalili@hawaii.gov](mailto:dreanalee.k.kalili@hawaii.gov), or our Environmental Assessment consultant, Ms. Leslie Kurisaki, of HHF Planners, at (808) 457-3182 or by email at [lkurisaki@hhf.com](mailto:lkurisaki@hhf.com).

**From:** [webmaster@hawaii.gov](mailto:webmaster@hawaii.gov)  
**To:** [DBEDT OPSD Environmental Review Program](#)  
**Subject:** New online submission for The Environmental Notice  
**Date:** Monday, June 3, 2024 11:56:15 AM

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**Action Name**

Removal of Falls of Clyde from Honolulu Harbor

**Type of Document/Determination**

Final environmental assessment and finding of no significant impact (FEA-FONSI)

**HRS §343-5(a) Trigger(s)**

- (1) Propose the use of state or county lands or the use of state or county funds

**Judicial district**

Honolulu, O'ahu

**Tax Map Key(s) (TMK(s))**

TMK (1) 2-1-001:058

**Action type**

Agency

**Other required permits and approvals**

Other permits and approvals required will depend on the removal alternative selected but may include US Environmental Protection Agency (EPA) general permit for ocean disposal; Department of the Army permit; Coast Guard approval for towing or transport; various permits as needed from Hawai'i State Department of Health regulating noise, water quality, asbestos, lead.

**Proposing/determining agency**

Hawai'i Department of Transportation (HDOT)

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DreannaLee Kalili

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[Map It](#)



**Is there a consultant for this action?**

Yes

**Consultant**

HHF Planners

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**Action summary**

The Hawai'i Department of Transportation (HDOT) proposes to remove the Falls of Clyde from Honolulu Harbor. The Falls of Clyde is a four-masted iron-hulled ship owned by the Friends of Falls of Clyde. The ship is severely corroded, leaking, and has lost structural and watertight integrity. It is at risk of sinking, posing a hazard to harbor operations and safety. The HDOT will issue a Request for Proposal (RFP) for removal of the Falls of Clyde; method of removal to be determined by the selected contractor.

In 2024, the Falls of Clyde was delisted from the State of Hawai'i and National Registers of Historic Places due to significant deterioration and resulting loss of historic significance and integrity. The National Historic Landmark (NHL) Committee of the National Park System Advisory Board (NPSAB) has recommended withdrawal of its NHL status. It is anticipated that procedural removal of the ship's NHL designation will be complete by the time the Proposed Action is implemented

**Reasons supporting determination**

Refer to FEA-FONSI Chapter 4, Determination for reasons supporting the determination of no significant impact.

**Attached documents (signed agency letter & EA/EIS)**

- [Removal-of-Falls-of-Clyde-from-Honolulu-Harbor\\_Final-EA-FONSI\\_2024-June.pdf](#)
- [FALLS-OF-CLYDE-FEA-FONSI-transmittal\\_6-3-2024.pdf](#)

**Shapefile**

- The location map for this Final EA is the same as the location map for the associated Draft EA.

**Action location map**

- [Action-Location-Map.zip](#)

**Authorized individual**

Leslie Kurisaki

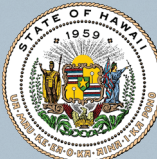
## Authorization

- The above named authorized individual hereby certifies that he/she has the authority to make this submission.



# REMOVAL OF *FALLS OF CLYDE* FROM HONOLULU HARBOR

Final Environmental Assessment – Finding of No Significant Impact



JUNE 2024

Prepared By



**HHF PLANNERS**  
*places for people*

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B Hawai'i Marine Surveys, LLC. Falls of Clyde, Condition Re-Assessment and Value Survey. August 2022  
C Sea Engineering, Inc. Falls of Clyde Hull Inspection and Benthic Survey, Rev. 01, August 29, 2023  
D Marine Research Consultants, Inc. Falls of Clyde Marine Biotic Survey Draft Report, September 18, 2023  
D1 HDOT and DLNR DAR Correspondence on Coral Removal  
- HDOT Memo to DAR, Subject: Safety Concerns Regarding Hull Scraping and Translocation of Coral, April 11, 2024  
- Memorandum from Sea Engineering, Inc., Subject: Removal of Coral from the Falls of Clyde, March 8, 2024  
- DLNR DAR Memo to HDOT, Subject: Safety Concerns Regarding Hull Scraping and Translocation of Coral April 24, 2024  
E Delgado, James P. Ph.D., SEARCH, Inc. The Four-Masted Iron Ship Falls of Clyde: Evaluation of Loss of Integrity and Recommendation for Delisting from the National Register of Historic Places. 2023  
F Honua Consulting, Inc. Cultural Assessment for the Falls of Clyde Removal Project, November 2023  
G SEARCH, Inc. Description of Applicable Federal Laws and Regulations for the Proposed Shipbreaking or Disposal of the Derelict Sailing Vessel Falls of Clyde, Honolulu Harbor, Hawai'i. September 2023  
H Historic Delisting Correspondence and Documentation  
- SHPD Letter to National Register of Historic Places, NPS, Re: NRHP Request to Delist Falls of Clyde (NHL#73000659), December 14, 2023  
- SHPD Letter to Hawai'i Department of Transportation, Re: Request to Delist from Hawai'i and National Register, December 15, 2023  
- National Park Service National Register of Historic Places Weekly List 2024 02 02, Weekly List of Actions Taken on Properties: 1/26/2024 through 2/2/2024  
- NPS National Historic Landmarks Program, Withdrawal of NHL Designation for Falls of Clyde (Executive Summary and Report), NHL Committee, May 2024 meeting  
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## Acronyms and Abbreviations

ACHP	Advisory Council on Historic Places
AMSL	above mean sea level
ATDC	Aloha Tower Development Corporation
BLNR	Board of Land and Natural Resources
BMP	Best Management Practice
CFR	Code of Federal Regulations
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DA	Department of the Army
dB	decibels
DLNR	Hawai'i Department of Land and Natural Resources
DAR	DLNR Division of Aquatic Resources
DOFAW	DLNR Division of Forestry and Wildlife
DOH	Hawai'i Department of Health
DP	Development Plans
EA	Environmental Assessment
EFH	essential fish habitat
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FFOC	Friends of Falls of Clyde
FOCI	Falls of Clyde International
FONSI	Finding of No Significant Impact
FWCA	Fish and Wildlife Coordination Act
HABS	Historic American Buildings Survey
HAER	Historic American Engineering Record
HALS	Historic American Landscape Survey
HAR	Hawai'i Administrative Rules
HDOT	Hawai'i Department of Transportation
HECO	Hawaiian Electric Company
HPU	Hawai'i Pacific University
HRS	Hawai'i Revised Statutes
Ldn	Day Night Average Sound Level
LIDAR	high resolution Light Detection and Ranging
MOA	Memorandum of Agreement
MPRSA	Marine Protection, Research and Sanctuaries Act
NEPA	National Environmental Policy Act
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service



NRHP	National Register of Historic Places
OSHA	Occupational Safety and Health Administration
PCB	Polychlorinated biphenyl
PUC	Primary Urban Center
RFP	request for proposal
SHPO	State Historic Preservation Officer
SMA	Special Management Area
TCLP	Toxicity Characteristic Leaching Procedure
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USCG	U.S. Coast Guard
USFWS	U.S. Fish and Wildlife Service
WQLS	water quality limited segments

# Project Summary

PROJECT NAME	Removal of Falls of Clyde from Honolulu Harbor
LOCATION	Pier 7, Honolulu Harbor, Island of O‘ahu
TAX MAP KEY (TMK) PARCELS	TMK 2-1-001:058
PROPOSING AND DETERMINING AGENCY	State of Hawai‘i Department of Transportation (HDOT)
LANDOWNER	State of Hawai‘i Department of Transportation
PROPOSED ACTION	<p>The State of Hawai‘i Department of Transportation (HDOT) proposes to remove the Falls of Clyde from Honolulu Harbor. The Falls of Clyde is a four-masted iron-hulled ship owned by the non-profit Friends of Falls of Clyde (FFOC) and has been impounded by the HDOT at Pier 7 since 2016. The ship is severely corroded, leaking, and has lost its structural and watertight integrity. It poses a risk of structural failure and sinking, threatening harbor safety and maritime operations. The HDOT plans to issue a Request for Proposal (RFP) for the removal of the ship. The method of removal is to be determined by the selected contractor.</p> <p>The <i>Falls of Clyde</i> was previously listed in both the Hawai‘i State Register of Historic Places and the National Register of Historic Places, as well as designated a National Historic Landmark (NHL). It was recently removed from both the State and National registers because significant deterioration of the ship has resulted in the loss of most of the qualities of historic significance and aspects of integrity that originally led to its listing.</p> <p>On May 14, 2024, the National Historic Landmarks Committee of the National Park System Advisory Board (NPSAB) voted unanimously to remove the <i>Falls of Clyde’s</i> National Historic Landmark (NHL) designation. This recommendation will go to the full NPSAB which will meet in summer or early fall of 2024. A recommendation by the NPSAB to withdraw the ship as an NHL will then be transmitted to the Secretary of the Department of the Interior for final approval. It is anticipated that the procedural removal of the <i>Falls of Clyde’s</i> NHL designation will be completed by the time the proposed action is implemented.</p>
STATE LAND USE DISTRICT	Urban District

GENERAL PLAN DEVELOPMENT PLAN DESIGNATIONS	Pier 7 is under the jurisdiction of HDOT and not subject to City and County land use regulations.
ZONING	Pier 7 is under the jurisdiction of HDOT and not subject to City and County land use regulations.
SPECIAL MANAGEMENT AREA (SMA)	No
FLOOD ZONE DESIGNATION	VE, coastal areas with 1% or greater chance of flooding and an additional hazard associated with storm waves.
PERMITS AND APPROVALS REQUIRED	HRS Chapter 343, Hawai'i Environmental Policy Act compliance  Permits and approvals required will depend on removal alternative selected but may include USEPA general permit for ocean disposal; Department of the Army permit; Coast Guard approval for towing or transport; various permits from Hawai'i State Department of Health regulating noise, water quality, asbestos, lead.
CHAPTER 343 HRS DETERMINATION	Finding of No Significant Impact (FONSI)
CONSULTANT CONTACT	Scott Ezer, Principal HHF Planners 733 Bishop Street, Suite 2590 Honolulu, Hawai'i 96813  <a href="mailto:sezer@hhf.com">sezer@hhf.com</a> ; (808) 457-3158

# 1 Introduction

The State of Hawai'i Department of Transportation (HDOT) has prepared a Final Environmental Assessment and Finding of No Significant Impact (FEA-FONSI) for the removal of the *Falls of Clyde* from Honolulu Harbor. The *Falls of Clyde* is a four-masted, iron-hulled ship built in 1878 which is currently docked at Pier 7. This Final Environmental Assessment and Finding of No Significant Impacts (FEA-FONS) for the ship's removal has been prepared in accordance with Chapter 343 Hawai'i Revised Statutes (HRS), as amended, and Title 11, Chapter 200.1, Hawai'i Administrative Rules (HAR), Environmental Impact Statement Rules, due to the use of public funds and the ship's status being listed on both the State of Hawai'i and National Registers of Historic Places and as a National Historic Landmark (NHL).

The *Falls of Clyde* is owned by the non-profit organization Friends of *Falls of Clyde* (FFOC) and is berthed at Honolulu Harbor's Pier 7. Prior to 2009, the ship was owned by the Princess Bernice Pauahi Bishop Museum and was part of the Hawai'i Maritime Museum at Pier 7. When the Hawai'i Maritime Museum closed in 2009, ownership of the ship was transferred to the FFOC. As a result of decades of corrosion and insufficient maintenance, the *Falls of Clyde* has deteriorated, and is now a partially flooded, heavily corroded vessel at imminent risk of structural failure and sinking. Given the State's duty to ensure safe maritime operations, the HDOT intends to issue a Request for Proposal (RFP) for the removal of the *Falls of Clyde* from Honolulu Harbor. The method of removal and the ship's ultimate disposition is yet to be determined and will be up to the selected contractor. The selected contractor will be responsible to implement the removal and any applicable regulatory requirements.

A recent conditions assessment and historic evaluation confirmed that the ship's physical deterioration has resulted in a substantial loss of historical and architectural integrity. The *Falls of Clyde* no longer possesses the characteristics that originally qualified it for historic status. The ship has been removed from both the Hawai'i and the National Registers of Historic Places, and removal of its National Historic Landmark (NHL) designation is pending.

This Final EA analyzes the potential environmental consequences of the Proposed Action—the removal of the *Falls of Clyde* from Honolulu Harbor—and presents alternatives for accomplishing it. The EA provides the analysis for determining whether the Proposed Action will have a significant effect on the environment, thereby requiring preparation of an environmental impact statement, or a Finding of No Significant Impact (FONSI) pursuant to Chapter 343 HRS. Based on the findings and analysis in this document, a FONSI determination has been made.

## 1.1 Project Location and Setting

The Project Area is at Pier 7 in Honolulu Harbor on the island of O'ahu (Figure 1-1). Honolulu Harbor extends along O'ahu's south shore from Keehi Lagoon and Daniel K. Inouye International Airport (HNL) on the west (ewa) to Kaka'ako on the east (Diamond Head). The harbor is Hawai'i's largest commercial port and the primary point of entry for incoming cargo from the continental U.S. and foreign countries. It also serves passenger and commercial fishing operations.





Figure 1-1: Project Location



As shown in Figure 1-2, Pier 7 is located within walking distance of Honolulu’s primary business district and historic Chinatown area. Pier 7 is adjacent to the Aloha Tower Marketplace, a mixed-use complex located on a small waterfront peninsula, which includes the iconic Aloha Tower and the campus of the Hawai’i Pacific University (HPU). Aloha Tower was built in 1926 and was the tallest building in the islands for decades, serving as a welcoming beacon for visitors arriving by ship. The surrounding Aloha Tower Marketplace includes shops and restaurants as well as HPU. The Aloha Tower complex is bordered by Piers 5 through 8, which are generally used for day excursion operations. Other piers in the vicinity serve Honolulu Harbor’s passenger ship operations, including international, domestic, and interisland cruise ships, day excursions, and dinner cruises.



Figure 1-2: Project Site Area

## 1.2 Historical Background

The *Falls of Clyde* was built in 1878 in Port Glasgow, Scotland, and is the world's only surviving iron-hulled, four-masted, fully rigged ship. It was constructed during a shipbuilding boom inspired in part by increased trade with the United States and made several voyages to American ports while under the British flag. After being sold to American owners in 1898, the *Falls of Clyde* was involved in the Hawaiian transpacific sugar trade for Matson Navigation Company. It was the ninth vessel acquired by Matson and is the oldest surviving member of the Matson fleet. After 1907, the ship transported petroleum as a sailing oil tanker. After some intermediary stops, the ship was towed to Ketchikan, Alaska, and served as a floating fuel depot for the offshore fishing fleet. In 1963, the *Falls of Clyde* was purchased by a local Hawai'i hui and towed to Honolulu Harbor. In 1968 the Bishop Museum purchased the vessel, and it became the centerpiece of the Hawai'i Maritime Museum in the early 1980s. A comprehensive history of the ship is provided in the *Falls of Clyde Hull Survey* by Joseph Lombardi (Ocean Technical Services, LLC, 2023), found in Appendix A. Photos from that report are shown in Figure 1-3.

The *Falls of Clyde* was placed on the National Register of Historic Places in 1973 and designated a National Historic Landmark (NHL) in 1989 because of its exceptional national significance as the oldest surviving American tanker and the only surviving sailing oil tanker left afloat, not only in the U.S. but the world. At the time of its listing, the ship was determined to retain integrity of design, materials, and workmanship. During this period, it was berthed at Honolulu Harbor's Pier 7 and was owned and maintained by the Bishop Museum. However, limited funds for maintaining the ship contributed to its deterioration over time.

By 2005, the NHL program indicated that the historic status of the *Falls of Clyde* was threatened due to corrosion of the hull that weakened the hull's integrity and caused leaking. Due to its condition and inability to maintain and repair the vessel, the Bishop Museum proposed to tow and scuttle the ship, and in 2008, obtained approval from the U.S. Environmental Protection Agency (EPA) for ocean disposal. However, rather than scuttling the historic ship, the Bishop Museum signed an agreement to transfer ownership of the *Falls of Clyde* to a local non-profit, the Friends of *Falls of Clyde* (FFOC) for a nominal sum. At the time of the transfer, the FFOC indicated that it intended to raise funds for the drydocking and restoration of the ship as a museum ship. A condition of the Transfer Agreement was that the ship be removed from Pier 7 to a local dry dock.

The envisioned plan to drydock and restore the *Falls of Clyde* never came to fruition. The ship has remained at Pier 7 rent-free under a revocable permit from HDOT since its transfer to FFOC. In 2016 the State sent the FFOC a written 30-day advance notice of termination for its revocable permit for the berth at Pier 7, requiring that the vessel and all property be removed. When that did not occur, the HDOT impounded the *Falls of Clyde* in August 2016 and has assumed oversight of the ship since that time.



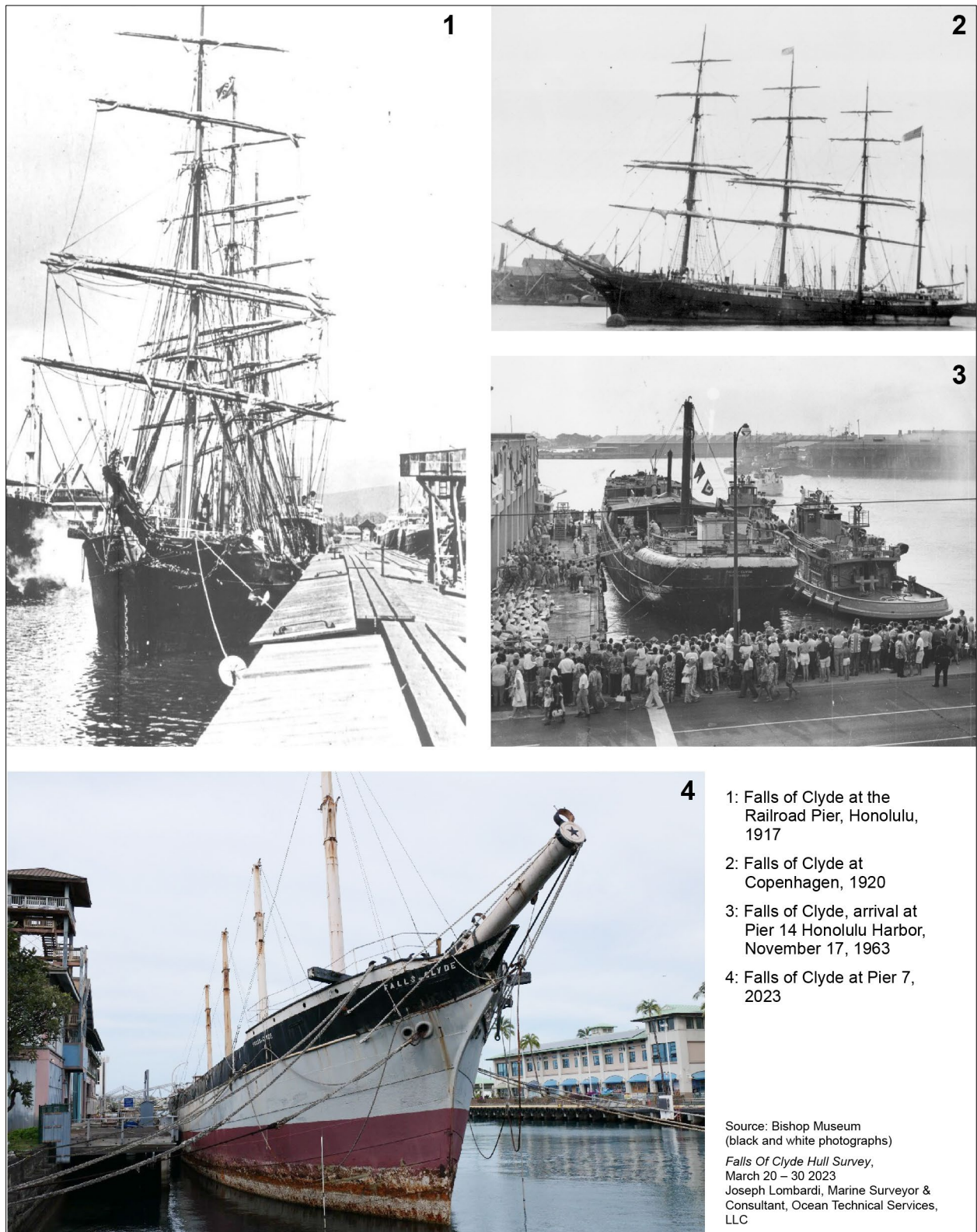


Figure 1-3: Falls of Clyde Photos



In 2021, the HDOT issued a Request for Proposal (RFP) to remove the ship from Honolulu Harbor. A proposal was submitted by the Scotland-based group, Falls of Clyde International (FOCI) to tow the vessel to Scotland for restoration. The FOCI proposal was approved by HDOT in November 2021. However, FOCI was unable to meet the terms of the HDOT contract, including securing a performance bond; consequently, the contract was canceled by HDOT in May 2022. During the EA pre-assessment consultation period, FOCI indicated that it is still interested in acquiring the *Falls of Clyde* and returning her to Scotland (email dated August 29, 2023, see Chapter 7).

The HDOT intends to issue another RFP for removal of the ship, pending completion of this Environmental Assessment and Finding of No Significant Impact.

## 1.3 Current Condition of Ship

The need for the Proposed Action is a direct result of the ship's current physical condition. Several condition assessments have been completed since the ship was impounded in 2016, the most recent was done in 2022 by Hawai'i Marine Surveys LLC. Two additional condition surveys were conducted in 2023--a Hull Survey by Ocean Technical Services LLC and an underwater condition survey completed by Sea Engineering, Inc. These studies are included in the Appendix (Appendices A, B, and C) and their findings are summarized below. The studies uniformly confirm the ship's deteriorated condition and support the proposed action to remove it from Honolulu Harbor.

### 1.3.1 Condition Re-Assessment (Hawai'i Marine Surveys LLC, 2022)

A *Condition Re-Assessment and Value Survey of the Falls of Clyde* was conducted by Hawai'i Marine Surveys LLC in 2022 for the HDOT and is included as Appendix B. This study was a re-assessment of surveys done in 2017 and 2018. The purpose of the survey was to observe, reassess, and report on the condition and value of the *Falls of Clyde* since the last survey in September 2018, and to provide potential options for removal.

The 2022 Condition Re-Assessment report found that the ship's condition appeared to worsen since the last 2018 assessment, stating:

*The vessel was found to be in an overall state of disrepair with her physical condition deteriorating. The vessel had no means of propulsion, no operable steering system. There were noticeable improvements in the condition of the vessel's mooring lines with noted increase of chaffing gear and less chaffing damage to the lines. The condition of the vessel's hull exterior, rigging aloft, upper decks, and lower decks, appeared to be worse since the last assessment (in 2018).*

The report found that *Falls of Clyde* was not seaworthy (as defined by Section 19-41-3, HAR), and concluded that the ship was not able to sail or be sailed from her current berth safely out of Honolulu Harbor. It noted the ship may be able to be towed from its current berth safely out of the harbor. If towing is considered, trial towing operations were recommended near the berth to assess the hull's ability to withstand the forces of towing.

The condition re-assessment identified these potential options for removal from Pier 7, from least to moderate risk:

- Least risk to Honolulu Harbor operations: disassemble in place for disposal.
- Low risk to Honolulu Harbor operations: load on to semi-submersible ship, export.

- Moderate risk to Honolulu Harbor operations: tow outside of harbor by way of at least two (2) harbor assist tugs.

### 1.3.2 *Falls of Clyde* Hull Survey (Ocean Technical Services LLC, 2023)

A vessel hull inspection was conducted in 2023 by Joseph Lombardi, AMS (Accredited Marine Surveyor) of Ocean Technical Services LLC (Appendix A). The vessel was surveyed on the exterior from truck (i.e., top of mast) to the vessel’s waterline. Interior spaces were inspected where possible, with items needing repair/replacement or immediate action noted. Any structural conditions that could lead to serious injury to visitors or to the ship’s company were also highlighted.

The report presented a detailed list of problems, many of which could lead to imminent structural failure as well as injury to personnel. Problems include rotted wooden decking on the foredeck and main deck; bow framing at the stern separated from plating on the bow, rotted rivets; failing mooring hardware and mooring lines; compressed shore power cables, presenting a danger to shipboard personnel; leaking underwater shell plating; pending failure of watertight bulkheads; severely wasted hull support framing; and erosion of hull bottom due to lack of cathodic system.

In addressing the question of whether the *Falls of Clyde* should or could be saved, the report’s author (Joe Lombardi) noted:

*This decision has been already made by the very poor material condition of the vessel....in the opinion of the undersigned, Falls of Clyde should be disposed of in the most expeditious manner possible.*

### 1.3.3 Hull Inspection and Benthic Survey (Sea Engineering, Inc. 2023)

An underwater inspection of the ship’s hull was conducted by divers from Sea Engineering, Inc. (SEI) in 2023. The survey report is included as Appendix C.

The underwater survey found that in general, *Falls of Clyde* was covered by 100% marine growth of varying thickness, with higher density of growth on the port side. Cone-shaped corroded protrusions (stalactite-shaped) were noted throughout the port and starboard sides of the hull below the waterline. These protrusions appeared to be compacted rust and corrosion, which breaks easily apart by hand, and appeared more frequently towards the bottom of the hull.

The condition of the heavily corroded hull negated the ability of the divers to clean any areas for a detailed hull inspection. Divers were instructed not to perform any cleaning for this inspection due to the unknown hull condition with questionable integrity. Visual inspection found no obvious hull voids, and a detailed inspection of joints and rivets was not possible due to the marine growth coverage. The condition of the hull indicated that the vessel has not had any regular underwater maintenance for a significant period of time.

## 1.4 Purpose and Need for Project

The removal of the *Falls of Clyde* is needed to avoid sinking in place, which would disrupt harbor operations, jeopardize public safety, threaten the marine environment, and result in significant financial liability for the State of Hawai‘i.

Despite the intent of the ship’s owners to drydock and repair the *Falls of Clyde*, little progress has been made in over 15 years toward this goal. There is no indication this situation will change or that drydocking and repair are being seriously contemplated. Over the years, a lack of routine maintenance, combined with some well-intentioned but misguided repairs accelerated the vessel’s physical deterioration.

The recent condition surveys conducted by HDOT document severe corrosion of the hull, significant leaking, and an overall loss of structural and watertight integrity. Today the *Falls of Clyde* is a ship at imminent risk of sinking, vulnerable to hazards such as hurricanes or tsunamis. Should the vessel sink at Pier 7, it lacks sufficient structural integrity to be raised intact.

The decision to remove the *Falls of Clyde* from Pier 7 was made by the HDOT after careful consideration of its condition and location, the lack of resources available to properly care for the vessel, and HDOT’s duty to ensure Honolulu Harbor remains navigable. The HDOT does not own the *Falls of Clyde*, and it is ultimately the responsibility of the vessel’s owners to ensure that the ship is maintained, preserved, and repaired. The Proposed Action is consistent with other recent actions by HDOT to remove other unsafe or abandoned vessels at its harbor facilities.

## 1.5 Possible Environmental Permits and Approvals

Table 1-1 is a list of environmental permits and approvals and consultations that may be required for the Proposed Action. Most of these permits and approvals will be required regardless of the alternative selected (except No Action), although a few others will depend on the specific method of removal proposed by the selected contractor and the activities involved (e.g., ocean disposal, ocean towing, etc.).

More detailed description of the permit and regulatory requirements is provided in Chapter 5, Consistency with Plans, Policies and Controls.

**Table 1-1: Potential Permits and Approvals**

<b>Responsible/Approving Agency</b>	<b>Permit/Approval</b>
U.S. Environmental Protection Agency (EPA)	Marine Protection, Research and Sanctuaries Act (MPRSA) General Permit coverage <i>(if ocean disposal proposed)</i>
U.S. Coast Guard	Review and approval of Tow Plan <i>(if towing or transporting ship within harbor or out of harbor is proposed)</i>
U.S. Army Corps of Engineers (USACE)	Department of the Army Permit <i>(for activities involving placement or discharge of fill in waters of U.S.)</i> Nationwide Permit 22, Removal of Vessels <i>(for temporary structures ...”required for removal of wrecked, abandoned, or disabled vessels...”)</i>
Hawai’i Department of Land and Natural Resources, Division of Aquatic Resources	*Note: DLNR DAR has indicated a Special Activity Permit is not required (see Section 3.2.2)

<b>Responsible/Approving Agency</b>	<b>Permit/Approval</b>
Hawai'i Department of Land and Natural Resources, State Historic Preservation Division	Chapter 6E HRS compliance is not applicable, ship is not a State historic resource. Section 106 National Historic Preservation Act (NHPA) compliance ( <i>for federal undertaking involving a historic property</i> ) is not applicable as ship no longer meets the criteria of a historic property under NHPA.
Hawai'i Department of Health, Environmental Management Division (Clean Water Branch, Clean Air Branch, Solid and Hazardous Waste Management Branch)	Various—Section 401 Water Quality Certification; National Pollutant Discharge Elimination System; Noise Permit; Asbestos Activities application; Lead Notification ( <i>as applicable for proposed removal alternative</i> )

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## 2 Project Alternatives

### 2.1 Introduction

Chapter 2 discusses the alternatives available to accomplish the Proposed Action. The Proposed Action will be initiated by the State of Hawai'i Department of Transportation (HDOT) by issuing a Request for Proposal (RFP) for the ship's removal. The selected contractor will propose the method to remove the *Falls of Clyde* from Honolulu Harbor and will be responsible for all means and methods to accomplish the removal, including obtaining permits and approvals, completing environmental mitigation and meeting other regulatory requirements.

The following discussion of the National Historic Preservation Act (NHPA) summarizes a federal law that has the potential to apply to selected alternatives. Chapters 3 and 5 include further discussion of the NHPA and the ship's current historic status.

#### 2.1.1 Applicable Federal Law: Section 106, National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, requires federal agencies to consider the impact of their actions on historic properties. Any undertaking by a federal agency that affects a property listed in or determined eligible for the National Register of Historic Places (NRHP) requires a Section 106 consultation and mitigation of the consequences of an undertaking. A federal "undertaking" is defined as anything that a federal agency carries out, assists, funds, permits, licenses, or approves.

In the case of the proposed *Falls of Clyde* removal, the federal undertaking could be the issuance of a permit by the Environmental Protection Agency (EPA), Army Corps of Engineers (USACE), U.S. Coast Guard, or another federal agency. The alternatives discussed in this chapter differ in their proposed method of removal and whether or not a federal permit(s) is required for implementation. Because Section 106 consultation, like other regulatory requirements, can be a time consuming and costly process, the applicability of the Section 106 NHPA may be a consideration in comparing alternatives.

Section 106 of the NHPA is applicable only to a federal undertaking affecting an historic property as defined by the NHPA. As noted in Chapter 1, the *Falls of Clyde* was recently removed from both the Hawai'i State and National Registers of Historic Places, due to its loss of historic and structural integrity, and loss or destruction of the qualities that caused it to be originally listed.

In May 2024, the National Historic Landmarks Committee of the National Park System Advisory Board (NPSAB) voted unanimously to remove the *Falls of Clyde's* designation as a National Historic Landmark for this same reason. The committee recommendation still needs to be approved by the full NPSAB, with a recommendation to remove the NHL designation then going to the Secretary of the Department of the Interior for final approval. Should the NHL withdrawal be completed (i.e., signed by the Secretary of the Interior) by the time the proposed action is implemented, the *Falls of Clyde* will no longer be considered an NRHP-eligible historic property, and Section 106 will not apply. Although the NHL withdrawal is expected to be complete by the time the proposed action is implemented, the delisting is still in process as of the date of this Final EA. For this reason, the discussion in this chapter identifies when a federal permit (i.e., undertaking) may be involved, triggering Section 106.

## 2.2 Project Alternatives

The alternatives discussed in this chapter include:

- No Action
- Alternative 1: Drydock and Repair
- Alternative 2: Removal by Dismantling
  - 2a: Tow or Transport Off-Site for Dismantling
  - 2b: Dismantle in Place
- Alternative 3: Removal at Sea by Sinking
- Alternative 4: Third Party Acquisition

### 2.2.1 No-Action Alternative

Under the No-Action alternative, the status quo would remain, and the *Falls of Clyde* would remain at Pier 7 in its current state. The vessel, owned by the FFOC, is currently impounded by HDOT. The owners have failed to relocate the vessel from Pier 7 as agreed in the 2008 Transfer Agreement with Bishop Museum, and have been unable to adequately maintain the ship, which is now severely deteriorated and at risk of sinking.

In a No Action or status quo scenario, the HDOT would have no choice but to continue constant pumping of the ship's flooded hull in an effort to keep the Falls of Clyde afloat. As reported by the recent marine surveys, there is a substantial risk of hull failure and sinking, which threatens nearby shipping channels and harbor operations. Sinking would also have adverse environmental impacts to water quality and the marine environment. Raising a sunken ship and mitigating environmental damage would require extraordinary costs to the State, if the ship could be raised at all.

#### Discussion:

No Action presents an unacceptable risk to the HDOT and its mission of maintaining the effective use of Honolulu Harbor, public safety, and the marine environment. It is not a viable alternative. The No Action alternative is included in this alternatives analysis to present a comparative, without project scenario.

### 2.2.2 Alternative 1: Drydock and Repair

In this alternative, *Falls of Clyde* would be moved to a local drydock for repairs to extend her floating life. The purpose of Alternative 1 would be to temporarily repair the ship to stabilize her condition until either her owners or another interested group can raise sufficient funds for repair or restoration. The immediate goal would be to mitigate the risk of the ship sinking, in the hope that an alternative to removal can eventually be found. Potential locations for drydocking and repair include the vessel's current location at Pier 7, other drydocks in Honolulu Harbor or west O'ahu, or outside the state.

#### Regulatory Considerations

This alternative does not require a federal permit that would be considered a federal undertaking. It would not trigger Section 106 NHPA consultation.

### Discussion:

Although this alternative may receive a high level of interest by the ship's owner and other stakeholders who do not want to see the *Falls of Clyde* disposed, its viability is constrained by the ship's current condition, the extent of repairs needed, and the lack of a viable sponsor and funding. The ship's owners have not demonstrated an ability to pursue this alternative since they acquired the vessel in 2008. The HDOT does not have the resources for restoration and preservation and is not authorized by law to expend funds for these purposes.

Even if the *Falls of Clyde* were moved from Pier 7 to a local drydock for repairs, there is no evidence that sufficient funds can be raised to restore the ship for productive reuse. There are no plans for eventual use or display, and the ship would be without a berth after leaving Pier 7. Given the ship's dire physical condition, drydocking and repair may be infeasible, and at best prolong the *Falls of Clyde's* floating life, while postponing the inevitable. Alternative 1 is not practical or feasible and has been eliminated from further consideration.

### 2.2.3 Alternative 2: Removal by Dismantling

Alternative 2 involves dismantling and disposing of the *Falls of Clyde* ashore. This can be accomplished either off-site or on-site:

- a) Tow or transport the *Falls of Clyde* to an off-site drydock or harbor facility for break up; or
- b) dismantle the vessel on site; i.e., at or near Pier 7.

#### 2.2.3.1 Alternative 2a: Tow or Transport to Off-Site Facility for Dismantling

The first option is to tow or transport the *Falls of Clyde* to an off-site drydock or harbor facility for dismantling. On O'ahu, Pacific Shipyards International is located in Honolulu Harbor at Pier 24 and includes two drydocks. The Marisco floating drydocks at Kapolei (Barbers Point Harbor), approximately 20 nautical miles from Pier 7, is another potential site for dismantling. These off-site drydock options would require that one of these facilities is available and able to accommodate the work.

The method of transporting the *Falls of Clyde* to the off-site facility will depend on its physical integrity and whether it is capable of being towed. If an ocean tow is contemplated, test towing is needed to verify that the ship can survive the trip intact. The recent hull surveys could not determine definitively whether or not the ship can withstand towing, but it is likely that significant hull repairs and deck stabilization will be required to ensure safe transport. In addition, hazardous materials and fuels would need to be removed prior to a tow. Given the *Falls of Clyde's* physical condition, identification and removal of hazardous materials would be difficult to accomplish while the vessel is precariously afloat.

The other, more feasible transport option would be to load the ship onto a floating drydock or submersible barge for transport to the off-site shipyard or drydock. This avoids the risk of sinking during towing and work such as hazardous materials removal can be done in the drydock.

Once the *Falls of Clyde* reaches a drydock location, the ship would be dismantled, and its materials salvaged and disposed as appropriate. It is anticipated that hazardous materials (asbestos, PCBs etc.) will be minimal and readily remediated, and that whatever is not salvaged could be approved for disposal on O'ahu (SEARCH, Inc. 2023).



A major benefit of dismantling the ship at an off-site drydock is that the work would occur in an industrial setting, away from *Falls of Clyde's* current berth. Environmental impacts on adjacent land uses would be less of a concern than dismantling at or near Pier 7.

### Regulatory Considerations

This alternative does not require a federal permit from the USACE or EPA. Coordination with the Honolulu Harbor Master and U.S. Coast Guard (District 14) is needed for towing or transporting the ship from Pier 7 to an off-site facility. Approval by the Coast Guard for ship transport is not considered a federal undertaking as defined by the National Historic Preservation Act (NHPA).

If a “dead ship tow” is proposed, the Coast Guard will require submittal of a tow plan and will conduct a survey to confirm the *Falls of Clyde's* watertight integrity and seaworthiness for the tow. Repairs to the ship may be required prior to towing. During informal discussions with the Fourteenth Coast Guard District, they indicated that if the *Falls of Clyde* is moved from Pier 7, their preference would be to use a method that keeps the ship safely out of the water (Meeting between HDOT and U.S. Coast Guard, District 14, November 21, 2023).

Transport out of the harbor by floating drydock or submersible barge would also be reviewed and approved by the Coast Guard. Review time may vary, depending on whether the proposed drydock/barge is a platform that routinely operates in Hawai'i and is one that Fourteenth District personnel are already familiar with. If not, they may survey the platform prior to approving the transport.

### Discussion:

Alternative 2a is a reasonable alternative that has the advantage of minimizing impacts on surrounding neighbors at Pier 7, compared to dismantling the ship in place. If towing is contemplated, a significant challenge would be ensuring the ship is physically capable of surviving a tow, and the cost of repairs needed for towing may be substantial. Use of a floating drydock or submersible barge for transport to an off-site location, rather than towing, would alleviate the need for pre-transport repairs but entails the added cost and logistics to secure the transport vessel. Coast Guard review and approval will be required for either towing or transport by floating drydock/barge.

#### 2.2.3.2 Alternative 2b: Dismantle in Place

A variation of Alternative 2 would be to systematically dismantle the ship in place, either in-water or in a floating drydock berthed at or near Pier 7. If conducted in-water, the *Falls of Clyde* would be systematically cut up and pulled ashore for further dismantling. Dismantling at or near Pier 7 would minimize transport cost to an off-site location, or the risk of structural failure during an ocean tow (Alternative 2a).

As with all other alternatives, the selected removal contractor will be responsible for remediation of any potential environmental threat including draining and removal of any wastewater, black water, and oil, as well as removal of asbestos and PCBs. The contractor will also be required to remove and dispose of invasive coral species from the ship's hull. Use of a floating drydock would allow these tasks to be accomplished out of the water, reducing the safety hazard of working on a vessel in an unstable afloat state.

The alternative to dismantle in place may also require a shoreside area adjacent to Pier 7 for staging, equipment and vehicle storage, or temporary storage of ship components. Any proposed use of the grounds of the former Hawai'i Maritime Center next to Pier 7 would need approval from the Aloha Tower Development Corporation (ATDC), the state agency with jurisdiction over this area.

This alternative has the potential to impact harbor operations, including ingress/egress of the Star of Honolulu which is located directly across from Pier 7 and operates cruises on a daily basis. An early consultation letter from the Star of Honolulu's operators (see Chapter 7) expressed concern about blocked ingress/egress if dismantling were to occur at or near Pier 7. They note that if their operations are to be moved temporarily, the end of Pier 8 is the only suitable alternative due to the Star of Honolulu's gangway and public access requirements, and availability of water.

### Regulatory Considerations

Because this option does not entail towing, ocean transport, or ocean disposal, it does not require the approval or involvement of a federal agency (e.g., Coast Guard, EPA). Coordination with the Honolulu Harbor Master would still be required.

### Discussion:

Alternative 2b, Dismantle in Place, appears to have no requirement for federal review or approval, an advantage which will minimize potential delays. However, a disadvantage is its greater short-term impact and disruption to uses surrounding Pier 7. The surrounding shoreside area is urbanized with commercial uses including the Aloha Tower Marketplace, and the offices, classrooms, and dormitories of Hawai'i Pacific University. These areas are vulnerable to deconstruction period noise, dust, and traffic disruption. As noted above, the presence of a floating drydock or other support boats could also interfere with operations of the Star of Honolulu. These potential environmental impacts are discussed further in Chapter 3.

Finally, it should also be noted that there is significant concern about the structural integrity of Pier 7 and its capability to withstand the weight of heavy equipment. Recent evaluations of Pier 7 show it to be structurally incapable of supporting cranes or other heavy equipment that may be required to dismantle the *Falls of Clyde*. For this reason, the alternative to dismantle in place is only feasible if it can be accomplished without heavy equipment on Pier 7.

## 2.2.4 Alternative 3: Removal at Sea by Sinking

Alternative 3 is to remove and scuttle the *Falls of Clyde* at sea. The transportation and disposal of vessels at sea is authorized and regulated by the U. S. Environmental Protection Agency (EPA) in consultation with the U.S. Army Corps of Engineers (USACE) and/or the U.S. Coast Guard. The requirement for an EPA and USACE permit makes this alternative a federal undertaking.

The State of Hawai'i's artificial reef program has accepted ships for sinking in the past, but this is not currently an option.

### Regulatory Considerations

**Marine Protection, Research, and Sanctuaries Act (MPRSA).** The transportation and disposal of vessels at sea is authorized and regulated by the federal Marine Protection, Research, and Sanctuaries Act (MPRSA), also known as the Ocean Dumping Act (see Chapter 5). Under the MPRSA, the EPA regulates ocean dumping through a permit process. In 1977, the EPA issued an MPRSA general permit that allows

departments, agencies, or instrumentalities of the U.S. to transport vessels from any location for the purpose of ocean disposal subject to specific conditions. Ships must be scuttled at a site designated on current nautical charts for the disposal of wrecks no closer than 12 miles from the nearest land and in water no less than 300 feet deep.

The selected disposal contractor would have the responsibility to comply with all EPA’s general permit requirements and conditions for ocean disposal. These include timely (48 hour) notification; submittal of a statement detailing the need for disposal of the vessel; a detailed description of the proposed disposal procedures; information on the potential effect of the vessel disposal on the marine environment; and documentation of an adequate evaluation of alternatives to ocean disposal (i.e., scrap, salvage, and reclamation).

To prepare a vessel for ocean disposal, measures must be taken to remove, to the maximum extent practicable, all materials which may degrade the marine environment. This includes emptying of all fuel lines and fuel tanks; and removal of asbestos; Polychlorinated biphenyls (PCBs); paint; removing solids/debris/floatables which are capable of creating debris; and removing other pollutants from the hulls. This work would be the responsibility of the selected contractor and subject to review and oversight by EPA and the State of Hawai‘i.

Ocean disposal would also follow current EPA best management practices as outlined in “National Guidance: Best Management Practices for Preparing Vessels Intended to Create Artificial Reefs” (EPA842-B-06-002). This document was developed by a federal interagency work group, and provides a consistent, nation-wide approach for disposal of military and commercial vessels.

#### Discussion:

A key criterion for evaluating the feasibility of this alternative is whether the *Falls of Clyde* can be safely towed (i.e., not in a drydock, but on its own with tugs), since “non-seaworthy vessels” are not eligible for ocean disposal. If the *Falls of Clyde* cannot be towed and requires being placed on a dry dock to be taken out to sea, it is not eligible for offshore disposal and must be scrapped (SEARCH 2023).

In the 15 years since the (former owner) Bishop Museum’s initial ocean disposal application was approved by the EPA, the *Falls of Clyde* has deteriorated significantly . In recent (2023) informal consultation (Delgado, October 2023), EPA staff expressed concern about the physical integrity of the vessel, questioning whether it is capable of an open-ocean tow up to 20 miles offshore.

Perhaps the most significant challenge to the ocean disposal alternative may be the shift in EPA policy over the last 15 years and the general trend away from ocean disposal of ships. In recent informal discussions with EPA staff (Delgado, October 2023), they indicated that the agency currently sees ocean disposal as a less favorable option than in the past, particularly in Hawai‘i. Today there is greater sensitivity to the potential environmental impacts on the marine environment, including for disposal of other commercial and military ships. In these informal discussions, EPA staff expressed a preference for alternatives that involve removal and/or dismantling ashore and noted that ocean disposal will be considered an option of last resort.

In conclusion, although this alternative could be considered, it is seen by federal regulators as less favorable than other removal options, and as such, is likely to face both logistic and regulatory challenges.

### 2.2.5 Alternative 4: Third Party Acquisition

Alternative 4 is third party acquisition of the *Falls of Clyde*, and removal of the ship by the third party. Although the HDOT’s intent is to remove the vessel for dismantling, it is possible that a third party would be willing to acquire the ship and remove it from Honolulu Harbor. The intent of the third party could be to conduct repairs in Hawai’i and/or outside the state for restoration, display, educational purposes, or other. In this alternative, ownership of the *Falls of Clyde* would be transferred to the third party, which would assume full responsibility for its safe removal from Hawaiian waters.

Third parties have in the past have shown interest in acquiring the *Falls of Clyde*. During the 2023 Draft Environmental Assessment (DEA) pre-assessment consultation period, the HDOT received a comment letter from Mr. David O’Neill representing the group Falls of Clyde International (FOCI) based in the United Kingdom (see Chapter 7). Mr. O’Neill indicated that in 2021, FOCI responded to an RFP issued by HDOT for removal of the ship from Pier 7. FOCI was awarded the proposal and intended to transport the *Falls of Clyde* to Scotland via lift ship. However, FOCI was not able to meet the required bond imposed by HDOT, and the HDOT cancelled the agreement.

FOCI indicated they would like to place the *Falls of Clyde* in drydock and return her to Scotland, to be rebuilt as a sailing ship with green technologies, including energy storage batteries and hydrogen power fitted to electrical propulsion. Prior to the journey back to Scotland, FOCI is hoping to drydock the ship at Pacific Shipyards International (in Honolulu Harbor) for immediate remedial work. Transport to Scotland would likely be done by a heavy lift ship company such as Roll-Dock (Amsterdam Office), which FOCI estimated at over 2.2 million British pounds (\$2.7 million).

#### Regulatory Considerations

As with Alternative 2a, transporting the Falls of Clyde to a local drydock facility or out of the harbor would be coordinated with the Honolulu Harbor Master and need the approval of the Coast Guard.

#### Discussion:

The 2023 letter of interest from FOCI and similar proposals in prior years indicate there is interest in third party acquisition of the ship. Although a successful third-party acquisition would be a win-win for the third party and the State of Hawai’i, the immediate challenge for a third party will be demonstrating their ability to mobilize and fund the ship’s removal from Hawai’i in a timely manner.

As with all other alternatives, the selected contractor will be responsible to arrange and carry out any initial remedial repairs necessary to stabilize the vessel for removal, secure a local drydock, and arrange transport and coordinate Coast Guard approvals. For a group like FOCI, they will also need to secure and finance the heavy lift ship for transport to Scotland. The *Falls of Clyde*’s precarious physical condition creates urgency to accomplish the removal as soon as possible, further complicating implementation of this alternative.

Transfer of the ship to the third party will require legal agreements between HDOT, the FFOC (owner), and the third-party entity. HDOT will require performance bonds to ensure the tasks are accomplished in a timely manner. The group was unable to post the HDOT-required performance bond during a previous effort in 2021, which may again be an issue.

The daunting costs and complex logistics, combined with the ship’s severely deteriorated condition make a “white knight” rescue challenging, if not improbable. Given that a similar proposal has been

made in the past but not consummated, this alternative should be considered, but with reservations. Given the environmental risk posed by the *Falls of Clyde* in its current state, established dates for RFP award and contractor selection should be maintained.

**Table 2-1: Comparison of Project Alternatives**

Alternative	Description	Pros	Cons	Regulatory Considerations	Action
<b>No Action</b>	Status Quo alternative  (Evaluated in EA for comparison to the Proposed Action)	-No short-term cost to HDOT.	-Does not meet project purpose and need. -Requires continued efforts by HDOT to pump water from Falls of Clyde to keep afloat. -Continuing vulnerability to storm damage and sinking and impacts on safety, operations and marine environment -Inconsistent with HDOT policy to remove other derelict ships from harbor. -Inconsistent with long range plans for Pier 7 per Honolulu Harbor 2050 master plan.	None	<b>Dismiss Alternative</b>  <i>Does not meet purpose and need.</i>
<b>1 Drydock and Repair</b>	Move Falls of Clyde to a drydock to conduct repairs	-Meets project purpose and need to remove ship	-Condition of ship makes repair infeasible. -No viable project sponsor nor funding. -Unknown availability of repair drydock. -No permanent berthing site or long-term plan for the ship.	-Requires Coast Guard approval for tow or transport (not a federal undertaking under NHPA)	<b>Dismiss Alternative</b>  <i>Infeasible due to ship condition and no sponsor or funding.</i>
<b>2 Removal by Dismantling</b>	<b>2a. Tow or Transport to Off-Site Facility for Dismantling</b>	-Meets project purpose and need. -Avoids environmental impacts of ocean disposal. -Dismantling off-site minimizes impacts to Pier 7 adjacent uses. -Removal of hazardous mat and petroleum products can be done safely on land vs afloat.	-Uncertain availability of local drydock facility. -Towing/transport to drydock is an added expense. -Uncertain ability of ship to survive tow intact; though could be transported via floating drydock or barge.	-Requires Coast Guard approval for tow or transport. (not a federal undertaking under NHPA)	<b>Retain Alternative</b>

Alternative	Description	Pros	Cons	Regulatory Considerations	Action	
<b>2</b>	<b>Disposal by Dismantling</b>	<b>2b. Dismantle in Place</b>	<ul style="list-style-type: none"> <li>-Meets project purpose and need.</li> <li>-Avoids need to transport ship to another location via tow or barge.</li> <li>-No costly repair to make ship seaworthy for towing is required.</li> <li>-Removal of haz materials easier on land or drydock than with ship afloat.</li> <li>-Avoids environmental impacts of ocean disposal alternative.</li> </ul>	<ul style="list-style-type: none"> <li>-Potential for adverse impacts to land uses near Pier 7.</li> <li>-Noise, airborne dust and debris, vehicle congestion and traffic impacts near Pier 7.</li> <li>-Potential disruption to Star of Honolulu operations and access.</li> <li>-Not able to use of Pier 7 for cranes and heavy equipment due to structural deficiencies.</li> </ul>	<ul style="list-style-type: none"> <li>-No federal agency approvals or permits required.</li> <li>-Requires OSHA and DOH compliance for dismantling operations.</li> </ul>	<b>Retain Alternative</b>
<b>3</b>	<b>Removal at Sea by Sinking</b>	<b>EPA Permitted Disposal Site</b>	<ul style="list-style-type: none"> <li>-Meets project purpose and need.</li> <li>-Minimal ship disassembly and preparation required.</li> <li>-No ship dismantling or component disposal required.</li> <li>- Disposal may be more expedient than dismantling options.</li> </ul>	<ul style="list-style-type: none"> <li>-Only seaworthy vessels are eligible for ocean disposal.</li> <li>-Ship must be towable; i.e., cannot be transported in drydock or on barge.</li> <li>-Undetermined whether ship has structural integrity to be towed to ocean disposal site.</li> <li>--Identification and removal of haz materials and petroleum products required prior to towing and disposal. Removal could be difficult while ship is afloat.</li> <li>-EPA has indicated during informal consultation that ocean disposal is less favorable than in the past.</li> <li>-Concerns over marine environmental impacts.</li> </ul>	<ul style="list-style-type: none"> <li>-Requires EPA and USACE approval for ocean disposal.</li> <li>-EPA and USACE involvement is a federal undertaking, triggering NHPA Section 106 consultation if NHL delisting is not completed.</li> </ul>	<b>Retain Alternative</b>

Alternative	Description	Pros	Cons	Regulatory Considerations	Action
<b>4 Third Party Acquisition</b>	Third party acquisition for salvage, repair or reconstruction	<ul style="list-style-type: none"> <li>-Meets project purpose and need.</li> <li>-Avoids destruction of ship with historic value; opportunity for ship to find a useful function elsewhere.</li> <li>-Interested party (Falls of Clyde International) has recently confirmed interest.</li> <li>-Minimizes ship preparation effort and expense by HDOT, as all preparation and costs of relocation would be assumed by Third Party.</li> </ul>	<ul style="list-style-type: none"> <li>-Extremely high cost of implementation.</li> <li>-Uncertain ability of third party to raise sufficient financial resources.</li> <li>-Complicated logistics to transport ship in its present condition.</li> <li>-FOCI has attempted acquisition before and was unable to meet HDOT bond requirements.</li> <li>-May not be able to implement in timely manner.</li> </ul>	<ul style="list-style-type: none"> <li>-Requires Coast Guard approval for tow or transport (not a federal undertaking under NHPA)</li> </ul>	<b>Retain Alternative with Reservations</b>



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## 3 Affected Environment, Impacts and Mitigation

This chapter describes the existing environment, potential project impacts and proposed mitigation. The chapter is divided into 1) Physical Environment; 2) Biological Environment; and 3) Human-Made Environment.

The discussion of impacts includes both direct and indirect impacts. Direct impacts are those caused by the action and occur at the same place and time. Indirect effects may occur later in time or farther in distance but are still reasonably foreseeable. Cumulative impacts are defined as the results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. There are no cumulative impacts as a result of the Proposed Action.

### 3.1 Physical Environment

#### 3.1.1 Climate and Air Quality

##### 3.1.1.1 Existing Conditions

###### Climate

The climate on O‘ahu is characterized as semi-tropical with two seasons: summer (May through September) and winter (October through April). Based on data from the NOAA National Weather Service station at the Daniel K. Inouye Airport (HNL Airport) (which is about 3.5 miles west of the Pier 7 project site), the average annual temperature recorded between 2000 to 2021 was 78.1 degrees Fahrenheit. Typical temperatures on O‘ahu range from 70 degrees Fahrenheit in the winter to 84 degrees Fahrenheit in the summer. Annual average precipitation ranges between 25 to 30 inches a year with rainfall occurring mostly between October and April. Relative humidity ranges between 56 and 72 percent.

As in most of Hawai‘i, the surface winds in the project area are influenced by northeast trade winds, which prevail throughout the year due to the North Pacific high-pressure system located northeast of Hawai‘i. The northeasterly trades are dominant in the summer season and less prevalent in the winter. Winds from the southwest, known as Kona winds, usually occur when a low-pressure center is within 500 miles northwest of the Hawaiian Islands and typically occur during the winter season. Kona winds are usually associated with cyclones, strong winds, and heavy rain.

###### Air Quality

National Ambient Air Quality Standards (NAAQS) have been established for seven major air pollutants: carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), ozone (O<sub>3</sub>), particulate matter smaller than 10 microns (PM<sub>10</sub>), particulate matter smaller than 2.5 microns (PM<sub>2.5</sub>), sulfur oxides (SO<sub>x</sub>), and lead. Air pollutant levels are monitored by the Hawai‘i Department of Health (DOH) at a network of sampling stations statewide. The closest stations in the network are the Honolulu Station located downtown near the State Capitol (about 0.5 miles east of the project site), and the Sand Island Station (about 1.0 miles west of the project site). Based on ambient air monitoring data, the EPA has classified the island of O‘ahu and the entire State of Hawai‘i as being in attainment of the federal standards.

Air quality within the project area is good, as its location near the ocean results in predominant offshore breezes. The main source of pollutants are motor vehicles on Nimitz Highway, a major arterial roadway with heavy volumes of traffic. However, vehicle emissions tend to be carried over the project site by the prevailing winds (Hawai'i Pacific University, 2014).

### 3.1.1.2 Potential Impacts and Mitigation

None of the alternatives will have an impact on existing climate conditions, though all will have some degree of localized air quality impact, as a result of the work of heavy machinery and deconstruction activities. Even the alternatives involving disposal at sea by sinking (Alternative 3) will require preparatory activities to remove and abate hazardous materials such as lead-based paint, asbestos, PCBs, and waste oils. This will require some dismantling and deconstruction of ship components either at or near Pier 7, which can cause dust and debris to become airborne. Removal of asbestos, PCBs, paint or preservative coatings may require grit blasting or other methods of removal which could expose workers and the surrounding environment to unsafe components. Best management practices must be employed to ensure that workers and the environment are protected from airborne exposure. Federal and state occupational health and safety regulations and best management practices would apply.

Alternatives that involve disposal by dismantling (Alternatives 2a and 2b) have greater potential to affect ambient air quality and greater potential health risks for workers compared to sinking at sea. In addition to the removal of fuels, oils and hazardous materials, the ship breaking process will generate airborne debris and fumes. The contractor will be required to follow Occupational Safety and Health Administration (OSHA) and Hawai'i Department of Health regulations for worker health and safety, and guidance provided by OSHA's Safe Work Practices for Shipbreaking (OSHA 3375-03, 2010). The contractor will also employ fugitive dust emission control measures in compliance with provisions of the State DOH Rules and Regulations (Chapter 43, Section 10) and Hawai'i Administrative Rules (HAR) Chapter 11-60.1, "Air Pollution Control," Section 11-60.1-33 on Fugitive Dust. These measures to prevent dust from becoming air-borne will apply during nonworking hours as well, including on weekends and holidays.

For dismantling alternatives, impacts to urbanized areas can be minimized by reducing dismantling activities at Pier 7 and conducting the bulk of the ship breaking at an offsite shipyard or drydock in a designated industrial area.

The shoreside area at Pier 7 near the former Hawai'i Maritime Center may need to be used for staging equipment and parts during ship preparation and removal. No grading or earth disturbance is anticipated, but if any site clearing is required, appropriate dust control will be implemented including:

- Providing an adequate water source at the site prior to start-up of construction activities;
- Paving work areas as soon as possible to reduce dust;
- Providing adequate dust control measures during weekends, after hours, and prior to daily start-up of construction activities
- Controlling dust from debris being hauled away from the project site;
- Moving construction equipment to and from the work sites during non-peak traffic periods, to the extent possible, in order to minimize disruption to area traffic.

Depending on the alternative selected and where and how dismantling will take place, best management practices may also be needed to prevent dust and debris from entering the waters of the harbor and/or avoiding stormwater runoff.

Any disturbance to vegetated or landscaped areas adjacent to Pier 7 will be temporary, and the area will be returned to its original condition once ship removal is complete. Appropriate construction best management practices will be followed for any landside ground disturbance.

There will be a temporary increase in vehicles and machinery in the Pier 7 vicinity which generate emissions. Depending on the alternative selected, these could include construction machinery, ship-breaking tools and equipment, cranes, and trucks and/or barges. The presence of these emission generators will be temporary.

### 3.1.2 Marine Water Resources

#### 3.1.2.1 Existing Conditions

Marine waters in Hawai'i are divided into Class AA and Class A waters. Pier 7 is located within Honolulu Harbor, which is classified as a Class A marine embayment. The harbor opens to Mamala Bay, also considered Class A marine waters. The Hawai'i Administrative Rules (HAR), Title 11 Chapter 54-Water Quality Standards defines Class A waters as those to be protected for recreational purposes and aesthetic enjoyment, propagation of fish, shellfish, and wildlife. These waters are not to receive any discharges that have not received the best degree of treatment or control compatible with the criteria established for this class.

The State DOH has identified Water Quality Limited Segments (WQLS) around the State, in accordance with Section 303(d) of the Clean Water Act (CWA). WQLS are defined as water bodies within the State, which without additional action to control non-point sources of pollution, cannot reasonably be expected to attain or maintain State Water Quality Standards. "Honolulu Harbor and Shore Areas" are listed on the Final 2004 List of Impaired Waters in Hawai'i. Cause of impairment in the "Aloha Tower location" includes trash and turbidity.

Honolulu Harbor receives surface runoff via sheet flow and drainage outlets from Kapālama and Nu'uānu Streams, and both streams are included on the CWA Section 303(d) list as impaired. The closest of these, Nu'uānu Stream, discharges near Pier 15 and 16, about half a mile from Pier 7.

The DOH is obligated by the CWA to report on the State's water quality on a two-year cycle. The 2022 State of Hawai'i Water Quality Monitoring and Assessment Report, known as the Integrated Report (IR), provides information on marine and inland waters, including Honolulu Harbor. The main pollutants assessed in this report include fecal indicator bacteria, turbidity, chlorophyll a, and nutrients [total nitrogen (TN); nitrate+nitrite-nitrogen ( $\text{NO}_3+\text{NO}_2$ ); ammonium-nitrogen ( $\text{NH}_4$ ); total phosphorus (TP); and where applicable, total dissolved nitrogen (TDN), total dissolved phosphorus (TDP), and orthophosphate ( $\text{PO}_4$ )].

According to the 2022 IR, the "Honolulu Harbor & Shore Area-Honolulu Waterfront-Aloha Tower" (Water Body ID HIW00061) is in non-attainment for ammonium-nitrogen ( $\text{NH}_4$ ), and includes other pollutants listed as Total Suspended Solids (TSS) and Trash (DOH, 2022).

### 3.1.2.2 Potential Impacts and Mitigation

The purpose and need for the Proposed Action is the removal of a derelict vessel which is in imminent danger of sinking, presenting a risk to marine waters. If the *Falls of Clyde* were to sink, it would likely have an adverse impact on the water quality of the harbor due to the potential for black water/brown water remaining in tanks, and long-term leaching of toxins from paint, PCBs and asbestos containing materials still on board. Sinking at Pier 7 berth would generate high turbidity affecting water quality, damage surrounding coral colonies, and disturbing bottom sediments, potentially suspending contaminants in the sediment. Without the project, the ship's risk of sinking will only increase over time. The Proposed Action is intended to eliminate this risk.

During preparation of the ship for removal and disposal, there will be removal of hazardous materials and other components that have the potential to impact water quality if they were to be released into the harbor. For alternatives involving ship deconstruction (ashore at or in a floating drydock near Pier 7), there will be cutting, sawing, and hammering activity which will generate dust and debris, and removal of pipes and tanks that could release petroleum products. Ship repair or patch work may be required on portions of the ship's hull, which can release debris, rust, grit, metal fragments, paints, or solvents into the water. The movement of the *Falls of Clyde's* lines and anchor as well as the movement and anchoring of tugs, barges or support vessels will cause some resuspension of sediments and locally elevated turbidity, temporarily affecting water quality in the surrounding area.

The selected contractor will be responsible for preparing a Best Management Practices Plan to mitigate potential water quality impacts during ship preparation and removal. Proposed measures may include:

- Use of silt curtains to completely enclose the ship or area where work is being conducted.
- Temporary platform or other suitable positive means of capturing debris from repair or demolition operations.
- When working on pipes, tanks or other components that contain oil or other pollutants, capture all pollutants and dispose of them in accordance with appropriate State and federal laws.
- Erosion and runoff control measures shall be in place before any activity on land is started. Erosion control measures include, but are not limited to silt fence, gravel ingress/egress and dust control. Runoff control measures may include gravel compost filter sock along perimeter of site.
- Construction for ingress/egress shall be used to minimize off-site tracking of sediment by construction vehicles.
- Prevent dust from work becoming airborne at all times, including nonworking hours, weekends and holidays, in conformance with State Department of Health Administrative Rules, Title 11, Chapter 60-Air Pollution.
- All best management practices (BMPs) shall not be removed until permanent erosion controls are in place and are established.
- Contractor shall maintain and clear blockage and debris from the erosion control measures as necessary and after heavy rainstorms.

Site-specific BMPs will be developed in consultation with federal and State regulatory agencies to address the work proposed at the project site. A water quality monitoring plan may be developed if required by regulatory agencies (e.g., Hawai'i DOH). All dismantling and deconstruction activity will conform to the applicable permit conditions, and work will not result in violations of State water quality standards. The selected contractor will be responsible for compliance with all applicable local environmental protection standards, laws, and regulations.

### 3.1.3 Natural Hazards

#### 3.1.3.1 Existing Conditions

As shown in Figure 3-1, the Project Area and surrounding waterfront areas are within the Federal Emergency Management Agency's (FEMA) Zone VE, coastal areas with 1% or greater chance of flooding and an additional hazard associated with storm waves. Surrounding fast lands, including the Aloha Tower Marketplace, are mostly in Zone X, areas outside the 0.2% annual chance floodplain. The Hawaiian Electric Company (HECO) power plant across Aloha Tower Drive is in Zone AE, zones that correspond to the 1% annual chance floodplain.

Figure 3-1 also shows that the Project Area is within the O'ahu Civil Defense Agency's Tsunami Evacuation Zone. In the event of a tsunami, individuals are advised to evacuate inland waterways and marinas. Vessels are typically advised to leave the harbor and deploy to deep water. In the Pier 7 and Aloha Tower Marketplace vicinity, the Tsunami Evacuation Zone extends inland nearly 1,100 feet, up to Merchant Street.

The Island of O'ahu is in Seismic Zone 2A and is not subject to volcanic eruptions or significant earthquakes.

#### 3.1.3.2 Potential Impacts and Mitigation

The proposed action will not impact the threat or occurrences of natural hazards such as flood or tsunami; however, the possibility of a tsunami is always present, and frequency and intensity of a tsunami event are unpredictable. Climate change has made Pacific hurricanes more frequent and more intense in recent years. Given the ship's waterfront location, it is vulnerable to significant damage and sinking, or being carried into the main shipping channel of the harbor as a result of high wave action due to storms, hurricanes, and tsunami.

Unlike seaworthy vessels, the *Falls of Clyde* is not in adequate physical condition to be moved out to sea to avoid expected high waves. The vessel's mooring lines are chaffed, as documented in the 2018 Condition and Reassessment (Hawai'i Marine Surveys, 2018) which stated:

*Due to the chaffing and resultant reduction in strength to the mooring lines, the vessel's mooring arrangement is considered to be susceptible to failure in the event of a natural disaster such as a tsunami, hurricane, or the passing of a low-pressure frontal system.*

An updated 2022 Condition Reassessment by Hawai'i Marine Surveys confirmed the finding and opinion. Due to the ship's already deteriorated condition and its inadequate mooring lines, the *Falls of Clyde* is extremely vulnerable to damage or being unmoored and carried elsewhere in the harbor during a high wind and high wave event.



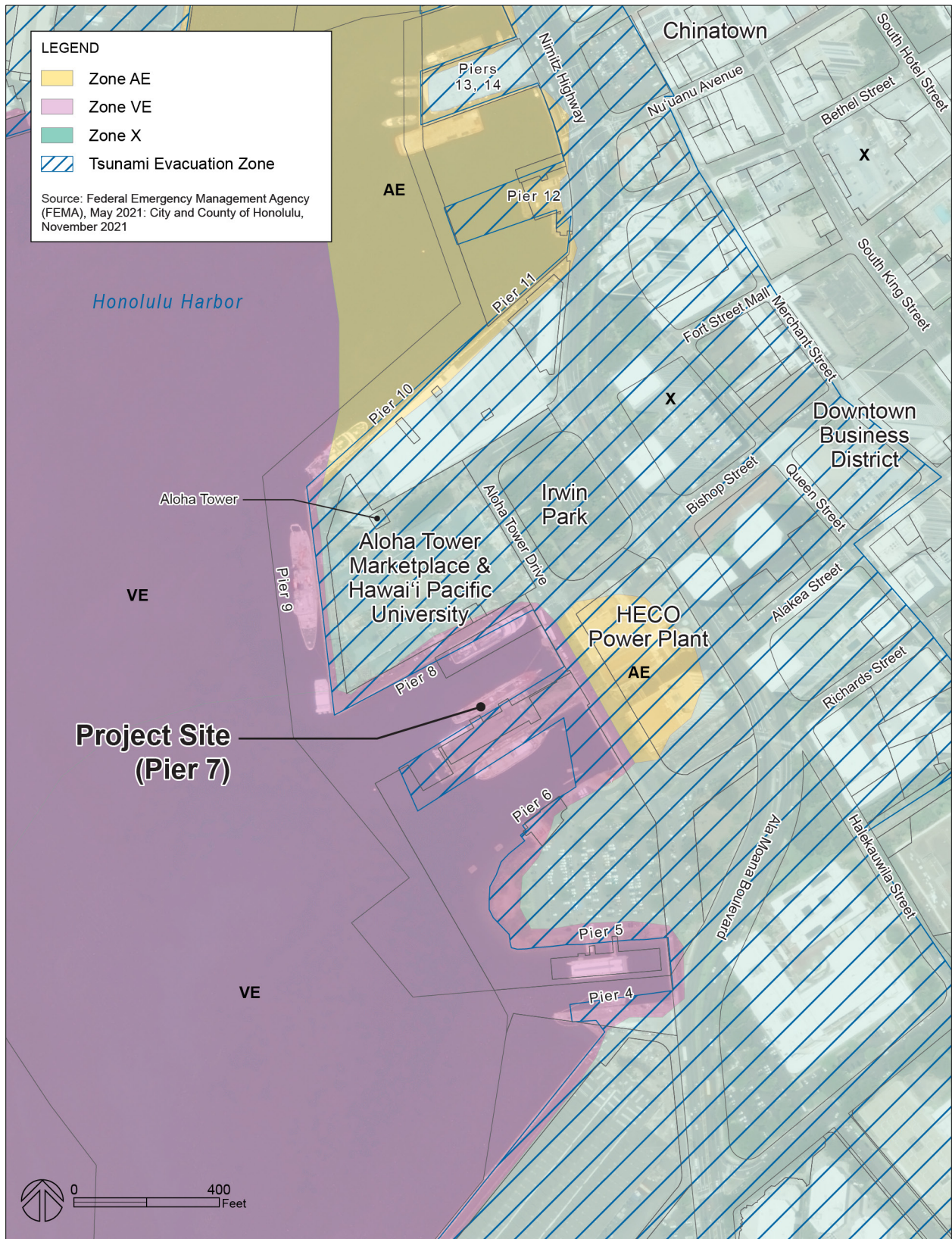


Figure 3-1: Flood and Tsunami Evacuation Zone

### 3.1.4 Climate Change and Sea Level Rise

#### 3.1.4.1 Existing Conditions

Climate change is a long-term global shift in patterns of temperature, precipitation, humidity, wind and seasons. Scientific data show that earth’s climate has been warming, mostly attributable to rising levels of carbon dioxide and other “greenhouse gases” generated by human activity. These changes are already impacting Hawai’i and the Pacific Islands through rising sea levels, increasing ocean acidity, changing rainfall patterns, decreasing stream flows, and changing wind and wave patterns. Sea level has risen over the last century on each island at rates varying from 0.5 to 1.3 inches per decade. (UH Sea Grant, 2014) For the foreseeable future, the planet’s warming atmosphere will cause increased melting of ice sheets and snow, in addition to thermal expansion of ocean water, resulting in sea level rise.

The *Hawai’i Sea Level Rise Vulnerability and Adaptation Report* provides a statewide overview of vulnerability to sea level rise and the potential impacts from chronic flooding. This overview is based on modeling coastal flooding with sea level rise due to passive flooding, annual high wave flooding, and coastal erosion in the Sea Level Rise Exposure Area (SLR-XA) with up to 3.2 feet of sea level rise. It depicts flood hazards that may occur in the mid- to latter-half of this century. According to the report, this “timeframe is within the expected lifespan of most new construction and much of our existing development. It should be noted that sea level rise projections greater than 3.2 feet are “physically plausible” by the end of the century, based on the latest climate science...” (Hawai’i Climate Change Mitigation and Adaptation Commission, 2017).

As the earth warms, extreme storm events are becoming more frequent or more intense, with stronger winds and more rainfall. Land falling tropical cyclones are likely to be more severe due to higher rainfall and increasing sea level with flood risk and storm surge intensified in coastal areas.

The *Honolulu Harbor 2050 Master Plan* (HDOT 2022) states that one of HDOT’s central objectives is to ensure that Honolulu Harbor is able to adapt to meet the challenges posed by climate change and SLR and to improve port resiliency. For its facilities, the HDOT is planning for a projected 3.2 ft of SLR by 2060, in keeping with the *Hawai’i Sea Level Rise Vulnerability and Adaptation Report*. Key recommendations in the *Honolulu Harbor 2050 Master Plan* include raising pier facilities to adapt to SLR and meet future operational requirements and reconstructing and strengthening pier facilities to withstand more frequent and intense storm events.

#### 3.1.4.2 Potential Impacts and Mitigation

As the climate and surrounding ocean warms, Hawai’i is vulnerable to more intense storm events that may include high winds, rain, and high wave action that could threaten the *Falls of Clyde*. As noted above, unlike seaworthy vessels, the *Falls of Clyde* is unable to move on her own power or be safely towed out to sea in the event of an approaching storm or hurricane. Given the documented poor condition of her moorings, she is particularly vulnerable to damage to and from surrounding pier structures and hardened coastline during a storm. The potential for significant damage to the ship and adjacent piers, and/or sinking cannot be avoided as long as the *Falls of Clyde* remains at Pier 7.



### 3.1.5 Noise

#### 3.1.5.1 Existing Conditions

The general Pier 7 vicinity is considered a public waterfront area, and includes a pedestrian promenade, restaurants, shops, university offices and classrooms, and student housing. The noise environment is characteristic of an urban setting. Ambient noise is predominantly attributed to vehicular traffic traveling along Nimitz Highway and Aloha Tower Drive, harbor operations, and aircraft using Daniel K. Inouye International Airport and Joint Base Pearl Harbor-Hickam. Also contributing to the acoustic environment is noise from wind, birds, and occasional from horns of cruise ships arriving and departing the harbor.

#### 3.1.5.2 Potential Impacts and Mitigation

##### Shoreside Noise

Alternatives that involve partial or complete dismantling of the *Falls of Clyde* at the pier or in a floating drydock near Pier 7 (Alternative 2b) will generate noise which will impact surrounding land uses. Equipment such as hydraulic cranes, forklifts, and large vehicles and trucks may be needed to transport large and heavy components. Noise generating activities during breaking and dismantling of the iron-hulled ship may include laser cutting, saw cutting, shearing, hammering, and drilling, and use of mechanical equipment such as compressors and generators. The noise may have negative impacts on visitors and patrons of the restaurants and shops in the Aloha Tower Marketplace, on classrooms and living spaces at HPU, on pedestrians, and operators of nearby day and dinner cruise vessels.

Project alternatives involving transporting the *Falls of Clyde* off-site for dismantling or ocean disposal (Alternatives 2a and 3) will not involve major ship deconstruction at Pier 7. However, these alternatives may still involve noise generating activities to prepare the ship for removal, including removal of hazardous materials and/or ship repair or stabilization to make it seaworthy for towing. Noise associated with these activities will occur for a shorter duration and will be of lower intensity than ship dismantling at Pier 7.

Complete elimination of noise during ship preparation and/or dismantling is not practical due to the intensity of noise sources and the exterior nature of the work. However properly muffled construction equipment will be used. Exterior noise levels as high as 75 Ldn (day night average sound level) are generally considered acceptable for commercial, industrial and other non-noise sensitive land uses. Most surrounding land uses fall within these categories and are not considered to be noise sensitive.

HPU includes student dormitories known as the Waterfront Lofts at Aloha Tower Marketplace. The residential units include loft apartments, studios, and dormitory style residences on the second and third floors of Aloha Tower Marketplace. The university also includes a dining center and classrooms, which are considered noise sensitive. All university spaces have central air conditioning, which will mitigate construction period noise. All construction work at or near Pier 7 will adhere to State DOH regulations controlling construction noise limits and construction hours. Under DOH permit procedures, noisy construction activities are restricted to the hours between 7:00 AM to 6:00 PM on weekdays, and on Saturdays between 9:00 AM to 6:00 PM. Construction is not permitted on Sundays. All work will be performed during the day to minimize nighttime noise impacts on university residents.

All construction activities will comply with the DOH Hawai'i Administrative Rules Chapter 11-46 on Community Noise Control. In cases where construction noise exceeds or is expected to exceed the DOH's "maximum permissible" noise levels at the property line, a permit will be obtained from the DOH to operate vehicles, construction equipment, power tools, etc. that emit noise levels in excess of "maximum permissible" levels.

The noise impacts will be limited to the ship preparation and removal phase. There will be no long-term noise impacts once the *Falls of Clyde* is removed from Honolulu Harbor.

### Underwater Noise

None of the alternatives include in-water construction or pile driving that could adversely affect the marine acoustic environment. If any in-water work (e.g. hull repair, coral removal from the ship's hull) is conducted, it will be short term and noise levels will be within the range of existing harbor activities. Honolulu Harbor does not typically have whales, dolphins, or monk seals present, and therefore these species are not a major concern. Sea turtles are occasionally observed in the harbor. The work area will be determined to be free of turtles and other protected species prior to the start of in-water work. All work will be postponed or halted when protected species are in the vicinity and shall only resume after the animals have voluntarily left the area.

## 3.1.6 Solid and Hazardous Waste

### 3.1.6.1 Existing Conditions

Solid commercial and industrial waste generated at Honolulu Harbor is collected by private waste collection companies and transported directly to the Waimānalo Gulch Landfill or to O'ahu's H-POWER facility. Construction and demolition waste must be disposed at the PVT Land Company landfill in Nānākuli.

The *Falls of Clyde* is likely to contain hazardous materials including lead-based paint, asbestos containing materials, and PCBs which must be properly removed and disposed. Although the *Falls of Clyde* once served as an oil tanker, there is no remaining oil in its tanks. If residual oil were to be found, it would be removed and disposed of appropriately. Any remaining bilge water will be tested to determine if it meets the criteria for a hazardous waste.

Although it is not considered hazardous, a biological material which needs to be removed from the ship's hull is *Carijoa riisei*, an invasive snowflake shaped coral that was noted during the marine survey. The project marine biologist (Marine Research Consultants, Inc.) recommended physical removal of these organisms, with disposal on land, prior to moving the ship to avoid its further spread. Following removal from the ship's hull, the coral can be disposed at the municipal landfill, H-POWER facility or any upland site without special handling.

### 3.1.6.2 Potential Impacts and Mitigation

Alternative 2, Removal by Dismantling, will involve the removal and disposal of both non-hazardous and hazardous construction and demolition waste including wood, plywood, metal, glass, fiberglass, fuel storage tanks, and other materials. During deconstruction, there will be an attempt to salvage and reuse ship components and materials to the greatest extent possible to minimize the waste stream.

The identification and removal of hazardous materials and petroleum products will be needed whether the ship is disposed on land by dismantling (Alternative 2) or at sea by sinking (Alternative 3). If the ship is dismantled in drydock, hazardous materials can be removed when the ship is out of the water. For any alternative involving ocean towing, hazardous materials must be removed prior to leaving Pier 7. Hazardous materials testing, removal and disposal will be the responsibility of the disposal contractor. For Alternative 4, third party acquisition, hazardous material testing does not need to occur prior to turning the ship over to the recipient, unless there are plans to tow the ship to a local drydock before taking it out of state. If all transport is done with the ship completely out of water (floating drydock, barge), hazardous material removal or remediation can be done at the final destination.

Ocean disposal by sinking requires that all hazardous materials and petroleum products be identified and removed from the ship prior to towing and sinking. All areas of the ship must be surveyed, including the lower decks. Because of the ship's deteriorated condition, these areas are currently difficult to access, and the contractor may determine that testing and remediation is too dangerous to conduct while the ship is afloat. In this case, the ship may need to be put into a floating drydock where testing and remediation can be done safely before ocean disposal.

All lead and asbestos containing materials identified must be removed by a qualified abatement contractor, and qualified personnel will be required to monitor and inspect the removal activities to ensure compliance with applicable regulations. The selected disposal contractor will be required to develop the specifications for proper work techniques, handling and disposal of lead and asbestos contaminated items and fuel products.

Handling and removal of hazardous waste would be regulated by the OSHA and by the Hawai'i Department of Health (DOH) if it takes place in Hawai'i. Coordination with the Hawai'i DOH will be needed for disposal of hazardous materials and petroleum products. Toxicity Characteristic Leaching Procedure (TCLP) analysis will be performed on all waste streams to determine proper disposal methods. Depending on the substance and quantity identified, lead based paint waste, oil products and PCBs could be disposed on O'ahu (municipal landfill or PVT landfill). Depending on identified lead levels, non-metal lead based materials may need to be containerized and shipped off-island for disposal.

## 3.2 Biological Environment

During the EA pre-assessment consultation period, correspondence was received from both the U.S. Department of the Interior, Fish and Wildlife Service (USFWS) and the Hawai'i Department of Land and Natural Resources (DLNR) Division of Forestry and Wildlife (DOFAW). Copies of the letters are included in Chapter 7. Both agencies identified species of concern and identified recommended mitigation measures, which are included in the discussion below.

### 3.2.1 Terrestrial Flora and Fauna

#### 3.2.1.1 Existing Conditions

##### Terrestrial Flora

Pier 7 is located in Honolulu Harbor in an urbanized area occupied by the former Hawai'i Maritime Center building, currently vacant and in poor physical condition. The shoreside area adjacent to Pier 7 and fronting the Hawai'i Maritime Center building includes a maintained landscape with a grassy lawn and various trees. The following is an inventory of existing plants fronting the building, along Pier 7, and

along the Aloha Tower Drive sidewalk: Bottle Palm (*Hyophorbe lagenicaulis*); Foxtail Palm (*Wodyetia bifurcata*); 'Ulu Trees (*Artocarpus artilis*); Manila Palm (*Veitchia merrillii*); Singapore plumeria (*Plumeria obtusa*); and Coconut Palm (*Cocos nucifera*).

Terrestrial fauna that would likely be found within the former Hawai'i Maritime Center landscaped area and surroundings include mammals that typically inhabit urban areas of Honolulu including feral cats (*Felis catus*); rats (*Rattus sp*); house mouse (*Mus musculus*); and Indian mongoose (*Herpestes a. auropunctatus*).

### Avifauna

The grassy lawn and trees surrounding the former Hawai'i Maritime Center are actively maintained, and are likely used by alien bird species common to urban environments, such as the Common Mynah (*Acridotheres tristis*); Red crested Cardinal (*Paroaria coronata*); Northern Cardinal (*Cardinalis cardinalis*); House Finch (*Carpodacus mexicanus*); Java Sparrow (*Padda oryzivora*); Rock Pigeon (*Columba livia*); Spotted Dove (*Streptopelia chenensis*); Zebra Dove (*Geopelia striata*); Red-vented Bulbuls (*Pycnonotus cafer*); and Japanese White-eye (*Zosterops japonicus*).

The Pacific Golden Plover (*Pluvialis fulva*) is a migratory shorebird that could use the small grassy lawn fronting the former Hawai'i Maritime Center particularly during the late summer and winter months.

### Species of Concern

The USFWS sent a Technical Assistance letter for the project dated September 8, 2023, prepared under the authority of and in accordance with provisions of the Endangered Species Act of 1973, as amended. The letter (included in Chapter 7) indicated that the following species may occur or transit through the vicinity of the proposed project area: the endangered 'ua'u (Hawaiian petrel, *Pterodroma sandwichensis*), endangered Hawai'i distinct population segment (DPS) of the 'akē'akē (band-rumped storm-petrel, *Hydrobates castro*), and threatened 'a'o (Newell's shearwater, *Puffinus newelli*) (hereafter collectively referred to as Hawaiian seabirds); and the endangered 'ōpe'ape'a (Hawaiian hoary bat, *Lasiurus cinereus semotus*).

#### 3.2.1.2 Potential Impacts and Mitigation

There are no plans to modify the landscaped areas adjacent to Pier 7 as part of the Proposed Action, nor to permanently remove existing trees or vegetation. All of the vegetation in the project vicinity consists of common landscape plants. Depending on the method of ship removal and preparation, it is possible that the walkway to the former Hawai'i Maritime Center and some landscaped areas could be used for temporary equipment access, staging, or loading.

Although none are present on the site, both the USFWS and DLNR DOFAW indicated that species of concern may transit the Project Area, and recommended that mitigation measures be included, as discussed below.

#### Hawaiian Seabirds

If outdoor lighting at night is used during ship preparation or removal activities, it has the potential to adversely affect migratory shorebirds. Hawaiian seabirds may traverse the project area at night during the breeding, nesting, and fledging seasons, March 1 through December 15. Outdoor lighting could result in seabird disorientation, fallout, and injury or mortality.

Currently, the method, scope, and timing of ship removal activities is not known. However, to avoid and minimize potential project impacts to Hawaiian seabirds, the USFWS recommends that the following measures be included during ship removal activities:

- Fully shield all outdoor lights so the bulb can only be seen from below.
- Install automatic motion sensor switches and controls on all outdoor lights or turn off lights when human activity is not occurring in the lighted area.
- Avoid nighttime construction during the seabird fledging period, September 15 through December 1

Barbed wire, which poses a hazard for seabirds, will not be allowed. If incidental entanglement of protected species occurs, the appropriate State and federal agencies should be notified immediately.

### Hawaiian Hoary Bat

The Hawaiian Hoary Bat, or 'Ope'ape'a, roosts in woody vegetation across all islands and will leave their young unattended in trees and shrubs when they forage. If trees or shrubs 15 feet or taller are cleared during the pupping season, June 1 through September 15, there is a risk that young bats could inadvertently be harmed or killed, since they are too young to fly or move away from disturbance. There is also a chance that bats could become ensnared and killed by barbed wire fencing.

Although the existing vegetation in the Pier 7 vicinity are not known to be used by the Hawaiian Hoary bat, the USFWS and the DLNR DOFAW recommend that the following standard recommendations be included during the proposed ship removal activities:

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

### White Tern

The State-threatened manu-o-Kū, or White Tern (*Gygis alba*), is known to nest in the vicinity of the proposed project. If tree trimming or removal is planned, DOFAW strongly recommends a qualified biologist survey for the presence of White Terns prior to any action that could disturb the trees. White Tern pairs typically lay their single egg on a tree branch with no nest. Eggs and chicks can be dislodged by construction equipment or workers that contact trees in which White Terns are nesting. As such, a tree protection program should be in place for any mature trees with nesting or roosting White Terns. At this time, it is not anticipated that trees in the vicinity of the Project Site will undergo tree trimming as a result of the project.

### 3.2.2 Marine Biota

A marine biotic survey was conducted in August 2023 by Marine Research Consultants, and the results are summarized in a Marine Biotic Report dated September 2023 (Appendix D). The purpose of the survey was to evaluate the condition of biological communities on the hull of the ship and in surrounding substrates underneath and adjacent to Pier 7 that may be affected by removal of the *Falls of Clyde*.

Surveys were conducted in three areas: the submerged portion of the hull of the ship, the harbor floor surrounding the ship, and the submerged portion of the constructed shoreline in the vicinity of the ship. The portion of the shoreline investigated consisted of approximately 40 m along the northeast side and 35 m along the southeast side.

All corals present on the hull, with the exception of one species, were enumerated. The single exception was the species *Leptastrea purpurea*, which due to its small size was estimated. Each coral colony was identified to the species level, photographed, and binned into one of the following size classes (cm): >0-10, >10-20, >20-40, >40-80, >80-160, and >160-320. Photographs and the inventory of coral colonies by species, size class, and location can be found in the report in Appendix D.

During the survey, divers looked for the presence of seagrass and also noted the presence of alien and invasive species (AIS) as defined by the DLNR Division of Aquatic Resources (DAR, 2023a and 2023b) and introduced species (Bishop Museum, 2002).

All species of fish observed during the survey of the hull, wall, and harbor floor were recorded. Divers also were instructed to note the presence of sea turtles, monk seals, and any other federally protected species during all surveys.

### 3.2.2.1 Existing Conditions

#### Hull

The hull of the *Falls of Clyde* is completely covered in marine biota comprised primarily of fouling organisms, macroalgae, and scattered corals. The starboard side of the *Falls of Clyde* faces the pier and therefore receives little direct sunlight. In contrast, the port side faces north-northwest and has no shading structures directly blocking sun exposure to the hull. Sections of the hull have degraded to the point of loss of the outer layer, thus exposing an inner layer of the hull. Numerous protrusions in a multitude of shapes up to 40 cm in length extend from the hull of the ship in an outwards and/or downward direction. The protrusions appeared to be abiotic and consist of an accumulation of rust.

#### Coral

A total of 254 corals comprised of 7 species were enumerated on the hull of the *Falls of Clyde* (the inventory can be found in Table 1 of Appendix D). In addition to these corals, it is estimated that approximately 150 small (<10 cm) colonies of *L. purpurea* were also present. The port side of the ship, which receives more sunlight than the starboard side, had slightly more than half of the total corals. In addition, the port side had 1.5 times more of the larger (>40 cm) colonies than the starboard side (23 and 15 colonies, respectively).

The species of coral with the greatest number of colonies were *L. purpurea* (~150), *Montipora capitata* (81) and *Pocillopora damicornis* (80). *Leptastrea purpurea* was present as primarily small (<10 cm), flat, encrusting colonies. *Montipora capitata* was present primarily as flat encrusting colonies although this species also occurred as overlapping plates angling out from the side of the hull. This species was the only one with a colony greater than 160 cm in diameter. *Pocillopora damicornis* was most common, appearing primarily near the waterline where it occurred primarily as small branching colonies.

## Invertebrates

Numerous non-coral invertebrates were identified on the hull of the ship, including one species of crab, one species of sea cucumber, and three species of sea urchins. Also common on the hull was the endemic Hawaiian pearl oyster, *Pinctada galtsoffi*. Other common invertebrates present on the hull included numerous bivalves, bryozoans, hydroids, sponges, and tunicates, and were often established on top of other organisms as well as directly on the hull. Finally, several mats of colonial zoanthids were observed on the port side of the hull.

Two invertebrate species classified as invasive were identified on the hull of the *Falls of Clyde*: *Mycale armata* (orange keyhole sponge, DAR 2023) and *Carijoa riisei* (snowflake coral, DAR 2023b). *Mycale armata* was present on the hull on both the starboard and port sides, and the largest colony was approximately 30 cm in diameter. A single colony of *C. riisei* was observed approximately 40 ft from the stern of the ship on the starboard side. The colony consisted of approximately 25 branches and was approximately 30 cm in longest diameter.

Six invertebrates that are not classified as invasive but are non-native to Hawai'i were also identified on the hull of the ship. The only one of these with a density that can be considered abundant was *Pennaria disticha* (Christmas tree hydroid). Also identified were two non-native bryozoans, and three non-native tubeworms, all with a density that can be considered rare.

The most commonly observed species of algae on the hull of the *Falls of Clyde* was *Lobophora variegata*, which despite the deep red color, is classified as a brown alga. This species was abundant on the lower 2/3 of the submerged portion of the hull on both the starboard and port side of the ship where it formed encrusting sheets of overlapping lobes resembling a fish scale pattern.

Fifty-one individual fish within 6 species were enumerated swimming around the hull of the *Falls of Clyde*. The most common fish family observed were the damselfishes. Within this family, the species with the greatest number of individuals was *Dascyllus albisella* (Hawaiian damsel). This species was commonly observed with *Abudefduf abdominalis* (Hawaiian sergeant) and *A. vaigiensis* (Indo-Pacific sergeant) sheltering amongst the larger plating colonies of *M. capitata*. The only other fish observed along the hull were *Canthigaster jactator* (Hawaiian whitespotted pufferfish), *Chlorurus spilurus* (bullethead parrotfish), and *Thalassoma duperrey* (saddle wrasse).

## Constructed Shoreline

The perimeter of the harbor in the vicinity of the ship is comprised of a manmade concrete wall that abuts the limestone fossil reef that was dredged to create the harbor basin. These hard surfaces provide suitable substrates for the settlement and growth of stony corals. Almost all coral species observed growing on the hull of the *Falls of Clyde* were also observed on the harbor wall. The northeastern edge of the harbor provides ideal conditions for coral growth as large colonies of *Montipora*, *Pavona*, *Pocillopora*, and *Porites* covered the majority of the substrate. Coral colonies were also observed growing attached to the vertical manmade wall along the southeast side of the *Falls of Clyde*. Coral coverage was higher along the northeast side compared to the southeast side.

The invasive species *C. riisei* and *M. armata* observed on the hull of the *Falls of Clyde* were not detected on the harbor walls adjacent to the ship. The most conspicuous non-coral invertebrates on the wall were a variety of sea urchins, and macroalgae.

One hundred individual fish comprised of 15 species were observed along the harbor walls adjacent to the ship. The four species observed sheltering along the hull of the ship were also observed along the walls of the harbor. In addition, butterflyfish, jacks, surgeonfish, and the Moorish idol were also detected along the walls.

### Harbor Floor

The harbor floor beneath and adjacent to the *Falls of Clyde* consists of a bed of accumulated fine-grained sediment. Several boulders and unidentified pieces of debris provided a hard substrate for the settlement of *Montipora capitata* and sponges. The only macroalgae detected on the harbor floor was cyanobacteria, which formed a thin, dark film on the surface of the sediment. *Halophila* sp. (seagrass) was observed on the harbor floor but was limited to the area off the stern of the ship in approximately 33 ft of water. No fish were detected while surveying the harbor floor in the vicinity of the *Falls of Clyde*.

### 3.2.2.2 Potential Impacts and Mitigation

#### Coral

There are assemblages of common Hawaiian reef corals inhabiting the hull of the ship. Although they cannot be considered a unique or expansive community, the removal of the *Falls of Clyde* has the potential to disrupt these existing coral communities.

The marine biotic survey noted that avoidance of coral loss/mitigation may include alternatives such as translocating these corals. If this alternative be exercised, the marine biotic survey recommends that only branching and plating corals greater than 20 cm in diameter be relocated, as removal of many small encrusting colonies is not generally feasible. The study noted the presence of well-established coral communities of the same species on the harbor walls adjacent to the ship, and indicated colonies removed from the hull could be translocated to bare segments of the wall with minimal effort, if desired. The marine biotic survey also noted that it is likely that the zoanthids on the hull of the ship contain deadly palytoxin and recommended that handling of this species be done with care (or avoided).

Mitigations to minimize physical damage to coral include educating all personnel on site about the importance of minimizing impacts to coral; and that work performed during coral spawning period (May to August) will require monitoring potential sedimentation and turbidity effects to coral eggs and larvae.

#### Discussions with DLNR DAR Regarding Coral Removal

Removal of coral on the ship's hull and transplantation to the adjacent harbor walls was recommended by both DLNR DAR (letter dated January 22, 2024) and NMFS (email dated January 11, 2024). Their recommendations included development of a plan to relocate and/or transplant all corals lost by the ship's removal, and post-transplantation activities such as photo documentation and monitoring. The comment letters were received during the Draft EA comment period and are included in Chapter 7.

Upon receipt of these comments, HDOT met with DLNR DAR on April 7, 2024, to discuss its concerns about this recommendation. The meeting was followed up with a memorandum from HDOT to DLNR DAR dated April 11, 2024, explaining that the recent hull survey (Ocean Technical Services, 2023) indicated the ship's hull shell plating is severely corroded and has holes below the water line. HDOT included a March 8, 2024 opinion from Sea Engineering, Inc. which had performed a recent hull inspection. The opinion stated:



*“removal of the coral structures would likely result in failure of the hull. It is expected, given the maturity of the coral on the hull, that the remaining thin steel would likely come off with the coral during the removal operations. Should this occur, it is likely that the water intrusion into the hull would exceed pumping capacity of any pumps. The uncontrolled sinking of the Falls of Clyde creates a potential safety concern for divers working on the bottom of the ship and would likely result in the destruction of any remaining corals not yet removed from the vessel.”*

On April 24, 2024, DLNR DAR replied to HDOT agreeing that requiring removal of the corals from the hull would cause considerable safety risk to personnel, the harbor infrastructure, and the *Falls of Clyde*. DLNR DAR then stated that “if and only if the removal of the *Falls of Clyde* is done in a way that coral may be removed from pieces of the hull when they come on-shore, and there is no risk to infrastructure, personnel, or the operation itself, HDOT shall make these corals available to DAR’s coral nursery team at Anuenue Fisheries Research Center.” This updated agreement regarding corals will be included in the RFP for *Falls of Clyde* removal.

DLNR DAR also clarified that upon further review of DAR’s special activity permit (SAP) issued pursuant to Hawaii Revised Statutes, Section 187-6, HDOT does not need to be issued a SAP for the coral on the *Falls of Clyde*. DAR further clarified that HDOT is not subject to Section 13-95-70 HAR prohibiting any person to take, break or damage any stony coral because HDOT is a department of the State of Hawai‘i and therefore not a “person” as specified under the rule.

The follow up correspondence between HDOT and DLNR DAR on coral removal is included in Appendix D-1.

### **Invasive Species**

Another potential project impact is the spread of invasive species that are present on the hull of the ship. While only one colony was observed on the hull, *Carijoa riisei* has been documented to impact deep water corals. To avoid any spreading of this invasive species the contractor will be required to physically remove the *C. riisei* colony from the hull and dispose of it landside prior to moving the ship.

If the proposed method of removal involves the use of foreign vessels to transport the *Falls of Clyde*, all applicable procedures pertaining to discharge of ballast water before entering Honolulu Harbor will be followed to minimize the risk of introducing invasive aquatic species.

### **Fish**

No adverse impacts are anticipated to fish, as all fish observed were common harbor species. As these species were also detected along the wall, the fish found sheltering on the hull will find suitable habitat nearby after the removal of the ship.

### **Protected Species**

No protected species (turtles, seals, and whales) were observed during the marine surveys of the *Falls of Clyde*. The State endangered ‘ilio holo i ka uaua Hawaiian Monk Seal (*Monachus schauinslandi*) and threatened honu or Green Sea Turtle (*Chelonia mydas*) may occur periodically in the vicinity of the ship. However, the project area is not conducive for these species to haul-out on shore, as the shoreline consists entirely of high vertical walls.

During any ship removal procedures, monitoring will take place to ensure that no protected species are impacted. If either species is detected within 100 feet (30 meters) of the project area all nearby

construction or removal operations should cease and not continue until the animal has departed the area on its own accord.

The contractor will be required to utilize best management practices to eliminate any potential for incidental entanglement of marine organisms. At the end of each day and upon completion of the construction project, all construction-related debris that could potentially endanger species by causing entanglement shall be cleared from the construction area.

## 3.3 Human Made Environment

### 3.3.1 Built Environment and Adjacent Land Uses

#### 3.3.1.1 Existing Conditions

Pier 7 at Honolulu Harbor was originally constructed in 1908 and originally extended 450 feet long with a concrete bulkhead on three sides. It has been heavily modified and rebuilt over the years. The pier is described in the Honolulu Harbor 2050 Master Plan (HDOT 2022) as having a total berth length of 725 linear feet (LF), and the plan characterizes Pier 7 as currently dedicated for layberth and long-term berthing of the *Falls of Clyde*.

The ʻEwa (west) side of the pier, where the *Falls of Clyde* is berthed, is augmented by a concrete and timber breasting platform supported by concrete piles. A 2017 structural assessment described this platform as having severely deteriorated decking due to termite infestation and dry rot decay, and deteriorated underside timber framing. The structural assessment recommended that the timber pier deck be prohibited from use and noted that further investigation may be required to verify the extent of the deterioration and its effect on the structural integrity of the pier (MKE Associates, 2017).

The landside of Pier 7 comprises 0.85 acres which includes the former Hawaiʻi Maritime Center, once the State's principal maritime museum and a campus of the Bishop Museum. The Maritime Center has subsequently closed due to economic conditions, and the building is vacant and deteriorated.

Figure 3-2 shows adjacent landowners and major uses. Pier 7 is within an area of Honolulu Harbor that has historical significance and is accessible to the public, offering a waterfront promenade and retail and commercial venues nearby. Pier 7 is within walking distance of Honolulu's primary business district, Chinatown, and the Kakaʻako area, and is adjacent to the Aloha Tower complex to the west. The Aloha Tower complex sits on a small waterfront peninsula which includes the historic Aloha Tower. This iconic structure, opened in 1926, was once the tallest building in the islands and served as a welcoming beacon for visitors arriving by ship. The Aloha Tower complex includes the Aloha Tower Marketplace, a commercial mixed-use space, and Hawaiʻi Pacific University (HPU) which has classrooms, meeting spaces and student housing.

The pier directly across Pier 7 on the Aloha Tower (ʻEwa/west) side is Pier 8. This pier is used for day excursion vessels including seasonal whale watching and berths the *Star of Honolulu* which operates nightly dinner cruises. The piers surrounding the Aloha Tower complex, Piers 8, 9, 10 and 11, are primarily used for cruises, day excursion and layberth.

To the east (Diamond Head) of Pier 7 are Piers 5 and 6, which are primarily used for day excursion operations and evening and nightly dinner cruises. The landside of these piers is developed as a ground-

level parking lot and the Ala Moana Mini Park which includes a pocket parking area. The makai end of Piers 5 and 6 area is among the few naturalized shorelines in Honolulu Harbor.

Directly across Aloha Tower Drive in the mauka direction is the HECO electric power station. The power plant is deactivated but not decommissioned. HECO is exploring long-range plans to decommission the power plant and is considering uses for the parcel that are more compatible with the public waterfront setting. An electrical power substation is located on the Diamond Head end of the parcel. The substation is an essential facility which HECO plans to continue to operate (HDOT, 2022).

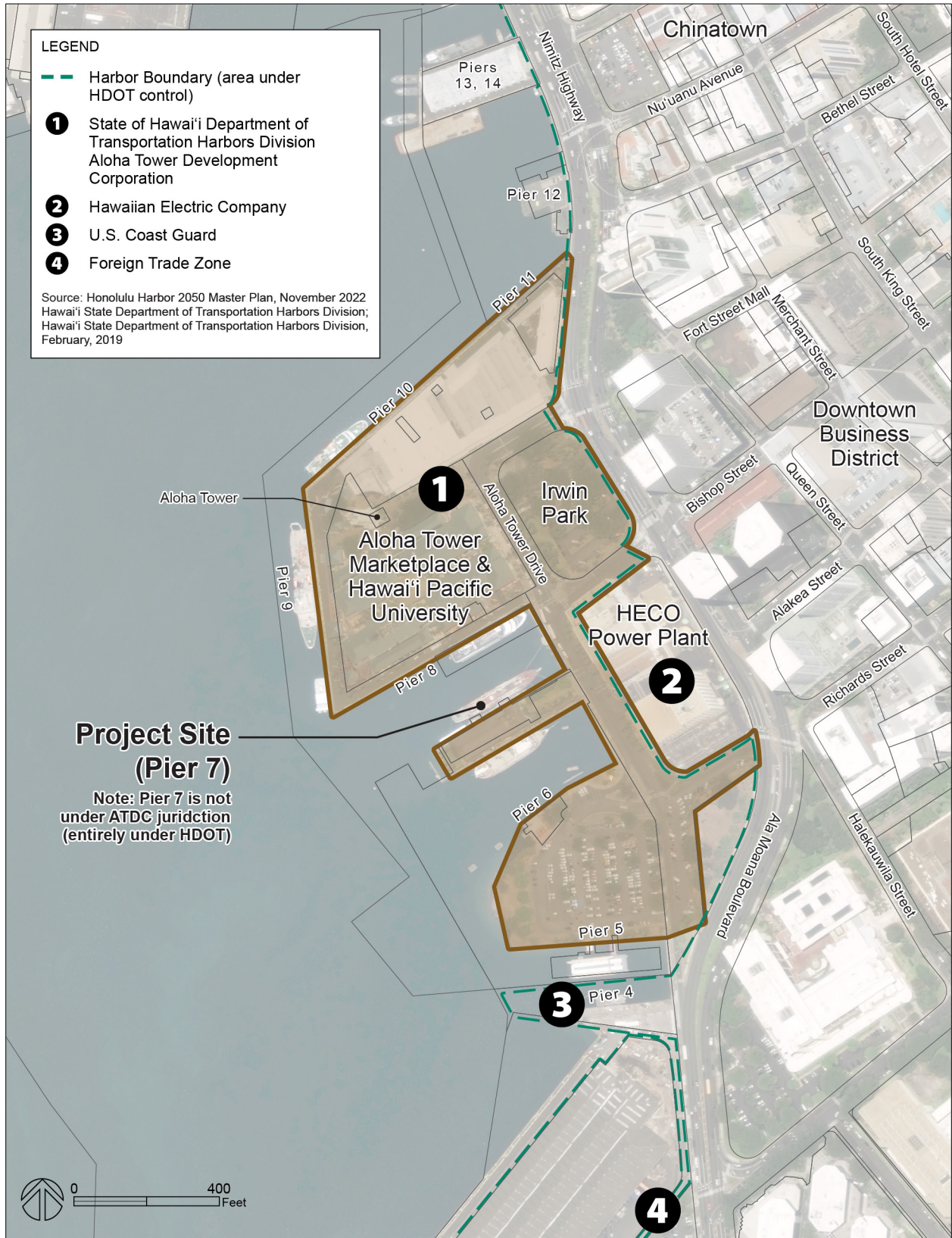


Figure 3-2: Adjacent Landowners

### 3.3.1.2 Potential Impacts and Mitigation

The removal of the *Falls of Clyde* will not modify land uses or affect land ownership. As discussed elsewhere in this chapter, there may be short-term noise, dust and traffic impacts that will affect surrounding land uses during active ship removal.

The long-term effect of the Proposed Action will be to free an underutilized berth and the Pier 7 shoreside area for other uses and future redevelopment, consistent with HDOT's *Honolulu Harbor 2050 Master Plan*.

## 3.3.2 Archaeological and Historic Resources

### 3.3.2.1 Existing Conditions

As discussed in Chapters 1 and 2, the *Falls of Clyde* was recently delisted from the Hawai'i State and National Registers of Historic Places, and its delisting as a National Historic Landmark is pending. From an architectural and historic standpoint, the ship has been extensively documented, and has been determined to have historic significance. However, in its present deteriorated condition, the ship's historic integrity has been severely diminished, and the characteristics that caused it to be listed in the first place have been lost.

#### Delisting Report and Findings

This loss of integrity and the recommendation for delisting is documented in *The Four-Masted Iron Ship Falls of Clyde: Evaluation of Loss of Integrity and Recommendation for Delisting from the National Register of Historic Places* (SEARCH, Inc., 2023), included as Appendix E. The study evaluated whether the *Falls of Clyde*, in its current condition, still retains the features that qualified it for historic status.

The study's author, James P. Delgado, Ph.D., is a maritime historian, maritime archaeologist, and the founding head of the National Park Service maritime preservation program. Dr. Delgado was a leading participant in drafting the Secretary of the Interior's standards for historic vessel preservation projects and was the author of the *Falls of Clyde* National Historic Landmark (NHL) study which nominated the ship for NHL status in 1988. He also prepared the nomination form for listing the *Falls of Clyde* in the NRHP. Dr. Delgado has visited the ship periodically since 1988, the last being a shoreside visit in 2022. His review and understanding of the most recent survey report (Lombardi 2023) was facilitated by his extensive history with the vessel (SEARCH, Inc. 2023).

In the 1988 report nominating the *Falls of Clyde* as an NHL, Dr. Delgado noted that the ship retained integrity of design, materials, and workmanship as represented by the hull, rigging, fittings, equipment, machinery, and furnishings. The integrity of those aspects also contributed to the integrity of feeling. The vessel had undergone considerable and well-conducted restoration, was in good condition and was being professionally managed by the Hawai'i Maritime Center. By contrast, in the 2023 delisting report, Dr. Delgado described the ship "now a partially flooded, heavily corroded vessel with structural failure and a substantial loss of historical and architectural integrity."

In 2005, seventeen years after its NHL listing, the NHL Program noted that the status of the *Falls of Clyde* was threatened due to corrosion of the hull that weakened the hull's integrity and caused leaking. Dr. Delgado notes that it has deteriorated even further in the eighteen years since then, as confirmed by the 2022 and 2023 condition surveys. Dr. Delgado describes the ship's current condition as follows:

*There is a strong risk of the ship sinking. It is leaking and if there is a loss of power, the failure of the pumps that are keeping Falls of Clyde afloat would lead to catastrophic flooding due to multiple failures in the lower and upper hull due to holes, failed rivets and patches from previous repairs that are failing, and the loss of structural and watertight integrity in the bulkheads and tanks. The bow, the lower masts and the main (weather) deck are also structurally compromised. In some cases, hull plating is now held in place to the frames with C-clamps. The loss of the ship's inherent structural integrity will complicate, if not preclude the ability of a salvor to raise it without risk of substantial hull failure. If it transitions from a leaking hulk to a wreck, raising the vessel might require raising it in pieces, effectively "scrapping" it in place. Because of these factors, it is likely that the Falls of Clyde will not survive afloat, above the water, nor even be intact by 2024 (SEARCH, Inc., 2023).*

In his 2023 delisting report, Dr. Delgado describes the ship as a "partially flooded hulk" with insufficient structural integrity to remain afloat without constant pumping, and that with the loss of structural integrity, there would be rapid and progressive flooding if the hull were to fail or the power to the external pumps were to be lost.

The *Falls of Clyde*, the report concluded, "*is effectively a dead ship that has now lost its National Register qualities (integrity) as its materials, design and workmanship have corroded, and are missing or have failed. As such, it has also lost its integrity of feeling that was generated by the intact and complete nature of the ship in 1989.*" (SEARCH, Inc. 2023).

The delisting report acknowledged that the loss of the vessel is irreversible and extremely unfortunate if not tragic. The *Falls of Clyde* is a unique surviving sailing craft, and its historic significance is clear. However, the report concludes, the vessel has already lost most of the qualities, or aspects of integrity that convey its significance, which led to its listing in the NRHP and its designation as an NHL.

In the 2023 report, Dr. Delgado recommended the delisting of *Falls of Clyde* from the NRHP and the subsequent withdrawal of the NHL designation. He concludes that "*the property has ceased to meet the criteria for listing in the National Register because the qualities which caused it to be originally listed have been lost or destroyed as noted in 36 CFR § 60.15.*"

### Delisting Chronology

The petition to remove the ship from the Hawai'i State Register of Historic Places was submitted by HDOT to the Hawai'i Department of Land and Natural Resources on May 16, 2023. The petition requested removal of the *Falls of Clyde* (SIHP #50-80-14-09700) from the Hawai'i Register of Historic Places per HAR §13-198-10(1). The petition noted that the qualities which caused the property to be listed have been lost due to deterioration, and the property no longer has sufficient integrity to convey its historic character. The condition assessments and the 2023 SEARCH, Inc. delisting report (see Appendices A through E) were submitted in support of the petition.

At its November 17, 2023 meeting, the Hawai'i Historic Places Review Board (Review Board) determined that the *Falls of Clyde* has ceased to meet the criteria for listing in the Hawai'i or National Register of Historic Places because the qualities which caused it to be originally listed have been lost or destroyed, or such qualities were lost subsequent to nomination and prior to listing, pursuant to 36 CFR § 60.15(a)(1). The Hawai'i State Historic Preservation Officer (SHPO) concurred with the Review Board's findings, concluding that the *Falls of Clyde* has lost sufficient integrity and ceases to meet the criteria for

listing in the NRHP or to be considered an NHL. In a letter dated December 14, 2023, Alan Downer, Hawai'i's Deputy SHPO, notified the National Register of Historic Places, National Park Service, of the Hawai'i Review Board meeting and their determination.

On February 2, 2024, the National Park Service posted a notice that the *Falls of Clyde* was removed from the National Register of Historic Places on February 1, 2024. Subsequent to the ship's removal from the NRHP, the Keeper of the NRHP transmitted the delisting and survey of the *Falls of Clyde* to the National Historic Landmarks Program with a recommendation for delisting as an NHL. The NHL Program staff reviewed the request and issued a withdrawal report and a summary for consideration by the National Park System Advisory Board's (NPSAB) National Historic Landmarks Committee.

On May 14, 2024, the NPSAB NHL Committee met to consider the new NHL studies and the withdrawal of the *Falls of Clyde*. Following a staff presentation and a letter from the Friends of Falls of Clyde acknowledging the loss of integrity of the vessel, the committee unanimously passed a motion to recommend the withdrawal of the NHL status. This recommendation will go to the full NPSAB which will meet in the summer or early fall of 2024. It is expected that the NPSAB will vote to accept the committee's recommendation.

The NPSAB recommendation to remove the NHL designation would then be transmitted to the Secretary of the Department of the Interior, who makes the final determination. It is anticipated that the procedural removal of the *Falls of Clyde's* NHL designation will be completed by the time the proposed action is implemented.

Appendix H includes agency correspondence and documentation of the Hawai'i and NHL delisting process. The appendix also includes the NHL program staff withdrawal report and summary which were prepared for the NPSAB NHL Committee.

### 3.3.2.2 Potential Impacts and Mitigation

The removal of the *Falls of Clyde* from the Hawai'i State and National Registers and its pending withdrawal as an NHL indicates that the vessel is no longer eligible as an historic property. As such, its removal from Honolulu Harbor and/or dismantling would not be an "adverse effect" as defined under Hawai'i Revised Statutes Chapter 6E or the National Historic Preservation Act (NHPA), nor would it be a "significant" effect on the environment pursuant to HAR Chapter 11-200.1. or "irrevocably commit a historic resource per HRS Chapter 11-200.1-13(b)(1).

That said, the *Falls of Clyde* is still an historic vessel, albeit one past the point of being capable of restoration (SEARCH, Inc. 2013). Although not required under the NHPA, HDOT has implemented mitigation to address the imminent loss of *Falls of Clyde* and remedy the previous lack of complete archival documentation. The following mitigation measures for the removal of the *Falls of Clyde* have been completed:

- 1) Photo Documentation
- 2) Video/LIDAR Documentation
- 3) Inventory of Artifacts and Objects
- 4) Documentation of Activities



## Photo and Video Documentation

HDOT has undertaken preservation through additional documentation of the vessel for inclusion into the existing record for *Falls of Clyde* in the Historic American Engineering Record in the Library of Congress. In existence since 1933, the Historic American Buildings Survey, the Historic American Engineering Record, and the Historic American Landscapes Survey (HABS/HAER/HALS) of the National Park Service has documented nationally significant achievements in architecture, engineering and landscape design in the United States and its territories, and archived those records, initially comprised of measured drawings and large-format black and white photographs at the Library of Congress.

The *Falls of Clyde* is currently in the inventory of historic vessels documented by HAER. However, the initial documentation of the vessel in 1989 was incomplete, as the second phase of the documentation did not take place as planned in 1991.

In October 2023, HDOT completed the archival record through an aerial LIDAR (high resolution Light Detection and Ranging) scan of the exterior hull and main (weather) deck, the upper and lower pump rooms, the boiler room, a typical oil tank, the forecastle and windlass, and the forward deck house and galley. Additional black and white photographs were taken to document the current condition of the vessel and to include areas and features not documented in 1989.

Scanning the hull and decks and accessible compartments with LIDAR and additional high-resolution photographs created a full documentary record of the vessel. This superior technology was used in lieu of standard video documentation to meet archival-best practices.

## Inventory of Artifacts and Objects

In August 2023, an inspection of the vessel was undertaken by the HDOT and a list of artifacts was prepared. The Friends of the Falls of Clyde were also provided with the opportunity to remove artifacts and any of their property in August 2023. Among the artifacts removed by the FFOC was the ship's modern (replica) figurehead, which the FFOC reported they had sold to a local bar.

In May 2024, the HDOT sent a letter to FFOC requesting that they remove any remaining artifacts by June 19, 2024. Any artifacts remaining on the *Falls of Clyde* after that date will become property in the custody of the State of Hawai'i. The HDOT will then implement provisions in HRS Chapter 94, and work with the State Comptroller and State Archivist to determine the disposition of the artifacts. Should the RFP and subsequent contract award result in the removal of the vessel by dismantling, any artifacts that are removed and recovered during the dismantling will also be subject to HRS Chapter 94.

### 3.3.2.3 HRS Chapter 6E Historic Preservation Review

The *Falls of Clyde* has been removed from the Hawai'i Register of Historic Places and is no longer considered a historic resource. As such, the proposed action has no impact on historic resources.

## 3.4 Cultural Resources

### 3.4.1 Existing Conditions

A *Cultural Assessment for the Falls of Clyde Removal Project* was conducted by Honua Consulting and is included as Appendix F. The purpose of the cultural assessment was to provide a general description of the property's social, cultural and historical characteristics resulting from the proposed action. The methodology included:

- 1) Gather Best Information Available
  - a) Gather historic cultural information from ethnographic resources about the affected area to provide cultural foundation for the report; and
  - b) Inventory as much information as can be identified the property as a known cultural and historic resource.
- 2) Identify Potential Impacts to Cultural Resources
- 3) Develop Reasonable Mitigation Measures to Reduce Potential Impacts
  - a) Involve the community and cultural experts in developing culturally appropriate mitigation measures; and
  - b) Develop specific Best Management Practices (BMPs), if any are required, for conducting the project in a culturally appropriate and/or sensitive manner as to mitigation and/or reduce any impacts to cultural practices and/or resources.

#### 3.4.1.1 Cultural Significance of the *Falls of Clyde*

While there are some Native Hawaiians who have shown interest in the ship over time, there is no evidence to show the property has *“important value to the native Hawaiian people or to another ethnic group of the state due to associations with cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events or oral accounts – these associations being important to the group’s history and cultural identity”* (HAR 13-275-6(b)(5)).

The ship undoubtedly has some significance to the Scottish people, although documentation of this significance related to this specific property is limited. Nonetheless, the Cultural Assessment notes that it is appropriate to evaluate it under criterion “e” as part of the HRS 6E analysis, which will be completed separately from the environmental assessment.

The Cultural Assessment provides a history of the vessel’s Scottish origins. Scotland has a rich and storied history of shipbuilding spanning several centuries. Scotland was one of the pioneers in transitioning from wooden ships to iron and steel construction, and Scottish shipyards were known for building fast and sleek sailing ships, known as clippers, which were used for carrying goods around the world.

As described in Chapter 1, the *Falls of Clyde* was built in 1878 by Russell & Company in Port Glasgow, Scotland. Russell & Company had a reputation for producing high quality ships and were known for their innovative designs. The company played a crucial role in the growth of the shipbuilding industry focused on the River Clyde. Although the company closed in 1968, it was one of Scotland’s most renowned shipbuilders and some of its ships are preserved as historic vessels.

The *Falls of Clyde* was originally constructed as a bulk cargo carrier and was primarily used for carrying various cargoes, including jute, coal, and timber, to destinations around the world. It made voyages to ports in Europe, North America, South America, and the Pacific. In the mid-20<sup>th</sup> century, as steamships and motorized vessels became more common, many sailing ships were retired from commercial service. However, the *Falls of Clyde* was preserved and eventually made its way to Hawai‘i.

While the Clyde shipbuilding industry has seen a significant reduction in its scale, it holds a prominent place in Scotland's industrial history and the history of maritime engineering. It played a crucial role in the development of shipbuilding technology and the construction of numerous vessels that shaped the course of history. The *Falls of Clyde* is a representation of this proud Scottish history and expert shipbuilding culture.

### 3.4.2 Potential Impacts and Mitigation

The Cultural Assessment concluded it is gravely unfortunate the *Falls of Clyde* has not been properly maintained during the entirety of its residence in Honolulu Harbor. It was once highly valued and properly cared for but has since fallen into disrepair and no longer has historic integrity.

From a historic preservation standpoint, the cultural assessment concluded that the Proposed Action would have “no adverse effect” due to the *Falls of Clyde*'s lack of integrity. (i.e., “*To be significant, a historic property shall possess integrity of location, design, setting, materials, workmanship, feeling, and association...*” HAR 13-275-6(b)).

Nonetheless, the *Falls of Clyde* is associated with Scotland's shipbuilding history and culture. It would be ideal if the property owners or interested parties from Scotland could move the vessel back to Scotland to reconnect the ship to its place of origin. As the property is not owned by the HDOT, this responsibility lies with the owners (FFOC) and/or will depend on an interested third party such as FOCI.

#### 3.4.2.1 Ka Pa'akai Analysis

The State of Hawai'i and its agencies have an affirmative obligation to preserve and protect Native Hawaiians' customarily and traditionally exercised rights to the extent feasible. State law further recognizes that the cultural landscapes provide living and valuable cultural resources where Native Hawaiians have and continue to exercise traditional and customary practices, including hunting, fishing, gathering, and religious practices.

In its *Ka Pa'akai* decision, the Hawai'i Supreme Court provided government agencies an analytical framework to ensure the protection and preservation of traditional and customary Native Hawaiian rights while reasonably accommodating competing private development interests. This is accomplished through:

- 1) The identification of valued cultural, historical, or natural resources in the project area, including the extent to which traditional and customary Native Hawaiian rights are exercised in the project area;
- 2) The extent to which those resources—including traditional and customary Native Hawaiian rights—will be affected or impaired by the proposed action; and
- 3) The feasible action, if any, to be taken to reasonably protect Native Hawaiian rights if they are found to exist.

While there are some Native Hawaiians who have shown interest in the ship over time, there is no evidence to show the ship was significant to Native Hawaiian history or association with Hawaiian traditional or customary practices that would warrant additional protections for this property. The action is not associated with any valued cultural, historical, or natural resources of Native Hawaiian origin and no traditional and customary Native Hawaiian rights as associated with this property.

### 3.4.3 Traffic

#### 3.4.3.1 Existing Conditions

Pier 7 is accessed via Aloha Tower Drive, a local road providing access from Nimitz Highway to the Aloha Tower Marketplace and Piers 7 through 11. In this area, Nimitz Highway is a six-lane, two-way State-owned roadway, running in an east-west direction. It is one of the major access roadways through Downtown Honolulu, and east of downtown, Nimitz Highway becomes Ala Moana Boulevard. In the project vicinity, Aloha Tower Drive is accessed from Nimitz Highway eastbound at a signalized intersection near Pier 11, or at Aloha Tower Drive's intersection with the southern terminus of Bishop Street.

Major traffic generators along Aloha Tower Drive include commercial, retail and restaurant use in the Aloha Tower Marketplace, and the offices, classrooms and dormitories of HPU. Piers 9, 10 and 11 which surround the Aloha Tower Marketplace are primarily used for layberth. Ship passengers normally disembark for short day visits and are typically transported by tour buses to their desired locations. Pier 8 is used by the *Star of Honolulu* which operates sunset dinner cruises and day excursions during whale watching season lasting a few hours. Parking is available at the adjacent Irwin Park, with additional parking available at Pier 11 and in the open lot at Piers 5 and 6.

Most HPU students utilize public transportation or a university sponsored shuttle service. There is a public bus stop near Pier 7 in front of the former Hawai'i Maritime Museum on Aloha Tower Drive. Buses that stop at this location provide access to Waikiki and Ala Moana Center. Other public bus stops are located on King Street and Beretania Street, less than a 10-minute walk from the project area.

#### 3.4.3.2 Potential Impacts and Mitigation

The proposed action will not cause a permanent increase in the number of vehicles in the area. However, ship preparation for the alternatives involving removal by sinking or ship dismantling at or near Pier 7 will cause a temporary increase in vehicles to and from the area. This could include movement of various types of construction vehicles, transport of large machinery and equipment, and transport of scrap, recyclable, and solid waste materials from the site.

There may be short-term impacts on Nimitz Highway traffic during these ship preparation or dismantling activities, particularly when large equipment is brought to the site. Police escorts may be required when moving large vehicles. The contractor may need to transport large equipment and materials, but this will be done during off-peak hours. No lanes of Nimitz Highway will be closed or obstructed. It is possible that portions of Aloha Tower Drive may need to be temporarily closed and traffic diverted for short periods. For alternatives involving dismantling at or near Pier 7, any staging or storage area will be limited to the Pier 7 area, possibly including the grounds of the Hawai'i Maritime Center.

Transport of large, heavy ship components from Pier 7 to a disposal facility or an industrial facility for further breaking may need to be done by water rather than public roads to minimize traffic and public safety issues. Once removal activity is complete, there will be no long-term traffic impacts.

Table 3-1: Summary of Impacts & Mitigation

	No Action	Alternative 1 Drydock and Repair	Alternative 2 Removal by Dismantling	Alternative 3 Removal at Sea by Sinking	Alternative 4 Third Party Acquisition
<b>Physical Environment</b>					
Air Quality	No impact.	Minor localized impact at Pier 7 if repair work needed prior to towing ship. <b>Mitigation:</b> BMPs required.	Localized impact near Pier 7 during ship dismantling and hazardous material removal. Airborne dust, debris, fumes, hazardous materials etc. <b>Mitigation:</b> require BMPs and air quality monitoring during dismantling if done in place.	Minor localized impact associated with hazardous material removal and repair work needed prior to towing ship. <b>Mitigation:</b> BMPs required.	Minor localized impact if repair work needed prior to towing or transporting ship. <b>Mitigation:</b> BMPs required.
Marine Water Resources	Adverse impact to marine environment if <i>Falls of Clyde</i> were to sink in place. <b>Mitigation:</b> Remove Falls of Clyde from harbor.	Potential for debris to enter water if repair work needed prior to towing or transport. Potential for impact during towing. <b>Mitigation:</b> BMPs for repair work. Transport via barge or floating drydock vs. tow.	Potential for debris to enter water during dismantling and haz material removal activities. <b>Mitigation:</b> BMPs for construction. If dismantling done off-site, transport via barge/floating drydock vs. tow.	Potential for debris to enter water during repair work needed prior to towing. Potential for impact if ship were to sink during towing. <b>Mitigation:</b> Repair to ship to ensure it is seaworthy for towing.	Potential for debris to enter water during repair work needed prior to towing or transporting ship. <b>Mitigation:</b> BMPs for construction.
Natural Hazards & Sea Level Rise	Growing frequency of climate-change related storms combined with progressive ship deterioration increases risk of sinking in place. <b>Mitigation:</b> Remove Falls of Clyde from harbor.	No impact	No impact	No impact	No impact

	<b>No Action</b>	<b>Alternative 1 Drydock and Repair</b>	<b>Alternative 2 Removal by Dismantling</b>	<b>Alternative 3 Removal at Sea by Sinking</b>	<b>Alternative 4 Third Party Acquisition</b>
Noise	No impact.	Short-term localized impact if repair work needed prior to towing ship  <b>Mitigation:</b> Comply with applicable DOH noise regulations. Limit work to daytime.  If in-water work needed, ensure work area is free of protected marine species.	Moderate impact to nearby noise sensitive land uses (restaurants, shops, HPU residences) if ship dismantled near Pier 7.  <b>Mitigation:</b> Comply with applicable DOH noise regulations. Limit work to daytime.  If in-water work needed, ensure work area is free of protected marine species.	Short-term localized impact associated with repair work needed prior to towing ship.  <b>Mitigation:</b> Comply with DOH noise regulations. Limit work to daytime.	Short-term localized impact if repair work needed prior to towing or transporting ship.  <b>Mitigation:</b> Comply with DOH noise regulations. Limit work to daytime.
Solid & Hazardous Waste	Potential for hazardous materials to enter marine environment if ship were to sink in place.  <b>Mitigation:</b> Remove <i>Falls of Clyde</i> from harbor.	Potential adverse impact to harbor waters and environment.  Potential for spread of invasive corals on ship’s hull.  <b>Mitigation:</b> Remove haz materials (asbestos, lead, PCBs) from ship and dispose as appropriate. Haz materials removal could occur at an off-site drydock provided ship is transported via barge or floating drydock (i.e., not towed in water).  Remove <i>Carijoa riisei</i> colony (invasive snowflake coral) prior to moving ship.	Potential adverse impact to harbor waters and environment.  Potential spread of invasive corals on ship’s hull.  <b>Mitigation:</b> Haz materials (asbestos, lead, PCBs) must be removed from ship, and appropriately disposed. Removal could be done out of water (in drydock or on land). However, if ship is towed, haz materials must be removed prior to tow.  Remove <i>Carijoa riisei</i> colony prior to moving ship.	Potential adverse impact to marine waters during transport or at ocean disposal site.  Potential spread of invasive corals on ship’s hull.  <b>Mitigation:</b> Because ship must be towed under this alternative, all haz materials must be removed from ship prior to towing and sinking. Remove <i>Carijoa riisei</i> colony prior to moving ship.	Potential adverse impact to marine waters during ship transport.  Potential spread of invasive corals on ship’s hull.  <b>Mitigation:</b> Haz materials (asbestos, lead, PCBs) may be removed by the third party either prior to departing Honolulu Harbor or at its final destination. If done outside of Hawai’i, removal and disposal will follow the applicable laws and regulations at that location.  Remove <i>Carijoa riisei</i> colony prior to moving ship.

No Action		Alternative 1 Drydock and Repair	Alternative 2 Removal by Dismantling	Alternative 3 Removal at Sea by Sinking	Alternative 4 Third Party Acquisition
<b>Biological Environment</b>					
Terrestrial Biology	No impact.	No impact if work occurs at offsite shipyard.	<p>If dismantling occurs at/near Pier 7, potential disorientation of seabirds if night lighting used for repair or ship preparation. Potential impact to Hawaiian hoary bats and/or white terns if trees are cut or trimmed.</p> <p>No impact if work occurs at offsite shipyard.</p> <p><b>Mitigation:</b> Limit work to daylight. If nightwork required, use shielded lighting.</p> <p>No disturbance of woody plants greater than 15 ft from June 1 to Sept. 15. If trees disturbed, scan for white terns.</p> <p>No barbed wire.</p>	<p>Potential impact to seabirds if night lighting is used for any ship repair or preparation activities.</p> <p><b>Mitigation:</b> Limit work to daylight hours. If nighttime work required, use shielded lighting.</p>	No Impact
Marine Biota	No impact unless ship were to sink in place. This would lead to significant negative impact to coral and the marine biological environment.	<p>Loss of coral colonies on ship hull. Potential to spread invasive species on hull.</p> <p><b>Mitigation:</b> Remove coral on hull if can be done without risk to ship infrastructure or personnel safety. Make corals available to DAR coral</p>	<p>Loss of coral colonies on ship hull. Potential to spread invasive species on hull.</p> <p><b>Mitigation:</b> Remove coral on hull if can be done without risk to ship infrastructure or personnel safety. Make corals available to DAR coral</p>	<p>Loss of coral colonies on hull. Potential to spread invasive species on hull.</p>	<p>Loss of coral colonies on hull. Potential to spread invasive species on hull.</p> <p><b>Mitigation:</b> Remove coral on hull if can be done without risk to ship infrastructure or personnel safety. Make corals available to DAR's</p>

	<b>No Action</b>	<b>Alternative 1 Drydock and Repair</b>	<b>Alternative 2 Removal by Dismantling</b>	<b>Alternative 3 Removal at Sea by Sinking</b>	<b>Alternative 4 Third Party Acquisition</b>
	<b>Mitigation:</b> Remove <i>Falls of Clyde</i> from harbor.	nursery team at Anuenue Fisheries Research Center. Remove invasive <i>Carijoa rissei</i> coral before moving ship. Ensure no protected species present during in-water work or ship removal.	nursery team at Anuenue Fisheries Research Center. Remove invasive <i>Carijoa rissei</i> coral before moving ship. Ensure no protected species present during in-water work or ship removal.	<b>Mitigation:</b> Remove coral on hull if can be done without risk to ship infrastructure or personnel safety. Make corals available to DAR coral nursery team at Anuenue Fisheries Research Center. Remove invasive <i>Carijoa rissei</i> coral before moving ship. Ensure no protected species present during in-water work or ship removal.	coral nursery team at Anuenue Fisheries Research Center. Remove invasive <i>Carijoa rissei</i> coral before moving ship. Ensure no protected species present during in-water work or ship removal.
<b>Human-Made Environment</b>					
Built Env & Adjacent Land Uses	No impact unless ship were to sink in place, resulting in significant disruption to surrounding land uses.	No impact	If ship dismantled on site (at or near Pier 7), there will be short term noise, dust, traffic. <b>Mitigation:</b> construction period BMPs.	Short term noise, dust, traffic impacts during ship repair and towing preparation activities. <b>Mitigation:</b> construction period BMPs.	Minor and short term noise, dust, traffic impacts during ship preparation activities. <b>Mitigation:</b> construction period BMPs.
Archaeological, Historic, Cultural	No adverse effect.	No adverse effect per State or federal historic preservation law as ship no longer meets eligibility criteria for historic property due to loss of integrity. However, there will be the loss of a historically important vessel.	No adverse effect per State or federal historic preservation law as ship no longer meets eligibility criteria for historic property due to loss of integrity. However, there will be the loss of a historically important vessel.	No adverse effect per State or federal historic preservation law as ship no longer meets eligibility criteria for historic property due to loss of integrity. However, there will be the loss of a historically important vessel.	No adverse effect per State or federal historic preservation law as ship no longer meets eligibility criteria for historic property due to loss of integrity. However, there will be the loss of a historically important vessel.



	<b>No Action</b>	<b>Alternative 1 Drydock and Repair</b>	<b>Alternative 2 Removal by Dismantling</b>	<b>Alternative 3 Removal at Sea by Sinking</b>	<b>Alternative 4 Third Party Acquisition</b>
		<p><b>Mitigation:</b> HDOT has completed photo documentation, video/LIDAR documentation, inventory of historic artifacts.</p> <p>FFOC given opportunity to retrieve remaining artifacts by June 19, 2024. Remaining artifacts will be handled in accordance with HRS Chapter 94.</p>	<p><b>Mitigation:</b> HDOT has completed photo documentation, video/LIDAR documentation, inventory of historic artifacts.</p> <p>FFOC given opportunity to retrieve remaining artifacts by June 19, 2024. Remaining artifacts will be handled in accordance with HRS Chapter 94.</p>	<p><b>Mitigation:</b> HDOT has completed photo documentation, video/LIDAR documentation, inventory of historic artifacts.</p> <p>FFOC given opportunity to retrieve remaining artifacts by June 19, 2024. Remaining artifacts will be handled in accordance with HRS Chapter 94.</p>	<p><b>Mitigation:</b> HDOT has completed photo documentation, video/LIDAR documentation, inventory of historic artifacts.</p> <p>FFOC given opportunity to retrieve remaining artifacts by June 19, 2024. Remaining artifacts will be handled in accordance with HRS Chapter 94.</p>
Traffic	<p>No impact unless ship were to sink in place. Significant disruption to area traffic if ship were to sink in place and require emergency mitigation and eventual removal.</p>	<p>If ship towing is proposed, required ship repair work may result in short-term traffic impacts along Aloha Tower Drive.</p> <p><b>Mitigation:</b> temporary traffic management if needed during ship removal.</p>	<p>Whether dismantling occurs off-site or at/near Pier 7, there may be ship repair or preparation generating short-term traffic impacts along Aloha Tower Drive.</p> <p><b>Mitigation:</b> traffic management if needed during ship removal.</p>	<p>Short-term impacts to Aloha Tower Drive and possibly Nimitz Highway during ship repair and preparation activities.</p> <p><b>Mitigation:</b> temporary traffic management if needed during ship removal.</p>	<p>Short-term impacts to Aloha Tower Drive and possibly Nimitz Highway during ship preparation activities.</p> <p><b>Mitigation:</b> temporary traffic management if needed during ship removal.</p>

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## 4 Determination

To determine whether a proposed action may have a significant impact on the environment, the approving agency needs to consider all phases of the action, the expected impacts, and the proposed mitigation measures. The agency's review and evaluation of the action would result in a determination that either: 1) the action may have a significant effect on the environment, and issuance of an Environmental Impact Statement Preparation Notice is required; or 2) the action is not likely to have a significant effect and notice of a FONSI should be issued.

Based on the information and findings presented in this Final Environmental Assessment, the Proposed Action will not result in a significant impact on the environment, and a Finding of No Significant Impact (FONSI) has been made.

The determination was based on review and analysis of the significance criteria specified in Section 11-200.1-13, HAR. An action shall be determined to have a significant effect on the environment if it meets any of the following criteria.

### **1. Irrevocably commit a natural, cultural, or historic resource**

The *Falls of Clyde* has recently been delisted from the Hawai'i and National Registers of Historic Places and its withdrawal as a National Historic Landmark (NHL) is in process. Due to its severe physical deterioration, the ship has lost historic integrity and the qualities that led to its listing in the State and National Registers and as an NHL. This loss was documented in the evaluation and delisting report prepared by Dr. James P. Delgado of SEARCH, Inc. (Appendix E). The report describes the ship as a "partially flooded hulk" with insufficient structural integrity to remain afloat without constant pumping and concluded that the *Falls of Clyde* is "effectively a dead ship that has now lost its National Register qualities (integrity) as its materials, design and workmanship have corroded...it has also lost its integrity of feeling that was generated by the intact and complete nature of the ship in 1989."

It is anticipated that the NHL withdrawal will be completed by the time the Proposed Action is implemented, and as such, the ship will not be considered a historic property as defined by State and federal historic preservation law. However, since it is still an historic vessel, HDOT has implemented mitigation to address its loss. Partial HAER documentation was conducted in 1989 but was not completed. In 2023, HDOT conducted additional documentation via LIDAR scans, additional HABS/HAER photography, creating a full documentary record of the ship. The HDOT also completed an identification of important artifacts and objects remaining on the vessel. The ship's owners, Friends of Falls of Clyde, have been given an opportunity to remove remaining historic items by June 19, 2024. Any remaining items after that date will be considered abandoned by the FFOC and become property in the custody of the State of Hawai'i. The HDOT will then work with the State Comptroller and State Archivist to determine the disposition of the artifacts in accordance with HRS Chapter 94

### **2. Curtail the range of beneficial uses of the environment.**

The removal of the ship from Pier 7 will not curtail the range of beneficial uses of the environment, and in fact will create the opportunity for a more productive use of the berth at Pier 7 consistent with the HDOT Honolulu Harbor 2050 Master Plan.

**3. *Conflict with the State’s environmental policies or long-term environmental goals established by law.***

The Proposed Action does not conflict with the long-term environmental policies, goals and guidelines specified in HRS Chapter 344. The removal of a threat to the environment posed by a ship at imminent risk of sinking supports the State’s environmental goals and proactively protects public safety. Natural resources will be protected from pollution by best management practices during ship dismantling and compliance with applicable EPA, USACE, DOH and Coast Guard regulations.

**4. *Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community and state.***

The Proposed Action will not have an adverse effect on the economic welfare, social welfare, or cultural practices. In its current condition, the ship is at risk of sinking in place or breaking away from its mooring at Pier 7. The ship’s removal is intended to address this risk to the marine environment and potentially to the State’s economy. Honolulu Harbor serves as the hub-and-spoke transshipment system for the State of Hawai’i, and the ability of cargo ships to safely navigate into and out of the harbor could be jeopardized if the ship were to break away and sink in the harbor turning basin.

Although it has lost the characteristics and integrity that supported its listing on the State and National Registers of Historic Places and as an NHL, the *Falls of Clyde* is still an important historic resource. Comprehensive archival recordation and documentation of the ship has been completed and potentially significant artifacts and features that are not removed by the ship’s owners by June 19, 2024 will be handled by the HDOT, the State Comptroller and State Archivist in accordance with HRS Chapter 94.

**5. *Have a substantial adverse effect on public health.***

The removal of the *Falls of Clyde* will not have adverse environmental or health impacts. Depending on the removal alternative, there may be short-term noise, dust and traffic impacts, particularly if the ship is dismantled at or near Pier 7. These impacts will be temporary and will be mitigated by the contractor through best management practices.

**6. *Involve adverse secondary impacts, such as population changes or effects on public facilities.***

The Proposed Action will have no secondary impacts such as population change or effects on public facilities.

**7. *Involve a substantial degradation of environmental quality.***

The proposed removal of the *Falls of Clyde* will not involve substantial degradation of environmental quality. The primary purpose of the project is to remove an existing threat to the marine environment by removing a derelict vessel that is at imminent risk of sinking.

Temporary noise, dust and traffic associated with ship preparation and dismantling activities cannot be avoided. These impacts will be short-term and are insignificant when weighed against the potential risk to the environment if the ship were to sink, either by failure of the hull, or as a result of a natural disaster (e.g., hurricane, tsunami, severe storm). If the selected alternative is to remove by sinking at sea, the contractor will comply with all EPA requirements for ocean disposal including removal of all hazardous materials and substances to minimize adverse impacts to the marine environment.

**8. *Be individually limited but cumulatively have substantial adverse effect upon the environment or involves a commitment for larger actions.***

There will be no cumulative adverse effect or commitment for larger action.

**9. *Have a substantial adverse effect on a rare, threatened, or endangered species, or its habitat.***

No rare, threatened, or endangered species or habitats have been identified on or near the Project Area. During ship removal, monitoring will take place to ensure that no protected marine species (whales, turtles, monk seals) are in the area. Any night lighting used during ship removal will be fully shielded to avoid potential impacts to overflying migratory birds, and the use of barbed wire will be avoided. Although vegetation removal is not expected to be required for any alternative, woody plants greater than 15 feet tall will not be disturbed between June 1 and September 15 to avoid possible impacts to the Hawaiian hoary bat. If any trees in the area are disturbed as part of the project, they will be surveyed for the presence of white terns.

**10. *Have a substantial adverse effect on air or water quality or ambient noise levels.***

There will be no long-term adverse effect on air or water quality or ambient noise levels. There may be some temporary impact on air quality and noise levels as the ship is prepared for removal. The impacts will not be substantial.

The selected contractor will be required to use best management practices to minimize and contain dust and debris, and runoff during any land-based work, including work within a floating drydock. If in-water repair work on the hull is required prior to removal, barriers or silt curtains will be used around the in-water work area to contain debris.

There will be no pile driving or in-water construction. Noisy construction activities on land will be restricted to the construction hours specified by the DOH Community Noise Permit.

**11. *Have a substantial adverse effect on or be likely to suffer damage by being located in an environmentally sensitive area such as a floodplain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.***

The Pier 7 project area is a waterfront area prone to tsunami and high wave action, which is one of the reasons that removal of the ship is urgent. The effects of climate change are increasing the frequency, duration, and intensity of storm and high wave events. The removal of the *Falls of Clyde* will reduce the chance of the ship sinking in place, and/or becoming loose from its moorings during a storm or tsunami and sinking elsewhere in Honolulu Harbor, causing damage or injury.

**12. *Have a substantial adverse effect on scenic vistas and view planes, during day or night, identified in county or state plans or studies; or***

There will be no adverse effect on scenic vistas and view planes identified in County or State plans or studies.

***13. Require substantial energy consumption or emit substantial greenhouse gases.***

The proposed action will not require substantial energy consumption or emit substantial greenhouse gases.

## 5 Consistency with Existing Plans, Policies and Controls

This chapter discusses the proposed project’s conformance with relevant federal, state and county land use plans, policies, and controls. Some of the federal regulations discussed in this chapter may or may not be applicable to the Proposed Action, depending on the removal alternative selected, and whether there is a federal nexus, such as a federal approval or permit required. These include the Marine Protection, Research and Sanctuaries Act (MPRSA), Endangered Species Act and Marine Mammal Protection Act, Magnuson-Stevens Act and “Essential Fish Habitat.” The applicability of the National Historic Preservation Act will depend on the historic status of the *Falls of Clyde* at the time of its removal. A detailed description of federal laws and regulations applicable to the various project alternatives is in the *Description of Applicable Federal Laws and Regulations for the Proposed Shipbreaking or Disposal of the Derelict Sailing Vessel Falls of Clyde*, SEARCH Inc. in Appendix H.

State plans and policies include the State Land Use Law (HRS Chapter 205), Hawai’i State Plan (HRS Chapter 226), the State Coastal Zone Management program, and the Honolulu Harbor 2050 Master Plan.

City and County of Honolulu land use regulations do not apply to Pier 7 and all harbor facilities owned by the HDOT) The HDOT is not subject to City and County zoning or land use regulations or agency approvals in the use and operation of its lands and commercial harbor facilities. However, this chapter discusses the land use designations that govern surrounding areas to provide a comprehensive land use context for the Proposed Action.

### 5.1 Federal Regulations

#### 5.1.1 Section 404, Clean Water Act and Section 10, Rivers and Harbors Act

Section 404 of the Clean Water Act (CWA) defines requirements for discharges of dredged or fill materials in waters of the United States and sets limits on such discharges. USACE administers the permit.

The Rivers and Harbors Act of 1899 gives the USACE regulatory authority over virtually any construction, excavation or fill activities that has potential to impact navigable waters of the United States. Section 10 requires that a Department of the Army (DA) permit be obtained from the USACE prior to undertaking any construction, dredging, or other activity occurring in, over, or under or affecting navigable waters of the U.S.

In an August 28, 2023, pre-assessment consultation letter (see Chapter 7), the USACE noted that in accordance with Section 404 and Section 10, *“Proposed removal of the Falls of Clyde may require DA authorization if you placed dredged and/or fill material into waters of the US and/or perform work in navigable waters of the US. Proposed activity may qualify for verification under Nationwide Permit 22 (Removal of Vessels).”*

The Army’s Nationwide Permit 22 covers *“Temporary structures or minor discharges of dredged or fill material required for the removal of wrecked, abandoned, or disabled vessels, or the removal of man-*

*made obstructions to navigation.*” In their January 23, 2024 Draft EA comments, the USACE noted that this nationwide permit may be applicable if the use of a floating drydock or other temporary structures are proposed as part of the proposed project.

The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) The vessel is listed or eligible for listing in the NRHP; or (2) the activity is conducted in a special aquatic site, including coral reefs and wetlands.

**Discussion:**

It is not anticipated that removal of the *Falls of Clyde* will involve the placement of dredged and/or fill material below the Mean Higher High Water (MHHW) mark. However, depending on the method of removal proposed, temporary structures or minor discharges may be required as part of the ship’s removal. If so, the activity is likely to qualify under the USACE’s Nationwide Permit 22.

Given that the *Falls of Clyde* no longer meets the required criteria and has been delisted from the State and National Registers of Historic Places, and is pending withdrawal as a National Historic Landmark, the proposed action does not meet criteria 1. The Pier 7 project area is not a special aquatic site. However, it is the responsibility of the selected contractor to consult with the USACE on potential applicability and any permit requirements once a method of removal is selected.

### 5.1.2 Marine Protection, Research and Sanctuaries Act (MPRSA)

As discussed in Chapter 2 under Alternative 3 (Removal at Sea by Sinking), the Proposed Action may be subject to the MPRSA. This act, also known as the Ocean Dumping Act, regulates the intentional ocean disposal of materials and prevents or strictly limits dumping material that “would adversely affect human health, welfare, or amenities, or the marine environment, ecological systems or economic potentialities.”

The MPRSA specifies that ocean disposal should only be pursued when land-based alternatives are not available. It authorizes the EPA to regulate ocean dumping of materials through a permit process, working in consultation with the USACE and/or the USCG. In 1977, the EPA issued a MPRSA general permit for the transportation and ocean disposal of vessels.

**Discussion:**

The discussion of alternatives in Chapter 2 indicates the reasons why Alternative 3, Removal at Sea by Sinking, would be a more challenging option to implement. However, it remains an alternative that is available to the selected contractor. If the proposed method of removal is Alternative 3, it will be subject to the MPRSA and the EPA will determine whether it can be covered under their general permit. As discussed in Chapter 2, the Bishop Museum (former owner of the *Falls of Clyde*) proposed ocean disposal in 2008 and at the time, received EPA concurrence that the proposed action conformed to the EPA general permit. That disposal did not happen because in lieu of disposal, ownership of the ship was transferred to the group Friends of Falls of Clyde.

As discussed in Chapter 2, it is questionable whether the EPA would approve disposal by sinking today. The ship’s condition has deteriorated significantly and may not be considered “seaworthy” for a tow as is required by the general permit. Moreover, federal agency attitudes toward ocean disposal have evolved. In informal discussions, EPA staff have expressed a preference for dismantling ashore in lieu of ocean disposal.



### 5.1.3 Endangered Species Act and Marine Mammal Protection Act

The Endangered Species Act of 1973 (ESA) was enacted to protect endangered species and the ecosystems upon which they depend. Section 7 of the ESA requires all federal agencies to consult with the National Marine Fisheries Service (NMFS) and/or the USFWS if they are proposing an action that may affect listed species or their designated habitat. *Action* is defined broadly to include funding, permitting and other regulatory actions. The USFWS has jurisdiction over certain federally listed endangered and threatened species that occur in terrestrial and marine environments. The NMFS has jurisdiction over marine mammals and fishes. The two agencies share responsibility for listed (threatened or endangered) species.

The Marine Mammal Protection Act of 1972 was enacted to protect essential habitats, including the rookeries, mating grounds, and areas of similar significance for each species of marine mammal from the adverse effect of man’s actions.

#### **Discussion:**

The findings and recommendations of the Marine Biotic Survey report (MRCI 2023) prepared for the Proposed Action were discussed in Chapter 3 (Section 3.2). Measures will be taken to prevent the spread of invasive species present on the hull of the ship by removing the colony of *Carijoa riisei*, an invasive snowflake coral, prior to movement of the ship. No protected species were observed during the marine survey, but as they may occur periodically, monitoring should be implemented during ship removal to ensure that no negative impacts occur.

### 5.1.4 Magnuson-Stevens Act and “Essential Fish Habitat”

In 1996, Congress passed the Sustainable Fisheries Act (Public Law 104-297) which amended the habitat provisions of the Magnuson-Stevens Act (Act) and called for direct action to stop or reverse the continued loss of fish habitats. Toward this end, Congress mandated the identification of habitats essential to managed species and measures to conserve and enhance this habitat. The Act requires cooperation among the NMFS, the Fishery Management Councils, and Federal agencies to protect, conserve, and enhance “essential fish habitat” (EFH). Essential fish habitat for federally managed fish species are “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.”

In Hawai‘i, the Western Pacific Fishery Management Council (Council) defines EFH, which is then implemented by the NOAA Fisheries, Pacific Islands Regional Office. In Hawai‘i, four groups of “Management Unit Species” are identified: 1) pelagic fish (e.g., yellowfin tuna); 2) bottomfish (e.g., ruby snapper, grey snapper); 3) precious corals (e.g., pink coral); and 4) crustaceans (e.g., spanner crab).

Federal agencies are required to consult with NOAA Fisheries anytime an action with a federal nexus may affect EFH. Federal actions are those actions requiring a federal permit, or that are federally funded. During the EFH consultation process, NOAA Fisheries might provide conservation recommendations to avoid sensitive EFH, minimize the adverse effects of the project, or offset or provide compensation for resources that may be unavoidably lost.

#### **Discussion:**

Some of the project alternatives may require a federal permit, e.g., Department of the Army permit or EPA permit for ocean disposal. Depending on the removal method proposed, the contractor will

coordinate with NOAA fisheries to ensure the proposed action will not adversely affect EFH and ensure that it is compatible with the Magnuson-Stevens Act’s resource management goals.

### 5.1.5 Fish and Wildlife Coordination Act

Section 1 of the Fish and Wildlife Coordination Act (FWCA), as amended (16 U.S.C. §§et seq.) states the general policy that fish and wildlife conservation shall receive equal consideration with other project purpose and will be coordinated with other features of water resources development projects. Section 2(a) of the FWCA establishes that preconstruction planning on project development be coordinated with the USFWS. An agreement between the USACE and the USFWS was developed and executed in January 2003 to ensure that the USFWS is involved as an active team member in USACE and USACE-authorized projects.

#### **Discussion:**

Issues related to terrestrial fauna, avifauna and species of concern were discussed in Chapter 3 (Section 3.2) No trees or shrubs on land are expected to be cleared, but in the event it is required, no woody plants greater than 15 feet will be disturbed during the birthing and pupping season for the Hawaiian Hoary bat. Ship removal activities are planned to occur during the day with no outdoor lighting that could impact transiting seabirds. However, should night lighting be required during ship removal, outdoor lights will be fully shielded. Use of barbed wire will not be allowed.

### 5.1.6 Section 106, National Historic Preservation Act

The NHPA of 1966 and its applicability to the Proposed Action was discussed in Chapter 2 and Chapter 3. NHPA was enacted to provide for the protection and use of historic properties for the benefit of the public. Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties.

#### **Discussion:**

The *Falls of Clyde* has been removed from the Hawai’i State and National Registers of Historic Places and its withdrawal as an NHL is in process (see Appendix H). As described in Chapter 3, the ship has lost the historic qualities and integrity of materials, design and workmanship that qualified it for listing originally. It no longer meets the criteria for listing and does not meet the definition of an historic property according to the NHPA. The ship’s removal from the National Register and withdrawal as a NHL will effectively negate the applicability of Section 106 for any federal agency or federal action.

In theory, even if the ship’s delisting were not complete, applicable case law may provide a legal precedent supporting a historic ship’s disposal in the interest of public safety posed by the ship’s current location. In the case of *USS Cabot CVL 28 Assn., Inc. v. Josiah*, the court allowed the towing and scrapping of the former aircraft carrier USS Cabot to proceed as expeditious remediation of the threat of capsizing and sinking during a tropical storm that it posed at Port Isabel. The ruling was made in the interest of public safety. This case is described in more detail in the delisting report by SEARCH Inc. 2023 (Appendix E).

## 5.2 State and City and County Land Use Designations

### 5.2.1 Introduction

The majority of piers and waterfront facilities in Honolulu Harbor, including Pier 7, are owned by the HDOT, which is responsible for the control, management, use and regulation of State-owned harbor facilities used by commercial cargo, passenger, fishing, and maritime support operators. Pursuant to HRS 266-2(b), the HDOT is not subject to City and County zoning or land use regulations or agency approvals in the use and operation of its lands and commercial harbor facilities.

Although the Pier 7 Project Area is not subject to State or City and County of Honolulu land use regulations, this section of the EA briefly discusses State and City land use designations for surrounding areas to provide a larger land use context for the Project Area.

### 5.2.2 State Land Use

The Hawai'i State Land Use Commission, pursuant to Chapter 205 and 205A, HRS and Chapter 15-15, HAR, is empowered to classify all lands in the State into one of four land use districts: urban, rural, agricultural and conservation. The fast lands surrounding Honolulu Harbor are within the State Urban District, lands characterized by "city-like" concentrations of people, structures, and services. The waters of Honolulu Harbor fall within the State Conservation District which is administered by the State Board of Land and Natural Resources.

### 5.2.3 Hawai'i Coastal Zone Management Program

Hawai'i's Coastal Zone Management (CZM) program objectives and policies (Section 205A-2, HRS) have been developed to provide for the effective management, beneficial use, protection and development of the coastal zone. All lands in the State of Hawai'i and the area extending seaward from the shoreline are classified as valuable coastal resources with the State's CZM area.

Pursuant to HRS § 205A-4, in implementing the objectives of the Hawai'i CZM program, agencies shall consider ecological, cultural, historic, esthetic, recreational, scenic, open space values, coastal hazards, and economic development. The project is consistent with the following objectives and supporting policies of the Hawai'i CZM Program, HRS § 205A-2, as amended.

#### 5.2.3.1 Consistency with CZM Objectives and Policies

##### (1) Recreational resources

Objective (A): Provide coastal recreational opportunities accessible to the public.

*Policies (Biii) Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by...Providing and managing adequate public access consistent with conservation of natural resources, to and along shorelines with recreational value; (iv) providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation; (viii) encouraging reasonable dedication of shoreline areas with recreational value for public use...*

**Discussion:** The Pier 7 area and surroundings are waterfront areas that are open for public access. Although not available for active recreation (i.e., swimming, surfing, or fishing), the Pier 7 vicinity provides a waterfront promenade and opportunities for passive enjoyment of coastal resources.

The *Falls of Clyde*, along with the former Hawai'i Maritime Museum, for years provided an educational and historic exhibit. With the severe deterioration of the ship and the permanent closure of the museum, that recreational amenity is no longer available. The removal of the now derelict ship will allow HDOT to revitalize Pier 7 for new public recreational opportunities, consistent with its harbor master plan.

## **(2) Historic Resources**

Objective (A): Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.

*Policy (B) Maximize information retention through preservation of remains and artifacts...*

**Discussion:** The *Falls of Clyde* was recently removed from the State and National Registers of Historic Places and is pending withdrawal as a National Historic Landmark, due to its significant deterioration and loss of its historic integrity. As mitigation, HDOT has undertaken preservation through LIDAR and high-resolution photographs, completing the archival documentation for the Historic American Engineering Record. The ship's owners have been given until June 19, 2024 to remove any remaining historic artifacts. Any artifacts remaining on board after that date will be considered abandoned and become property in the custody of the State of Hawai'i in accordance with HRS Chapter 94.

## **(3) Scenic and open space resources**

Objective (A): Protect, preserve, and where desirable, restore or improve the quality of coastal scenic and open space resources.

**Discussion:** The Proposed Action will have no impact to coastal scenic and open space resources.

## **(4) Coastal ecosystems**

Objective (A): Protect valuable coastal ecosystems, including reefs, beaches, and coastal dunes, from disruption and minimize adverse impacts on all coastal ecosystems.

*Policy (D) Minimize disruption or degradation of coastal water ecosystems by effective regulation of ...similar land and water uses...*

**Discussion:** The project will have no impact on coastal ecosystems. Best management practices will be utilized during ship removal and any required work on the ship prior to its removal.

## **(5) Economic uses**

Objective (A): Provide public or private facilities and improvements important to the State's economy in suitable locations.

*Policy (B) Ensure that coastal dependent development and coastal related development are located, designed, and constructed to minimize exposure to coastal hazards and adverse social, visual, and environmental impacts in the coastal zone management area...*

**Discussion:** The proposed action does not include any development or permanent improvements, only the removal of a ship that currently presents a risk to harbor water quality, the harbor ecosystem and the State's primary commercial port. The ship's removal from Honolulu Harbor is intended to address these risks and threats to the State's economy.

## **(6) Coastal hazards**

Objective (A): Reduce hazard to life and property from coastal hazards.

*Policy (B) Control development, including planning and zoning control, in areas subject to coastal hazards*

*Policy (D) Prevent coastal flooding from inland projects*

**Discussion:** The Pier 7 area is susceptible to coastal hazards such as hurricanes, tsunamis, and the increasing occurrence of storms and high wave action exacerbated by climate change. These coastal hazards amplify the risks presented by the leaking and structurally deteriorating ship. The removal of the *Falls of Clyde* will reduce the risk of significant environmental and property damage in the Pier 7 and surrounding harbor area.

## **(7) Managing development**

Objective (A): Improve the development review process, communication, and public participation in the management of coastal resources and hazards.

**Discussion:** The project has no relationship to this objective or policy.

## **(8) Public participation**

Objective (A): Stimulate public awareness, education, and participation in coastal management.

**Discussion:** The CZM objectives and policies pertain to public involvement in coastal zone management issues, and do not directly apply to the Proposed Action. project has no relationship to coastal management education and public awareness of coastal management issues.

## **(9) Beach and coastal dune protection**

Objective (A): Protect beaches and coastal dunes for public use and recreation; benefit of coastal ecosystems; and use as natural buffers against coastal hazards.

**Discussion:** The project will have no impact on beach and coastal dune resources. Objectives and policies are not applicable.

## **(10) Marine and coastal resources**

Objective (A): Promote the protection, use, and development of marine and coastal resources to assure their sustainability.

*Policy (A) Ensure that the use and development of marine and coastal resources are environmentally sound and economically beneficial*

**Discussion:** The project has no effect on the protection, use and development of marine and coastal resources. Objectives and policies are not applicable.

### **5.2.3.2 Federal Consistency Determination**

The national Coastal Zone Management Act (CZMA), Section 307, requires federal agency activities and development projects affecting coastal resources to be undertaken in a manner consistent with the State's CZM program. Therefore, if the selected ship removal alternative involves a federal agency approval, e.g., a Department of the Army Permit, then it would be subject to CZMA Federal Consistency

review by the State Office of Planning and Sustainable Development (OPSD), the State’s lead agency with the authority to conduct CZMA federal consistency determinations.

### 5.2.3.3 Special Management Area

Part II of Chapter 205A, HRS contains the general objectives and policies upon which all counties have established Special Management Areas (SMA). Consistency with the County’s SMA is discussed in Section 5.2.5.3 below.

## 5.2.4 O’ahu General Plan and PUC Development Plan

### 5.2.4.1 O’ahu General Plan

The O’ahu General Plan sets forth the City’s objectives and broad policies for the long-range development of the island. It contains statements of the general social, economic, environmental, and design objectives to be achieved for the general welfare and prosperity of the people of O’ahu and the most desirable population distribution and regional development pattern. Among the General Plan policies for Transportation and Utilities is to “Support the operation, maintenance and improvement of Honolulu Harbor as O’ahu’s primary cargo and ocean transportation hub” (O’ahu General Plan, Section V(A)(14)).

The General Plan is the highest of the three tiers of planning implemented by the City and County of Honolulu. It establishes policy guidance for O’ahu as a whole, with the more area-specific Development Plans and Sustainable Communities Plans required to be consistent. The third tier of planning includes implementing ordinances and regulations, including zoning, public facilities and infrastructure functional plans, and special area plans.

### 5.2.4.2 Primary Urban Center (PUC) Development Plan

Development Plans and Sustainable Communities Plans, according to the City Charter, are conceptual schemes “that describe the desired urban character and the significant natural, scenic and cultural resources” within a region. The Pier 7 project area is located in the Primary Urban Center (PUC) Development Plan area. The Primary Urban Center Development Plan (2004) is currently undergoing revision. A draft of the new updated plan is currently being reviewed by the Planning Commission. Until it is approved, the 2004 PUC Development Plan remains in effect.

The 2004 PUC Development Plan Land Use Map A.5 (PUC-Central) shows the project area and surrounding lands as “District Commercial” (Figure 5-1). The PUC Open Space Map A.2 designates the project area as “Harbors, Promenades, and Stream Green belts.”

Although still undergoing review, the Draft 2023 PUC Development Plan provides an updated land use map, with designation for Honolulu Harbor lands as “Transportation District,” more accurately reflecting HDOT jurisdiction and land use authority.

## 5.2.5 City and County Zoning, Special Districts, and SMA

### 5.2.5.1 Zoning

The State Land Use Law, HRS Chapter 205, grants jurisdiction over the Urban District on O’ahu to the City and County of Honolulu through its zoning regulations, codified in the Revised Ordinances of

Honolulu (ROH) 1990 Chapter 21, Land Use Ordinance (LUO). Figure 5-2 illustrates the zoning designations for the surrounding areas.

#### 5.2.5.2 Special Districts

Figure 5-3 shows the location of City-designated Special Districts, established to protect and/or enhance the physical and visual aspects of certain areas of the city for community benefit. The special district regulations provide guidance for perpetuating the characteristics of the built environment and landscape that make these areas unique. Although the Pier 7 environs is designated as part of the Hawai'i Capital Special District, because the waterfront is under the control of HDOT, it is not subject to the special district regulations and design controls (HHMP 2022).

#### 5.2.5.3 Special Management Area

As noted above, Coastal Zone Management objectives and policies (Section 205A-2, HRS) have been developed to provide for the effective management, beneficial use, protection, and development of the coastal zone. The Special Management Area (SMA) permitting system, administered by the Counties, is part of the CZM Program approved by federal and State agencies. The SMA permit regulates permissible land uses that are already allowed by land use policies including zoning, county general plans and community development plans.

The Project Area is not within the City and County of Honolulu's designated SMA. The HDOT has authority over the planning, construction, operation, and maintenance of harbor facilities and is exempt from County SMA requirements. Should the proposed removal method involve a federal approval, there will be a federal consistency review as discussed above. As discussed in Section 5.2.3, the project is consistent with CZM objectives and policies.

#### 5.2.6 Aloha Tower Development Corporation

The Aloha Tower Development Corporation (ATDC) was established in 1981 by the State of Hawai'i to oversee the redevelopment of state-owned properties along the downtown Honolulu waterfront. The ATDC was given jurisdiction over all areas on the landside of the Aloha Tower complex, including Piers 5 through 11 for the purpose of redeveloping the area. The exceptions include Pier 7, which is entirely under HDOT jurisdiction, and the HECO power plant.

The areas within ATDC jurisdiction are shown in Figure 5-2. Lands under ATDC control, including the Aloha Tower complex, are subject to zoning rules and development standards set by ATDC. The ATDC development rules supersede all other inconsistent ordinances and rules relating to the use, zoning, planning, and development of the area within its jurisdiction.

Act 152, Session Laws of Hawai'i 2011, re-organized ATDC and its board and transferred it from the Hawai'i Department of Business, Economic Development, and Tourism to HDOT. At present, the HDOT Deputy Director of Transportation for Harbors serves as the chairperson of the ATDC board.

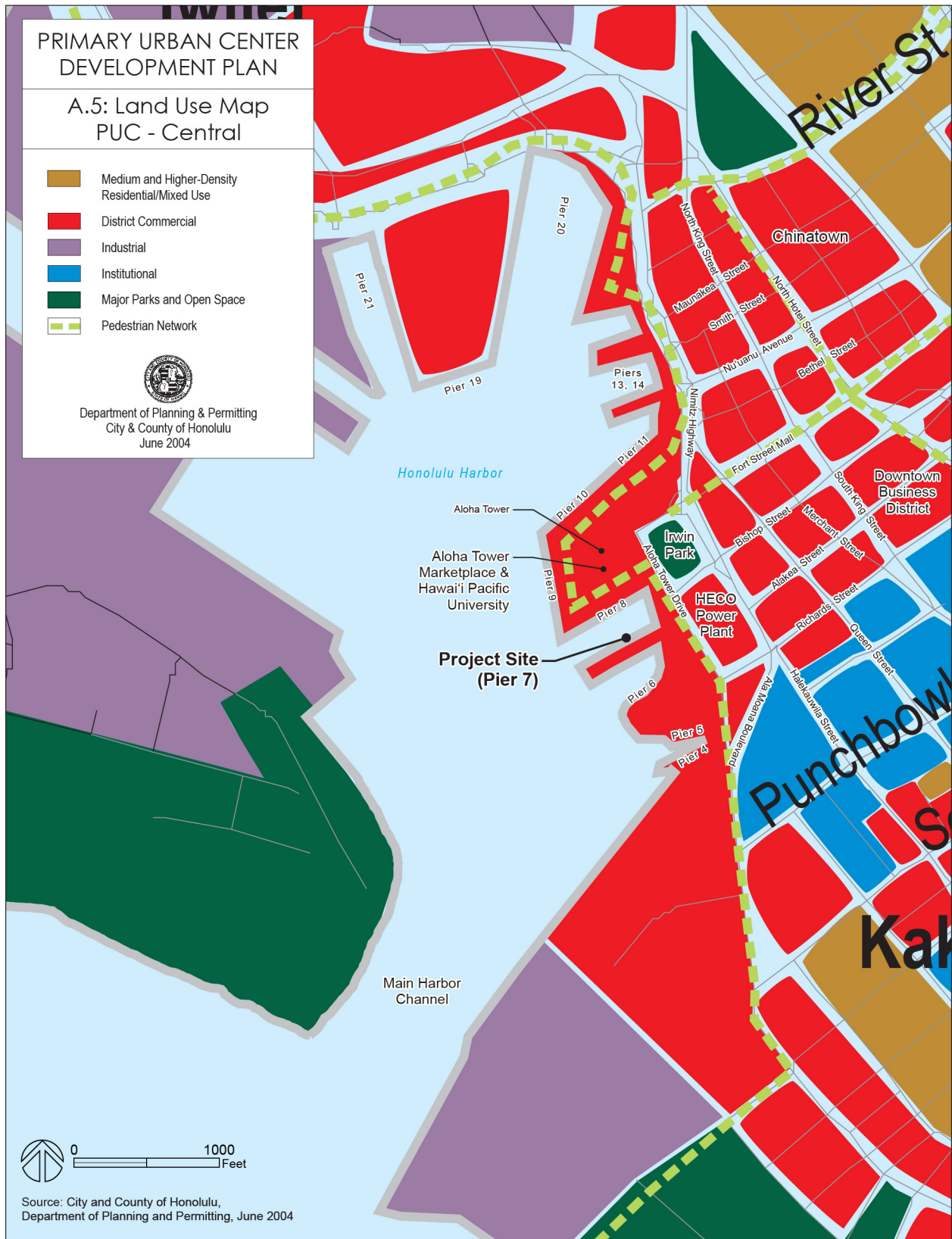


Figure 5-1: Primary Urban Center Development Plan Land Use



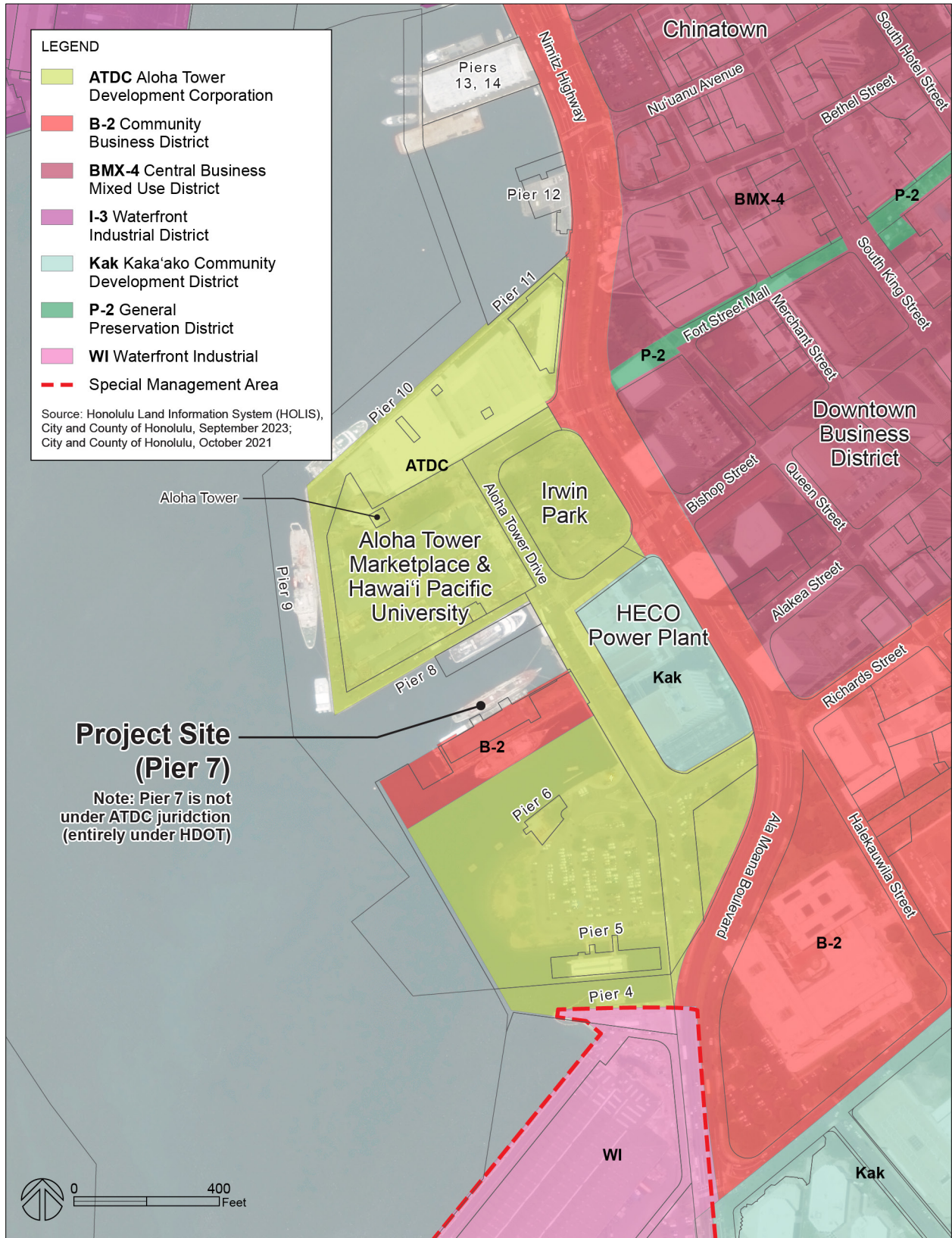


Figure 5-2: Zoning and Special Management Area



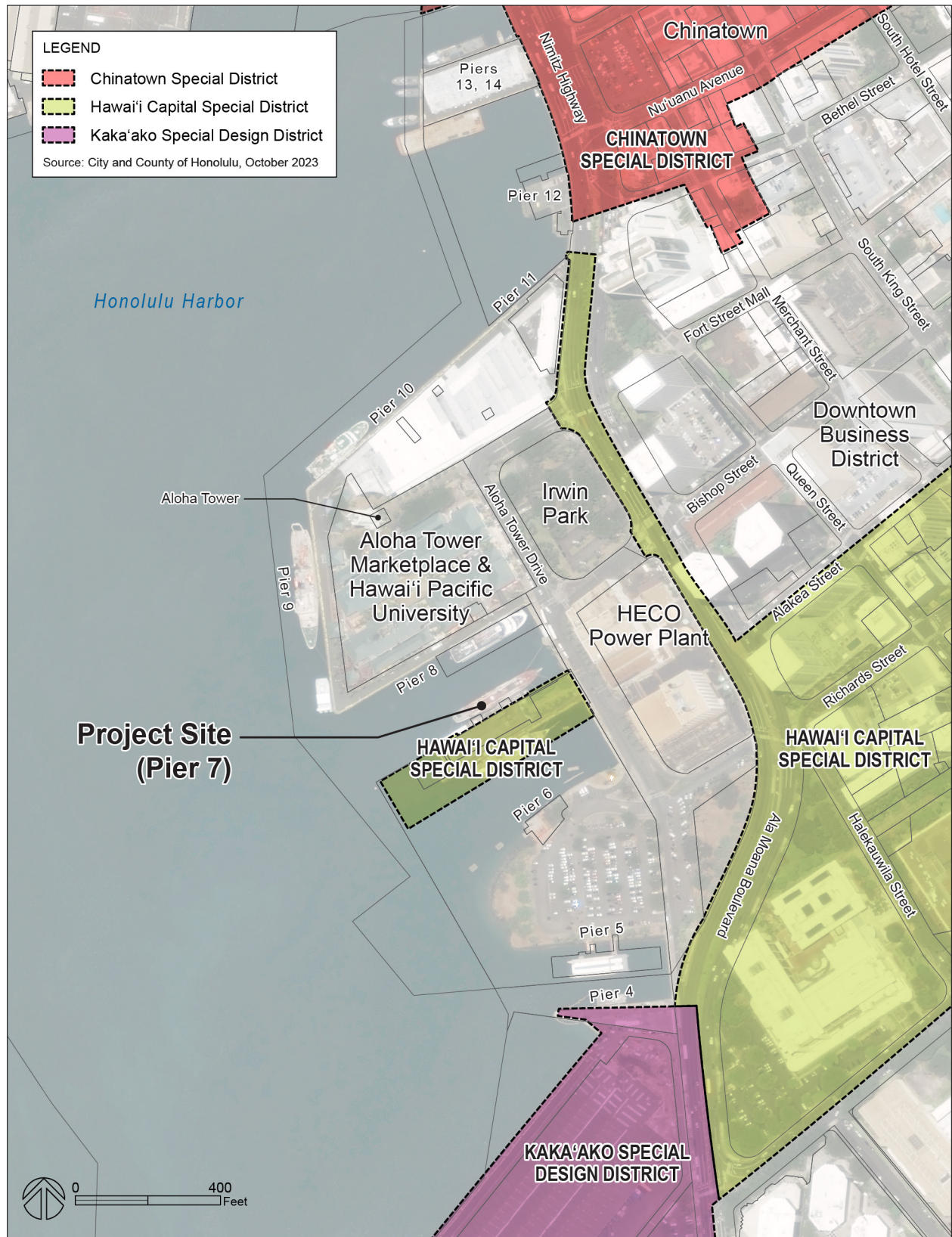


Figure 5-3: County Special Districts

## 5.2.7 Honolulu Harbor Jurisdiction

Hawai'i Revised Statutes Chapter 266, Harbors, states that "All commercial harbors and roadsteads, and all commercial harbor and waterfront improvements belonging to or controlled by the State, and all vessels and shipping within the commercial harbors and roadsteads shall be under the care and control of the department of transportation" (HRS §266-1). It gives the HDOT jurisdiction and administrative authority over Honolulu Harbor operations and the contiguous backup fast lands currently used for manifested cargo and passenger operations.

The State of Hawai'i is dedicated to ensuring that Honolulu Harbor, as Hawai'i's primary port-of-entry and the State's hub of cargo distribution network, continues to operate efficiently and resiliently. A guiding document toward this end is the Honolulu Harbor 2050 Master Plan (HHMP).

### 5.2.7.1 Honolulu Harbor 2050 Master Plan

The Honolulu Harbor 2050 Master Plan (HHMP) (HDOT 2022) provides a long-range strategic framework providing guidance on harbor wide as well as pier specific strategies to ensure Honolulu Harbor can accommodate projected cargo capacity demands in 2050, to ensure port facilities are resilient to the effects of climate change and sea level rise, and to enhance public access and enjoyment of the harbor waterfront. The plan provides guidance on optimizing harbor operational efficiency while maintaining flexibility to address emerging trends and technologies, identifies near-, mid-, and long-term projects and provides criteria to help HDOT prioritize harbor improvement projects.

For example, the HHMP proposes that the Piers 5 to 11 area be improved for continued day excursion and water taxi operations, potential future ferry service and for layberth. Recommended Pier 8 improvements include upgrading the existing water and sewer systems and lighting to support day excursion and dinner cruise operations.

In addressing future improvements for Pier 7, the master plan notes that the pier "has long been used for layberth by the idle, semi-derelict *Falls of Clyde*," and observes that removal of the vessel opens the pier for use by active maritime operations. A series of specific recommendations are included for Pier 7 including replacement and upgrade of the existing water and sewer collection systems to support day excursion operations and supporting future redevelopment of the Pier 7 landside area. The HHMP notes that the former Maritime Museum at Pier 7 has extensive termite damage and should be re-examined for potential reuse. If the structure is deemed unsalvageable, a new structure could be built, including future uses such as office or retail space, exhibit area, or cultural educational center.

The HHMP notes that the berth at the southern end of Pier 7 formerly used by the Polynesian Voyaging Society could be reestablished and a support shed built to complement potential educational programs. The plan notes that new structures built on Pier 7 would have to ensure the view of the navigational day boards at the end of Pier 7 and near Pier 8 at Aloha Tower Marketplace are not impacted or blocked.

The master plan views the adjacent Aloha Tower complex as important public waterfront, offering opportunities for public shoreline access, commercial/retail and restaurant uses and community enjoyment. One of the goals of the HHMP regarding public waterfront development is to promote the highest and best use of these areas, which in addition to economic considerations include strengthening community connection to the waterfront and recognizing the historic and cultural importance of the harbor.

The HHMP notes that the Aloha Tower Marketplace has declined in recent years due to the relocation of the primary cruise terminal from Piers 10 and 11 to Pier 2. Despite the relocation of Hawai‘i Pacific University’s operations to the Aloha Tower Marketplace in 2015, the complex continues to be underutilized. The HHMP envisions a re-energized Aloha Tower complex and the return of the community to the waterfront. The general themes for the future of the area include:

- Celebrating the past, present and future of Honolulu Harbor
- Strengthening and reconnecting the community to the shoreline
- Reinvigorating the harbor with annual celebrations such as Polynesian Voyaging Society educational events, canoe regattas and Boat Days.

**Discussion:**

HRS §266 gives HDOT overriding jurisdiction over all harbor operations and contiguous fast lands, including Pier 7. The HHMP represents the State’s long-range plan for its port facilities. The proposed removal of the derelict *Falls of Clyde* is consistent with the HHMP mission to ensure resilience to climate change and supports its vision for use of Pier 7 and surrounding areas. The significant deterioration of the ship and loss of historic integrity make its continued presence a safety risk and a liability. Its removal will eliminate a safety hazard and open opportunities for productive use of the pier, including opportunities to redevelop the surrounding fast lands in support of the HHMP vision.

### 5.3 Permits and Approvals

A list of the anticipated and potential permits and approvals for the Proposed Action is presented in Table 5-1.

**Table 5-1: Potential Permits and Approvals**

<b>Responsible Agency</b>	<b>Permit/Approval</b>	<b>Applicability</b>
U.S. Environmental Protection Agency	General permit coverage for ocean disposal under Marine Protection, Research and Sanctuaries Act (MPRSA).	Alternatives involving removal by Sinking at Sea
U.S. Coast Guard, Fourteenth Coast Guard District	Approval of submitted tow plan; approval of ship transport method via floating drydock or barge	Alternatives involving towing ship from Pier 7 will require submittal and approval of tow plan. Transport by barge or drydock will require Coast Guard approval.
U.S. Army Corps of Engineers	Department of the Army (DA) Permit or coverage under DA Nationwide Permit 22	Placement or discharge of fill in waters of the U.S. "required for removal of wrecked, abandoned, or disabled vessels, or the removal of man-made obstructions to navigation."
Hawai‘i Department of Land and Natural Resources State Historic Preservation Division	Chapter 6E, HRS review and Section 106, National Historic Preservation Act compliance	Not applicable. <i>Falls of Clyde</i> has been removed from the Hawai‘i State and National Registers of Historic Places and withdrawal of its National Historic Landmark designation is in process.

Responsible Agency	Permit/Approval	Applicability
Hawai'i Department of Health Environmental Management Division (Clean Branch, Clean Water Branch, Solid and Hazardous Waste Branch)	Various: Section 401 Water Quality Certification; National Pollutant Discharge Elimination System (NPDES); Noise Permit Application; Asbestos Activities application(s); Lead Notification	Section 106 NHPA not applicable, as ship no longer meets the criteria of an historic property under NHPA.  Alternatives involving discharges, construction noise, handling of asbestos or lead, etc.  Applicability to be determined by selected contractor depending on removal alternative proposed.

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EPA Ocean Dumping Management: <https://www.epa.gov/ocean-dumping>



# 7 Agencies and Organizations Consulted

## 7.1 Agencies and Organizations Consulted

Agencies and organizations that were consulted during preparation of the environmental review process are listed in Table 7-1.

Pre-Assessment consultation, as required under HRS Chapter 343, was conducted prior to the initiation of the Environmental Assessment. A pre-assessment consultation letter was sent via email on August 24, 2023 to government agencies and stakeholders listed below. The letter included a map of the project area, background information about the *Falls of Clyde* and its historic significance, a summary of its current condition, and a description of the proposed action. Comments were requested by September 22, 2023.

A Draft Environmental Assessment and Anticipated Finding of No Significant Impacts (DEA-AFNSI) for the *Falls of Clyde* removal project was prepared in December 2023, and notice of availability was published in the December 23, 2023 edition of the Office of Planning and Sustainable Development, Environmental Review Program (ERP)'s publication, *The Environmental Notice*. This initiated a 30-day public comment period, which ran from December 23, 2023 to January 23, 2024. During this time, the DEA-AFNSI was available for public viewing and download from the ERP web site.

Notification of the DEA-AFNSI, including the ERP's URL link, was emailed on December 22, 2023 to all government agencies, utilities, elected officials, and other stakeholders listed in Table 7-1. A hard copy of the Draft EA document was also sent to the Hawai'i State Library (Hawai'i Documents Center) for public viewing. Comments were received from 12 stakeholders, comprised of government agencies, organizations, and community stakeholders.

Table 7-1 indicates with a check mark(✓) whether comments were received during the pre-assessment consultation and/or Draft EA comment periods.

**Table 7-1: Agencies and Organizations Consulted**

Agency/Organization	Provided Pre-Assessment Comments	Provided Draft EA Comments
<b>Federal</b>		
U.S. Army Corps of Engineers, Honolulu District	✓	✓
U.S. Fish and Wildlife Service, Pacific Islands Office	✓	
U.S. Environmental Protection Agency		
NOAA National Marine Fisheries Service		✓
Commander Fourteenth Coast Guard District		
National Park Service, National Historic Landmarks	✓	
<b>State of Hawai'i</b>		
Department of Agriculture		
Department of Accounting and General Services		

Agency/Organization	Provided Pre-Assessment Comments	Provided Draft EA Comments
Department of Health Environmental Health Administration (Clean Air Branch, Clean Water, Safe Drinking Water, Solid & Hazardous Waste, Wastewater Branches)	✓ (Clean Water, Solid and Hazardous Waste, Clean Air)	✓ (Clean Water)
Disability and Communication Access Board		
Office of Planning and Sustainable Development		✓
Department of Business, Economic Development & Tourism	✓	
Hawai'i Housing Finance and Development Corporation		
Department of Defense		
Department of Education	✓	
Department of Hawaiian Home Lands		
Department of Land & Natural Resources, State Historic Preservation Division		
Department of Land & Natural Resources, Land Division	✓ (Land, Engineering, DOBOR, DOFAW, OCCL)	✓ (Aquatic Resources, Engineering)
University of Hawai'i, Water Resources Research Center		
Office of Hawaiian Affairs		
UH Pacific Biosciences Research		
<b>City and County of Honolulu</b>		
Office of Climate Change, Sustainability and Resiliency		
Department of Design and Construction	✓	✓
Department of Environmental Services		
Office of Economic Revitalization		
Department of Facility Maintenance	✓	
Honolulu Fire Department		
Department of Land Management		
Department of Planning and Permitting	✓	
Department of Parks and Recreation		
Honolulu Police Department	✓	
Department of Transportation Services		✓
<b>Utilities</b>		
Hawaiian Electric Company		
Hawaiian Telcom		
Charter Communications		
<b>Other Stakeholders</b>		
O'ahu Neighborhood Board 13, Downtown-Chinatown		
O'ahu Historic Preservation Commission		
Honolulu Star Advertiser		

Agency/Organization	Provided Pre- Assessment Comments	Provided Draft EA Comments
Honolulu Civil Beat		
Hawai'i Public Radio		
Kiersten Faulkner, Historic Hawai'i Foundation	✓	✓
Bruce McEwan, Friends of Falls of Clyde	✓	✓
David O'Neill, Falls of Clyde International	✓	
Gary North, Hawai'i Harbor Users Group	✓	
John Gotanda, Hawai'i Pacific University		
Lisa Davidson, National Trust for Historic Preservation		
Layne Wada, Star of Honolulu	✓	
<b>Elected Officials</b>		
Honorable Mazie K. Hirono, U.S. Senate		
Honorable Brian Schatz, U.S. Senate		
Honorable Ed Case, U.S. House of Representatives		
Honorable Jill Tokuda, U.S. House of Representatives		
Honorable Ron Kouchi, Hawai'i State Senate		
Honorable Scott Saiki, Hawai'i House of Representatives		
Mayor Rick Blangiardi, City and County of Honolulu		
Councilmember Tyler Dos Santos Tam, City Council District 6		
Councilmember Tommy Waters, City Council District 4		
<b>Other Individuals Who Provided Draft EA Comments</b>		
John Ewald		✓
David Berg		✓

## 7.2 Pre-Assessment Consultation

During the pre-assessment consultation period, 19 comment letters were received representing government agencies, community organizations, private organizations, and community stakeholders. A summary of the comments received are provided in Table 7-2. Letters are appended at the end of this chapter.

Table 7-2: Summary of Pre-Assessment Comments Received

Agency/Organization	Contact	Date	Comments
<b>FEDERAL</b>			
US Army Corps of Engineers, Honolulu District	Jen Martin, Interim Chief Regulator Branch <a href="mailto:CEPOH-RO@usace.army.mil">CEPOH-RO@usace.army.mil</a>  CJ Cayanan, Biologist/Regulatory Specialist, (808) 835-4107 <a href="mailto:Cristian.J.Cayanan@usace.army.mil">Cristian.J.Cayanan@usace.army.mil</a>	8/28/2023	8/28/23—File No. POH-2023-00156 Corps authorities based on two laws: section 404 of Clean Water Act and Section 10 Rivers and Harbors Act. Section 4040 requires DA permit be obtained for placement or discharge of dredged and/or fill material into waters of the US, including jurisdictional wetlands. Section 10 requires a DA permit be obtained for structures of work affecting navigable waters of the US. Proposed removal of the FOC may require DA authorization if you placed dredged and/or fill material into waters of the US and/or perform work in navigable waters of the US. Proposed activity may qualify for verification under Nationwide Permit 22 (Removal of Vessels). Contact our office if you would like pre-application meeting.
U.S. Fish and Wildlife Service	Charmian Dang	9/8/2023	Our data indicate the following species may occur or transit through the vicinity of the proposed project area: the endangered ‘ua‘u (Hawaiian petrel, <i>Pterodroma sandwichensis</i> ), endangered Hawai‘i distinct population segment (DPS) of the ‘akē‘akē (band-rumped storm-petrel, <i>Hydrobates castro</i> ), and threatened ‘a‘o (Newell’s shearwater, <i>Puffinus newelli</i> ) (hereafter collectively referred to as Hawaiian seabirds); and the endangered ‘ōpe‘ape‘a (Hawaiian hoary bat, <i>Lasiurus cinereus semotus</i> ). Hawaiian seabirds may traverse the project area at night during the breeding, nesting, and fledging seasons, March 1 through December 15. Outdoor lighting could result in seabird disorientation, fallout, and injury or mortality... ‘Ōpe‘ape‘a roosts in woody vegetation across all islands. If trees or shrubs 15 feet or taller are cleared during the pupping season, June 1 through September 15, there is a risk that young bats could inadvertently be harmed or killed, since they are too young to fly or move away from disturbance... ...Since we have already written a response, you can use the response provided for this project and disregard the IPaC species list.
National Park Service US Department of Interior	Lisa Davidson, Program Manager, National Historic Landmarks	9/22/2023	While the NPS does not have a role in the state compliance process for Chapter 343, we are interested in remaining on the list of interested parties to receive the DEA. If chosen alternative for removal requires federal approval, permitting, licensing, or funding that would trigger Section 106, 36 CFR 800.10 requires that the agency notify the Secretary of the Interior to participate in the consultation where there may be an adverse effect on a National Historic Landmark.

Agency/Organization	Contact	Date	Comments
			Regulations for Withdrawal of National Historic Landmark Designation are found at 36 CFR 65.9 and involve action by the Secretary of the Interior separate from any delisting request to the Keeper of the National Register of Historic Places via a state historic preservation office.
<b>STATE OF HAWAII</b>			
DBEDT Office Planning & Sustainable Development	Mary Alice Evans	8/25/2023	OPSD does not have comments (confirmed 11/14/2023).
Department of Health, Clean Water Branch	Colin T. Maruoka	8/25/2023	DOH no longer responds directly to request for comments
Department of Health, Solid and Hazardous Waste Branch	Michelle Aragon	8/25/2023	Attached SHWB Standard Comments.
Department of Health, Clean Air Branch	c/o Anna <a href="mailto:DOH.CABPDTSS@doh.hawaii.gov">DOH.CABPDTSS@doh.hawaii.gov</a>	Email 9/12/2023	For activities associated with the project, the applicable provisions of Hawaii Administrative Rules §11-60.1-33 shall be followed to mitigate fugitive dust impacts. Also, please see our standard comments at: <a href="https://health.hawaii.gov/cab/files/2022/05/Standard-Comments-for-Land-Use-Reviews-Clean-Air-Branch-2022-1.pdf">https://health.hawaii.gov/cab/files/2022/05/Standard-Comments-for-Land-Use-Reviews-Clean-Air-Branch-2022-1.pdf</a>
Department of Education	Cori China, Facilities Branch Planning Section <a href="mailto:Cori.china@k12.hi.us">Cori.china@k12.hi.us</a>	9/19/2023	The information provided indicates that the proposed project will not affect any Hawaii State Department of Education facilities.
Department of Land and Natural Resources	Timothy Chee <a href="mailto:Timothy.chee@hawaii.gov">Timothy.chee@hawaii.gov</a>	9/27/2023	Engineering Division--No comments DOBOR—No comments Office of Conservation & Coastal Lands-- Consult with OCCL for any proposed land use that take place in the Conservation District. Also consult with OCCL if any land use is proposed in submerged lands off Oahu within the Conservation District
Department of Land and Natural Resources	Timothy Chee	10/4/2023	Division of Forestry and Wildlife--DOFAW recommends the following measures be included in the DEA with the intent to avoid construction and operational impacts to State-listed species. The State listed 'ōpe'ape'a or Hawaiian Hoary Bat ( <i>Lasiurus cinereus semotus</i> ) could potentially occur at or in project vicinity; any required site clearing should be timed to avoid disturbance to bats during their birthing and pup rearing season (June 1 through September 15). During this period woody plants greater than 15 feet (4.6 meters) tall should not be disturbed, removed, or trimmed. Barbed wire should also be

Agency/Organization	Contact	Date	Comments
			<p>avoided for any construction because bats can become ensnared and killed by such fencing material during flight.</p> <p>Artificial lighting can adversely impact seabirds that may pass through the area at night by causing them to become disoriented. For nighttime work that might be required, DOFAW recommends that all lights used be fully shielded to minimize the attraction of seabirds. Nighttime work that requires outdoor lighting should be avoided during the seabird fledging season, from September 15 through December 15, when young seabirds make their maiden voyage to sea.</p> <p>If nighttime construction is required during the seabird fledging season (September 15 to December 15), we recommend that a qualified biologist be present at the project site to monitor and assess the risk of seabirds being attracted or grounded due to the lighting. If seabirds are seen circling around the area, lights should then be turned off.</p> <p>Permanent lighting also poses a risk of seabird attraction, and as such should be minimized or eliminated to protect seabird flyways and preserve the night sky. For illustrations and guidance related to seabird-friendly light styles that also protect seabirds and the dark starry skies of Hawai'i please visit <a href="https://dlnr.hawaii.gov/wildlife/files/2016/03/DOC439.pdf">https://dlnr.hawaii.gov/wildlife/files/2016/03/DOC439.pdf</a>.</p> <p>The State endangered 'ilio holo i ka uua or Hawaiian Monk(<i>Monachus schauinslandi</i>) and threatened honu or Green Sea Turtle (<i>Chelonia mydas</i>) could potentially occur or haul out onshore within the vicinity of the proposed project site. Nesting season for the honu is April through December and 'ilio holo i ka uua can give birth to pups all year round. If either species is detected within 100 feet (30 meters) of the project area all nearby construction operations should cease and not continue until the focal animal has departed the area on its own accord.</p> <p>The State threatened manu-o-Kū or White Tern (<i>Gygis alba</i>) is known to nest in the vicinity of the proposed project. If tree trimming or removal is planned, DOFAW strongly recommends a qualified biologist survey for the presence of White Terns prior to any action that could disturb the trees. White Tern pairs typically lay their single egg on a tree branch with no nest. Eggs and chicks can be dislodged by construction equipment or workers that contact trees in which White Terns are nesting. As such, a tree protection program should be in place for any mature trees with nesting or roosting White Terns. For more info visit: <a href="https://www.whiteterns.org/uploads/8/6/3/2/86323044/mok_tree_care_guidelines_190622.pdf">https://www.whiteterns.org/uploads/8/6/3/2/86323044/mok_tree_care_guidelines_190622.pdf</a>. If a nest is discovered, please notify DOFAW staff for assistance.</p>

Agency/Organization	Contact	Date	Comments
<b>CITY AND COUNTY OF HONOLULU</b>			
Department of Facility Maintenance	Kyle Oyasato <a href="mailto:koyasato@honolulu.gov">koyasato@honolulu.gov</a>	8/25/2023	We have no comments as we don't have any facilities or easement in this area. Pls note that Aloha Tower Drive is under the jurisdiction with Hawai'i Department of Transportation
Department of Design and Construction	ddc@honolulu.gov	9/6/2023	DDC has no comments to offer at this time.
Department of Planning and Permitting	Michael Kat, Zoning Regulations Branch <a href="mailto:Michael.kat@honolulu.gov">Michael.kat@honolulu.gov</a>	9/11/2023	Based on the information in your letter, we have no comments at this time.
Honolulu Police Department	Major Calvin Sung, District 1 (808) 723-3327	9/15/2023	<p>HPD has reviewed the information provided and has some concerns. HPD recommends that all necessary signs, lights, barricades, and other safety equipment be installed and maintained by the contractor during the project.</p> <p>HPD and Honolulu Harbor police have shared jurisdiction of Pier 7; therefore, the HPD recommends consultation with both entities in the event on-duty or special duty officers must be utilized for crowd or vehicular control.</p> <p>Lastly, the HPD recommends that adequate notification be made to residents and visitors in the area prior to road closures, as any impact to pedestrian and/or vehicular traffic may cause issues and disruptions that could lead to complaints.</p>
<b>OTHER</b>			
Hawai'i Harbor Users Group	Gary North	8/28/2023	Hawai'i Harbor Users Group (HHUGS) supports the removal and disposal of the Falls of Clyde.
Falls of Clyde International	David Oneill <a href="mailto:David.oneill@foci.scot">David.oneill@foci.scot</a>	8/29/2023	<p>In 2021 we were awarded the States RFP for the removal of the ship from Pier 7, we proposed this by using a lift ship and removing her at the pier to reduce any risks of failure.</p> <p>We presented HDOT and the USCG, EPA and Historic Hawaii with a technical proposal which was approved by the USCG and HDOT as they issued the award to us to remove her.</p> <p>As a heritage group we were unable to meet the bond imposed by HDOT, however we had made provisions within the contract to offset the need for a bond by not receiving the advance funding available in the award, this was \$1.5m, the bond imposed was \$1.25m. HDOT refused to accept this alternative solution and withdrew the contract.</p> <p>It was however evident that HDOT were prepared to scuttle her without cleaning her and removing oil products, asbestos, detritus and rust sludge contaminants that are still within her hull. If they had proceeded this would have contaminated a substantial area of the Pacific with a rust bloom.</p>

Agency/Organization	Contact	Date	Comments
Friends of Falls of Clyde	Bruce McEwan <a href="mailto:bemacewan@gmail.com">bemacewan@gmail.com</a>	8/31/2023	<p>I am interested to see the evidence of the ship being unrepairable, certainly we never intended to repair her, we intend to bring her home to Scotland, put her in a dry dock, strip her back to her frames, replace frames, hull plating and deck areas as required. So repairs are not planned, rebuilding her is, but not only will we rebuild her as a sailing ship but will fit her with energy storage batteries and hydrogen power fitted to electric propulsion.</p> <p>Then she would sail once again as she did when first built carrying ethical cargos and becoming a technology platform for clean emission power in shipping as well as becoming an education at sea platform.</p> <p>We have received offers from offshore wind companies in Europe offering to fund our power and propulsion systems, a Norwegian investor interested in her rebuild and a host of smaller groups and companies looking to play a part in reducing the effects of climate change while saving Hawaii heritage. HDOT has known of our plans for the last eight years yet still obstructs us, they are even prepared to ignore international law covering the standards for preparing a ship for scuttling, which the US is a signatory to.</p> <p>We have tried to convince HDOT that the heritage of this ship to Hawaii is important and could be saved, not there but here, we are however keen to keep links with Hawaii, offering to offer new trading links to Europe, educational scholarships for Hawaii kids and to share the technologies used in her clean emission propulsion.</p> <p>This last survey contains a footnote from Mr. Joe Lombardi, a note he made in his original almost identical 2007 survey, this ship could be restored, if funds were available, HDOT only has to let her go otherwise meet the costs of an international standard to scuttle her, then access to dry dock is not cheap either, I tried in Hawaii, the shipyards don't want the docks tied up with messy contaminated work like this, where union workers are at risk and specialists are needed that are very expensive. Attached is our overview plan for the ship's removal and future, that detailed proposal is with HDOT and the USCG on how we will remove her safely.</p> <p>1. The mission of FFOC is the preservation and restoration of Falls of Clyde. Specifically regarding preservation, our concern is the use of the term "disposal" of the vessel. This implies that the ship cannot be preserved, which we argue should not be a foregone conclusion. The term used by HDOT-Harbors Division has always been the "removal" of the ship from the harbor and we believe that should still be the focus of your project.</p> <p>2. In the same section of the notice, you refer to liability and safety hazard to the State if the ship continues to remain at Pier 7. What specifically are the liability and safety hazard issues implied by</p>



Agency/Organization	Contact	Date	Comments
			<p>these terms? If moving the ship is of concern as part of these issues, both of the named actions you state require movement away from Pier 7.</p> <p>3. Your examples of disposal in the second paragraph of the same section are scuttling the vessel offshore and dismantling at a drydock with a vague mention of other options. We believe there are other options that can meet our mission of preservation. FFOC has copies of surveys done in 2010 by an historic ship expert, surveys conducted for FFOC in 2013 and 2016 plus a drydock plan designed by JMS Naval Architects (<a href="http://www.jmsnet.com">www.jmsnet.com</a>) that clearly address the condition of the historic vessel and state ways that Falls of Clyde can safely be moved. If you check the credentials of this firm you will find that they are of the highest caliber and they are also salvage engineering experts. At our request, JMS has reviewed the 2023 condition survey conducted for HDOT Harbors Division and we have included an opinion statement from JMS regarding their review, which supports our position that the ship can be safely moved.</p> <p>4. We have recently become aware of a Lidar laser scanning process that we believe may be important for a structural assessment and wonder if this will be used as part of your assessment. As Owner, we believe we have the right to review the final assessment report from HHF before any final decision is made concerning the removal of Falls of Clyde from Honolulu Harbor.</p>
Star of Honolulu	Layne Wada	9/1/2023	<p>Our primary concern would be related to the vessel's dismantling at the dock or removal to scuttle the ship. Since we are directly across from Pier 7 and operate on a daily basis, blocking the Star of Honolulu's ingress/egress would be an undue hardship. As such, we request relocation to an alternative pier while the removal is taking place.</p>
Star of Honolulu	Richard Davison	10/23/2023	<p>If we are to be moved temporarily, the end of P-8 is the only suitable alternate pier, that I know of, due to:</p> <ol style="list-style-type: none"> <li>1. Gangway requirements, our gangway will not span over the top of the concrete bullrail. Therefore we need a clear area to lay the gangway onto the pier, P-8 already a cut-out for this purpose at the makai end of P-8.</li> <li>2. MARSEC (Public Access) rules. We require a "public access" facility to operate. P-8 is ideally suited for this, other piers may require modifications (\$\$) and/ or amendments to existing security plans. We would need a potable water connection.</li> </ol>

Agency/Organization	Contact	Date	Comments
Historic Hawai'i Foundation	Kiersten Faulkner, Executive Director	9/22/2023	<p>1. Applicability of Chapter 343, HRS, to agency actions</p> <p>The nature of the proposed action will result in the complete destruction and loss of a National Historic Landmark. This is an irreversible, irrevocable and significant adverse effect to a cultural and historic resource; a finding of “no significant impact” would be grossly inappropriate and unsupported.</p> <p>The agency’s proposed course of action should be evaluated in an Environmental Impact Statement (EIS) with an acknowledgement and resolution of the impact, not an EA.</p> <p>2. Identification of Historic Properties Affected</p> <p>The proposed action will have a direct effect on the Falls of Clyde. The ship has five separate and distinct layers of historic recognition:</p> <ul style="list-style-type: none"> <li>• “Historic Property” as a structure which is over fifty years old (HRS §6E-2);</li> <li>• “Significant Historic Property” as a property that meets the criteria of the Hawai'i Register of Historic Places or the criteria enumerated in HAR §13-275-6(b) or §13-284-6(b); namely, that the property: o possesses historic integrity of location, design, setting, materials, workmanship, feeling and association, and possesses historic significance in one of more criteria of association...</li> <li>• Hawai'i Register of Historic Places listing for association with historic events (HRHP Criterion a) and embodies the distinctive characteristics of a type, period or method of construction (HRHP Criterion c).</li> <li>• National Register of Historic Places listing for association with historic events (NRHP Criterion A) and embodies the distinctive characteristics of a type, period or method of construction (NRHP Criterion C).</li> <li>• National Historic Landmark listing in 1989 in accordance with NHL Criterion 1 (Properties that are associated with events that have made a significant contribution to, and are identified with, or that outstandingly represent, the broad national patterns of United States history and from which an understanding and appreciation of those patterns may be gained ) and Criterion 4 (Properties that embody the distinguishing characteristics of an architectural type specimen exceptionally valuable for a study of a period, style, or method of construction, or that represent a significant, distinctive and exceptional entity whose components may lack individual distinction.)</li> </ul> <p>While HDOT has proposed to remove FOC from the HRHP, that action has not yet been consummated. HDOT’s application to remove FOC from the HRHP rests on an evaluation of the ship’s integrity... HHF agrees that the condition is in extremely poor and reflects loss of integrity related to materials, design, workmanship, feeling and association. The report found that, “The vessel is now, in 2023, a partially flooded hulk, with the topmasts, topgallant masts, yards, booms and gaffs stowed in a deteriorated condition on the weather deck.” The report found that there are holes both above and below the waterline, loss of structural integrity for the decks and overall deterioration of materials.</p>

Agency/Organization	Contact	Date	Comments
			<p>The recommendation for delisting is based on physical condition as it relates to historic integrity and the structure’s ability to convey its historic significance as described in nominations to the State, National and NHL registers...</p> <p>If the Hawai’i HPRB concurs with HDOT’s finding and takes action to remove the ship from state register places, only one of its five designations would be affected. Removing the listing from the Hawai’i Register would have no effect on the national designations, which are governed by the U.S. Department of the Interior. FOC would still be listed on the National Register and as a National Historic Landmark. It will also still be over 50 years old as a “historic property” under HRS §6E-2 . Whether or not the ship would still be considered a “significant historic property” ...</p> <p>HHF recommends that the evaluation of eligibility for the Hawai’i and National Registers assess the vessel’s ability to convey its historic significance related to potential to yield information important for research (HRHP Criterion d/NRHP Criterion D) and association with an ethnic group of the state and the associations being important to the group’s history and cultural identity (HRHP Criterion e) for association with those of Scottish descent.</p> <p>3. Mitigation commitments</p> <p>EIS should include a discussion of proposed mitigation commitments associated with each of the alternatives. Mitigation measures need to be proportionate to the effect, have a benefit for impacted parties and have a benefit for the larger public.</p> <p>Mitigation measures should be developed through consultation and discussion with stakeholders, including the Friends of Falls of Clyde, the Hawai’i State Historic Preservation Division, the National Park Service/National Historic Landmarks Program, National Trust for Historic Preservation, Historic Hawai’i Foundation, and maritime heritage groups.</p> <p>As a starting point for consultation around mitigation measures, HHF recommends the following be included:</p> <ul style="list-style-type: none"> <li>• Provide an inventory and database of features removed from the vessel, by type and description of the feature, date removed and by whom, current location and ownership, and potential for disposition and treatment. Over the past decade, many of the pieces of the ship were removed, either to lighten the weight to help it stay afloat or to salvage elements prior to it being moved to drydock or scuttled. Where are those elements? Who owns them? Is there an inventory and record of their disposition? Can they be incorporated into a display or used for historic interpretation?</li> </ul>

Agency/Organization	Contact	Date	Comments
			<ul style="list-style-type: none"> <li>• Develop a historic context study about 19th century sailing vessels and 20th century maritime preservation efforts related to Hawai‘i and how Falls of Clyde fits into that context. Are there other examples or important maritime resources that should be identified and preserved as this one is lost?</li> <li>• Documentation of the vessel via Historic American Engineering Record (HAER), which was begun in 1996 but not completed (see HAER No. HI-7).</li> <li>• Additional documentation of the vessel via contemporary methods such as digital scanning, LIDAR, video documentation of the deconstruction, or other data recovery methods.</li> <li>• HDOT should develop a Honolulu Harbor Historic Interpretation Plan and that includes public information along the waterfront, such as wayside signage, public art incorporating salvaged elements from the ship, a 3D model, waterfront walking tour or public-visitation area. The historic interpretation should incorporate both Falls of Clyde and other periods of Honolulu’s maritime heritage from pre-contact Polynesian voyaging through modern uses.</li> </ul> <p>All commitments should be memorialized in a legally binding agreement. HHF recommends that a signed and executed agreement be presented to the Hawai‘i HPRB as part of HDOT’s application to remove ship from the Hawai‘i Register of Historic Places and vessel should not be delisted absent such a written and binding commitment. The agreement should also be included in the Final EIS and made part of the Record of Decision.</p>

### 7.3 Draft EA Comment Period

During the Draft EA comment period, comments were received from 12 stakeholders representing government agencies, organizations, and community stakeholders. Table 7 3 provides an overview of the comments received and the response. Copies of all comment and responses letters are appended at the end of this chapter.

**Table 7-3: Draft EA Comments**

Agency/ Organization	Contact	Date	Comments	Response
<b>FEDERAL</b>				
National Marine Fisheries Service, U.S. Department of Commerce	Alexandria Barkman, Ph.D. EFH Consulting Biologist, PIRO Habitat Conservation Division <a href="mailto:alexandria.barkman@noaa.gov">alexandria.barkman@noaa.gov</a>	Email 1/11/2024	<p>EFH consultation with NMFS pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (MSA) is required when a federal action agency works in an area that will adversely affect EFH, defined as anything that reduces the quality and or quality of EFH.</p> <p>The project does not currently have a federal nexus. However, depending on the chosen alternative, the project may require permit(s) from the US Environmental Protection Agency (EPA) for ocean disposal or Section 404 of the Clean Water Act, The US Army Corps of Engineers for vessel removal, and/or Coast Guard approval for vessel towing or transport, requiring an EFH consultation.</p> <p>The water column and bottom of Honolulu Harbor action area has been designated as EFH and supports various life stages for the management unit species (MUS) identified under the Western Pacific Regional Fishery Management Council’s Pelagic, Crustacean and Hawai’i Archipelago Fishery Ecosystem Plans.</p> <p>The DEA states that several aspects of the proposed project have the potential to affect marine biota, including (a) direct physical disturbance EFH, including corals and other invertebrates on the hull of the vessel and in the surrounding area, (b) indirect effects associated with project related changes in water quality such as a temporary increase in turbidity c) increased risk of spread of invasive</p>	<p>We acknowledge that the project does not currently have a federal nexus. However, depending on the selected alternative, the project may require permit(s) from the US Environmental Protection Agency (EPA) for ocean disposal or Section 404 of the Clean Water Act; the US Army Corps of Engineers for vessel removal; requiring an EFH consultation.</p> <p>The method of removal will be determined by the selected contractor. The HDOT RFP will require the selected contractor to incorporate the following mitigation measures to minimize the loss of EFH if there is a federal nexus.</p> <p>Removal of Coral from Ship’s Hull</p> <p>Your letter recommends that a plan be developed to relocate and/or transplant all corals on the hull of the vessel prior to removal or disassembly. A similar recommendation was made by DLNR DAR. Although HDOT understands NMFS and DLNR DAR concerns related to coral loss, the severely corroded condition of the <i>Falls of Clyde</i> hull presents unique challenges. Further investigation and discussion were held with DLNR DAR, as summarized below.</p> <p>An April 2023 Hull Survey prepared by Mr. Joseph Lombardi of Ocean Technical Services found that the ship’s hull shell plating is severely corroded and has holes in many areas below the water line that have been repaired over time. Following receipt of NMFS</p>

Agency/ Organization	Contact	Date	Comments	Response
			<p>species. In addition to items (a-c) above, NMFS has the following specific concerns:</p> <p>1. Loss of EFH due to removal of the vessel from Honolulu Harbor</p> <p>To minimize loss of EFH due to the planned activity, regardless of the chosen alternative, NMFS recommends that a plan is developed to relocate and/or transplant all corals that will be unavoidably lost under the following conditions:</p> <p>The receiving location(s) must not have foreseeable and avoidable adverse effects (i.e., adverse effects from any anticipated projects by any proponent).</p> <p>The receiving location(s) must have similar physicochemical conditions (e.g., temperature, salinity, light penetration, nutrient concentrations, and turbidity).</p> <p>A coral relocation plan that includes post-relocation success criteria and evaluation methodology is provided to and approved by NMFS, and implemented by the proponent.</p> <p>If coral relocation is impractical, then offsets are proposed and implemented by the proponent.</p> <p>2. Consideration of compensatory mitigation/offset plan</p> <p>The Western Pacific Fishery Management Council has designated all bottom habitat as EFH in the Hawai'i Archipelago which includes all artificial surfaces. The marine biota on the hull of the vessel provide</p>	<p>and DAR's comments, HDOT consulted Sea Engineering, Inc., which had conducted an underwater hull inspection in 2023. In their hull inspection report, Sea Engineering reported the prevalence of compacted rust, cone shaped corroded protrusions, coral and other marine growth throughout the lower portions of the ship's hull.</p> <p>In response to HDOT's inquiry, Sea Engineering issued the following March 8, 2024 opinion which stated that <i>"removal of the coral structures would likely result in failure of the hull. It is expected, given the maturity of the coral on the hull, that the remaining thin steel would likely come off with the coral during the removal operations. Should this occur, it is likely that the water intrusion into the hull would exceed pumping capacity of any pumps. The uncontrolled sinking of the Falls of Clyde creates a potential safety concern for divers working on the bottom of the ship and would likely result in the destruction of any remaining corals not yet removed from the vessel."</i></p> <p>This information was shared with DLNR DAR, with HDOT determining that removal of the corals from the hull would cause considerable safety risk to personnel, the harbor infrastructure, and the <i>Falls of Clyde</i>. In an April 24, 2024 memo to HDOT, DLNR DAR concurred with this determination. DLNR DAR indicated that if and only if the removal of the <i>Falls of Clyde</i> is done in a way that coral may be removed from pieces of the hull when they come on-shore, and there is no risk to infrastructure, personnel, or</p>

Agency/ Organization	Contact	Date	Comments	Response
			<p>ecosystem services including water filtration, food, and habitat for marine organisms. Loss of these marine resources may result from any of the alternatives, other than the no action alternative, which may result in loss or damage of other nearby marine resources. If there will be a net loss off EFH due to the action, NMFS encourages HDOT to consider development of an offset plan in order to make up for the loss of marine resources that may result from this action (e.g., outplanting corals from a nursery to make up for damaged corals, or improving the quality of EFH in the action area through removal of invasive species, improved water quality, of removal of marine debris. NMFS is ready and willing to provide technical assistance in the development of an offset plan if needed).</p> <p>3. Risk of spreading invasive species</p> <p>NMFS agrees with the recommendation from the marine survey described in the DEA that invasive species on the hull of the vessel is removed prior to vessel movement to reduce the risk of spreading invasive species. Repairs or disassembly of the vessel in the harbor may also disturb the invasive species, increasing risk of spread in the harbor. NMFS recommends considerations of invasive species removal prior to disassembly if that alternative is chosen.</p>	<p>the operation itself, HDOT shall make these corals available to DAR’s coral nursery team at Anuenue Fisheries Research Center. HDOT will include this statement in the RFP for <i>Falls of Clyde</i> removal. Should the project have a federal nexus, HDOT will follow this agreed upon approach to coral removal from the ship’s hull.</p> <p>Comment 3. Aquatic Invasive Species</p> <p>An important consideration in the removal of the <i>Falls of Clyde</i> is the prevention of spreading of introduced and invasive species that are present on the hull of the ship. While only one colony was observed on the hull, <i>Carijoa riisei</i> has been documented to impact deep water corals. To avoid any spreading of this invasive species, the contractor will be required to physically remove the <i>C. riisei</i> colony from the hull and dispose of it landside prior to moving the ship.</p> <p>Comment 4. Acoustic Impacts on Marine Life</p> <p>Regarding potential acoustic stress to marine life, no extreme underwater noise generating activity such as pile driving is proposed. If any in-water work (e.g. coral removal from the ship’s hull) is conducted, it will be short term and noise levels will be within the range of existing harbor activities. Honolulu Harbor does not typically have whales, dolphins, or monk seals present, and therefore these species are not a major concern. Sea turtles are occasionally observed in the harbor. The work area will be determined to be</p>

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			<p>4. Acoustic Stress</p> <p>Disassembly or repairs in the harbor will result in increased noise on land as well as in the water. The DEA is lacking evaluation of the adverse effects of noise in the water due to potential disassembly of the vessel in Honolulu Harbor. Laser cutting, saw cutting, shearing, hammering, and drilling on the vessel may increase ambient noise underwater in the harbor, disrupting fish behavior.</p>	<p>free of turtles and other protected species prior to the start of in-water work. All work will be postponed or halted when protected species are in the vicinity and shall only resume after the animals have voluntarily departed the area.</p> <p>Final EA Revisions</p> <p>The Final EA will reflect these issues including the recent opinion from Sea Engineering and the recent agreement between HDOT and DAR agreement between HDOT and DAR not to attempt coral removal from the ship’s hull due to its overall safety risks.</p>
Department of the Army, Honolulu District, U.S. Army Corps of Engineers	Vera Koskelo, Biologist, Project Manager 808-835-4310 <a href="mailto:Vera.B.Koskelo@usace.army.mil">Vera.B.Koskelo@usace.army.mil</a>	Email 1/23/2023 (referencing USACE early consultation Ltr dated 8/28/2023)	Several of the alternatives, including the preferred alternative of Alternative 2b. Dismantle in Place, may require Corps authorization as stated in our 28 August 2023 letter, attached [early consultation letter]. In particular, Nationwide Permit Activity 22. Removal of Vessels authorizes Temporary structures ...required for the removal of wrecked, abandoned, or disabled vessels...” may be applicable if the use of a floating drydock or other temporary structures are proposed as part of the proposed project.	We acknowledge that the proposed removal of the <i>Falls of Clyde</i> may require DA authorization under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, if dredged and/or fill material is placed into waters of the U.S., including wetlands and/or work is performed in navigable waters of the U.S. The method of ship removal will be determined by the selected construction contractor, and all applicable regulations will be complied with. <p>Your letter also notes that the proposed activity may qualify for verification under Nationwide Permit 22 (Removal of Vessels). This NWP authorizes Temporary structures ...required for the removal of wrecked, abandoned, or disabled vessels...” may be applicable if the use of a floating drydock or other temporary structures are proposed as part of the proposed project.</p>



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STATE OF HAWAII				
Department of Health, Clean Water Branch	DOH Clean Water Branch Colin T. Maruoka <a href="mailto:Colin.Muraoka@doh.hawaii.gov">Colin.Muraoka@doh.hawaii.gov</a> <a href="mailto:cleanwaterbranch@doh.hawaii.gov">cleanwaterbranch@doh.hawaii.gov</a>	Email 12/22/2024	The DOH-CWB no longer provides comments for pre-consultation on EA/EIS documents. For agencies and projects owners requiring DOH-CWB comments, please utilize the DOH-CWB standard comments accessible on our website or the following link:  <a href="https://health.hawaii.gov/cwb/files/2018/05/Memo-CWB-Standard-Comments.pdf">https://health.hawaii.gov/cwb/files/2018/05/Memo-CWB-Standard-Comments.pdf</a> .	Acknowledged. Contractor will be required to comply with CWB requirements as applicable for proposed alternative.
Department of Land and Natural Resources Division of Aquatic Resources (DLNR DAR)	Brian J. Neilson, DAR Administrator  Jesse Boord, Aquatic Biologist	1/22/2024 DAR #AR6540 Transmitted by Kendall L. Tucker	Based on the proposed options, DAR would prefer that Alternative 2b: Dismantle in Place is selected for removal. Compared to towing the vessel, this presents less of a risk to the marine environment associated with the potential transportation and spread of harmful/invasive species that were identified on the vessel hull ( <i>Mycale armata</i> and <i>Carijoa riisei</i> ). Utilization of a floating drydock to dismantle at or near pier 7 would be more ideal than in-water scrapping because it is more likely that the present invasive species will spread during in-water scrapping.  The Department of Health should be contacted regarding any in-water cleaning that is planned.  For all regulated species, including but not limited to bivalves and coral, a special activity permit will need to be obtained through DAR.  <u>Coral:</u> Do not cause preventable physical damage to coral. Educate all personnel on site about the importance of minimizing any impacts to coral. Work performed	<u>Coral</u> The following mitigations to minimize physical damage to coral will be included in the Final EA: educating all personnel on site about the importance of minimizing impacts to coral; and that work performed during coral spawning period (May to August) will require monitoring potential sedimentation and turbidity effects to coral eggs and larvae. <i>(See separate discussion below on Coral Removal from Hull).</i>  <u>Sedimentation</u> Regular monitoring of sediment levels and water quality parameters around the construction site will be conducted. Training and awareness on sedimentation prevention and minimization will be provided for contractors and construction personnel working on site. This will be included in the Final EA as a mitigation requirement that the selected contractor will need to employ. Should above-average amounts of sediment enter the water, the contractor will provide DAR with notification, photo

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			<p>during coral spawning period (May to August) will require monitoring potential sedimentation and turbidity effects to coral eggs and larvae. Work will halt once sedimentation and turbidity surpass a water quality threshold determined by DAR. Upon completion, DAR would like to request photo documentation of the translocated corals that are to be moved from the hull of the vessel to bare segments of the adjacent harbor walls.</p> <p><u>Sedimentation:</u>                      Implement regular monitoring programs to assess sediment levels and water quality parameters around the construction site. Provide training and awareness for contractors and construction personnel that will be working on-site regarding sedimentation prevention measures. Educate them about the importance of minimizing sedimentation and the specific techniques to be employed during construction. DAR would like to request notification, photo-documentation, and GPS-coordinates for any occurrence where above-average amounts of sediment have entered the water, in order to assess impact, if any.</p> <p><u>Protected Species:</u>                      In the event that protected species such as the Hawaiian monk seal, other marine mammal, or sea-turtle is observed in close proximity to the construction site, and the activities being conducted may be considered as a "negligent or intentional act which results in disturbing or molesting a marine</p>	<p>documentation and GPS coordinates to assess impacts, if any.</p> <p><u>Protected Species</u>                      In the event that protected species such are observed in close proximity to the construction site and the activities being conducted may be considered as a "negligent or intentional act which results in disturbing or molesting a marine mammal", contractors will take appropriate action to modify activities in order to avoid disturbance to the regular behavior and activities of the animal. This language will appear as a mitigation requirement in the Final EA.</p> <p><u>Entanglement</u>                      The contractor will be required to utilize best management practices to eliminate any potential for incidental entanglement of marine organisms. At the end of each day and upon completion of the construction project, all construction-related debris that could potentially endanger species by causing entanglement shall be cleared from the construction area. This language will appear as a mitigation requirement in the Final EA.</p> <p>Barbed wire, which poses a hazard for seabirds, will not be allowed. If incidental entanglement of protected species occurs DAR and the appropriate federal agency should be notified immediately.</p>

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			<p>mammal", contractors should take appropriate action to modify activities in order to avoid disturbance to the regular behavior and activities of the animal. Appropriate action would include but is not limited to ceasing construction activity until the animal leaves the area of its own accord. If a pup is observed in the area, particular caution should be taken including creating a larger buffer between construction and the animals. All staff working on-site should receive training to recognize the Hawaiian monk seal and sea turtles, as well as learn the necessary procedures to follow if these species are observed.</p> <p>Any interaction between a protected species and the construction and repair activity proposed should be reported to the NOAA Protected Species Division and State of Hawaii DOCARE.</p> <p><u>Entanglement:</u>                      DAR recommends that the applicant utilize best management practices to eliminate any potential for incidental entanglement of any marine organism. Entanglement prevention practices will include but are not limited to: minimizing the amount of in-water structures or components that may potentially cause entanglement during operations (loops, holes, slack lines).</p> <p>At the end of each day and upon completion of the construction project, all construction related debris that could potentially endanger species by causing</p>	<p><u>Aquatic Invasive Species</u>                      An important consideration in the removal of the <i>Falls of Clyde</i> is the prevention of spreading of introduced and invasive species that are present on the hull of the ship. While only one colony was observed on the hull, <i>Carijoa riisei</i> has been documented to impact deep water corals. To avoid any spreading of this invasive species, the contractor will be required to physically remove the <i>C. riisei</i> colony from the hull and dispose of it landside prior to moving the ship.</p> <p><u>Coral Removal From Ship's Hull</u>                      On April 7, 2024, Mr. Davis Yogi and HDOT staff met with you to discuss your request for removal, translocation, and photo documentation of corals moved from the hull to the adjacent harbor walls.</p> <p>The meeting was followed up with a memorandum to you dated April 11, 2024, explaining that the Hull Survey prepared by Mr. Joseph Lombardi of Ocean Technical Services indicated the ship's hull shell plating is severely corroded and has holes below the water line. HDOT also included a March 8, 2024 opinion from Sea Engineering stating:</p> <p><i>"removal of the coral structures would likely result in failure of the hull. It is expected, given the maturity of the coral on the hull, that the remaining thick steel would likely come off with the coral during the removal operations. Should this occur, it is likely that the water intrusion into the hull would exceed pumping capacity of any pumps. The uncontrolled</i></p>

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			<p>entanglement shall be cleared from the construction area.</p> <p>Barbed wire poses a large hazard for seabirds, especially fledglings. Fences should not have barbed wire.</p> <p>If incidental entanglement of protected species occurs DAR and the appropriate federal agency should be notified immediately.</p> <p><u>Invasive Species:</u>                      An Aquatic Invasive Species (AIS) Mitigation Plan will be filed with the Division prior to conducting any activity under this permit. The Plan will include methods and protocols to minimize AIS or disease movement through gear, supplies and activities of the permittee. The permittee must take actions to verify that collection tools have been disinfected before use if previously used in activities in other locations.</p> <p>The applicant will mitigate the spread of invasive species between areas of activity. Equipment will be inspected and disinfected between conducting activities in different areas, to mitigate the spread of disease or parasitic organisms. All gear deployed must be visually checked for invasive algae/sponges/other organisms and disinfected with 10% bleach solution for 10 minutes before deployment in alternate location if collecting between multiple watersheds/distinct reef areas. If collection gear cannot be bleached, gear must be</p>	<p><i>sinking of the Falls of Clyde creates a potential safety concern for divers working on the bottom of the ship and would likely result in the destruction of any remaining corals not yet removed from the vessel.”</i></p> <p>On April 24, 2024, DLNR DAR replied to HDOT agreeing with the determination that removal of the corals from the hull would cause considerable safety risk to personnel, the harbor infrastructure, and the <i>Falls of Clyde</i>. DLNR DAR also stated that If and only if the removal of the <i>Falls of Clyde</i> is done in a way that coral may be removed from pieces of the hull when they come on-shore, and there is no risk to infrastructure, personnel, or the operation itself, HDOT shall make these corals available to DAR’s coral nursery team at Anuenue Fisheries Research Center.</p> <p>Your memo also clarifies that upon further review of DAR’s special activity permit issued pursuant to Hawaii Revised Statutes, Section 187-6, HDOT does not need to be issued a SAP for the coral on the <i>Falls of Clyde</i>. You further clarified that HDOT is not subject to Section 13-95-70 HAR prohibiting any person to take, break or damage any stony coral because HDOT is a department of the State of Hawai’i and therefore not a “person” as specified under the rule.</p> <p><u>Final EA Revisions</u>                      The Final EA will be revised to reflect the recent information and discussion on coral removal, including the opinion from Sea Engineering, the agreement between HDOT and DAR on the risks of</p>

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			thoroughly rinsed with fresh water and dried in sun for 24 hours before deployment in alternate location, sterilized with another viable method or alternate sampling gear should be utilized. If sampling disease or anomalous growth specimens, gear should be sterilized between each specimen or new collection gear should be used. The following species remain a concern to the division: Alien invasive algae (Kappaphycus spp., Eucheuma denticulatum, Gracilaria salicornia, Acanthophora spicifera, Hypnea musciformis and Avrainvillea amadelpha), Coral disease (Montipora White Syndrome, Porites trematodiasis, Montipora white syndrome, Porites tissue loss syndrome, and Porites spp. and Montipora spp. tumors, Montipora spp. growth anomaly), Orange keyhole sponge (Mycale armata/grandis), and snowflake coral (Carijoa riisei).	coral removal, and the agreement that if and only if the removal of the <i>Falls of Clyde</i> is done in a way that coral may be removed from pieces of the hull when they come on shore, and there is no risk to infrastructure, personnel, or the operation itself, HDOT shall make these corals available to DAR’s coral nursery team at Anuenue Fisheries Research Center. The Final EA will also note that DAR has determined a SAP is not required.
Department of Land & Natural Resources, Land Division	Timothy Chee <a href="mailto:Timothy.chee@hawaii.gov">Timothy.chee@hawaii.gov</a>	Ltr dated 1/22/2024	<u>Engineering Division</u> No comments	N/A. Thank you for your participation in the environmental review process.
Office of Planning & Sustainable Development	Joshua.Hekekea, Planner CZM Program <a href="mailto:Joshua.k.hekekea@hawaii.gov">Joshua.k.hekekea@hawaii.gov</a>  Mary Alice Evans, Director	Memo to HDOT 1/18/2024 In response, include DTS 2023122608 35NA in subject line.	<u>Coastal Zone Management Act (CZMA), Federal Consistency</u> Based on correspondence between HDOT and the U.S. Army Corps of Engineers, in a letter dated August 23, 2023, Proposed Removal of Falls of Clyde, Honolulu Harbor, Honolulu, Island of Oahu, HI, Department of the Army File No. POH-2023-00156, it states: “The proposed removal of the Falls of Clyde may require DA authorization if you place dredged and/or fill material into waters of the U.S., including wetlands and/or perform work in navigable waters of	<u>CZMA Federal Consistency</u> The selected contractor will determine the method of ship removal and thus whether the project is subject to a Department of the Army permit/Nationwide permit. Should a DA permit/Nationwide permit be applicable, the contractor will consult with your office regarding CZMA Federal Consistency requirements.

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			<p>the U.S. The proposed activity may qualify for verification under Nationwide Permit 22 (Removal of Vessels).”</p> <p>If the proposed removal action requires a Department of the Army Permit, then this project may be subject to CZMA Federal Consistency. OPSD is the lead state agency with the authority to conduct CZMA federal consistency determinations. We recommend that HDOT consult with our office on the applicability of CZMA federal consistency.</p>	<p><u>Hawai’i CZM Program</u></p> <p>The Final Environmental Assessment will include a discussion of the project’s consistency with the objectives and supporting policies of the Hawai’i CZM program.</p>
			<p><u>Hawai’i Coastal Zone Management (CZM) Program</u></p> <p>Pursuant to HRS § 205A-4, in implementing the objectives of the CZM program, agencies shall consider ecological, cultural, historic, esthetic, recreational, scenic, open space values, coastal hazards, and economic development. As the proposed action is being proposed by HDOT, in a dedicated section within Consistency with Existing Plans, Policies and Controls, the Final Environmental Assessment (Final EA) should include a discussion on the project’s consistency with the objectives and supporting policies of the Hawai’i CZM Program, HRS § 205A-2, as amended. The objectives and supporting policies of the Hawai’i CZM Program serve as the foundation of the enforceable policies of the State of Hawai’i. The evaluation on the project’s alignment with HRS § 205A-2 in the Final EA can be used as support material for a CZMA federal consistency determination. Furthermore, disclosure of impacts on CZM objectives and supporting policies as it</p>	

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			relates to HRS Chapter 343 requirements, will aid the State in determining impacts to the resources of the coastal zone, and mitigation measures on lands involved for this proposed action.	
<b>CITY &amp; COUNTY OF HONOLULU</b>				
Department of Design and Construction	Haku Milles, Director (808) 768-8480 Transmitted by	Ltr 1/11/2024	DDC has no comments to offer at this time.	N/A. Thank you for your participation in the environmental review process.
LATE COMMENT-- Department of Transportation Services	Greg Tsugawa (808) 768-6683	Ltr 1/22/2024 (received from HDOT 2/2/2024)	<p>1. Bus Stops. The Project is in close proximity to TheBus Stop #1281, as such, we have the following comments.</p> <p>i. Air quality may be unhealthy for bus riders waiting at TheBus Stop #1281, which is adjacent to Pier 7, if it's not closed or relocated. As such, the Applicant shall implement appropriate air quality mitigations.</p> <p>ii. If the Project affects Aloha Tower Drive and Nimitz Highway, TheBus Stop #1281 may need to be closed or relocated for the duration of the work. TheBus Routes 60 (Honolulu-Kaneohe-Haleiwa), 65 (Honolulu Kaneohe-Ahuimanu), 67 (Honolulu-Kailua-Waimanalo), and 88A (North Shore Express) may need to be detoured. Advanced notification/coordination with the Department of Transportation Services (DTS) - Transportation Mobility Division (TMD) and O'ahu Transit Services, Inc. will be needed, contact DTS-TMD at <a href="mailto:TheBusStop@honolulu.gov">TheBusStop@honolulu.gov</a>.</p> <p>iii. If TheBus Stop #1281 is closed, the nearest eastbound bus stop that is served by TheBus Routes</p>	<p>Bus Stops</p> <p>Regarding air quality concerns for bus riders waiting at TheBus Stop #1281 adjacent to Pier 7, the contractor will be required to follow best management practices to mitigate air quality impacts...</p> <p>We do not anticipate the need to close Aloha Tower Drive or Nimitz Highway or to detour existing bus routes. However, the contractor will be advised that if temporary impacts are anticipated, advanced notification and coordination with DTS will be required.</p> <p>Although no bus stop closures are anticipated, should TheBus Stop #1281 be affected, the contractor will be required to maintain ADA access to the nearest alternate stop #1282.</p> <p>Neighborhood Impacts</p> <p>Area representatives, Neighborhood Board, O'ahu Transit Services and area businesses will be kept apprised of details and status throughout the project</p>

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			<p>60, 65, 67, and 88A is TheBus Stop #1282 (Ala Moana Boulevard + Opp Punchbowl Street) and is approximately 1300-feet east of TheBus Stop #1281. Americans with Disabilities Act (ADA) accessibility will need to be maintained between Aloha Tower and TheBus Stop #1282 to accommodate the current users of TheBus Stop #1281 (average daily weekday ridership is 120, average daily Saturday ridership is 150, and average daily Sunday ridership is 96).</p> <p>2. Neighborhood Impacts. The area representatives, neighborhood board, as well as the area guests, businesses, emergency personnel (fire, ambulance, and police), Oahu Transit Services, Inc. (TheBus and TheHandi-Van), etc., should be kept apprised of the details and status throughout the project and the impacts that the project may have on the adjoining local street area network.</p> <p>3. Disability and Communication Access Board (DCAB). Project plans (vehicular and pedestrian circulation, sidewalks, parking and pedestrian pathways, vehicular ingress/egress, etc.) should be reviewed and approved by DCAB to ensure full compliance with ADA requirements.</p>	<p>and any impacts the project may have on the adjoining local street network.</p> <p>Disability and Communication Access Board (DCAB)</p> <p>Project plans impacting vehicular and pedestrian circulation, sidewalks, parking, pedestrian pathways, and/or vehicular ingress/egress will be reviewed and approved by DCAB to ensure full compliance with ADA requirements.</p>
OTHER				
Friends of Falls of Clyde Bruce McEwan	Bruce McEwan, President	Ltr to HDOT 1/17/2024	Friends of Falls of Clyde, Inc. (FFOC), as owners of the National Historic Landmark Vessel <i>Falls of Clyde</i> , is pleased to make our formal response to the draft of the Environmental Report titled "Removal of Falls of Clyde from Honolulu Harbor." We will address our comments in the order that the draft is structured.	Introduction  You commented that in Paragraph 2, the statement about "years of insufficient maintenance and neglect" seems to imply that this is related to ownership by the Friends of Falls of Clyde. It is not



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			<p>However, we do believe that any comments not directly related to the actual removal process should be deleted. Once the ship is out of the harbor, it will be effectively removed as per the project.</p> <p>Introduction</p> <p>In paragraph 2, the statement "due to years of insufficient maintenance and neglect" seems to imply that this is related to the ownership of Friends of Fall of Clyde, which is false. Because the condition is the critical piece driving the removal, the complete history of the maintenance and neglect over decades should be provided in detail. If this reference is to remain in this section, we insist that it be put in the context of the 35 years since the ship was last in drydock. We will add details to the maintenance and neglect in the Historical Background Section.</p> <p>Historical Background</p> <p>Paragraph 5 runs some things together that need clarification. First, the mention of a 2005 concern for the ship's corrosion and weakened hull integrity regarding the ship's status as a National Historic Landmark was made under the ownership of Bishop Museum and not FFOC.</p> <p>Bishop Museum owned the ship since 1989 and failed to properly maintain her and put her into drydock to deal with the conditions found in 2005. Second, three years later in 2008, this condition caused Bishop Museum to plan to tow the ship and scuttle it at sea. The public record, we believe; shows</p>	<p>our intent to blame any single party, only to state facts as it relates to the current condition of the ship. That said, a statement will be added in this paragraph to also note Bishop Museum's ownership during this period.</p> <p>Historical Background</p> <p>The intent of this section of the EA is to provide a simple and factual sequence of events to provide context as to how the present situation came about; i.e., the current deteriorated condition of the ship, as documented by the recent surveys and reports referenced in the EA (included as EA Appendices A, B and C).</p> <p>Your comments expand on the actions taken by Bishop Museum prior to 2008; FFOC's efforts and plans for <i>Falls of Clyde</i> since 2008; a history of communication between FFOC and the HDOT; and a discussion of FOCI's involvement. Thank you for providing additional information on events that occurred during this time period. A copy of your letter will be included in the Final EA and will become part of the public record.</p> <p>Project Alternatives</p> <p>As suggested, reference to Alternative 2b as HDOT's Preferred Alternative has been removed. That said, this alternative appears to be the most implementable, involves the least environmental risk, and entails minimal regulatory and permitting requirements. Given the <i>Falls of Clyde's</i> precarious</p>

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			<p>that Bishop Museum had a survey done in 2007 in which the surveyor estimated the restoration would cost \$40 million. This is what moved Bishop Museum to have the ship derigged in May 2008 in preparation for its scuttling plan. Your history indicates that Bishop Museum had a permit from the EPA to execute their plan. The reality is that the community members who were involved in trying to save the ship found out that Bishop Museum neglected to advise the EPA that <i>Falls of Clyde</i> is a National Historic Landmark. This led to the cancellation of their plan, the formation of the nonprofit organization FFOC and ultimate transfer of ownership to FFOC on September 30, 2008.</p> <p>You make what we consider a gratuitous comment about the Transfer Agreement between Bishop Museum and FFOC, which included a condition that the ship be removed from Pier 7 to a local drydock. or Bishop Museum had the right to have the ship returned to move it and dispose of it if the terms were not met. Since the ship is still at Pier 7 and you do not know what occurred during that period, why is this even in the draft? It is not relevant to this project, so delete it.</p> <p>In paragraph 6, you make the statement that the plans of FFOC never came to fruition. This definitely needs details, since it also says "after years of lengthy discussion between HDOT and FFOC." We would like to know what this means. Until the end of 2014 and early 2015, we had virtually no discussion</p>	<p>physical condition and the threat it poses to harbor operations and the environment, HDOT is prioritizing the expeditious and safe removal of the ship. A proposer’s demonstrated ability to remove the ship in a timely manner including obtaining all permits and regulatory approvals, and with minimal environmental risk will be considered during the selection process.</p> <p>Potential Impacts and Mitigation of <i>Falls of Clyde</i> as a Historic Vessel</p> <p>Please note that HDOT, at its own initiative, has met all the proposed (though no longer binding) mitigative measures identified in the 2008 Memorandum of Understanding (MOU) between the various parties at the time of the FFOC’s acquisition of <i>Falls of Clyde</i>.</p> <p>In October 2023, HDOT completed the Historic American Engineering Record (HAER) documentation begun in 1989 as a two-year, two-part effort, but never completed. The recent documentation was done through an aerial LIDAR scan of the ship and additional black and white photographs of areas not documented in 1989. Scanning the hull and decks and accessible compartments with LIDAR and additional high-resolution photos created a full documentary record of the vessel. The final drawings and renderings, along with the large format black and white photography, will be submitted to the National Park Service’s HAER. NPS will review these to ensure the documentation is to the same standard and</p>

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			<p>whatsoever with HDOT. We now know from recent information that as early as 2013 there was internal discussion-at HDOT about the desire to remove the ship from the harbor. The fact is that by the middle of 2014, FFOC had a drydock plan for the ship and a business plan. This information was communicated to HDOT. As a matter of fact, the request for our business plan came directly from the acting Director of the DOT. There was absolutely no response. Why? Because our plan, which was based upon visitor figures over a period of years from the Hawaii Maritime Center, stated that the ship had to go into drydock for hull stability before any deck/cabin restoration could take place. The plan called for phased restoration to get the ship ready to regain its position as a museum ship, which would take a substantial number of years. They knew we had a drydock plan and needed to raise funds. It was in 2015 that statements began to come from HDOT about the ship being a safety hazard to the harbor, which effectively undercut any fundraising efforts. We sent HDOT surveys and a mooring plan to counter their claims, but were ignored. We attempted to get State CIP funds, but in the not so lengthy discussions with HDOT, they made it clear that if we took the ship to dry dock, they would not guarantee that it would be returned to Pier 7.</p> <p>This section also seems to emphasize that our Revocable Permit was given to FFOC gratis, which is true we believe because the Deputy Director of the HOOT was supportive of <i>Falls of Clyde</i> as being a</p>	<p>format as other HAER-documented ships, and then officially transmit the documentation to the Library of Congress for inclusion, along with the pre-existing <i>Falls of Clyde</i> documentation. The LIDAR and photographs will add the details and images that were missing from the initial documentation.</p> <p>Historic Artifacts</p> <p>We acknowledge your comment that FFOC has some documentation of historic artifacts and objects and that you have reached out to Bishop Museum which has declined to take possession of the artifacts. In 2023, HDOT also inventoried remaining potentially significant artifacts and features.</p> <p>On May 20, 2024, HDOT sent you a letter requesting that if there are any belongings or artifacts that FFOC would like to retrieve from the vessel, to please arrange to have them removed by June 19, 2024. HDOT will arrange a date and time to provide access and also require signed waiver release forms from anyone who will board the vessel. HDOT will work with an agent or another non-profit organization who has been assigned to work on FFOC's behalf. Any artifacts remaining on the <i>Falls of Clyde</i> after June 19, 2024 will be considered abandoned by the FFOC and become property in the custody of the State of Hawai'i. The HDOT would then implement provisions in Hawai'i Revised Statutes (HRS), Chapter 94, and work with the Comptroller and State Archivist to determine the disposition of the artifacts. Should the RFP and subsequent contract award result in the</p>

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			<p>National Historic Landmark in Hawaii. The gratis status was not questioned by any subsequent HDOT Deputy Directors, but had FFOC be asked to pay a permit fee, we were very capable of doing so.</p> <p>There is also a point made that the ship was impounded because HDOT invoked a Revocable Permit provision to remove the ship or have it impounded. This demand was made in May 2016, a month in which the State of Hawaii was being lauded for its commitment to historic preservation. Their demand was made knowing that the ship could not be moved on its own and, more importantly, knowing that there was no place to move it. The public record shows that we twice appealed this decision and failed on technical bases. Clearly a sign that HDOT had no intention of allowing FFOC to ever fulfill our mission to preserve and restore the National Historic Landmark Vessel <i>Falls of Clyde</i>.</p> <p>Paragraph 7 includes a discussion of the efforts of Falls of Clyde International (FOCI), a Scottish organization that had taken an interest in returning the historic ship to Scotland where she was built in 1878. FOCI's leader, David O'Neill, offered this plan to FFOC in 2016 and made a few attempts to bring the project together. FFOC considers the return to Scotland to be a viable solution. However, as stated in the paragraph, their proposal was ultimately declined by HDOT primarily for failure to obtain a performance bond. There is also history here. When the HDOT tried to auction off the ship in 2019, there</p>	<p>removal of the vessel by dismantling, any artifacts that are removed and recovered during the dismantling work will also be subject to HRS Chapter 94.</p>

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			<p>were no bidders. Why, because this type of project is not one that a guarantor would take on at the level required. FFOC advised the then HDOT Deputy Director no one could obtain this type of bond and we questioned the source of the requirement. We were referred to a statutory requirement for this bond for construction projects for which this type of bond is readily available. We could not get a straight answer to our questions about the decision-maker's knowledge of bonds and the bond market nor who it was that required the level of guaranty. After FOCI had their project declined, we continued to pursue the issue and were told that the performance bond is required for removal of derelict vessels and that Travelers Insurance Company does issue the bonds. The point that was missed is that there is most likely a smaller bond limit that the company could guarantee and not a multimillion dollar project of this type. I have included this discussion because if the performance bond is required for a third party to bid on an RFP then a reasonable limit must be set.</p> <p>Finally, and this goes back to our concern for statements about insufficient maintenance and neglect, during the years 2008-2014, FFOC was learning as much as we could about preserving an iron-hulled historic vessel. Over the years we engaged an iron specialist, naval architects, marine engineers, and marine surveyors and historic ship experts to provide guidance. We put on a weatherproofed working deck. We installed a pump system to move ballast water between tanks to keep</p>	

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			<p>the ship in trim. We monitored water levels in the tanks and arranged to safely remove excess water when needed. We adjusted mooring lines as needed. We worked on the ship on a regular schedule. Following the impoundment, we were still allowed access to continue the type of maintenance work we had been doing. However, after the failed auction attempt in early 2019, we were banned from working on the ship and given the reason that HDOT decided it was too unsafe, even though FFOC members and volunteers had been working on the ship continually since 2008 and were able to do so safely. The point we want to make here is that since early 2019 any insufficient maintenance and neglect solely rests with HDOT. After this ban, we specifically tried to exert our owner's right to know what maintenance was being done. We asked for reports on work, the monitoring of water levels and other details that would show us that the vessel was actually being cared for. The response was that there were no reports.</p> <p>In closing this section, everything that is reported from our perspective has been directly experienced by our president, Bruce McEwan, who is prepared to make an affidavit, if necessary to the validity of everything stated here.</p> <p>Project Alternatives</p> <p>As stated earlier in this response, we believe that any details included that are not related to the specific</p>	

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			<p>alternative to remove the ship from the harbor should be deleted.</p> <p>We have some concern as to why Alternative 2b is already labeled the Preferred Alternative.</p> <p>Although this section covers pros and cons of the identified alternatives, the choice of the removal is supposed to be left up to the successful contractor once the RFP is issued, so flagging the consultant's opinion as preferred seems to skew the options for those who may bid on the RFP. It should be up to the contractors to determine how they assess the pros and cons of the project. Definitely remove that label.</p> <p>Making a statement like the consultant's opinion that dismantling the vessel in either 2a or 2b is the least risk to the marine environment, in our opinion, is speculative unless there is a detailed analysis of how that opinion was reached. We also direct attention to our comments about historic artifacts in the following section.</p> <p>Also, in 2a there is a con related to the "uncertain ability of the ship to survive tow intact." This is not fully supported by the Hawaii Marine Surveys LLC (8/2022) inclusion that "The current, condition of the vessel <i>Falls of Clyde</i> is such that the vessel may be able to be towed from its berth safely out of Honolulu Harbor." This inclusion is supported by the recommendation that a trial towing operation be tried and assessed. Again, this is a decision to be</p>	

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			<p>made by a contractor and should not be listed as a con without this recommendation included.</p> <p>Mostly importantly, FFOC believes that there is yet another alternative. The marine industry is well known for its ability to salvage vessels in the most dire conditions. We propose that an additional alternative be added that the vessel be assessed for its ability to be made safe to tow-using salvage techniques that can preserve the hull structure for a removal.</p> <p>Potential Impacts and Mitigation of FOC as a Historic Vessel</p> <p>In this section we find it interesting that a return to Scotland would "be ideal" given if the conditions can be made to work. This section also reconfirms that FFOC owns the vessel, which includes all artifacts and objects that HDOT says have been documented. FFOC also has some documentation of the artifacts. If the ship is not kept intact, those artifacts that have historical significance, which are, at least in part, documented In the plan must be preserved for their value to maritime museums in the United States or other countries. Unfortunately, FFOC has reached out to Bishop Museum and they have declined to take possession of any artifacts from Falls of Clyde even given their prior ownership. Any contractor considering dismantling of the vessel, must be made to provide FFOC, as owner, the precise manner in which the removal of historic artifacts will be made as they will be liable for destruction of any such</p>	



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			<p>artifacts. There is also a comment about FFOC reporting a sale of an artifact to a local bar. There was neither a report nor a sale so this comment needs to be deleted from the final report.</p> <p>Sincerely, Bruce McEwan, President</p>	
Historic Hawai'i Foundation	Kiersten Faulkner, Executive Director <a href="mailto:Kiersten@historichawaii.org">Kiersten@historichawaii.org</a>	Ltr dated 1/22/2024	<p>Historic Hawai'i Foundation strongly objects to the proposed finding of no significant impact. HHF takes issue with the DEA statements that the "removal from the National Register and removal of its NHL status are pending" and "It is anticipated that the delisting process will be completed by the time the Proposed Action is implemented."</p> <p>As the U.S. Department of the Interior made clear in its written comments on the pre-assessment consultation, the regulations for withdrawal of National Historic Landmark Designation (36 CFR 65.9) involve action by the Secretary of the Interior separate from any delisting request to the Keeper of the National Register of Historic Places via a state historic preservation office.</p> <p>The regulations clearly state that, "National Historic Landmarks will be considered for withdrawal of designation <u>only at the request of the owner or upon the initiative of the Secretary</u>" (emphasis added). Since neither the owner (Friends of Falls of Clyde) nor the U.S. Secretary of the Interior has made any such application, there is no open or pending action to withdraw the National Historic Landmark designation.</p>	<p>HHF Objection to the Proposed Finding of No Significant Impact</p> <p>Your letter notes that <i>Falls of Clyde</i> is a designated a National Historic Landmark which "...will be considered for withdrawal of designation only at the request of the owner or upon the initiative of the Secretary...Since neither the owner (Friends of Falls of Clyde) nor the U.S. Secretary of the Interior has made any such application, there is no open or pending action to withdraw the National Historic Landmark " As explained below, the NHL Subcommittee of the National Parks System Advisory Board recently voted unanimously to recommend withdrawal of the ship's NHL status.</p> <p>Your letter states that "<i>destruction of an NHL, by definition, is irreversible and a significant impact to the environment.</i>" In response, HDOT asserts that that the historic and structural integrity of <i>Falls of Clyde</i> has been effectively destroyed by many years of neglect by its previous owners, including the application of inappropriate methods and materials in maintenance and restoration. In the expert opinion of marine surveyors with specialized, licensed experience, the <i>Falls of Clyde</i> has been found to be</p>

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			<p>Therefore, the NHL designation is wholly intact; the historic ship is still recognized as a significant cultural resource and its removal or destruction would be a significant impact to the environment. HDOT is relying on a non-existent circumstance to justify its finding. Since the underlying assumption is false, the finding is inappropriate.</p>	<p>unsafe, and in danger of sinking in the harbor. The “destruction” of the NHL took place with the loss of that integrity.</p> <p>NRHP Delisting Update</p> <p>Since the Draft EA was published, the <i>Falls of Clyde</i> was removed from the National Register of Historic Places on February 2, 2024. The National Register delisting was recommended by the State Historic Preservation Officer after its removal from the State Register, and in full compliance with 36 CFR 60.15.</p> <p>On May 14, 2024, the National Historic Landmarks Committee of the National Park System Advisory Board (NPSAB) voted unanimously to remove the <i>Falls of Clyde’s</i> NHL designation. This recommendation will go to the full NPSAB at a future meeting. A decision by the NPSAB to remove the NHL designation would then be transmitted to the Secretary of the Department of the Interior for signature and final approval. It is anticipated that the procedural removal of the <i>Falls of Clyde’s</i> NHL designation will be completed by the time the proposed action is implemented.</p> <p>What HHF refers to as the “<i>complete destruction and loss of the NHL</i>” was not caused by the delisting, but by years of neglect, which led to the ship’s unfortunate current condition. Dr. James Delgado, the same individual who prepared the original NHL nomination for the Department of the Interior, has concluded that the <i>Falls of Clyde</i> has ceased to meet</p>

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				<p>the criteria for listing in the National Register because the qualities which caused it to be originally listed have been lost or destroyed.</p> <p>According to Dr. Delgado, the assumption that until the Secretary of the Interior action, the vessel retains the “protections” of the NHL is flawed. To be an NHL, the qualities and integrity required to be listed in the National Register must be present. If a vessel has lost these qualities and integrity, it may be an NHL in name only, pending its formal removal. Dr. Delgado has cited similar circumstances with other NHL vessels which have been scrapped, or simply allowed to rest as sunken, partially scrapped hulks without mitigation or intervention. Specifically, he cited the NHL ships <i>Deluge</i>, <i>Inaugural</i> and <i>Ste. Claire</i>, which were officially removed as NHLs in December 2023.</p> <p>Mitigation</p> <p>Please note that HDOT, at its own initiative, has met all the proposed (but no longer binding) mitigative measures identified in the 2008 Memorandum of Understanding (MOU) between the various parties at the time of the Bishop Museum’s divestiture of <i>Falls of Clyde</i>.</p> <p>In October 2023, HDOT completed the Historic American Engineering Record (HAER) documentation begun in 1989 as a two-year, two-part effort, but never completed. The recent documentation included an aerial LIDAR scan of the ship and additional black and white photographs of areas not</p>

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				<p>documented in 1989. Scanning the hull and decks and accessible compartments with LIDAR and additional high-resolution photos created a full documentary record of the vessel. The final drawings and renderings, along with the large format black and white photography, will be submitted to the National Park Service’s HAER. NPS will review these to ensure the documentation is to the same standard and format as other HAER-documented ships, and then officially transmit the documentation to the Library of Congress for inclusion, along with the pre-existing <i>Falls of Clyde</i> documentation. The LIDAR and photographs will add the details and images that were missing from the initial documentation.</p> <p>In addition, in 2023, HDOT inventoried remaining potentially significant artifacts and features. The list will be included in the Final EA.</p> <p>On May 20, 2024, HDOT sent a letter to the Friends of Falls of Clyde (FFOC), the ship’s owner, requesting that if there are any belongings or artifacts that FFOC would like to retrieve from the vessel, to please arrange to have them removed by June 19, 2024. HDOT will arrange a date and time to provide access and also require signed waiver release forms from anyone who will board the vessel. HDOT will work with an agent or another non-profit organization who has been assigned to work on FFOC’s behalf. Any artifacts remaining on the <i>Falls of Clyde</i> after June 19, 2024 will be considered abandoned by the FFOC and become property in the custody of the State of</p>

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				<p>Hawai'i. The HDOT would then implement provisions in Hawai'i Revised Statutes (HRS), Chapter 94, and work with the Comptroller and State Archivist to determine the disposition of the artifacts. Should the RFP and subsequent contract award result in the removal of the vessel by dismantling, any artifacts that are removed and recovered during the dismantling work will also be subject to HRS Chapter 94.</p> <p>Conclusion</p> <p>The loss of this historic resource is extremely unfortunate and not an outcome that anyone, including HDOT, would have chosen. It has been nearly 20 years since concerns about the <i>Falls of Clyde's</i> corrosion, weakened hull integrity and NHL status were raised by the Department of the Interior. The fact is that decades of inadequate maintenance and neglect have led to the ship's current condition and loss of integrity. The imminent threat of the ship sinking leaves HDOT with little choice in fulfilling its responsibility to ensure the safe operational and environmental integrity of the harbor.</p> <p>Finally, it should be noted that the HDOT is calling for the removal, not the destruction of the <i>Falls of Clyde</i>, though the EA notes that loss is possible, if not probable. Alternatives to ship deconstruction and disposal will be considered, provided the proposers are able to meet the conditions of the RFP, including</p>

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John Ewald (former Bishop Museum Restoration Manager in mid-70s)	John Ewald <john.ewald@mac.co m>	Email dtd 1/22/2024	<p>1.</p> <p>In the Pre-Assessment Consultation (8/24/2023) and the Draft Environmental Assessment (12/14/2023, released on 12/23/2023), an opinion characterizes that the vessel "...has lost the historic integrity that qualified the ship for listing in the State and National Registers of Historic Places."</p> <p>That is incorrect as separately detailed in both of the same documents. But that incorrect position is then "supported" with Appendices that are injurious to the basic evaluation and unbiased ranking of the alternatives presented for our consideration.</p> <p>A curious example is "Cultural Assessment for the Falls of Clyde Removal Project" by the reputable local firm Honua Consulting (p.318). I was honestly surprised by the complete erasure of any reference to the Matson Navigation era. Similar erasure of the entire Bishop Museum era, with its Maritime Center experiment. These explicit omissions 'feel' telling, and maybe even instructive, on the forces at work within this set of forthcoming decisions? "While there are some Native Hawaiians who have shown interest in the ship over time, namely kūpuna [elders] like Verlie Ann Malinda Wright, there is no evidence to show the ship was significant to Native Hawaiian history or association with Hawaiian traditional [typo in the report] or customary practices. This single</p>	<p>a third-party removal of the vessel intact to another destination.</p> <p>1.</p> <p>Statements about Historic Integrity</p> <p>The HDOT stands by the statement that the ship has lost the historic integrity that qualified it for listing in the State and National Registers. The structural integrity of <i>Falls of Clyde</i> has been effectively destroyed by many years of neglect by its previous owners, including the application of inappropriate methods and materials in maintenance and restoration. In the expert opinion of marine surveyors with specialized, licensed experience, the <i>Falls of Clyde</i> has been found to be unsafe, and in danger of sinking in the harbor.</p> <p>The determination that the ship has lost its historic integrity was made by Dr. James Delgado, the same individual who prepared the original NHL nomination for the Department of the Interior. Dr. Delgado concluded that the <i>Falls of Clyde</i> has ceased to meet the criteria for listing in the National Register because the qualities which caused it to be originally listed have been lost or destroyed. To be an NHL, the qualities and integrity required to be listed in the National Register must be present.</p> <p>The documentation provided in the Appendices on the ship's structural condition is factual and objective. Rather than being injurious to an evaluation of alternatives, as you suggest, the</p>

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			<p>name reference (I did meet her) reduces her distinguished and important community role to be just one “kūpuna” [elders]  <a href="https://obits.staradvertiser.com/2019/10/12/dr-verlieann-kapule-malina-wright/">https://obits.staradvertiser.com/2019/10/12/dr-verlieann-kapule-malina-wright/</a></p> <p>Maritime activities are thoroughly entwined with every conceivable aspect of life in the Islands, from the earliest to present day, with both good and bad stories to share. But that is history. That is life, which continues today in the Harbor with Native Hawaiians working in many leadership and contributing positions.</p> <p>Most registered historic places have historic integrity and historic significance first recognized and then restored and interpreted, from relics in much worse condition than the FALLS OF CLYDE displays today or on 11/17/1963 when she arrived at Pier 14 (image on p.1-5). This wording comes off as "piling on" just to strengthen a position. The vessel clearly does not look today like she did before the hurricane. We should accept that appearance as fact, but that appearance is not a proper criteria for decisions.</p> <p>2.</p> <p>Project Alternatives 2.2.1 (No Action), 2.2.3 (2a or 2b: Dismantling), 2.2.4 (3: Sinking) are the items where the following specific comments apply: I cannot defend the actions nor the stewardship of the Honolulu-based group Friends of Falls of Clyde. They have taken limited specific actions, some that could</p>	<p>information provides full disclosure to any potential respondents to a forthcoming Request for Proposal to remove the ship, who must evaluate the feasibility and cost of their proposed alternative.</p> <p>Comments regarding Cultural Assessment</p> <p>Your comments regarding the Cultural Assessment are noted. Dr. Wright was referenced, because of her role in the Hawaiian community. The Matson Navigation and the Bishop Museum eras were considered in the development of the CIA, and it was determined that no positive contributions to Native Hawaiian traditional or customary practices, as defined under applicable regulations, were identified. It is also unclear how the proposed action would adversely affect Native Hawaiian traditional or customary practices.</p> <p>We agree that appearance alone is not proper criteria for decision on the <i>Falls of Clyde</i>. RFP respondents must evaluate the feasibility and cost of any proposal. The ship’s structural condition will have a significant impact on the feasibility and cost of each alternative. The HDOT has provided full disclosure; and it is the respondent’s task to propose, fund and implement a safe removal from the harbor.</p> <p>2. (Project Alternatives Section) Discussion of Historic Artifacts</p> <p>HDOT shares your concern for retaining and preserving historic and cultural artifacts, should any of the alternatives involving deconstruction or</p>

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			<p>be viewed as harmful, slow or even wasteful of the financial resources they had. An example is recently selling the figurehead (shown aboard the vessel by pictures in the DEA from March 2023) in direct defiance of the charter this non-profit embraced when accepting the vessel sale from Bishop Museum. The reason to mention this, is to plead for consideration and engaged support for the value that many whole components, artifacts, and even broken or cut pieces from the vessel would have to the world audience for such items. There must be an organized and properly equipped effort to recover and 'save' these materials only if any of these first three Alternatives become the ultimate outcome from the RFP process. I should be able to help such an effort.</p> <p>3.</p> <p>Please choose Project Alternative 2.2.5 (5: Third Party Acquisition) as the desired proper decision.</p> <p>Everyone 'wins' with this approach, and the State of Hawai'i would thus retain a reputation for historical awareness and preservation that it should want and deserves.</p> <p>I was heartened by the Pre-Assessment Consultation statement that HDOT fully anticipates "...the expenditure of state funds to remove the FOC," which is both reasonable and necessary in this practical environment of removing the vessel, and it should apply to each of the Alternatives in a creative and unbiased manner.</p>	<p>disposal be selected. In 2023, HDOT inventoried remaining potentially significant artifacts and features. The list will be included in the Final EA.</p> <p>On May 20, 2024, HDOT sent a letter to the Friends of Falls of Clyde (FFOC) requesting that if there are any belongings or artifacts that FFOC would like to retrieve from the vessel, to please arrange to have them removed by June 19, 2024. HDOT will arrange a date and time to provide access and also require signed waiver release forms from anyone who will board the vessel. HDOT will work with an agent or another non-profit organization who has been assigned to work on FFOC's behalf. Any artifacts remaining on the <i>Falls of Clyde</i> after June 19, 2024 will be considered abandoned by the FFOC and become property in the custody of the State of Hawai'i. The HDOT would then implement provisions in Hawai'i Revised Statutes (HRS), Chapter 94, and work with the Comptroller and State Archivist to determine the disposition of the artifacts. Should the RFP and subsequent contract award result in the removal of the vessel by dismantling, any artifacts that are removed and recovered during the dismantling work will also be subject to HRS Chapter 94.</p> <p>Conclusion</p> <p>In conclusion, it should be noted that the HDOT is calling for the removal, not the destruction of the <i>Falls of Clyde</i>, though the EA notes that loss is possible, if not probable. Alternatives to ship</p>



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			<p>If the entire project is viewed as it is titled, the “Removal of FALLS OF CLYDE from Honolulu Harbor” will be a “success” for all involved. And so I urge, offer to help, and again use the words ‘plead for’ an open atmosphere for Proposal(s) from Save Falls of Clyde International. This group has demonstrated ability to achieve what they propose, and removing the FALLS OF CLYDE from Honolulu Harbor to the River Clyde in Scotland is the correct next step for the vessel.</p> <p>4.</p> <p>Lastly, a personal point: I worked for Bishop Museum as Restoration Manager aboard the vessel in the mid-70’s, when the figurehead and sideboards were fitted and she looked as we would like her to appear once again. I learned so much in Honolulu, one of the more complex communities I have ever lived in; a place, with its people, that retains a big place in my heart.</p> <p>All human efforts must evolve to meet new realities, and no vessel better demonstrates this important point. Your documents actually did a good job of tracing the multiple roles and repurposed configurations that are the real history of FALLS OF CLYDE. I was proud to see much of that explained, as inspiration for visitors and crew alike. Alternative 2.2.5 will be another phase in this life process, so I personally and formally request your careful consideration of Third Party Acquisition.</p>	<p>deconstruction and disposal will be considered, provided the proposers are able to meet the conditions of the RFP. This includes a third-party removal of the vessel intact to another destination.</p>

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David Berg	David Berg <a href="mailto:Jester30@cox.net">Jester30@cox.net</a> (619) 549-9867	Email sent to Gov. Josh Green, 12/27/2023	<p>PLEASE do everything in your power to ensure that the sailing vessel FALLS OF CLYDE is removed and placed into the custody of the FRIENDS of Falls of Clyde organization. They intend to move her to Scotland (where she was built) and restore her to her former sailing glory. We have done the same with STAR OF INDIA here in San Diego. It is a project well worth doing, no matter what it takes to accomplish.</p> <p>She is the ONLY four-masted sailing ship in the world capable of possibly sailing again.</p> <p>DO NOT ALLOW THIS HISTORIC VESSEL TO BE DESTROYED. Maritime history is sitting on your doorstep. You have the authority to save her. Please summon the will and the courage to do so.</p>	<p>Thank you for your message to Governor Josh Green on December 24, 2023, regarding the Falls of Clyde vessel. We will incorporate your message to Governor Green as part of the public comments section in the Final Environmental Assessment (EA), as well as the response from Mr. Ed Sniffen, HDOT Director.</p> <p>The urgent need for removal of the ship from Honolulu Harbor is due to its deteriorated physical condition and imminent structural failure, which puts the <i>Falls of Clyde</i> at risk of sinking in place. HDOT does not have the resources for restoration and is not authorized by law to expend funds for this purpose.</p> <p>Ship’s Historic Status</p> <p>Since the Draft EA was published, the <i>Falls of Clyde</i> was removed from the National Register of Historic Places on February 2, 2024. The National Register delisting was recommended by the State Historic Preservation Officer after its removal from the State Register, and in full compliance with 36 CFR 60.15.</p> <p>On May 14, 2024, the National Historic Landmarks Committee of the National Park System Advisory Board (NPSAB) voted unanimously to remove the <i>Falls of Clyde’s</i> National Historic Landmark (NHL) designation. This recommendation will go to the full NPSAB at a future meeting. A decision by the NPSAB to remove the NHL designation would then be transmitted to the Secretary of the Department of</p>

Agency/ Organization	Contact	Date	Comments	Response
				<p>the Interior for signature and final approval. It is anticipated that the procedural removal of the <i>Falls of Clyde's</i> NHL designation will be completed by the time the proposed action is implemented.</p> <p>Historic Artifacts</p> <p>HDOT shares concerns about retaining and preserving historic and cultural artifacts, should any of the alternatives involving deconstruction or disposal be selected. In 2023, HDOT inventoried remaining potentially significant artifacts and features.</p> <p>Conclusion</p> <p>As stated in Mr. Sniffen's January 24 reply, HDOT intends to re-issue a Request for Proposal (RFP), following completion of the Environmental Assessment process. Any offeror that can meet the requirements set forth in the solicitation is welcome to submit a proposal. The method of removal from the harbor has not yet been determined, and all proposals will be given fair consideration. To date, HDOT has been contacted by at least one third party group outside of Hawai'i that has expressed interest in acquiring the ship for preservation.</p>

**Pre-Assessment Consultation  
Correspondence**



**DEPARTMENT OF THE ARMY**  
HONOLULU DISTRICT, U.S. ARMY CORPS OF ENGINEERS  
FORT SHAFTER, HAWAII 96858-5440

August 28, 2023

SUBJECT: Proposed Removal of Falls of Clyde, Honolulu Harbor, Honolulu, Island of Oahu, HI, Department of the Army File No. POH-2023-00156

Leslie Kurisaki  
HHF Planners  
733 Bishop Street, Suite 2590  
Honolulu, Hawai'i 96813

Dear Leslie Kurisaki:

The U.S. Army Corps of Engineers – Honolulu District, Regulatory Office (Corps) received your letter dated August 24, 2023, requesting consultation comments for the proposed removal of Falls of Clyde at Honolulu Harbor, Island of Oahu, HI. Your request has been assigned Department of the Army (DA) file number POH-2023-00156. Please reference this number in all future correspondence with our office relating to this action.

Based on the information provided in regard to your proposed project, the Corps provides the following comments.

The Corps authorities are based on two laws: Section 404 of the Clean Water Act (33 U.S.C. 1344; "Section 404") and Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403; "Section 10").

Section 404 of the Clean Water Act requires that a DA permit be obtained for the placement or discharge of dredged and/or fill material into waters of the U.S., including jurisdictional wetlands (33 U.S.C. 1344). The Corps defines wetlands as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Section 10 of the Rivers and Harbors Act of 1899 requires that a DA permit be obtained for structures or work in or affecting navigable waters of the U.S. (33 U.S.C. 403). Section 10 waters are those waters subject to the ebb and flow of the tide shoreward to the mean high water mark, and/or other waters identified by the Honolulu District.

The proposed removal of the Falls of Clyde may require DA authorization if you place dredged and/or fill material into waters of the U.S., including wetlands and/or

perform work in navigable waters of the U.S. The proposed activity may qualify for verification under Nationwide Permit 22 (Removal of Vessels). For more information regarding the NWP Program please visit:

<https://www.poh.usace.army.mil/Missions/Regulatory/Permits/Nationwide-Permits/>.

Thank you for your cooperation with the Honolulu District Regulatory Program. Should you have any questions related to this determination or would like to schedule a pre-application consultation meeting, please contact me via e-mail at [Cristian.J.Cayanan@usace.army.mil](mailto:Cristian.J.Cayanan@usace.army.mil) or via phone at 808-835-4107. You are encouraged to provide comments on your experience with the Honolulu District Regulatory Office by accessing our web-based customer survey form at <https://regulatory.ops.usace.army.mil/ords/f?p=136:4>.

Sincerely,

A handwritten signature in black ink, appearing to read 'CJ Cayanan', with a long horizontal flourish extending to the right.

CJ Cayanan  
Biologist/Regulatory Specialist



# United States Department of the Interior



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

In Reply Refer To:  
2023-0123026-S7-001

September 8, 2023

Mr. Scott Ezer  
HHF Planners  
Attn: Ms. Leslie Kurisaki  
733 Bishop Street, Suite 2590  
Honolulu, Hawai'i 96813

Subject: Technical Assistance for the Proposed Falls of Clyde Removal Project, O'ahu

Dear Mr. Ezer:

Thank you for your August 24, 2023 letter, requesting technical assistance for the proposed Falls of Clyde Removal Project located at Pier 7 in Honolulu, on the island of O'ahu. The State of Hawai'i Department of Transportation (HDOT) is preparing an Environmental Assessment for the removal of the Falls of Clyde, a four-masted iron-hulled ship, which is currently docked at Pier 7 in Honolulu Harbor. The current condition of the Falls of Clyde can be characterized as partially flooded, heavily corroded, and structurally damaged. The HDOT had determined that due to the ship's physical condition and risk of structural failure and sinking, removal of the ship was necessary to ensure future safe maritime operations within Honolulu Harbor. The proposed action is to remove the Falls of Clyde from Pier 7. The Environmental Assessment will discuss removal and disposal alternatives being considered, which may include scuttling the vessel offshore, dismantling at a drydock, as well as other options, the pros and cons of the alternatives, and impacts of the alternatives.

Our letter has been prepared under the authority of and in accordance with provisions of the Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq.*), as amended (ESA). We have reviewed the information you provided and pertinent information in our files, as it pertains to federally listed species in accordance with section 7 of the ESA. Our data indicate the following species may occur or transit through the vicinity of the proposed project area: the endangered 'ua'u (Hawaiian petrel, *Pterodroma sandwichensis*), endangered Hawai'i distinct population segment (DPS) of the 'akē'akē (band-rumped storm-petrel, *Hydrobates castro*), and threatened 'a'o (Newell's shearwater, *Puffinus newelli*) (hereafter collectively referred to as Hawaiian seabirds); and the endangered 'ōpe'ape'a (Hawaiian hoary bat, *Lasiurus cinereus semotus*). We provide the following to assist you in preparation of your project.

## PACIFIC REGION 1

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IDAHO, OREGON\*, WASHINGTON,  
AMERICAN SAMOA, GUAM, HAWAII, NORTHERN MARIANA ISLANDS

\*PARTIAL

### Hawaiian Seabirds

Hawaiian seabirds may traverse the project area at night during the breeding, nesting, and fledging seasons, March 1 through December 15. Outdoor lighting could result in seabird disorientation, fallout, and injury or mortality. Seabirds are attracted to lights and after circling the lights they may become exhausted and collide with nearby wires, buildings, or other structures or they may land on the ground. Downed seabirds are subject to increased mortality due to collision with automobiles, starvation, and predation by dogs, cats, and other predators. Young birds (fledglings) traversing the project area between September 15 and December 15, in their first flights from their mountain nests to the sea, are particularly vulnerable to light attraction.

To avoid and minimize potential project impacts to Hawaiian seabirds we recommend you incorporate the following measures into your project description:

- Fully shield all outdoor lights so the bulb can only be seen from below.
- Install automatic motion sensor switches and controls on all outdoor lights or turn off lights when human activity is not occurring in the lighted area.
- Avoid nighttime construction during the seabird fledging period, September 15 through December 15.

### ‘Ōpe‘ape‘a

‘Ōpe‘ape‘a roosts in woody vegetation across all islands and will leave their young unattended in trees and shrubs when they forage. If trees or shrubs 15 feet or taller are cleared during the pupping season, June 1 through September 15, there is a risk that young bats could inadvertently be harmed or killed, since they are too young to fly or move away from disturbance. ‘Ōpe‘ape‘a forage for insects from as low as 3 feet to higher than 500 feet above the ground and can become entangled in barbed wire used for fencing.

To avoid and minimize potential project impacts to the endangered ‘ōpe‘ape‘a, we recommend you incorporate the following applicable measures into your project description:

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

We appreciate your efforts to conserve protected species. If you have questions regarding this response, please contact Charmian Dang, Fish and Wildlife Biologist (phone 808-792-9400, email: [Charmian\\_Dang@fws.gov](mailto:Charmian_Dang@fws.gov)). When referring to this project please include this reference number: 2023-0123026- S7-001.

Sincerely,

Acting Island Team Manager  
O‘ahu, Kaua‘i, Northwest Hawaiian Islands and  
American Samoa





United States Department of the Interior  
NATIONAL PARK SERVICE  
1849 C Street, NW  
Washington, DC 20240

7228 (H34)

September 22, 2023

Leslie Kurisaki  
HHF Planners  
ATTN: Falls of Clyde  
733 Bishop Street, Suite 2590  
Honolulu, Hawai'i 96813  
via email to [lkurisaki@hhf.com](mailto:lkurisaki@hhf.com)

Dear Ms. Kurisaki:

This letter is to acknowledge receipt of your letter dated August 26, 2023, regarding a draft environmental assessment pre-assessment consultation for the removal of *FALLS OF CLYDE* National Historic Landmark from Honolulu Harbor. *FALLS OF CLYDE* (Four-Masted Oil Tanker) was designated a National Historic Landmark in 1989 for Criteria 1 and 4 under the Maritime Heritage of the United States: Large Vessels theme study. Prior to NHL designation the vessel was listed on the National Register of Historic Places in 1973.

We understand that the State of Hawai'i Department of Transportation (HDOT) is preparing an Environmental Assessment (EA) in accordance with Hawai'i Revised Statutes (HRS) Chapter 343 for removal of the Falls of Clyde (FOC), a four-masted iron-hulled ship which is currently docked at Pier 7 in Honolulu Harbor. The requirement for an assessment of this proposed action under Chapter 343, is related to the expenditure of state funds to remove the FOC and the vessel's listing in both the State and National Registers of Historic Places and its status as a National Historic Landmark. While the National Park Service does not have a role in the state compliance process for Chapter 343, we are interested in remaining on the list of interested parties to receive the draft Environmental Assessment.

Please note that if the chosen alternative for removal requires federal approval, permitting, licensing, or funding that would trigger Section 106, 36 CFR 800.10 requires that the agency official shall notify the Secretary of the Interior to participate in the consultation where there may be an adverse effect on a National Historic Landmark.

Please also note that the regulations for Withdrawal of National Historic Landmark Designation are found at 36 CFR 65.9 and involve action by the Secretary of the Interior separate from any delisting request to the Keeper of the National Register of Historic Places via a state historic preservation office.

Sincerely,

Lisa P. Davidson, Ph.D.  
Program Manager  
National Historic Landmarks  
[lisa\\_davidson@nps.gov](mailto:lisa_davidson@nps.gov)  
202.666.9989

cc: via email –

Elaine Jackson-Retondo, Preservation Partnership Program Manager, Pacific West Regional Office (legacy), National Park Service

Sherry Frear, Chief, National Register of Historic Places and National Historic Landmarks Program, National Park Service

Paul Lusignan, Historian, National Register of Historic Places, National Park Service

**From:** [Evans, Mary Alice](#)  
**To:** [Leslie Kurisaki](#)  
**Subject:** FW: Falls of Clyde Removal EA- pre-assessment consultation  
**Date:** Tuesday, November 14, 2023 11:51:32 AM

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[This message was sent from an outside source.]

Hi Leslie –

OPSD did NOT submit comments, nor do we intend to. This communication can be noted as, “OPSD does not have comments.”

Thanks, Mary Alice

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**From:** Nakano, Mei-Lynn E <[mei-lynn.e.nakano@hawaii.gov](mailto:mei-lynn.e.nakano@hawaii.gov)>  
**Sent:** Tuesday, November 14, 2023 11:31 AM  
**To:** Evans, Mary Alice <[maryalice.evans@hawaii.gov](mailto:maryalice.evans@hawaii.gov)>  
**Subject:** RE: Falls of Clyde Removal EA- pre-assessment consultation

No comments were sent. See below.

**9/18/2023 8:45 AM Routing to:** Nakayama, Megumi **From:** Justine Nihipali **Comments:** okay not to comment. Pls close.

**9/15/2023 4:02 PM Routing to:** Nihipali, Justine W **From:** Joshua Hekeia **Comments:** Justine, for your consideration please see the uploaded Early Consultation Checklist for the Proposed Removal Action of the Falls of Clyde (FOC). The most critical issue for OPSD would be HRS § 205A-2(2) historic resources, as the FOC is a registered National Landmark. The other issues are less critical. Honolulu Harbor is not within the SMA. Honolulu Harbor is not within the shoreline setback. Stormwater Assessment has to be evaluated as part of HRS 343 but does not appear relevant. Nor does SLR risks as removal of the FOC would eliminate risk to the harbor. OPSD will monitor the historical resources that are affected by this project in Draft EA.

---

**From:** Evans, Mary Alice <[maryalice.evans@hawaii.gov](mailto:maryalice.evans@hawaii.gov)>  
**Sent:** Tuesday, November 14, 2023 11:26 AM  
**To:** Nakano, Mei-Lynn E <[mei-lynn.e.nakano@hawaii.gov](mailto:mei-lynn.e.nakano@hawaii.gov)>  
**Subject:** FW: Falls of Clyde Removal EA- pre-assessment consultation

Hi Mei -- Please check if OPSD sent HHF (Helber, Hastert, and Fee) comments on the proposed demolition of the Falls of Clyde. If not, please let me know so I can confirm that we have no comments.

Thanks! Mary Alice

---

**From:** Leslie Kurisaki <[lkurisaki@hhf.com](mailto:lkurisaki@hhf.com)>  
**Sent:** Tuesday, November 14, 2023 11:15 AM  
**To:** Evans, Mary Alice <[maryalice.evans@hawaii.gov](mailto:maryalice.evans@hawaii.gov)>  
**Subject:** [EXTERNAL] RE: Falls of Clyde Removal EA- pre-assessment consultation

Hi Mary Alice,  
I just wanted to check back with you—did your office ever send any comments? I don't have a record of receiving anything after the email you sent below. Of course, you'll have an opportunity to comment again during the DEA comment period, but just wanted to make sure I didn't miss anything.

Thanks,  
Leslie

**Leslie Kurisaki**

*Associate*  
HHF Planners  
d 808.457.3182  
[www.hhf.com](http://www.hhf.com)

---

**From:** Evans, Mary Alice <[maryalice.evans@hawaii.gov](mailto:maryalice.evans@hawaii.gov)>  
**Sent:** Friday, August 25, 2023 10:05 AM  
**To:** Leslie Kurisaki <[lkurisaki@hhf.com](mailto:lkurisaki@hhf.com)>  
**Subject:** RE: Falls of Clyde Removal EA- pre-assessment consultation

[This message was sent from an outside source.]  
Good morning Leslie!

Office of Planning and Sustainable Development will be responding for both OPSD and the DBEDT Director's Office on this request for comments. I am including Tom Eisen, Environmental Review Program Senior Planner, in this message.

Mary Alice

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**From:** Leslie Kurisaki <[lkurisaki@hhf.com](mailto:lkurisaki@hhf.com)>  
**Sent:** Thursday, August 24, 2023 6:07 PM  
**To:** Leslie Kurisaki <[lkurisaki@hhf.com](mailto:lkurisaki@hhf.com)>  
**Subject:** [EXTERNAL] Falls of Clyde Removal EA- pre-assessment consultation

Aloha,  
Please see attached pre-assessment consultation letter.

**From:** [Maruoka, Colin](#)  
**To:** [Leslie Kurisaki](#)  
**Subject:** Removal of Falls of Clyde from Honolulu Harbor Comments  
**Date:** Friday, August 25, 2023 8:58:45 AM  
**Attachments:** [Falls of Clyde Early Consult Ltr 7-24-2023.pdf](#)

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[This message was sent from an outside source.]

Dear Leslie Kurisaki,

The Department of Health, Clean Water Branch (CWB) revised a memorandum, July 28, 2023, notifying other agencies and project owners that CWB will no longer respond directly to requests for comments on the documents listed in the memo. The memorandum provided CWB's Standard Comments that agencies and project owners may use as CWB's official comments. The memorandum and standard comments can be located at <https://health.hawaii.gov/cwb/files/2023/07/Memorandum-for-CWB-Standard-Project-Comments-07016CMHK.23-part-1-signed.pdf>. If you require further information, feel free to contact me.

Sincerely,

**Colin T. Maruoka**

Clean Water Branch  
State of Hawaii Department of Health  
2827 Waimano Home Road, #225  
Pearl City, Hawaii 96782  
Phone: (808) 586-4309

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**From:** [Aragon, Michelle](#)  
**To:** [Leslie Kurisaki](#)  
**Subject:** RE: Falls of Clyde Removal EA- pre-assessment consultation  
**Date:** Friday, August 25, 2023 9:50:29 AM  
**Attachments:** [STANDARD COMMENTS.pdf](#)

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[This message was sent from an outside source.]

Aloha,

Attached is SHWB comments for the pre-assessment consultant letter.

Thank you,  
Michelle Aragon

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**From:** Leslie Kurisaki <[lkurisaki@hhf.com](mailto:lkurisaki@hhf.com)>  
**Sent:** Thursday, August 24, 2023 6:07 PM  
**To:** Leslie Kurisaki <[lkurisaki@hhf.com](mailto:lkurisaki@hhf.com)>  
**Subject:** [EXTERNAL] Falls of Clyde Removal EA- pre-assessment consultation

Aloha,  
Please see attached pre-assessment consultation letter.

**Leslie Kurisaki** | d 808.457.3182  
Associate | 733 Bishop St. Ste. 2590 | Honolulu, HI 96813  
**HHF Planners** | [www.hhf.com](http://www.hhf.com)  
*40 years in Hawai'i*

# Solid and Hazardous Waste Branch

## Standard Comments

November 26, 2018

The Solid and Hazardous Waste Branch administers programs in the areas of:

- 1) Management of hazardous waste;
- 2) Management of solid waste; and
- 3) Regulation of underground storage tanks.

Our general comments on projects are below. For further information about these programs, please contact the Solid and Hazardous Waste Branch at (808) 586-4226. All chapters of the Hawaii Revised Statutes (HRS) are at <https://www.capitol.hawaii.gov/hrscurrent/>.

### Hazardous Waste Program

- The state regulations for hazardous waste and used oil are in chapters 11-260.1 to 11-279.1, Hawaii Administrative Rules (HAR) [<http://health.hawaii.gov/shwb/hwrules/>]. These rules apply to the identification, handling, transportation, storage and disposal of regulated hazardous waste and used oil. Generators, transporters and treatment, storage, and disposal facilities of hazardous waste and used oil must adhere to these requirements. Violations are subject to penalties under chapter 342J, HRS.

### Solid Waste Section

- The Solid Waste Section (SWS) enforces laws and regulations contained in chapters 342H and 342I, HRS, and chapter 11-58.1, HAR, “Solid Waste Management Control” [<http://health.hawaii.gov/shwb/solid-waste/>].
- The purpose of the rules is to establish minimum standards governing the design, construction, installation, operation, and maintenance of solid waste disposal, recycling, reclamation and transfer systems.
- All facilities that accept solid wastes are required to obtain a solid waste management permit from the SWS. Examples of the types of facilities governed by these regulations include landfills, transfer stations and convenience centers, recycling facilities, composting facilities, and salvage facilities. Medical waste, infectious waste, and foreign waste treatment facilities are also included.
- Generators of solid waste are required to ensure that their wastes are properly delivered to permitted solid waste management facilities. Managers of construction and demolition projects should require their waste contractors to submit disposal receipts and invoices to ensure proper disposal of wastes.

For further information about these programs, please contact the Solid and Hazardous Waste Branch at (808) 586-4226.



## Solid and Hazardous Waste Branch Standard Comments

### Office of Solid Waste Management

- The Office of Solid Waste Management (OSWM) administers statewide integrated solid waste management planning activities, which apply to the counties, as well as various recycling programs, e.g. the Glass Advance Disposal Fee (ADF) and Deposit Beverage Container (DBC) Programs. Management of the DBC Program is conducted pursuant to chapter 342G, HRS, which contains compliance and enforcement provisions, and chapter 11-282, HAR, “Deposit Beverage Recycling” [<http://health.hawaii.gov/hi5/rules-regulations-additional-links/>]. OSWM is also responsible for limited enforcement and compliance of solid waste management facilities that operate primarily as certified DBC redemption centers pursuant to chapter 342H, HRS, and chapter 11-58.1, HAR, “Solid Waste Management Control” [<http://health.hawaii.gov/shwb/solid-waste/>]. Authority for the integrated solid waste management planning and ADF programs is contained in chapter 342G, HRS.
- Glass Advance Disposal Fee Program: Businesses that import glass containers into Hawaii are required to register with the Department of Health and pay a 1.5 cent per container fee. Fee revenue is distributed to the counties for the operation of glass recycling programs.
- Deposit Beverage Container Program: Business that manufacture or import deposit beverage containers into Hawaii are required to register with the Department of Health and pay the five cent deposit and one cent container fee on each deposit container. Deposits and fees are deposited into a special fund and are used to reimburse DBC redemption center refunds paid to consumers; and to pay handling fees to redemption/recycling companies to process and recycle collected deposit beverage containers; and to pay program administrative costs.
- The Department of Health reimburses and pays an associated handling fee for the redemption of deposit beverage containers (DBC). These transactions are conducted only with certified redemption centers. Certification requires obtaining a solid waste management permit from the SWS (which addresses environmental issues) and a certification from the DBC program (which standardizes the redemption process).
- Chapter 342G, HRS, encourages the reduction of waste generation, reuse of discarded materials, and the recycling of solid waste. Businesses, property managers and developers, and government entities are highly encouraged to develop solid waste management plans to ensure proper handling of wastes and divert recyclables from being landfilled.
- Solid waste management plans seek to maximize waste diversion and minimize disposal. Such plans should include designated areas to promote the collection of reusable and recyclable materials.



## Solid and Hazardous Waste Branch Standard Comments

### Underground Storage Tank Program

- The state's underground storage tank (UST) regulations, found in chapter 11-280.1, HAR [<http://health.hawaii.gov/shwb/underground-storage-tanks/>], include specific requirements that UST owners and operators must meet when installing, operating, and permanently closing their UST systems and addressing releases from USTs. Violations are subject to penalties under chapter 11-280.1, HAR, and chapter 342L, HRS.
- A permit is required prior to the installation and operation of a UST. Any new UST system that will be installed must have secondary containment with interstitial monitoring. Refer to subchapters 2, 3, 4, and 12 of chapter 11-280.1, HAR. The installation permit expires 1 year from the date of issuance. The operation permit expires 5 years from the date of issuance.
- §11-280.1-50, HAR, requires owners and operators of USTs or tank systems to notify DOH within twenty-four (24) hours and follow the procedures in §11-280.1-52, HAR, if any of the following occur, with specific exceptions found in the rules:
  - 1) The discovery by any person of evidence of regulated substances which may have been released at the UST site or in the surrounding area (such as the presence of free product or vapors in soils, basements, sewer and utility lines, or nearby surface water);
  - 2) Unusual UST system operating conditions observed or experienced (such as the erratic behavior of product dispensing equipment, the sudden loss of product from the UST, or an unexplained presence of water in the tank); or
  - 3) Monitoring results from a release detection method required under §§11-280.1-41 or 11-280.1-42 indicate a release may have occurred.
- For release response actions, responsible parties and their consultants and contractors should follow the applicable guidance in the Department of Health Hazard Evaluation Emergency (HEER) Office Technical Guidance Manual, HEER Environmental Action Level (EAL) guidance, and other guidance documents on the DOH HEER Office website [<http://eha-web.doh.hawaii.gov/eha-cma/Org/HEER/>], including those pertaining to Multi-Increment Sampling of soil, low flow groundwater sampling, soil vapor sampling, and Environmental Hazard Evaluations (EHE)/Environmental Hazard Management Plans (EHMP).

**From:** [DOH.CABPDTSS](#)  
**To:** [Leslie Kurisaki](#)  
**Subject:** Comments on DEA Pre-Assessment Consultation on Falls of Clyde Removal  
**Date:** Tuesday, September 12, 2023 2:32:39 PM

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[This message was sent from an outside source.]

Subject: Draft Environmental Assessment Pres-Assessment Consultation; Removal of Falls of Clyde Honolulu Harbor

Company: Leslie Kurisaki  
[lkurisaki@hhf.com](mailto:lkurisaki@hhf.com)  
HHF Planners  
ATTN: Falls of Clyde  
733 Bishop Street, Suite 2590  
Honolulu, Hawai'i 96813

Aloha,

Thank you for the opportunity to provide comments on the subject DEA Pre-Assessment Consultation for the Falls of Clyde removal project. The Clean Air Branch would like to make the following comments on the subject DEA Pre-Assessment Consultation:

- For activities associated with the project, the applicable provisions of Hawaii Administrative Rules §11-60.1-33 shall be followed to mitigate fugitive dust impacts.
- Also, please see our standard comments at:

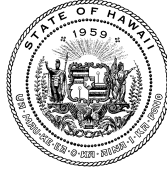
<https://health.hawaii.gov/cab/files/2022/05/Standard-Comments-for-Land-Use-Reviews-Clean-Air-Branch-2022-1.pdf>

Please let us know if you have any questions or concerns.

Best regards,

Anna

JOSH GREEN, M.D.  
GOVERNOR



KEITH T. HAYASHI  
SUPERINTENDENT

**STATE OF HAWAII**  
**DEPARTMENT OF EDUCATION**  
**KA 'OIHANA HO'ONA'AUAO**  
P.O. BOX 2360  
HONOLULU, HAWAII 96804

OFFICE OF FACILITIES AND OPERATIONS

September 19, 2023

Ms. Leslie Kurisaki  
HHF Planners  
Attention: Falls of Clyde  
733 Bishop Street, Suite 2590  
Honolulu, Hawaii 96813

Re: Removal of Falls of Clyde from Honolulu Harbor  
Draft Environmental Assessment Pre-Assessment Consultation, Honolulu, Oahu,  
Hawaii

Dear Ms. Kurisaki:

Thank you for your letter dated August 24, 2023. The information provided indicates that the proposed project will not affect any Hawaii State Department of Education facilities.

Should you have any questions, please contact Cori China of the Facilities Development Branch, Planning Section, at (808) 784-5080 or via email at [cori.china@k12.hi.us](mailto:cori.china@k12.hi.us).

We appreciate the opportunity to comment.

Sincerely,

A handwritten signature in black ink, appearing to read "Roy Ikeda".

Roy Ikeda  
Interim Public Works Manager  
Planning Section

RI:ctc

c: Facilities Development Branch

JOSH GREEN, M.D.  
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE  
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



DAWN N. S. CHANG  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE  
MANAGEMENT

STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
KA 'OIHANA KUMUWAIWAI 'ĀINA  
LAND DIVISION

P.O. BOX 621  
HONOLULU, HAWAII 96809

September 27, 2023

LD 0160

Leslie Kurisaki  
Project Planner  
HHF Planners  
733 Bishop Street, Suite 2590  
Honolulu, Hawaii 96813

*Via email: [lkurisaki@hhf.com](mailto:lkurisaki@hhf.com)*

Greetings:

SUBJECT: **Removal of Falls of Clyde from Honolulu Harbor  
Draft Environmental Assessment Pre-Assessment  
Consultation, Honolulu, O'ahu, Hawai'i**

Thank you for the opportunity to review and comment on the subject project. The Land Division of the Department of Land and Natural Resources (DLNR) distributed copies of your request to DLNR's various divisions for their review and comment.

Enclosed are comments received from our Engineering Division, Division of Boating and Ocean Recreation and Office of Conservation and Coastal Lands. Should you have any questions, please feel free to contact Timothy Chee via email at [timothy.chee@hawaii.gov](mailto:timothy.chee@hawaii.gov). Thank you.

Sincerely,

*Russell Tsuji*

Russell Y. Tsuji  
Land Administrator

Attachments  
cc: Central Files



JOSH GREEN, M.D.  
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE  
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



DAWN N. S. CHANG  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE  
MANAGEMENT



STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
KA 'OIHANA KUMUWAIWAI 'ĀINA  
LAND DIVISION

P.O. BOX 621  
HONOLULU, HAWAII 96809

August 29, 2023

LD 0160


MEMORANDUM

FROM: ~~TO:~~

**DLNR Agencies:**

- Div. of Aquatic Resources (via email: kendall.l.tucker@hawaii.gov)
- Div. of Boating & Ocean Recreation (via email: richard.t.howard@hawaii.gov)
- Engineering Division** (via email: DLNR.Engr@hawaii.gov)
- Div. of Forestry & Wildlife (via email: Rubyrosa.T.Terrago@hawaii.gov)
- Div. of State Parks
- Commission on Water Resource Management (via email: DLNR.CWRM@hawaii.gov)
- Office of Conservation & Coastal Lands (via email: calen.miyahara@hawaii.gov)
- Land Division – Oahu District (via email: barry.w.cheung@hawaii.gov)
- Aha Moku (via email: leimana.k.damate@hawaii.gov)

TO: ~~FROM:~~

Russell Y. Tsuji, Land Administrator 

SUBJECT:

**Removal of Falls of Clyde from Honolulu Harbor-DEA**

LOCATION:

Honolulu, Island of Oahu, Hawaii


APPLICANT:

**HHF Planners**

Transmitted for your review and comment is information on the above-referenced project. Please submit any comments to [timothy.chee@hawaii.gov](mailto:timothy.chee@hawaii.gov) at the Land Division by the internal deadline of **September 20, 2023**. If no response is received by this date, we will assume your agency has no comments. If you have any questions, please contact Timothy Chee at the above email address. Thank you.

**BRIEF COMMENTS:**

- We have no objections.
- We have no comments.
- We have no additional comments.
- Comments are included/attached.

Signed:   
 Print Name: Carty S. Chang, Chief Engineer  
 Division: Engineering Division  
 Date: Sep 20, 2023

Attachments

Cc: Central Files

JOSH GREEN, M.D.  
GOVERNOR | KE KIA'ĀINA  
SYLVIA LUKE  
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



DAWN N. S. CHANG  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE  
MANAGEMENT

STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII'  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
KA 'OIHANA KUMUWAIWAI 'ĀINA  
LAND DIVISION

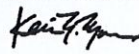
P.O. BOX 621  
HONOLULU, HAWAII 96809

August 29, 2023

LD 0160

MEMORANDUM

TO: **DLNR Agencies:**  
 Div. of Aquatic Resources (via email: kendall.l.tucker@hawaii.gov)  
 Div. of Boating & Ocean Recreation (via email: richard.t.howard@hawaii.gov)  
 Engineering Division (via email: DLNR.Engr@hawaii.gov)  
 Div. of Forestry & Wildlife (via email: Rubyrosa.T.Terrago@hawaii.gov)  
 Div. of State Parks  
 Commission on Water Resource Management (via email: DLNR.CWRM@hawaii.gov)  
 Office of Conservation & Coastal Lands (via email: calen.miyahara@hawaii.gov)  
 Land Division – Oahu District (via email: barry.w.cheung@hawaii.gov)  
 Aha Moku (via email: leimana.k.damate@hawaii.gov)

FROM: Russell Y. Tsuji, Land Administrator 

SUBJECT: **Removal of Falls of Clyde from Honolulu Harbor-DEA**

LOCATION: Honolulu, Island of Oahu, Hawaii  
Pier 7, Honolulu Harbor

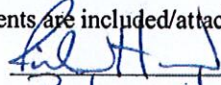
APPLICANT: **HHF Planners**

Transmitted for your review and comment is information on the above-referenced project. Please submit any comments to [timothy.chee@hawaii.gov](mailto:timothy.chee@hawaii.gov) at the Land Division by the internal deadline of **September 20, 2023**. If no response is received by this date, we will assume your agency has no comments. If you have any questions, please contact Timothy Chee at the above email address. Thank you.

**BRIEF COMMENTS:**

Attachments

We have no objections.  
 We have no comments.  
 We have no additional comments.  
 Comments are included/attached.

Signed:   
Print Name: Richard Hawes  
Division: DOBOP  
Date: 9/1/2023

Cc: Central Files



CA-24-36  
CC

JOSH GREEN, M.D.  
GOVERNOR | KE KIA'AINA

SYLVIA LUKE  
LIEUTENANT GOVERNOR | KA HOPE KIA'AINA



DAWN N. S. CHANG  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE  
MANAGEMENT

RECEIVED  
CONSERVATION  
AND COASTAL LANDS

2023 AUG 29 A 11: 25

STATE OF HAWAII | KA MOKU'ĀINA O HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
KA 'OIHANA KUMUWAIWAI 'ĀINA  
LAND DIVISION

P.O. BOX 621  
HONOLULU, HAWAII 96809

August 29, 2023

LD 0160

MEMORANDUM

TO:

**DLNR Agencies:**

- Div. of Aquatic Resources (via email: kendall.l.tucker@hawaii.gov)
- Div. of Boating & Ocean Recreation (via email: richard.t.howard@hawaii.gov)
- Engineering Division (via email: DLNR.Engr@hawaii.gov)
- Div. of Forestry & Wildlife (via email: Rubyrosa.T.Terrago@hawaii.gov)
- Div. of State Parks
- Commission on Water Resource Management (via email: DLNR.CWRM@hawaii.gov)
- Office of Conservation & Coastal Lands (via email: calen.miyahara@hawaii.gov)
- Land Division – Oahu District (via email: barry.w.cheung@hawaii.gov)
- Aha Moku (via email: leimana.k.damate@hawaii.gov)

FROM:

Russell Y. Tsuji, Land Administrator 

SUBJECT:

**Removal of Falls of Clyde from Honolulu Harbor-DEA**

LOCATION:

Honolulu, Island of Oahu, Hawaii  
Pier 7, Honolulu Harbor

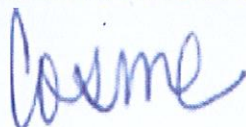
APPLICANT:

**HHF Planners**

Transmitted for your review and comment is information on the above-referenced project. Please submit any comments to [timothy.chee@hawaii.gov](mailto:timothy.chee@hawaii.gov) at the Land Division by the internal deadline of **September 20, 2023**. If no response is received by this date, we will assume your agency has no comments. If you have any questions, please contact Timothy Chee at the above email address. Thank you.

**BRIEF COMMENTS:**

Consult with OCCL for any proposed land use that take place in the Conservation District. Also consult with OCCL if any land use is proposed in submerged lands off Oahu within the Conservation District.

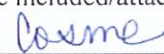


Attachments

Cc: Central Files

- We have no objections.
- We have no comments.
- We have no additional comments.
- Comments are included/attached.

Signed:



Print Name: **COSME CAAL-STAFF PLANNER**

Division: **OFFICE OF CONSERVATION AND COASTAL LANDS**

Date: **18 SEPTEMBER 2023**

JOSH GREEN, M.D.  
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE  
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



DAWN N. S. CHANG  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE  
MANAGEMENT

STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII'  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
KA 'OIHANA KUMUWAIWAI 'ĀINA  
LAND DIVISION

P.O. BOX 621  
HONOLULU, HAWAII 96809

October 4, 2023

LD 0160

Leslie Kurisaki  
Project Planner  
HHF Planners  
733 Bishop Street, Suite 2590  
Honolulu, Hawaii 96813

*Via email: lkurisaki@hhf.com*

Greetings:

**SUBJECT: Removal of Falls of Clyde from Honolulu Harbor  
Draft Environmental Assessment Pre-Assessment  
Consultation, Honolulu, O'ahu, Hawai'i**

Thank you for the opportunity to review and comment on the subject project. In addition to previous comments sent to you from the Department of Land and Natural Resources (DLNR), enclosed are also comments received from DLNR's Division of Forestry and Wildlife.

Should you have any questions, please feel free to contact Timothy Chee at [timothy.chee@hawaii.gov](mailto:timothy.chee@hawaii.gov). Thank you.

Sincerely,

*Russell Tsuji*

Russell Y. Tsuji  
Land Administrator

Attachments  
cc: Central Files



JOSH GREEN, M.D.  
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE  
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



DAWN N. S. CHANG  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE  
MANAGEMENT



STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
KA 'OIHANA KUMUWAIWAI 'ĀINA  
LAND DIVISION

P.O. BOX 621  
HONOLULU, HAWAII 96809

August 29, 2023

LD 0160

**MEMORANDUM**

FROM:

**DLNR Agencies:**

- Div. of Aquatic Resources (via email: kendall.l.tucker@hawaii.gov)
- Div. of Boating & Ocean Recreation (via email: richard.t.howard@hawaii.gov)
- Engineering Division (via email: DLNR.Engr@hawaii.gov)
- Div. of Forestry & Wildlife (via email: Rubyrosa.T.Terrago@hawaii.gov)
- Div. of State Parks
- Commission on Water Resource Management (via email: DLNR.CWRM@hawaii.gov)
- Office of Conservation & Coastal Lands (via email: calen.miyahara@hawaii.gov)
- Land Division – Oahu District (via email: barry.w.cheung@hawaii.gov)
- Aha Moku (via email: leimana.k.damate@hawaii.gov)

TO:

Russell Y. Tsuji, Land Administrator

SUBJECT:

**Removal of Falls of Clyde from Honolulu Harbor-DEA**

LOCATION:

Honolulu, Island of Oahu, Hawaii

APPLICANT:

**HHF Planners**

Transmitted for your review and comment is information on the above-referenced project. Please submit any comments to [timothy.chee@hawaii.gov](mailto:timothy.chee@hawaii.gov) at the Land Division by the internal deadline of **September 20, 2023**. If no response is received by this date, we will assume your agency has no comments. If you have any questions, please contact Timothy Chee at the above email address. Thank you.

**BRIEF COMMENTS:**

- We have no objections.
- We have no comments.
- We have no additional comments.
- Comments are included/attached.

Signed:

Print Name: Jason Omick, Acting Wildlife Program Mgr.

Division: Division of Forestry and Wildlife

Date: Sep 29, 2023

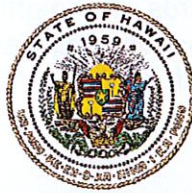
Attachments

Cc: Central Files



JOSH GREEN, M.D.  
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE  
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII'  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
KA 'OIHANA KUMUWAIWAI 'ĀINA

DIVISION OF FORESTRY AND WILDLIFE  
1151 PUNCHBOWL STREET, ROOM 325  
HONOLULU, HAWAII 96813

September 25, 2023

DAWN N.S. CHANG  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE  
MANAGEMENT  
LAURA H.E. KAAKUA  
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

## MEMORANDUM

**TO:** RUSSELL Y. TSUJI, Administrator  
Land Division

**FROM:** JASON D. OMICK, Acting Wildlife Program Manager  
Division of Forestry and Wildlife

**SUBJECT:** Request for Comments on the Draft Environmental Assessment (DEA) for the Removal of Falls of Clyde from Honolulu Harbor, on O'ahu

The Department of Land and Natural Resources, Division of Forestry and Wildlife (DOFAW) has received your request for comments on the Draft Environmental Assessment (DEA) for the Removal of Falls of Clyde from Honolulu Harbor on the island of O'ahu. The Falls of Clyde (FOC) is a four-masted iron-hulled ship which is currently docked at Pier 7 in Honolulu Harbor. The requirement for an assessment of this proposed action under Chapter 343, is related to the expenditure of state funds to remove the FOC and the vessel's listing in both the State and National Registers of Historic Places and its status as a National Historic Landmark. The Proposed Action is the removal of the FOC from Pier 7, including the possible disposal of the vessel, although the preferred method of disposal is to be determined. In the absence of any action, the continued deterioration of the vessel at Pier 7 presents a liability and safety hazard to the State of Hawai'i. The EA will discuss removal and disposal alternatives being considered, which may include scuttling the vessel offshore, dismantling at a drydock, as well as other options.

DOFAW recommends the following measures be included in the DEA with the intent to avoid construction and operational impacts to State-listed species. The State listed 'ōpe'ape'a or Hawaiian Hoary Bat (*Lasiurus cinereus semotus*) could potentially occur at or in the vicinity of the project and may roost in nearby trees. Any required site clearing should be timed to avoid disturbance to bats during their birthing and pup rearing season (June 1 through September 15). During this period woody plants greater than 15 feet (4.6 meters) tall should not be disturbed, removed, or trimmed. Barbed wire should also be avoided for any construction because bats can become ensnared and killed by such fencing material during flight.

Artificial lighting can adversely impact seabirds that may pass through the area at night by causing them to become disoriented. This disorientation can result in their collision with



manmade structures or the grounding of birds. For nighttime work that might be required, DOFAW recommends that all lights used be fully shielded to minimize the attraction of seabirds. Nighttime work that requires outdoor lighting should be avoided during the seabird fledging season, from September 15 through December 15, when young seabirds make their maiden voyage to sea.

If nighttime construction is required during the seabird fledgling season (September 15 to December 15), we recommend that a qualified biologist be present at the project site to monitor and assess the risk of seabirds being attracted or grounded due to the lighting. If seabirds are seen circling around the area, lights should then be turned off. If a downed seabird is detected, please follow DOFAW's recommended response protocol by visiting <https://dlnr.hawaii.gov/wildlife/seabird-fallout-season/#response>. Permanent lighting also poses a risk of seabird attraction, and as such should be minimized or eliminated to protect seabird flyways and preserve the night sky. For illustrations and guidance related to seabird-friendly light styles that also protect seabirds and the dark starry skies of Hawai'i please visit <https://dlnr.hawaii.gov/wildlife/files/2016/03/DOC439.pdf>.

The State endangered 'Īlio holo i ka uaua or Hawaiian Monk Seal (*Monachus schauinslandi*) and threatened honu or Green Sea Turtle (*Chelonia mydas*) could potentially occur or haul out onshore within the vicinity of the proposed project site. Nesting season for the honu is April through December and 'Īlio holo i ka uaua can give birth to pups all year round. If either species is detected within 100 feet (30 meters) of the project area all nearby construction operations should cease and not continue until the focal animal has departed the area on its own accord.

The State threatened manu-o-Kū or White Tern (*Gygis alba*) is known to nest in the vicinity of the proposed project. If tree trimming or removal is planned, DOFAW strongly recommends a qualified biologist survey for the presence of White Terns prior to any action that could disturb the trees. White Tern pairs typically lay their single egg on a tree branch with no nest. Eggs and chicks can be dislodged by construction equipment or workers that contact trees in which White Terns are nesting. As such, a tree protection program should be in place for any mature trees with nesting or roosting White Terns. For more information regarding detailed Best Management Practices when conducting tree care activities with manu-o-Kū present, please visit [https://www.whiteterns.org/uploads/8/6/3/2/86323044/mok\\_tree\\_care\\_guidelines\\_190622.pdf](https://www.whiteterns.org/uploads/8/6/3/2/86323044/mok_tree_care_guidelines_190622.pdf). If a nest is discovered, please notify DOFAW staff for assistance.

We appreciate your efforts to work with our office for the conservation of our native species. These comments are general guidelines and should not be considered comprehensive for this site or project. It is the responsibility of the applicant to do their own due diligence to avoid any negative environmental impacts. Should the scope of the project change significantly, or should it become apparent that threatened or endangered species may be impacted, please contact our staff as soon as possible. If you have any questions, please contact Myrna N. Giraldo Pérez, Protected Species Habitat Conservation Planning Coordinator at (808) 265-3276 or [myrna.giraldo-perez@hawaii.gov](mailto:myrna.giraldo-perez@hawaii.gov).

Sincerely,



JASON D. OMICK  
Acting Wildlife Program Manager

**From:** [Oyasato, Kyle Y](#)  
**To:** [Leslie Kurisaki](#)  
**Subject:** RE: Falls of Clyde Removal EA- pre-assessment consultation  
**Date:** Saturday, August 26, 2023 10:19:17 AM

---

[This message was sent from an outside source.]

Aloha Leslie,

We do not have any comments as we do not have any facilities or easement in this area. Please note that Aloha Tower Drive is under the jurisdiction with Hawaii Department of Transportation.

Let me know if you have any questions.

Thanks, Kyle

---

**From:** Leslie Kurisaki [mailto:lkurisaki@hhf.com]  
**Sent:** Thursday, August 24, 2023 6:18 PM  
**To:** Leslie Kurisaki <lkurisaki@hhf.com>  
**Subject:** Falls of Clyde Removal EA- pre-assessment consultation

CAUTION: Email received from an **EXTERNAL** sender. Please confirm the content is safe prior to opening attachments or links.

Aloha,

Please see attached pre-assessment consultation letter for your review and comment.

**Leslie Kurisaki**

*Associate*

**HHF Planners**

*40 years in Hawai'i*

d 808.457.3182

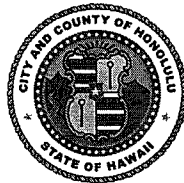
733 Bishop St. Ste. 2590 | Honolulu, HI 96813

[www.hhf.com](http://www.hhf.com)

DEPARTMENT OF DESIGN AND CONSTRUCTION  
KA 'OIHANA HAKULAU A ME KE KĀPILI  
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11TH FLOOR • HONOLULU, HAWAII 96813  
PHONE: (808) 768-8480 • FAX: (808) 768-4567 • WEB SITE: www.honolulu.gov

RICK BLANGIARDI  
MAYOR  
MEIA



HAKU MILLES, P.E.  
DIRECTOR  
PO'O

BRYAN GALLAGHER, P.E.  
DEPUTY DIRECTOR  
HOPE PO'O

September 6, 2023

SENT VIA EMAIL

Leslie Kurisaki  
lkurisaki@hhf.com

Dear Ms. Kurisaki:

Subject: Removal of Falls of Clyde from Honolulu Harbor  
Draft Environmental Assessment Pre-Assessment Consultation  
Honolulu, Oahu, Hawaii

Thank you for the opportunity to review and comment. The Department of Design and Construction has no comments to offer at this time.

Should you have any questions, please contact me at (808) 768-8480.

Sincerely,

A handwritten signature in black ink, appearing to read "Bryan Gallagher".

~~FOR~~ Haku Milles, P.E., LEED AP  
Director

HM:krm (908397)



DEPARTMENT OF PLANNING AND PERMITTING  
KA 'OIHANA HO'OLĀLĀ A ME NĀ PALAPALA 'AE  
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813  
PHONE: (808) 768-8000 • FAX: (808) 768-6041 • WEB: www.honolulu.gov

RICK BLANGIARDI  
MAYOR  
MEIA



DAWN TAKEUCHI APUNA  
DIRECTOR  
PO'O

JIRO A. SUMADA  
DEPUTY DIRECTOR  
HOPE PO'O

September 11, 2023

2023/ELOG-1567 (MAK)

Mr. Scott Ezer, Principal  
HHF Planners  
ATTN: Falls of Clyde  
733 Bishop Street, Suite 2590  
Honolulu, Hawaii 96813

Dear Mr. Ezer:

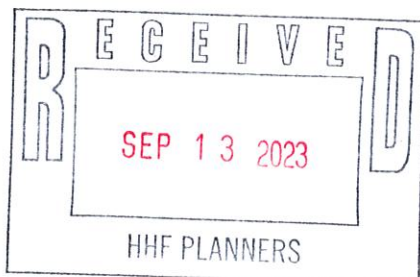
SUBJECT: Pre-Consultation - Environmental Assessment (EA)  
Removal of Falls of Clyde from Honolulu Harbor  
171 Aloha Tower Drive - Honolulu Harbor  
Tax Map Keys 2-1-001: 001 and 58

This in response to your letter, received August 25, 2023, requesting comments regarding the upcoming preparation of an Environmental Assessment (EA). We understand that the proposal is for the removal on the Falls of Clyde, a four-masted iron-hulled ship which is currently docked at Pier 7 in Honolulu Harbor. Based on the information in your letter, we have no comments at this time, but we look forward to reviewing your upcoming Draft EA.

Thank you for the opportunity to comment on this proposal. Should you have any questions, please contact Michael Kat, of our Zoning Regulations and Permits Branch, at (808) 768-8013 or via email at michael.kat@honolulu.gov.

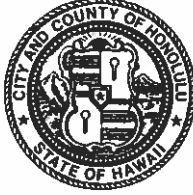
Very truly yours,

*For*   
Dawn Takeuchi Apuna  
Director



POLICE DEPARTMENT  
KA 'OIHANA MĀKA'I O HONOLULU  
CITY AND COUNTY OF HONOLULU

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



RICK BLANGIARDI  
MAYOR  
MEIA

ARTHUR J. LOGAN  
CHIEF  
KAHU MĀKA'I

KEITH K. HORIKAWA  
RADE K. VANIC  
DEPUTY CHIEFS  
HOPE LUNA NUI MĀKA'I

OUR REFERENCE EO-SH

September 15, 2023

SENT VIA EMAIL

Ms. Leslie Kurisaki  
lkurisaki@hhf.com

Dear Ms. Kurisaki:

This is in response to your e-mail correspondence of August 24, 2023, requesting input on the Environmental Assessment for the proposed removal of the Falls of Clyde ship docked at Pier 7 in the Honolulu Harbor.

The Honolulu Police Department (HPD) has reviewed the information provided and has some concerns. The HPD recommends that all necessary signs, lights, barricades, and other safety equipment be installed and maintained by the contractor during the project. The HPD and Honolulu Harbor police have shared jurisdiction of Pier 7; therefore, the HPD recommends consultation with both entities in the event on-duty or special duty officers must be utilized for crowd or vehicular control.

Lastly, the HPD also recommends that adequate notification be made to residents and visitors in the area prior to road closures, as any impact to pedestrian and/or vehicular traffic may cause issues and disruptions that could lead to complaints.

If there are any questions, please call Major Calvin Sung of District 1 (Central Honolulu) at (808) 723-3327.

Sincerely,

A handwritten signature in black ink that reads "Glenn Hayashi".

GLENN HAYASHI  
Assistant Chief of Police  
Support Services Bureau



**From:** [Gary North](#)  
**To:** [Leslie Kurisaki](#)  
**Cc:** [Gonzalez, Carlos E. - Marine Operations](#); [Len/Fai \(Faiona\) Isotoff](#); [Dreanalee \(Dre\) Kalili](#); [Keith MacKenzie](#); [Michael Stewart](#); [Julie Meheula](#); [Andrew Rocheleau](#); [David Barend](#); [Tyson Jones](#); [Laureen Elliott](#); [Michael Caswell](#); [Darren Lee](#); [Iain Wood](#); [Kuuhaku Park](#); [Tom Heberle](#); [Roy Catalani](#); [Ali Wang](#); [Craig Furuta](#); [Blaine Gemen](#); [LCDR Josh Williams](#); [Matt Caires](#); [Randy Grune](#); [Steve Morita](#); [Lek Friel](#); [Asato](#); [Matthew Guard](#); [Sinclair Brown](#); [Victor Szabo](#); [Jon Satre](#); [Lalanya Downs](#); [Kim Lu](#); [Captian Aja Kirksey](#); [Zackary Anderson](#); [Eric Pineiro](#); [Brittany Hopkins](#); [Tom Crescenzi](#); [Tiffanie Whitworth](#); [Jim Gomes](#); [Davis Yogi](#); [Didi Ahakuelo](#); [Amy Iritani](#); [Natasha Ueligitone](#); [Rick Green](#); [John Juettner](#); [Scott Vuillemot](#); [Adeline Tang](#); [Kris Nakagawa](#); [Dustin Dawson](#); [Wade Thompson](#); [Charles B. Pires](#); [Rick Volner](#); [Gary J. North](#); [Shane Peters](#); [Cdr. Kyra Dykeman](#)  
**Subject:** Re: Falls of Clyde Removal EA- pre-assessment consultation  
**Date:** Monday, August 28, 2023 10:19:06 AM  
**Attachments:** [Falls of Clyde Early Consult Ltr 7-24-2023.pdf](#)

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[This message was sent from an outside source.]

The Hawaii Harbors Users Group (HHUG) supports the removal and disposal of the Fall of Clyde.

Aloha

Gary North  
Executive Director  
Hawaii Harbors Users Group

Sent from my iPad

On Aug 24, 2023, at 6:22 PM, Leslie Kurisaki <[lkurisaki@hhf.com](mailto:lkurisaki@hhf.com)> wrote:

Aloha,

Please see attached pre-assessment consultation letter for your review and comment.

**Leslie Kurisaki**

Associate

**HHF Planners**

*40 years in Hawai'i*

d 808.457.3182

733 Bishop St. Ste. 2590 | Honolulu, HI 96813

[www.hhf.com](http://www.hhf.com)

**From:** [David O'Neill](#)  
**To:** [Leslie Kurisaki](#)  
**Subject:** Falls of Clyde Disposal  
**Date:** Tuesday, August 29, 2023 10:05:55 AM  
**Attachments:** [FoC-Overview-Pt 1\\_09\\_08\\_2020 \(1\).pdf](#)

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[This message was sent from an outside source.]

Aloha Scott,

My name is David O'Neill from the UK group Falls of Clyde International, I am responding to your recent Environmental Assessment Document sent to interested parties, Mr. Bruce McEwan from the Friends of Falls of Clyde forwarded this to me, we are an interested party. In 2021 we were awarded the States RFP for the removal of the ship from Pier 7, we proposed this by using a lift ship and removing her at the pier to reduce any risks of failure.

We presented HDOT and the USCG, EPA and Historic Hawaii with a technical proposal which was approved by the USCG and HDOT as they issued the award to us to remove her. Our case met difficulties, as a heritage group we were unable to meet the bond imposed by HDOT, however we had made provisions within the contract to offset the need for a bond by not receiving the advance funding available in the award, this was \$1.5m, the bond imposed was \$1.25m, HDOT refused to accept this alternative solution and withdrew the contract. It was however evident that HDOT were prepared to scuttle her without cleaning her and removing oil products, asbestos, detritus and rust sludge contaminants that are still within her hull. If they had proceeded this would have contaminated a substantial area of the Pacific with a rust bloom.

I am interested to see the evidence of the ship being unrepairable, certainly we never intended to repair her, we intend to bring her home to Scotland, put her in a dry dock, strip her back to her frames, replace frames, hull plating and deck areas as required. She would then be rigged by the worlds foremost sailing ship expert from California, Mr. Jamie White. So repairs are not planned, rebuilding her is, but not only will we rebuild her as a sailing ship once again, but we will fit her with energy storage batteries and hydrogen power fitted to electric propulsion. Then she would sail once again as she did when first built carrying ethical cargos and becoming a technology platform for clean emission power in shipping as well as becoming an education at sea platform.

We have received offers from offshore wind companies in Europe offering to fund our power and propulsion systems, an Norwegian investor interested in her rebuild and a host of smaller groups and companies looking to play a part in reducing the effects of climate change while saving Hawaii heritage.

HDOT has known of our plans for the last eight years yet still obstructs us, they are even prepared to ignore international law covering the standards for preparing a ship for scuttling, which the US is a signatory to.

We have tried to convince HDOT that the heritage of this ship to Hawaii is important and could be saved, not there but here, we are however keen to keep links with Hawaii, offering to offer new trading links to Europe, educational scholarships for Hawaii kids and to share the technologies used in her clean emission propulsion.

This last survey contains a footnote from Mr. Joe Lombardi, a note he made in his original almost identical 2007 survey, this ship could be restored, if funds were available, HDOT only has to let her go otherwise meet the costs of an international standard to scuttle her, then access to dry dock is not cheap either, I tried in Hawaii, the shipyards dont want the docks tied up with messy contaminated work like this, where union workers are at risk and specialists are needed that are very expensive.

Attached once again is our overview plan for the ships removal and future, that detailed proposal is with HDOT and the USCG on how we will remove her safely.

David O'Neill

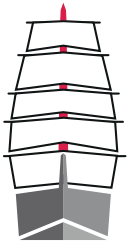
Director

Falls of Clyde International

[www.foci.scot](http://www.foci.scot)

07957 121918





**FALLS of CLYDE**  
INTERNATIONAL LTD

# T.S. Falls of Clyde

21ST CENTURY TECHNOLOGIES | ENVIRONMENTAL SOLUTIONS  
EDUCATION AT SEA | COMMUNITY OPPORTUNITIES | HERITAGE INNOVATES

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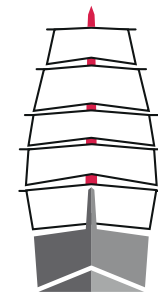
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**FALLS of CLYDE**  
INTERNATIONAL LTD



# 1.0 Introduction



## 1.1 Who are we?

The Falls of Clyde International (FOCI) team first started in 2016; all because of a plea for help on a maritime facebook page. David O'Neill (the creator and director of FOCI) saw and answered this plea which was simple: Save the Falls of Clyde (FOC) from being 'scuttled' by the Honolulu harbours department.

As David has always had a keen interest in trains, planes and automobiles and, with countless years' experience in sales and marketing, he knew he had both the know-how and the passion to help and quickly got to work on a plan to bring the FOC back home to Scotland.

However, he didn't just want her becoming another 'static' museum. Instead he created plans (as seen in the following document) which encompassed everything he feels passionately about – the environment, climate change, technology, social causes and heritage: bringing them all together into one ambitious project.

Before long he attracted like-minded people, all sharing the same vision as him, to both save the FOC and to get her sailing again helping communities around the world grow and thrive.

After extensive research of other vessels of similar stature and age (such as the James Craig and the Glen Lee), working with and building relationships with various tech companies and global maritime organisations and considering the biggest social and environmental problems facing communities around the world, David and his team were able to produce five distinct 'operations' that could be run on the ship (all which are detailed in the following document).

That's not to say that all of these operations will run concurrently – instead these are all individual proposals which would make the ship self-sustaining. FOCI envisage up to three of these operations could run together on the ship and elsewhere.





## 1.2 Why this ship?

Throughout the years he heard many people ask why? Why this ship? Why save the 'Falls of Clyde'?

Yet, the answer was simple. Why not? After 140 years this beautiful ship is still afloat and she truly is a credit to those Scottish world leaders in ship design and technology. She is a survivor and the last of her kind (her seven sisters were either lost in wartime - WW1 and WW2 - or at sea in terrible storms) and, much like the people of Scotland she is hardy, strong and able to weather the worst of storms.

The FOC remains the symbol of a time of great innovation, ingenuity and engineering, she truly is a piece of history that shouldn't be forgotten as ships like her opened the seaways for the new designs of the British Merchant Fleets of the 20th Century - fast steamships and turbine powered innovators of their day! There is so much history imbued in the very iron that was used to build her and she deserves to sail for another 140 + years.

The FOC, and ships like her, allowed Britain to become the seafaring, trading nation and supplier of goods worldwide that put the Great in Great Britain. Additionally she bears the name of our great river; a place that built the maritime nation we became.



## 2.0 Scope of the Project

The following details outline our plan's, split into four phases, spread over three to five years to reach completion.

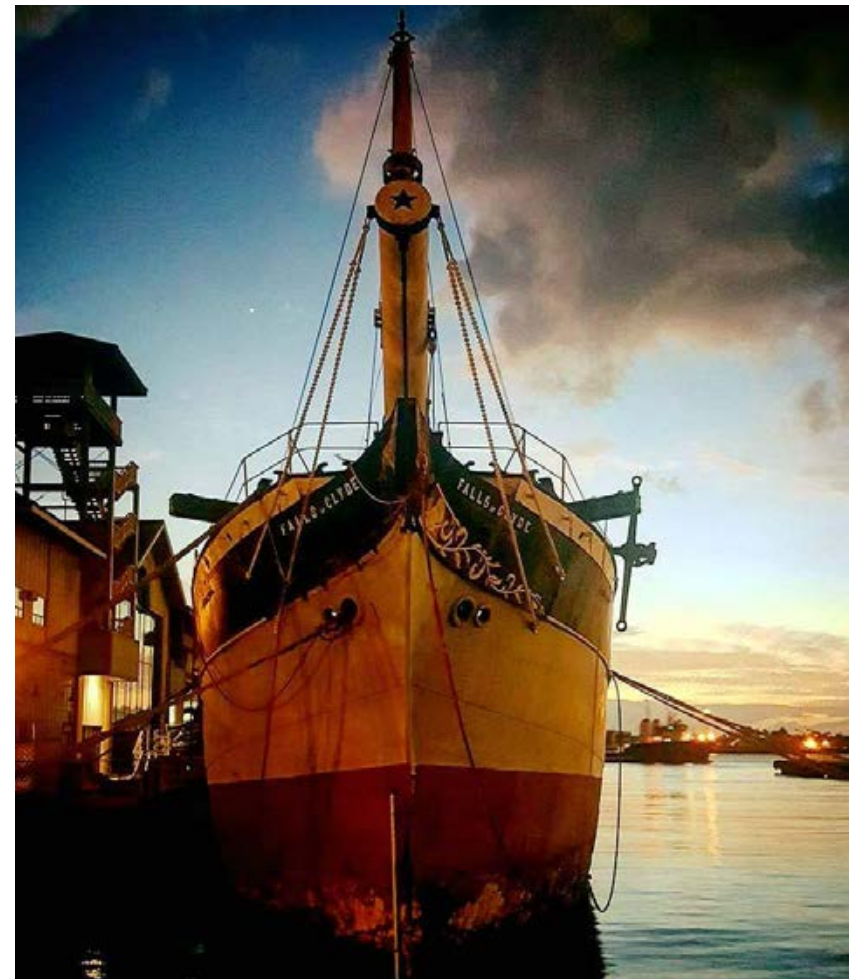
### 2.1 Phase 1- The Foundations

We have been working with the Hawaiian harbours authority to secure the release of the ship from the State. Furthermore we have engaged with the state of Hawaii over ownership and we, ultimately, aim to have her released into our hands.

She was impounded with claims of her being unsafe, yet, further clarification received means that she is only unseaworthy. The relationship between our group and the DOT (Department of Transport) Harbours authority hasn't always been easy but with determination, patience and time it has improved and we have been given the chance to put forward our own proposals to save the Falls of Clyde (FOC).

As she has been a static museum for over 40 years and as there were no plans to return her to sea from the port on Honolulu she was not required to be 'seaworthy'. However, the local group that owned the ship, 'Friends of Falls of Clyde' (FFOC) had a vessel survey carried out in December 2016 where she was found to be sound and safe as a static vessel. The same report does outline areas where she will need restoration, which in turn have helped us identify longer term work required.

Ownership of the vessel will be transferred to us the moment she sits on the deck of the lift ship (or sooner if possible). To ensure we have all the details needed for a project this size, a further survey will be carried out before her journey back to Scotland – ensuring that we are fully aware of any potential problems that need to be addressed. It would be preferred that once ownership is secure that she be placed in the dry dock of Pacific Shipyards International to have immediate remedial work carried out to her plating.



## 2.2 Phase 2 – Her Journey Home

We have a contract on offer from the heavy lift ship company Roll-Dock (Amsterdam Office) to bring the Falls Of Clyde back to Scotland. Currently we need to raise £400,000 in order to secure the lift ship and bring her home to Scotland with a further two payments of £900,000 respectively bringing us to a total of £2.2 million for the entire lift ship operation.

We are also planning a series of events for her journey home. Starting in Honolulu with a Scottish/Hawaiian themed farewell traditional blessing all the way back to Scotland with several stops in-between before a final ‘welcome home’ event in Scotland. We are still working with various ports and our lift ship team to determine these stops and they will be announced in due course.

In order to raise funds needed for her rebuild, the ship will be offering sponsorship opportunities during that journey (a sponsorship document is currently available). These sponsorship opportunities have been estimated to provide not only the lift operation costs but to also offer substantial funding to start the rebuilding process on arrival to Scotland. Each event is expected to reach an estimated 750 million viewers from social media, news, TV and radio coverage.

Furthermore, to bring her to the Clyde a (wreck removal) bond of £250k has been set by Peel Ports; this would be required for her to be offloaded to a dock in Glasgow/Greenock. However, there are other options available as, provisionally, A.B.P. (Associated British Ports) have stated they would have no bond requirement if the FOC came to Troon Dry Dock with the view that if she would be fit to leave Hawaii on the lift ship then she would be fine to enter Troon. We are also confident that we can either win concessions of support from peel ports to completely waive or significantly reduce this bond.

Finally, Tugs and Pilot services have been very kindly offered, free of charge, in both Honolulu and Scotland to escort the ship to and from the lift ship.

In Honolulu the services are being offered by Foss Marine and the pilot association and in Scotland by Clyde Marine. Panama passage services were also offered previously and we are confident that this can and will be confirmed again.

## 2.3 Phase 3 – The Rebuild.

We currently have two options for her rebuild:

**Option One** – Our current (and most promising) plan is to bring the FOC back to Inverclyde (very near where she was originally built) to Victoria harbour. Here she will be transferred from the lift ship to a submersible barge (being proposed by Malin and BAE) and she will be rebuilt on the barge.

Use of this heritage site has been confirmed by both Inverclyde council and peel ports (the owners of the harbour and surrounding space) who have stated that they would take a ‘peppercorn rent’ for the time it takes to rebuild the FOC. We estimate the rebuild will take 3 to 4 years, yet, with the right investment and facilities we could cut the rebuild time down to anything between 1 to 2 years - incorporating a mix of old and new techniques.

Prior to her arrival we will be creating a ‘pop up’ heritage village made up of converted container units. The village will act as an incubator for start-up businesses as we expect high levels of traffic from both cruise ships and tourists interested in the heritage, maritime history and the FOC.

We will offer help and guidance to local people to set up and maintain their businesses within the village and will offer low rent/rent free spaces to new businesses for a set period of time; we envision a local area with unique bars, restaurants and cafés as well as local and established businesses within the village.

We also plan to build a museum/genealogy centre detailing the history of Scottish shipbuilding and the journey of the FOC. People will be able to see the FOC being rebuilt in real-time and we estimate that we will create up to 150 new jobs within the site as well as bring in a higher footfall due to the unique facilities within the maritime hub.

**Option Two** – if, for any reason, we are unable to take the FOC to Inverclyde there are several other sites along the Clyde that are available. Troon dock have made it clear that they would be available and they have a dry dock currently available for the rebuild. Several sites in Glasgow have also shown interest in taking the FOC during the rebuild phase, however, both rent and costs are still being negotiated.

Currently we estimate the rebuild will cost around £15 to 20 million based on other rebuilds similar to the FOC. We have sought the support from industry and the public across Europe for the supply of materials and skills to complete this restoration and there was an overwhelmingly positive response. We are also seeking Legacy, Heritage and Lottery funding opportunities and are considering working towards a charity status.

The cost of the rebuild would be comparable to the rebuild of the ‘Wavertree’ and ‘Balclutha’ ships in New York and San Francisco and we have been in discussions with both groups learning about their challenges and developments during these rebuilds. This is very much a community inspired and focused project helping people rediscover Scotland’s history, heritage and future.

## 2.4 Phase 4 – The Future

Once the FOC is rebuilt we have several plans for her which are outlined in the ‘aims and vision’ section. Be that as it may, we don’t plan to stop with the FOC and, if successful, we already have several other ships around the world earmarked for restoration with plans to have them sailing again using the same business model.

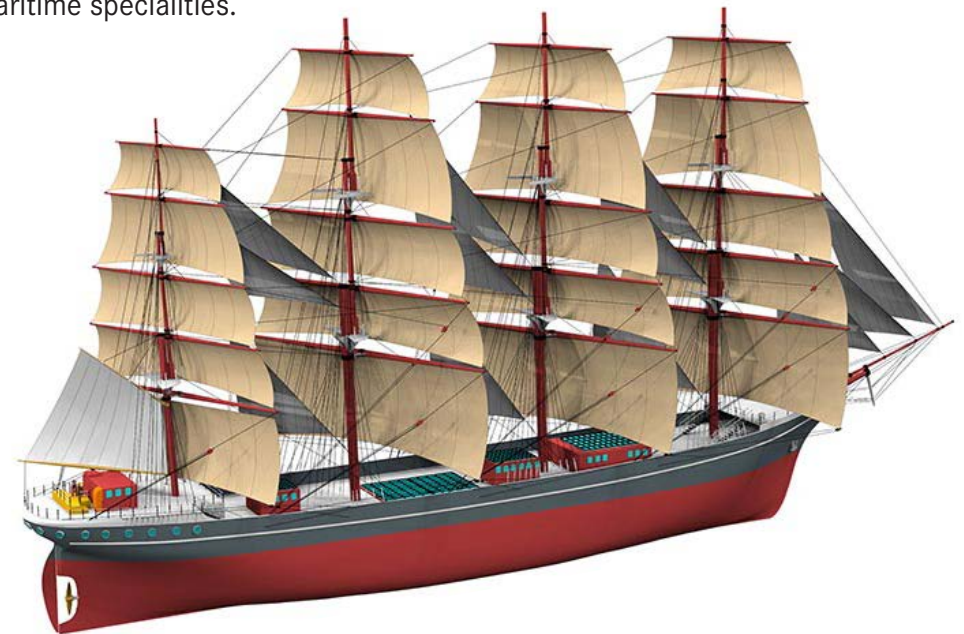
After the FOC is built, Victoria Harbour will essentially become a tall ship restoration hub and worldwide heritage centre as well as a central base

of operation for the proposed businesses running within Falls of Clyde international (FOCI).

Along with the incubator village and heritage/genealogy centre we seek to continue restoring other ships and become specialists in this field eventually attracting the best individuals around the world to work with us and give local people an opportunity to secure their future.

We have considered that we could, with guidance, put together a share prospectus where companies or individuals can buy shares of ownership for the ships and company - similar to Sailcargo’s ‘Ceiba’ & Fairtransport Eu, ‘Nordly’s’ & ‘Spirit of Rotterdam’ projects.

Finally, at all stages we envisage opportunities being given to the local communities to promote skills/opportunity, working with the Scottish Maritime Museum and the Glasgow Nautical College who will assist us in training apprentices in the development of lost skills for vessels like this and essentially become a world renowned hub for heritage, innovation and maritime specialities.



Ship drawing | Ron De Vos

# The Proposed Route



## Stop One Hawaii

**DEPARTURE: 6th March**

We plan to give her a traditional Hawaiian farewell. As the FOC leaves Honolulu she will be given a traditional Hawaiian blessing and the Hawaiian Governor – David Igi – has already agreed to wave her off with a farewell address.

This will also be an event open to the public where they will be immersed in both Hawaiian and Scottish culture with a traditional Scottish Games which will include traditional Scottish Music and Dancing (including a pipe band) as well as Hula dancers and Hawaiian and Scottish food and drink. All celebrating the start of her journey home and her deep connections to the islands and the Hawaiian people. As she leaves Honolulu, it is anticipated that she will be escorted by a large flotilla of small crafts including traditional Hawaiian Canoe teams and the Kool-lai; we anticipate extensive global media coverage for this event.

## Stop Two San Diego **ARRIVAL: 16th March – DEPARTURE: 17th March**

As she approaches San Diego and her first stop we anticipate a flotilla of small crafts to escort her into harbour including the tall ship – the Star of India – along with other historical vessels.

Here she will be moored next to the San Diego maritime museum where we hope to open the lift ship to the public for them to get an opportunity to see the FOC up close and personal. The purpose of this visit is to offer sponsors further exposure through the global media campaign and attract other commercial interest. Working together with the national historic preservation society – any funds raised locally would be donated to the museum itself.

As with Hawaii there will be traditional Scottish food and drink but we will also be celebrating San Diego's unique culture and heritage by providing local businesses the chance to be part of this historic event and showcase their own local fayre.

## Stop Three Panama City/Canal **ARR: 28th March – DEP: 29th March**

We wanted to say thank you for the passage through the Panama Canal so we felt that a stop here was necessary to strengthen links with the maritime community and the Scottish links with the city itself. Again, like other stops we will be celebrating her journey home but also Scottish Culture but we will be emphasising and celebrating the South American culture, history and heritage too with traditional South American dance, food and drink all whilst promoting our emission free tech and solutions.

## Stop Four Galveston, Texas **ARR: 9th April – DEP: 10th April**

Here the Elissa (an Aberdeen built ship – built in 1877) will come to greet the FOC as she comes into port all with an escort flotilla and all in conjunction with the museum. Again, to celebrate the maritime heritage, the oil industry connections and attracting more sponsors and investors with the event and global media coverage. Here the emission free tech, engine and propulsion solutions will all be heavily promoted along with the shared history and heritage of Scotland and Texas.

## Stop Five Miami, Florida **ARR: 13th April – DEP: 14th April**

This will be her midway point and, again, she will be greeted by a flotilla as she comes into port. As with the other stops she will be celebrating the Scottish history and heritage but also offering an opportunity to the cruise ship community to see how green tech and emission free shipping is the way forward. Carnival have already offered support to the project.



## Stop Six New York

ARR: 17th April – DEP: 18th April

Similar to Miami, she will be greeted by a flotilla and she will be moored nearby the Wavertree and, like other stops, she will be celebrating the Scottish history and heritage but we will be focusing on the green tech and emission free shipping here as we did in Miami.

## Stop Seven Nova Scotia, Canada

ARR: 22nd April – DEP: 23rd April

This event will focus heavily on the social and community aspects of the ship – focusing heavily on the education at sea and community benefits as well as the strong shared Scottish heritage and history. She will be greeted by a flotilla as she comes in.

## Final Stop Glasgow, Scotland

ARRIVAL: 1st May

Her final stop and we will go all out for it. We are attempting a Guinness world record for the largest flotilla on the Clyde and there are several events planned down the entire Clyde starting from Ayrshire right down to her final stop in Govan. There will be traditional Scottish Games and Dance as well as various Scottish Fayre and merchandise throughout. This will offer a huge opportunity for Scottish based sponsors (such as whiskey companies) to get involved both with the local community and the global audience. We want to focus heavily on tourism and Scottish exports at these events and we have engaged with tall ship owners from around Europe and – if possible – a handful of owners could come to the Clyde to take part on the final leg of the journey.



- ① HONOLULU, Hawaii
- ② SAN DIEGO, California
- ③ PANAMA CITY/CANAL, Panama
- ④ GALVESTON, Texas

- ⑤ MIAMI, Florida
- ⑥ NEW YORK CITY, New York
- ⑦ NOVA SCOTIA, Canada
- ⑧ GLASGOW, Scotland

## 3.0 Aims and Objectives



Ultimately we want to see the FOC restored to sea going condition so that she can fly the flag for Scotland's engineering and green tech abilities. She will become a symbol of Scotland's lead in the world of new eco-technologies, alternative propulsion and hydrogen/ electric power systems. This eco-friendly ship will proudly announce her heritage credentials down to her last nut and bolt and show the world what Scotland still has to offer the shipbuilding and repair sector.

We have no plans to make the FOC a static museum piece. Instead we plan to show the durability and innovation of Scottish engineering as she will be sympathetically restored. The FOC will be fit for purpose but she will be an ambassador abroad for all things Scottish (even the odd bagpipes!) All whilst using the latest technologies to sail the seas swiftly and safely.

When we set out down this road to save the ship, we looked for future applications that would make her sustainable, essentially we envisaged 3 main areas to be considered, which will decide her configuration; additionally there are two alternative options available.

### 3.1 Fairtrade cargo:

We aim to provide the first carbon free cargo service from Scotland! Presently we estimate around £5.2m per annum (£0.50 per ton, per mile) could be made from cargo. We will seek to carry Fairtrade Cargos and develop and nurture relationships with farmers and workers within third world countries; giving them a fair wage, the ability to live and to send their own children to school.

We want to take education ashore - to those communities that grow the coffee or make the Rum, Gin or Chocolate. Helping these same communities with infrastructure or education projects that they will identify themselves.



We firmly believe that this will strengthen links culturally and commercially, as well as benefitting communities and businesses both here in Scotland and in those local communities.

Due to the other businesses being run on the ship we will have limited cargo space but we have earmarked several other tall ships that will be restored and rebuilt (using the latest green technology) at Victoria harbor – other tall ships will then have a stronger focus on fair-trade cargo and we believe that this will give us a unique brand of products along with this harbour becoming a world class fair trade cargo and maritime hub.

### 3.2 Education at sea:

One of our most exciting prospects for the ship. We intend to offer an education at sea service and, based on other models around the world, we will offer full time education on board. This will be offered to private schools and colleges around the world and is based on the example of a company from Nova Scotia (Class Afloat). We envisage students from wealthier families can pay for a place on-board and we expect the cost to be around £32,000 per 10 month semester per student which, in turn, will help fund places for other students who would not have access to this kind of opportunity. It should be noted that these are estimated figures and education models and prices are subject to change.

We also plan to offer places to the neediest kids from our communities who see no prospects for their lives ahead of them and take them on the adventure of a lifetime. This program will offer students (from 14 years +) a once in a lifetime opportunity as they will get to explore the world whilst learning. We are currently working with several children's charities, schools and third sector groups who will identify potential students who would benefit from this program.

We see the program being broken down into three main parts:

### Part 1:

We will give everyone a chance to apply for a place on the FOC and we are currently developing a 'pre-boarding' program similar to programs like the 'Duke of Edinburgh award'. Initially, we plan to travel around Britain's schools explaining who we are and how people can get involved. However, the main difference between this program and others is that the 'pre-boarding' program will work with schools to identify those most in need and help us identify students who would benefit most from this program.



The program itself will have a strong focus on community working, heritage and personal growth. We want the successful applicants to show us that they have what it takes by volunteering within their community, as well as fundraising and team building; all whilst being fully supported by us and the local third sector organisations within their area. We want to help students develop and gain key skills and attributes for work and life such as resilience, problem-solving, team-working, communication and drive.

### Part 2:

Once the pre-boarding program has been completed, the students will sail to the first of several destinations on their journey after completing the

necessary health and safety requirements and basic training before sailing.

On-board the ship they will be taught conventional courses (English, Maths, Sciences etc) by fully qualified teaching staff but will also learn about all aspects of ship life as they continue to develop and perfect the key skills they have been working on in the pre-program. The students will become seasoned sailors as they will be expected to help run and navigate the ship as part of their daily duties and they will get to experience all aspects of ship life.

Furthermore, the students will also learn about shared responsibilities as they discover new countries and cultures and learn about all aspects of Fairtrade cargo as when at our Fairtrade cargo ports they will get the chance to get involved with the local businesses and develop a firm understanding of the processes involved in getting various products to the supermarket shelves.

The courses taught will follow a set curriculum and will meet the standards set by the SQA (for high school qualifications) and we are currently in discussion with the Glasgow Nautical College, Caledonian university and Strathclyde University about accredited university courses.

As well as being taught how to sail and run a tall ship the size of the FOC and will also learn about marine biology, the supply chain and the ecosystem through both theoretical and practical lessons. We are following a similar model used by successful companies like 'class afloat'.

### Part 3:

After the adventure is over (depending on the student's age and abilities) we will help many of the neediest go onto higher education, learn a trade or gain employment – either through our own maritime hub/incubation village in Victoria Harbor (or another site), through one of the universities/colleges we are currently in discussions with or another area we have links to. We will also have a debriefing period, helping students integrate back into 'civvy' life.





### 3.4 Green technology platform

Of all of the projects on-board the FOC one of the most important is for her to become a platform that will show the world the latest green and carbon neutral/carbon free tech. We want to show the world that green engines and tech aren't just sustainable but that they are the future.

Final year students at Strathclyde University Marine Engineering took on and tackled new propulsion systems such as Hydrogen power - akin to Ferguson Marines own innovations. They also identified solar sails and high efficiency solar panels, wind turbines and battery storage as alternatives to the hydrogen power and we are still looking at various other 'green' technologies that we feel will be suitable for the ship; all with their own pros and cons.



Furthermore, as she sails the world using the latest green tech and engines, we believe we can show others that this tech is just as viable, cleaner and even superior to traditional diesel/petrol engines.

We also plan to run an annual event known as the 'clipper tea races'. A global event which will showcase both the FOC and other tall ships who will race half way around the world from China to Scotland using only green and wind energy. We expect this event will not only attract massive sponsorship opportunities and huge numbers of people tuning in to watch but, again,



highlight and showcase the very best of green and carbon neutral/free tech as we plan to run an event at each end inviting the best companies to showcase their latest green technology.

### 3.5 Cadet Training/Sail Adventure Holidays (optional)



Along with the other businesses upon the ship there are two further options available to generate revenue.

During discussions with Glasgow Nautical College it became apparent that even though they were able to teach young naval cadets the theory around sailing tall ships, it has proven a lot more difficult to gain practical experience due the lack of tall ships and even fewer working tall ships in and around Scotland at any one time.

Access to the FOC could be offered to the Glasgow Nautical College for a set period of time; this would allow their naval cadets to develop much needed skills and practical experience. These discussions are still in the early stages, however, it is something that could be developed further if there was sufficient time and resources available.

Alternatively, during the FOC's 'downtime' (where she is not at sea during the education at sea program or carrying fair trade cargo), there is the travel opportunities involved in this type of journey; paying guests can either stay for part of the journey or for the whole voyage and, as they will be sailing on one of the rarest ship on the ocean, we are almost guaranteed to have many people paying to come on-board for a sail adventure! From climbing masts (in all weather), setting sails or learning how to manoeuvre a sailing ship, they will experience the real sailors' life as they travel the world and meet lifelong friends.

Both options are still to be fully examined but are another alternative use for the ship should the other businesses fail to go forward for any reason.

## 4.0 Where are we now?



### 4.1 Relationship with Hawaii

**Initially, in 2016 we answered a call for help from the U.S. charity known as the 'Friends of the Falls of Clyde' (FFOC) who owned and wanted to save the FOC from being scuttled by the Hawaiian Harbours Authority. We answered and quickly put together a plan to get her back to Scotland attempting to work with the Hawaiian Harbours department and building and executing a plan. However, due to complications listed below, several attempts did not go ahead.**

From 2016 to mid-2017 we worked in closely with FFOC, however, this relationship was ended when we felt it was clear they were not able to grasp the scale and complexity of this project, we feel that this damaged the relationship between us and the Hawaiian Harbours Department and hindered the attempts to move the FOC from Hawaii.

Yet, since 2016, despite difficulties with the Hawaiian Harbours department and FFOC, we have built relationships and work closely with several businesses, state organisations and entities including the US coastguard (USCG), the Hawaii state historic preservation division (HSHP) and the Environmental protection agency (EPA) to name a few. Working to ensure that the FOC is not scuttled and giving her a chance at another lease of life.

From 2016 until now, the Hawaiian Harbours department have pressed us with unrealistic removal dates, conditions and wreck removal bonds with threats to scuttle the FOC if we did not comply in the time allotted. Despite this we managed to create a removal plan and had confirmed and booked a lift ship for June 2017.

### 4.2 Previous attempts and challenges

#### First Attempt

After lengthy discussions Ocean Heavy Transport (OHT) from Oslo, they had agreed to come and pick the FOC up with a lift ship, small enough that it could complete the life safely within the harbour, this was set for June 2017. They would pick up the ship with no deposit required and had agreed the funds could be raised with their support after she was home safe. The lift ship date was moved to November 2017 by OHT due to scheduling conflicts and we updated the Hawaiian authorities of this. Furthermore, OHT's engineer arrived in Hawaii on November 2017 to inspect the FOC and he was satisfied she was safe to lift and put on the lift ship with no complications.

However, in November 2017, OHT's vessel arrived in Honolulu with a larger lift ship than discussed, which unfortunately would not allow for the transfer to be completed. As the FOC could not be towed out to sea as she was not structurally strong enough for the tow to open ocean, this meant we had no option but to abandon this attempt. At this point we made the difficult decision to abandon this effort. We then had to negotiate a further date for an in harbour lift operation which meant finding a new supplier to allow us to meet the fresh DOTL deadlines.

#### Second Attempt

This attempt had highlighted several problems that had to be addressed and we arranged another lift with another Dutch lift ship company – Sevenstar – scheduled for February 2019.

Sevenstar had agreed to take the FOC on-board a lift ship that was passing

by Hawaii and she would share space with several other yachts going to other Destinations. They had asked for a deposit of £750,000 and a total cost of £1.7 million. They had examined our marketing strategy and were confident we could raise the money needed through our sponsorship program; we quickly got to work ensuring this program and associated materials was ready for the lift ship.

Sharing the lift vessel wasn't ideal but due pressure from the Hawaiian Harbours authorities we had to move quickly and made the decision to use Sevenstar.

Furthermore, as a condition of the lift operation, Sevenstar had also asked that the ship's hull was cleaned of any native flora and fauna and that a new full structural survey of her condition be completed. We were confident that, now we had a concrete date for the lift ship, we could raise the money needed.

Unfortunately, we quickly ran into problems as we had asked FFOC to complete several tasks (including cleaning FOC's hull of any native coruscations and marine growth, completing the structural survey on her condition as per Sevenstar's request). Despite continued assurances that these tasks would be completed and that there were funds available to do so, they never delivered on those commitments.

Sevenstar were due to leave Australia in January 2019 at which point they sought clarification that their terms had been met, unfortunately the FFOC group had not. We then had to make a decision whether or not to go ahead with the contract. We made the decision to cancel the contract due to the problems noted above and we distanced ourselves from FFOC – minimising contact and any further relationship with FFOC at this point. Despite our assurances that we had made the right call and that this was no fault of SFOCI, the relationship with DOTH quickly broke down as in their eyes we had 'failed' once again.

## **Auction Attempt**

Following the cancellation of the lift, DOTH attempted to auction the FOC in April 2019. We had made the decision not to bid on her as the department had placed unreasonable and unattainable restrictions on the vessel including a wreck removal bond of \$1.5 million to secure the FOC and required a guarantee that she would be removed by 30 days. These conditions were entirely unreasonable for several reasons:

- It would be near impossible to arrange a lift ship and removal within 30 days.
- The \$1.5 million bond on top of the bid for her removal was unreasonable. As she could not be towed out to sea, repairs would have to be made first locally, with an estimated \$1-2 million just to repair her which would take several months to complete.
- The estimated scrap value alone would be in the region of \$250,000 meaning anybody who wanted her for scrap would be highly unlikely to bid.

Unsurprisingly, there were no serious bids made for her disposal.

It had become clear that the Hawaiian Harbours department seemed disinterested in any kind of relationship with FOCl (or anyone else) and any attempts at communicating or correspondence were mainly ignored. We feel this was due to miscommunication driven by the FFOC group and since April 2019, we have managed to clear up several misconceptions with the Hawaiian Harbors Department (one being that we were the same entity as FFOC). Even though the relationship is still strained, there is now regular communication and correspondence and we have also developed several relationships with other state officials as mentioned earlier.



## 4.4 Here and now

**This has been a long and challenging journey but, despite the setbacks, we feel that we can and will succeed. Hawaiian Harbors have now filed for a 'Disposal' notice to the state department for historic artefacts. As the ship has been in Hawaii for over 50 years, she is now considered to be of cultural and historic importance.**

Our proposal is simple. We want to remove the FOC and repurpose her in a way that protects her heritage but also offers a future that will support the marine environment and serve future generations of communities around the world. It appears that the state department for historic artefacts as well as the United States Coast Guard (USCG) and the Environmental Protection Agency (EPA) are not happy that 'disposal' is the only course of action. The coast guard has final sign off on the entire process and our understanding is that they are not happy for an unnecessary and dangerous step to be taken when our option to remove her safely is on the table.

DOT Harbours department have cited tests on the condition and contaminant risks based on 2008 evidence, it could be that they may be asked to produce fresh samples of how 'clean' the ship is and to produce a suitable and up-to-date survey to show that she is safe to tow to sea. The biggest fear is that the ship sinks in the narrow channel entrance or founders just outside the harbour; blocking Honolulu harbour for at least 6-12 months while a salvage operation takes place.

We have also been working with the support of the U.S. National Historic Maritime Society, seeking support from their National Park Service for our plans to repatriate her to Scotland. The ship is a registered National Historic Landmark and currently U.S. flagged. In Honolulu, Foss Marine, The Honolulu Pilots Association and others are offering their services and staff to support our removal operation.

As stated earlier, we currently have a new agreement in place with another lift ship company (Roll Dock) to bring the FOC home to Scotland in June 2020. However, due to the coronavirus outbreak this is unlikely and will be most



likely be pushed back to September 2020. If we can get investment into the company, we could secure the lift ship and show Hawaiian Harbours that we can succeed with this project. If the 'disposal' process does go ahead, we will be able to bid, hopefully the lowest cost to remove her, a cost which DOTH would meet under the terms of the order.

Here in Scotland we have been in discussions with Inverclyde Council, Scotgov, Peel Ports, Strathclyde University, Caledonian University, Clyde Marine, Malin Group, Cleanships, Scottish Maritime Museum, Historic Environment Scotland, A.B.P., Glasgow Chambers of Commerce, North Ayrshire Council, Radio Clyde, The Clutha Trust, Crossroads and many others, all to prepare for her arrival on the Clyde.

## 5.0 Conclusion



**This is both an ambitious and global project which we're confident isn't only possible but necessary. Once transformed, the FOC can and will become entirely self-sufficient by moving cargo, educating tomorrow's students and changing people's lives globally.**

Rebuilding this ship is not an impossible task - it has been done before with ships in far poorer condition than the FOC with ships like Australia's James Craig, San Diego's Star of India, San Francisco's Balclutha, New York's Wavertree, Galveston's Elissa and Glasgow's Glenlee. These ships are just a few of the many successful restoration projects but we need others to share our vision.

The FOC is not just a static exhibit like other ships; she is truly a survivor, a living, breathing leviathan who was built (and rebuilt) on the Clyde. She will pave the way for more ships for generations to come - showing the world that green energy and social entrepreneurship are the way forward; we speak of heritage and this is what heritage looks like.

We envision the FOC becoming the pride of Scotland, becoming a symbol of hope for the neediest of our communities as we give people the opportunity to change their lives for the better.

This has been an incredible journey so far but we want you join us and share the experience of the Falls of Clyde coming home.

Follow the journey...





**The river Clyde. Flows down through the heart of Empire  
Beyond Glasgow sweeping out to the sea at the lower Clyde  
Where the River meets the Bay Yard of Russell's at Port Glasgow  
Here she was born, past Scott's of Greenock,  
Where many grafted and toiled,  
Where many died.  
To build these great ships, but  
What's left? What's left to remember and honour them now?!  
The Clyde. The Falls of Clyde.**

[www.foci.scot](http://www.foci.scot)



**FALLS OF CLYDE**  
INTERNATIONAL LTD





P.O. Box 4674, Honolulu, HI 96812  
[www.friendsoffallsofcl Clyde.org](http://www.friendsoffallsofcl Clyde.org)

August 31, 2023

Ms. Leslie Kurisaki, Project Planner  
HHF Planners  
ATTN: Falls of Clyde  
733 Bishop Street, Suite 2590  
Honolulu, HI 96813

RE: Comments on Proposed Action and Environmental Assessment

Friends of Falls of Clyde, Inc. (FFOC) appreciates the opportunity to comment on the project that you are undertaking for HDOT under HRS-343 regarding the National Historic Landmark vessel *Falls of Clyde*, which is owned by our organization.

As specified in your document, our comments are related to relevant issues and concerns that will be addressed in your Environment Assessment based on what we have read in the Notice:

1. The mission of FFOC is the preservation and restoration of *Falls of Clyde*. Specifically regarding preservation, our concern is the use of the term “disposal” of the vessel. This implies that the ship cannot be preserved, which we argue should not be a foregone conclusion. The term used by HDOT-Harbors Division has always been the “removal” of the ship from the harbor and we believe that should still be the focus of your project.
2. In the same section of the notice, you refer to liability and safety hazard to the State if the ship continues to remain at Pier 7. What specifically are the liability and safety hazard issues implied by these terms? If moving the ship is of concern as part of these issues, both of the named actions you state require movement away from Pier 7.
3. Your examples of disposal in the second paragraph of the same section are scuttling the vessel offshore and dismantling at a drydock with a vague mention of other options. We believe there are other options that can meet our mission of preservation. FFOC has copies of surveys done in 2010 by an historic ship expert, surveys conducted for FFOC in 2013 and 2016 plus a drydock plan designed by JMS Naval Architects ([www.jmsnet.com](http://www.jmsnet.com)) that clearly address the condition of the historic vessel and state ways that *Falls of Clyde* can safely be moved. If you check the credentials of this firm you will find that they are of the highest caliber and they are also salvage engineering experts. At our request, JMS has reviewed the 2023 condition survey conducted for HDOT Harbors Division and we have included an opinion statement from JMS regarding their review, which supports our position that the ship can be safely moved.

4. We have recently become aware of a Lidar laser scanning process that we believe may be important for a structural assessment and wonder if this will be used as part of your assessment.

As Owner, we believe we have the right to review the final assessment report from HHF before any final decision is made concerning the removal of *Falls of Clyde* from Honolulu Harbor.

Sincerely,

A handwritten signature in dark ink that reads "Bruce McEwan". The signature is written in a cursive style with a large initial "B" and "M".

Bruce McEwan, President



Naval Architecture  
Marine Engineering  
Marine Surveying  
Salvage Engineering

70 Essex Street  
Mystic, CT 06355  
(860) 536 0009 voice  
jms@jmsnet.com  
<http://www.jmsnet.com>

21 June 2023

Bruce McEwan  
President  
Friends of Falls of Clyde, Inc.

Bruce,

I have reviewed Joe Lombardi's survey report of the FALLS OF CLYDE conducted 20-30 March 2023 and compared his photos to the photos taken during the JMS Naval Architects survey conducted in October 2016. It appears that the vessel is generally in the same condition now as it was in 2016 but with additional corrosion as one would expect given the lack of maintenance in recent years.

The 2016 survey concluded that the Falls of Clyde did not pose a safety or navigation risk at the time. I believe this is still the case as long as personnel with access to the vessel are aware of the hazards associated with the deteriorated condition and take appropriate precautions. It is not a hazard to navigation where it is currently moored but the structural condition of the bits on both the pier and vessel display deterioration and their structural capacity to withstand heavy weather should be verified.

There is no doubt that the vessel is in dire need of maintenance, repair and preservation. But as Mr. Lombardi states in his survey report, a "white knight" could save her and return her to her former glory. I concur with his conclusion. With the proper resources and budget, the vessel could be restored as many other historic vessels have been. It is clearly worthy of preservation due to its unique historical significance as the only sailing oil tanker remaining in existence. Its historic value is immeasurable and its loss would leave an unrecoverable void in our maritime heritage.

Best regards,

A handwritten signature in blue ink, appearing to read 'Blake Powell', is written over a horizontal line.

Blake Powell  
President

**From:** [Richard Davison](#)  
**To:** [Leslie Kurisaki](#)  
**Cc:** [Wade Matsueda](#); [Layne Wada](#)  
**Subject:** RE: Falls of Clyde  
**Date:** Monday, October 23, 2023 1:21:02 PM

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[This message was sent from an outside source.]

++Layne

Leslie, thank you for your quick response,

To add on to Laynes email.

Cruise times are:

Sunset Cruise        1730 - 1937, Daily

Whale watch            0845 - 1045, 02Jan24 - 03MAR24

If we are to be moved temporarily, the end of P-8 is the only suitable alternate pier, that I know of, due to:

1. Gangway requirements, our gangway will not span over the top of the concrete bullrail. Therefor we need a clear area to lay the gangway onto the pier, P-8 already a cut-out for this purpose at the makai end of P-8
2. MARSEC (Public Access) rules. We require a "public access" facility to operate. P-8 is ideally suited for this, other piers may require modifications (\$\$) and/or amendments to existing security plans.

We would need a potable water connection

I hope this helps and happy to discuss on the phone if needed

Rich

Richard A. Davison  
Vice President of Operations, CSO  
Star of Honolulu Cruises and Events  
2277 Kamehameha Hwy  
Honolulu Hawaii, 96819  
Cell (808) 384-8360  
Office (808) 983-7765

From: "Leslie Kurisaki" <lkurisaki@hhf.com>  
To: "Richard Davison" <RDavison@starofhonolulu.com>  
Cc: "Wade Matsueda" <WMatsueda@starofhonolulu.com>  
Date: 10/23/2023 12:53 PM  
Subject: RE: Falls of Clyde

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Yes, we received the attached email from Mr. Wada which will be included in the pre-assessment comments. You're on our mailing list so will be notified when the Draft EA comes out for public review.

Thank you.

**Leslie Kurisaki**

*Associate*

HHF Planners

d 808.457.3182

[www.hhf.com](http://www.hhf.com)

**From:** Richard Davison <RDavison@starofhonolulu.com>

**Sent:** Monday, October 23, 2023 12:50 PM

**To:** Leslie Kurisaki <lkurisaki@hhf.com>

**Cc:** Wade Matsueda <WMatsueda@starofhonolulu.com>

**Subject:** Falls of Clyde

[This message was sent from an outside source.]

Hi Leslie

I trust Layne Wada was able to respond to your Aug 24th pre-assessment letter?

Do you have any follow up information for us?

I have cc'd Captain Wade Matsueda of the Star of Honolulu

Mahalo'

Rich

Richard A. Davison

Vice President of Operations, CSO

Star of Honolulu Cruises and Events

2277 Kamehameha Hwy

Honolulu Hawaii, 96819

Cell (808) 384-8360

Office (808) 983-7765[attachment "O4-Star of Honolulu-Layne Wada.pdf" deleted by Richard Davison/rdhinc]

**From:** [Layne Wada](#)  
**To:** [Leslie Kurisaki](#)  
**Subject:** Falls of Clyde Removal EA- pre-assessment consultation  
**Date:** Friday, September 1, 2023 1:50:15 PM  
**Attachments:** [Falls of Clyde Early Consult Ltr. 7-24-2023.pdf](#)

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[This message was sent from an outside source.]

Mr. Kurisaki,

Thank you for keep us updated on HDOT's plans related to the Falls of Clyde. Our primary concern would be related to the vessel's dismantling at the dock or removal to scuttle the ship. Since we are directly across from Pier 7 and operate on a daily basis, blocking the Star of Honolulu's ingress/egress would be an undue hardship. As such, we request relocation to an alternative pier while the removal is taking place.

Thank you for your consideration.

Layne Wada

----- Forwarded by Layne Wada/rdhinc on 08/29/2023 08:42 AM -----

From: "Leslie Kurisaki" <lkurisaki@hhf.com>  
To: "lwada@starofhonolulu.com" <lwada@starofhonolulu.com>  
Date: 08/28/2023 11:20 AM  
Subject: Falls of Clyde Removal EA- pre-assessment consultation

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Aloha Mr. Layne Wada,

Please see attached pre-assessment consultation letter for the Falls of Clyde Removal for your review and comment.

**Leslie  
Kurisaki**  
*Associate*  
**HHF Planners**  
*40 years in Hawai'i*

d 808.457.3182  
733 Bishop St. Ste. 2590 | Honolulu, HI 96813  
[www.hhf.com](http://www.hhf.com)



# HISTORIC HAWAII FOUNDATION

680 Iwilei Road Suite 690, Honolulu HI 96817 • (808) 523-2900 • [preservation@historichawaii.org](mailto:preservation@historichawaii.org) • [www.historichawaii.org](http://www.historichawaii.org)

September 22, 2023

Leslie Kurisaki  
Project Planner  
HHF Planners  
ATTN: Falls of Clyde  
733 Bishop Street, Suite 2590  
Honolulu, HI 96813

VIA Email: [lkurisaki@hhf.com](mailto:lkurisaki@hhf.com)

Re: Pre-Assessment Consultation for HRS 343 Environmental Review  
Proposed Removal of *Falls of Clyde* from Honolulu Harbor  
Pier 7, Honolulu Harbor, District of Honolulu, Island of O‘ahu, Hawai‘i

Dear Ms. Kurisaki:

Historic Hawai‘i Foundation is responding to a notice of Draft Environmental Assessment Pre-Assessment Consultation dated August 24, 2023, received via email. The notice requested review and comment to identify relevant issues and concerns to be addressed in the environmental assessment for the proposed removal of the ship *Falls of Clyde*.

## Interests of Historic Hawai‘i Foundation

Historic Hawai‘i Foundation (HHF) is a statewide nonprofit organization established in 1974 to encourage the preservation of sites, buildings, structures, objects and districts that are significant to the history of Hawai‘i. HHF is an organization with a demonstrated interest in the undertaking and a concern for the effects on historic properties.

## Proposed Action

The notice states that the Proposed Action is the removal of the historic vessel the *Falls of Clyde* (FOC) from Pier 7, including the possible disposal of the vessel, although the preferred method of disposal is to be determined. The Hawai‘i Department of Transportation (HDOT) states that in the absence of any action, the continued deterioration of the vessel at Pier 7 presents a liability and safety hazard to the State of Hawai‘i.

Removal and disposal alternatives being considered may include scuttling the vessel offshore, dismantling at a drydock, as well as other options. HDOT states that the current condition of the FOC is partially flooded, heavily corroded and structurally damaged. The HDOT has determined that due to the ship's physical condition and risk of structural failure and sinking, removal of the ship is necessary to ensure future safe maritime operations within Honolulu Harbor.

### Identification of Historic Resources

The FOC was placed on the Hawai'i Register of Historic Places (HRHP) and the National Register of Historic Places (NRHP) in 1973. It was designated a National Historic Landmark (NHL) in 1989 because of its exceptional national significance as the oldest surviving American tanker and the only surviving sailing oil tanker left afloat in the world. At the time of its listing, the ship was determined to retain integrity of design, materials and workmanship as represented by the hull, rigging, fittings, equipment, machinery, and furnishings.

A recent assessment by a maritime archaeologist has concluded that due to its current condition, the FOC has lost the historic integrity that qualified the ship for listing in the Hawai'i and National Registers of Historic Places. The level of damage to the ship has been characterized as irreparable. HDOT is currently in the process of requesting that the structure be removed from the Hawai'i Register of Historic Places.

### HHF Comments on Relevant Issues and Concerns to Be Addressed

#### **1. Applicability of Chapter 343, HRS, to agency actions**

The pre-consultation notice indicates that HDOT is preparing an Environmental Assessment (EA) in accordance with Hawai'i Revised Statutes (HRS) Chapter 343. The requirement for an assessment of this proposed action is related to the expenditure of state funds to remove the FOC and the vessel's listing in both the Hawai'i and National Registers of Historic Places and its status as a National Historic Landmark.

An Environmental Assessment is used for actions that are anticipated to have no significant impact or will not irrevocably commit a natural, cultural or historic resource. An EA is only appropriate with an anticipated Finding of No Significant Impact (FONSI).

However, proposed actions that may have a significant effect on the environment require the preparation of an Environmental Impact Statement (EIS) in accordance with Hawai'i Administrative Rules (HAR):

HAR §11-200.1-13 Significance criteria. (a) In considering the significance of potential environmental effects, agencies shall consider and evaluate the sum of effects of the proposed action on the quality of the environment. (b) In determining whether an action may have a significant effect on the environment, the agency shall consider every phase of a proposed action, the expected impacts, and the proposed mitigation measures. In most instances, an action shall be determined to have a significant effect on the environment if it may: (1) Irrevocably commit a natural, cultural, or historic resource (emphasis added).

The nature of the proposed action will result in the complete destruction and loss of a National Historic Landmark. This is an irreversible, irrevocable and significant adverse effect to a cultural and historic resource. Therefore, a **finding of “no significant impact” would be grossly inappropriate and unsupportable.**

**The agency’s proposed course of action should be evaluated in an Environmental Impact Statement (EIS) with an acknowledgement and resolution of the impact, not an Environmental Assessment.**

## 2. Identification of Historic Properties Affected

The proposed action will have a direct effect on the historic vessel *Falls of Clyde*. The ship has five separate and distinct layers of historic recognition:

- **“Historic Property”** as a structure which is over fifty years old (HRS §6E-2);
- **“Significant Historic Property”** as a property that meets the criteria of the Hawai‘i Register of Historic Places or the criteria enumerated in HAR §13-275-6(b) or §13-284-6(b); namely, that the property:
  - possesses historic integrity of location, design, setting, materials, workmanship, feeling and association, and
  - possesses historic significance in one of more criteria of association with (a) events that have made an important contribution to the broad patterns of history; (b) association with lives of persons important in the past; (c) embody the distinctive characteristics of a type, period or method of construction, represent the work of a master, or possess high artistic value; (d) have yielded or is likely to yield, information important for research on prehistory or history; or (e) have important value to the native Hawaiian people or to another ethnic group of the state due to associations with cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events or oral accounts—these associations being important to the group’s history and cultural identity.
- **Hawai‘i Register of Historic Places** listing (State Inventory of Historic Places Number 50-80-14-09700) on 7/2/1973 for association with historic events (HRHP Criterion a) and embodies the distinctive characteristics of a type, period or method of construction (HRHP Criterion c).
- **National Register of Historic Places** listing (Reference Number 73000659) on 7/2/1973 for association with historic events (NRHP Criterion A) and embodies the distinctive characteristics of a type, period or method of construction (NRHP Criterion C).
- **National Historic Landmark** listing in 1989 in accordance with NHL Criterion 1 (Properties that are associated with events that have made a significant contribution to, and are identified with, or that outstandingly represent, the broad national patterns of United States history and from which an understanding and appreciation of those patterns may be gained ) and Criterion 4 (Properties that embody the distinguishing characteristics of an architectural type specimen exceptionally valuable for a study of a period, style, or method of construction, or that represent a significant, distinctive and exceptional entity whose components may lack individual distinction).

While HDOT has proposed to remove FOC from the Hawai'i Register of Historic Places, that action has not yet been consummated. HDOT's application to remove the FOC from the Hawai'i Register of Historic Places rests on an evaluation of the ship's integrity (Delgado, James. P., "The Four-Masted Iron Ship *Falls of Clyde*: Evaluation of Loss of Integrity and Recommendation for Delisting from the National Register of Historic Places", SEARCH, Inc., May 10, 2023).

The report found that "the vessel has already lost most of the qualities, as aspects of integrity that convey its significance...the property has ceased to meet the criteria for listing in the National Register because the qualities which caused it to be originally listed have been lost or destroyed."

HHF agrees that the condition is in extremely poor and reflects a loss of integrity related to materials, design, workmanship, feeling and association. The report found that, "The vessel is now, in 2023, a partially flooded hulk, with the topmasts, topgallant masts, yards, booms and gaffs stowed in a deteriorated condition on the weather deck." The report found that there are holes both above and below the waterline, loss of structural integrity for the decks and overall deterioration of materials.

The recommendation for delisting the ship is based on physical condition as it relates to historic integrity and the structure's ability to convey its historic significance as described in the nominations to the State, National and NHL registers. That is, features related its association with historic events (HRHP Criterion a/NRHP Criterion A/NHL Criterion 1) and distinctive characteristics of a type, period or method of construction (HRHP Criterion c/NRHP Criterion C/NHL Criterion 4).

If the Hawai'i Historic Places Review Board concurs with HDOT's finding and subsequently takes action to remove the ship from the state register of historic places, only one of its five designations would be affected. Removing the listing from the Hawai'i Register would have no effect on the national designations, which are governed by the U.S. Department of the Interior. FOC would still be listed on the National Register and as a National Historic Landmark.

It will also still be over 50 years old as a "historic property" under HRS §6E-2 . Whether or not the ship would still be considered a "significant historic property" in accordance with HAR §13-275-6 would need to be determined, not only for HRHP Criteria a and c but also for b (historic person), d (information potential) and e (cultural associations).

**HHF recommends that the evaluation of eligibility for the Hawai'i and National Registers of Historic Places assess the vessel's ability to convey its historic significance related to potential to yield information important for research (HRHP Criterion d/NRHP Criterion D) and association with an ethnic group of the state and the associations being important to the group's history and cultural identity (HRHP Criterion e) for association with those of Scottish descent (see The Caledonian Society of Hawai'i).**

### 3. Mitigation Commitments

The pre-assessment notification states that the environmental review “will discuss removal and disposal alternatives being considered, which may include scuttling the vessel offshore, dismantling at a drydock, as well as other options. The EA will include a detailed history of the FOC (including its time in Hawai‘i), a current assessment of its physical condition, an analysis of its status as a historic property and landmark, a description of alternatives to the Proposed Action, the pros and cons of the alternatives, and impacts of the alternatives.”

The EIS should also include a discussion of proposed mitigation commitments associated with each of the alternatives. The mitigation measures need to be proportionate to the effect, have a benefit for impacted parties and have a benefit for the larger public. The goal is to develop measures relevant to the affected historic property to understand, protect and celebrate its unique history, and to preserve the unique characteristics and significance for the current users and future generations.

Such mitigation measures should be developed through consultation and discussion with stakeholders, including the Friends of Falls of Clyde, the Hawai‘i State Historic Preservation Division, the National Park Service/National Historic Landmarks Program, National Trust for Historic Preservation, Historic Hawai‘i Foundation, and maritime heritage groups.

As a starting point for the consultation around mitigation measures, HHF recommends that the following be included:

- Provide an inventory and database of features removed from the vessel, by type and description of the feature, date removed and by whom, current location and ownership, and potential for disposition and treatment. Over the past decade, many of the pieces of the ship were removed, either to lighten the weight to help it stay afloat or to salvage elements prior to it being moved to drydock or scuttled. Where are those elements? Who owns them? Is there an inventory and record of their disposition? Can they be incorporated into a display or used for historic interpretation?
- Develop a historic context study about 19<sup>th</sup> century sailing vessels and 20<sup>th</sup> century maritime preservation efforts related to Hawai‘i and how *Falls of Clyde* fits into that context. Are there other examples or important maritime resources that should be identified and preserved as this one is lost?
- Documentation of the vessel via Historic American Engineering Record (HAER), which was begun in 1996 but not completed (see HAER No. HI-7).
- Additional documentation of the vessel via contemporary methods such as digital scanning, LIDAR, video documentation of the deconstruction, or other data recovery methods.
- HDOT should develop a Honolulu Harbor Historic Interpretation Plan and that includes public information along the waterfront, such as wayside signage, public art incorporating salvaged elements from the ship, a 3D model, waterfront walking tour or public-visitation area. The historic interpretation should incorporate both *Falls of Clyde* and other periods of Honolulu’s maritime heritage from pre-contact Polynesian voyaging through modern uses.

All of the commitments should be memorialized in the form of a legally binding agreement. Furthermore, HHF recommends that a signed and executed agreement be presented to the Hawai'i Historic Places Review Board as part of HDOT's application to remove the ship from the Hawai'i Register of Historic Places and the vessel should not be delisted absent such a written and binding commitment. The agreement should also be included in the Final EIS and made part of the Record of Decision.

Thank you for the opportunity to comment.

Very truly yours,



Kiersten Faulkner, FAICP  
Executive Director

Copy via email:

- State Historic Preservation Division: Alan Downer, Susan Lebo, Stephanie Hacker, Jessica Puff, Mary Kodama
- National Trust for Historic Preservation: Betsy Merritt
- National Park Service/NHL Program: Elaine Jackson-Retondo, Melia Lane-Kamahele
- Friends of Falls of Clyde: Bruce McEwan
- Hawai'i Historic Places Review Board: Katie Stephens, Chair



# **Draft EA Comments and Responses**

**From:** [Alexandria Barkman - NOAA Federal](#)  
**To:** [dreanalee.k.kalili@hawaii.gov](mailto:dreanalee.k.kalili@hawaii.gov)  
**Cc:** [Falls-of-Clyde](#); [David Delaney - NOAA Federal](#)  
**Subject:** NMFS HCD comments on Falls of Clyde Removal DEA  
**Date:** Thursday, January 11, 2024 1:00:59 PM

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[This message was sent from an outside source.]

Aloha Ms. Kalili,

The National Marine Fisheries Service, Pacific Islands Regional Office, Habitat Conservation Division (NMFS) received the notice of the public comment period for the Draft Environmental Assessment (DEA) for the Removal of *Falls of Clyde* from Honolulu Harbor on December 22, 2023. Our comments and technical assistance is provided below and is intended to help protect NOAA trust resources, including essential fish habitat (EFH) for any potential compliance with the Magnuson-Stevens Fishery Conservation and Management Act (MSA; Section 305(b)(2) as described by 50 CFR 600.920).

An EFH consultation with NMFS pursuant to the MSA is required when a federal action agency works in an area that will adversely affect EFH (i.e., the federal agency is directly conducting, funding, or permitting work) (MSA; Section 305(b)(2) as described by 50 CFR 600.920). The EFH consultation process entails the federal agency contacting NMFS and providing an EFH Assessment (EFHA), which contains key information:

- a description of the proposed action
- a determination from the federal agency as to how the action will affect EFH
- an assessment of those adverse effects
- proposed ways to mitigate the adverse effects, if applicable.

An adverse effect to EFH is anything that reduces the quantity and or quality of EFH. It may include direct, indirect, and site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of an action. NMFS will then review the assessment and may provide conservation recommendations to avoid, minimize, or offset the listed adverse effects to EFH.

The project does not currently have a federal nexus. However, depending on the chosen alternative, the project may require permit(s) from the US Environmental Protection Agency (EPA) for ocean disposal or Section 404 of the Clean Water Act, The US Army Corps of Engineers for vessel removal, and/or Coast Guard approval for vessel towing or transport, requiring an EFH consultation. This technical assistance does not fulfill any federal responsibilities and does not constitute an EFH consultation. For all questions related to consultations with us in the future, please contact us through the email address [EFHESAconsult@noaa.gov](mailto:EFHESAconsult@noaa.gov).

### **Project Description**

The Hawai'i Department of Transportation (HDOT) proposes to remove the derelict vessel, *the Falls of Clyde*, from Honolulu Harbor where it is in imminent danger of sinking. The *Falls of Clyde* is a four-mastered iron-hulled ship that was impounded by HDOT at Pier 7 since

2016. The ship is severely corroded, leaking, and has lost its structural and watertight integrity, presenting a risk of structural failure and sinking if no action is taken. The DEA proposes a no action alternative and four alternatives for removal of the vessel from Honolulu Harbor. The four alternatives are 1) Removal of the vessel to dry dock for repair 2) Removal of the vessel by dismantling either at a dry dock or in Honolulu Harbor 3) Removal by towing from the harbor and sinking at sea 4) Third party acquisition of the vessel.

The hull of the *Falls of Clyde* is completely covered in marine biota comprised primarily of fouling organisms, macroalgae, bivalves, bryozoans, hydroids, sponges, tunicates, and scattered corals. A total of 254 corals comprised of 7 species were enumerated on the hull. Two invertebrate species classified as invasive were identified on the hull of the *Falls of Clyde*: *Mycale armata* (orange keyhole sponge, DAR 2023) and *Carijoa riisei* (snowflake coral, DAR 2023b). A single colony of *C. riisei* was observed approximately 40 ft from the stern of the ship on the starboard side.

### *Mitigation*

HDOT provided a list of Best Management Practices (BMPs) and a mitigation plan to avoid and minimize adverse effects to EFH. Prior to movement or disassembly of the vessel, hazardous materials and fuels will be removed. All removed material will be disposed of appropriately. Invasive species will be removed from the hull of the vessel prior to moving the vessel. Corals may be translocated from the hull of the vessel to the harbor wall.

### **Essential Fish Habitat**

Currently in the Hawai'i archipelago, the marine water column from the surface to a depth of the marine water column from the surface to a depth of 3,280.8 feet (1,000 meters (m)) from shoreline to the outer boundary of the Exclusive Economic Zone (200 nautical miles), and the seafloor from the shoreline out to a depth of 2,296 feet (700 m) around each of the Hawaiian Islands, have been designated as EFH. As such, the water column and bottom of Honolulu Harbor action area has been designated as EFH and supports various life stages for the management unit species (MUS) identified under the Western Pacific Regional Fishery Management Council's Pelagic, Crustacean and Hawai'i Archipelago Fishery Ecosystem Plans. EFH is designated for the following MUS and life stages: eggs, larvae, and juveniles of Bottomfish MUS, Crustacean MUS, and Pelagic MUS. Specific types of habitat considered as EFH include coral reef, patch reefs, hard substrate, artificial substrate, seagrass beds, soft substrate, mangrove, lagoon, estuarine, surge zone, deep-slope terraces and pelagic/open ocean.

### **NMFS Concerns**

The DEA states that several aspects of the proposed project have the potential to affect marine biota, including (a) direct physical disturbance EFH, including corals and other invertebrates on the hull of the vessel and in the surrounding area, (b) indirect effects associated with project related changes in water quality such as a temporary increase in turbidity c) increased risk of spread of invasive species

In addition to items (a-c) above, NMFS has the following specific concerns:

1. Loss of EFH due to removal of the vessel from Honolulu Harbor

The DEA mentions a plan to translocate branching and plating corals larger than 20 cm to

the harbor wall. NMFS recommends translocation of corals on the hull of the vessel prior to removal or disassembly of the vessel to minimize loss of EFH due to the proposed action, regardless of the alternative chosen, other than the no action alternative.

To minimize loss of EFH due to the planned activity, regardless of the chosen alternative, NMFS recommends that a plan is developed to relocate and/or transplant all corals that will be unavoidably lost under the following conditions:

1. The receiving location(s) must not have foreseeable and avoidable adverse effects (i.e., adverse effects from any anticipated projects by any proponent).
2. The receiving location(s) must have similar physicochemical conditions (e.g., temperature, salinity, light penetration, nutrient concentrations, and turbidity).
3. A coral relocation plan that includes post-relocation success criteria and evaluation methodology is provided to and approved by NMFS, and implemented by the proponent.
4. If coral relocation is impractical, then offsets are proposed and implemented by the proponent.

Given the provided parameters of translocation plan and the size distribution of corals in the DEA, approximately 330 corals, including *Leptastrea purpurea*, may be unavoidably lost due to the planned activities. The loss may be further minimized by translocating corals larger than 10 cm, rather than 20 cm as mentioned in the DEA. *Pocillopora meadrina*, for example, is a very hardy species that provides habitat to invertebrate and fish species. Since it grows from a base, it is likely more easily removed than other species, allowing for successful translocation of colonies <20 cm.

## 2. Consideration of compensatory mitigation/offset plan

The Western Pacific Fishery Management Council has designated all bottom habitat as EFH in the Hawai'i Archipelago (see Page 177 of the Hawai'i Archipelago FEP), which includes all artificial surfaces. The marine biota on the hull of the vessel provide ecosystem services including water filtration, food, and habitat for marine organisms. Loss of these marine resources may result from any of the alternatives, other than the no action alternative, which may result in loss or damage of other nearby marine resources. If there will be a net loss of EFH due to the action, NMFS encourages HDOT to consider development of an offset plan in order to make up for the loss of marine resources that may result from this action.

Offset plans are individually tailored to the resource, location, and activity. An example is outplanting corals from a nursery to make up for damaged corals, or improving the quality of EFH in the action area through removal of invasive species, improved water quality, or removal of marine debris. NMFS is ready and willing to provide technical assistance in the development of an offset plan if needed.

## 3. Risk of spreading invasive species

NMFS agrees with the recommendation from the marine survey described in the DEA that invasive species on the hull of the vessel is removed prior to vessel movement to reduce the risk of spreading invasive species. Repairs or disassembly of the vessel in the harbor may also disturb the invasive species, increasing risk of spread in the harbor.

NMFS recommends considerations of invasive species removal prior to disassembly as well, if that alternative is chosen.

#### 4. Acoustic Stress

Disassembly or repairs in the harbor will result in increased noise on land as well as in the water. The DEA is lacking evaluation of the adverse effects of noise in the water due potential disassembly of the vessel in Honolulu Harbor. Laser cutting, saw cutting, shearing, hammering, and drilling on the vessel may increase ambient noise underwater in the harbor, disrupting fish behavior.

NMFS appreciates the opportunity to review this DEA. For all questions related to technical assistance or consultations with us in the future, please contact us through the email address [EFHESAconsult@noaa.gov](mailto:EFHESAconsult@noaa.gov).

Regards,  
Alex Barkman

#### References

DAR 2023a. Aquatic Invasive Species. State of Hawai'i, Department of Land and Natural Resources, Division of Aquatic Resources. Retrieved from <https://dlnr.hawaii.gov/ais/marine-invasive-species>

DAR. 2023b. Snowflake Coral. State of Hawai'i, Department of Land and Natural Resources, Division of Aquatic Resources. Retrieved from <https://dlnr.hawaii.gov/hisc/info/species/snowflake-coral/>

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#### **Alexandria Barkman, PhD.**

*EFH Consulting Biologist, PIRO Habitat Conservation Division*  
National Marine Fisheries Service | U.S. Department of Commerce  
Office: (808) 725-5150

[www.fisheries.noaa.gov](http://www.fisheries.noaa.gov)



# HHF PLANNERS

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June 1, 2024

Sent electronically to: [alexandria.barkman@noaa.gov](mailto:alexandria.barkman@noaa.gov)  
and [EFHESAconsult@noaa.gov](mailto:EFHESAconsult@noaa.gov)



Alexandria Barkman, Ph.D.  
EFH Consulting Biologist  
PIRO Habitat Conservation Division  
National Marine Fisheries Service  
U.S. Department of Commerce

Dear Dr. Barkman:

**HRS Chapter 343 Draft Environmental Assessment  
And Anticipated Finding of No Significant Impact (DEA-AFNSI)  
Removal of *Falls of Clyde* from Honolulu Harbor  
Honolulu, O'ahu, Hawai'i  
TMK (1) 2-1-001:058**

Thank you for your email sent January 11, 2024 providing comments on the above referenced Draft EA. The Hawai'i Department of Transportation (HDOT) is committed to protect NOAA trust resources, including Essential Fish Habitat (EFH). We acknowledge that EFH consultation with NMFS pursuant to the Magnuson-Stevens Fishery Conservation and Management Act is required when a federal agency works in an area that will adversely affect EFH. We understand that the water column and bottom of Honolulu Harbor action area has been designated as EFH and supports various life stages for the management unit species (MUS) identified under the Western Pacific Regional Fishery Management Council's Pelagic, Crustacean and Hawai'i Archipelago Fishery Ecosystem Plans.

We acknowledge your comment that the project does not currently have a federal nexus. However, depending on the selected alternative, the project may require permit(s) from the US Environmental Protection Agency (EPA) for ocean disposal or Section 404 of the Clean Water Act; the US Army Corps of Engineers for vessel removal; requiring an EFH consultation.

The method of removal will be determined by the selected contractor. The HDOT Request for Proposal (RFP) will require the selected contractor to incorporate the following mitigation measures to minimize the loss of EFH if there is a federal nexus.



### **Removal of Coral from Ship's Hull**

Your letter recommends that a plan be developed to relocate and/or transplant all corals on the hull of the vessel prior to removal or disassembly of the vessel. A similar recommendation was made by the Department of Land and Natural Resources, Division of Aquatic Resources (DLNR DAR) in their January 18, 2024 Draft EA comments. Although HDOT understands NMFS and DLNR DAR concerns related to coral loss, the severely corroded condition of the *Falls of Clyde* hull presents unique challenges. Further investigation and discussion were held with DLNR DAR, as summarized below.

As discussed in the Draft EA, an April 2023 Hull Survey prepared by Mr. Joseph Lombardi of Ocean Technical Services found that the ship's hull shell plating is severely corroded and has holes in many areas below the water line that have been repaired over time. Following receipt of NMFS and DAR's comments, HDOT consulted Sea Engineering, Inc., which had conducted an underwater hull inspection in 2023. In their hull inspection report, Sea Engineering reported the prevalence of compacted rust, cone shaped corroded protrusions, coral and other marine growth throughout the lower portions of the ship's hull.

In response to HDOT's inquiry, Sea Engineering issued the following March 8, 2024 opinion:

*"removal of the coral structures would likely result in failure of the hull. It is expected, given the maturity of the coral on the hull, that the remaining thin steel would likely come off with the coral during the removal operations. Should this occur, it is likely that the water intrusion into the hull would exceed pumping capacity of any pumps. The uncontrolled sinking of the Falls of Clyde creates a potential safety concern for divers working on the bottom of the ship and would likely result in the destruction of any remaining corals not yet removed from the vessel."*

This information was shared with DLNR DAR, with HDOT determining that removal of the corals from the hull would cause considerable safety risk to personnel, the harbor infrastructure, and the *Falls of Clyde*. In an April 24, 2024 memo to HDOT, DLNR DAR concurred with this determination. DLNR DAR indicated that if and only if the removal of the *Falls of Clyde* is done in a way that coral may be removed from pieces of the hull when they come on-shore, and there is no risk to infrastructure, personnel, or the operation itself, HDOT shall make these corals available to DAR's coral nursery team at Anuenue Fisheries Research Center. HDOT will include this statement in the RFP for *Falls of Clyde* removal. Should the project have a federal nexus, HDOT will follow this agreed upon approach to coral removal from the ship's hull.

### **Aquatic Invasive Species**

An important consideration in the removal of the *Falls of Clyde* is the prevention of spreading of introduced and invasive species that are present on the hull of the ship. While only one colony was observed on the hull, *Carijoa riisei* has been documented to impact deep water corals. To avoid any spreading of this invasive species, the contractor will be required to physically remove the *C. riisei* colony from the hull and dispose of it landside prior to moving the ship.

### **Acoustic Impacts on Marine Life**

Regarding potential acoustic stress to marine life, no extreme underwater noise generating activity such as pile driving is proposed. If any in-water work (e.g. coral removal from the ship's hull) is conducted, it will be short term and noise levels will be within the range of existing harbor activities. Honolulu Harbor does not typically have whales, dolphins, or monk seals present, and therefore these species are not a

major concern. Sea turtles are occasionally observed in the harbor. The work area will be determined to be free of turtles and other protected species prior to the start of in-water work. All work will be postponed or halted when protected species are in the vicinity and shall only resume after the animals have voluntarily departed the area.

**Final EA Revisions**

The Final EA will reflect the issues discussed in this letter, including the recent opinion from Sea Engineering on the likely effects of coral removal and the recent agreement between HDOT and DAR that if and only if the removal of the *Falls of Clyde* is done in a way that coral may be removed from pieces of the hull when they come on-shore, and there is no risk to infrastructure, personnel, or the operation itself, HDOT shall make these corals available to DAR's coral nursery team at Anuenue Fisheries Research Center. Thank you for your participation in the environmental review process. Your letter and this response will be reproduced in the FEA. If you have any questions, please contact me at Falls-of-Clyde@hhf.com.

Very truly yours,

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

Scott Ezer  
Vice President

Cc: DreanaLee Kalili, HDOT Harbors

**From:** [Koskelo, Vera B CIV USARMY CEPOH \(USA\)](#)  
**To:** [Falls-of-Clyde](#)  
**Cc:** [Vipperman, Abigail C \(Abbey\) CIV USARMY CELRP \(USA\)](#)  
**Subject:** USACE comments on HEPA DEA for Removal of Falls of Clyde from Honolulu Harbor (POH-2023-00156)  
**Date:** Tuesday, January 23, 2024 2:09:14 PM  
**Attachments:** [image001.png](#)  
[POH-2023-00156.20230828.Scoping Letter.pdf](#)

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[This message was sent from an outside source.]

Good afternoon Leslie,

Thank you for coordinating the HEPA DEA for the subject project with our office for comment.

Several of the alternatives, including the preferred alternative of Alternative 2b. Dismantle in Place, may require Corps authorization as stated in our 28 August 2023 letter, attached. In particular, Nationwide Permit Activity 22. Removal of Vessels authorizes "Temporary structures ...required for the removal of wrecked, abandoned, or disabled vessels..." may be applicable if the use of a floating drydock or other temporary structures are proposed as part of the proposed project.

Please reach out again if you select an alternative for Falls of Clyde that requires the discharge of fill and/or the installation of structures in waters of the U.S.

Thank you,

Vera Koskelo (she / her)  
Biologist  
Project Manager  
Honolulu District  
U.S. Army Corps of Engineers  
230 Otake Street  
Fort Shafter, Hawaii 96858-5440  
808-835-4310  
[Vera.B.Koskelo@usace.army.mil](mailto:Vera.B.Koskelo@usace.army.mil)

---

**From:** CEPOH-RO, POH <[CEPOH-RO@usace.army.mil](mailto:CEPOH-RO@usace.army.mil)>  
**Sent:** Tuesday, January 9, 2024 9:19 AM  
**To:** Falls-of-Clyde <[Falls-of-Clyde@hhf.com](mailto:Falls-of-Clyde@hhf.com)>  
**Cc:** Koskelo, Vera B CIV USARMY CEPOH (USA) <[Vera.B.Koskelo@usace.army.mil](mailto:Vera.B.Koskelo@usace.army.mil)>; Vipperman, Abigail C (Abbey) CIV USARMY CELRP (USA) <[Abigail.C.Vipperman@usace.army.mil](mailto:Abigail.C.Vipperman@usace.army.mil)>  
**Subject:** RE: [Non-DoD Source] Removal of Falls of Clyde from Honolulu Harbor--DEA-AFNSI available from 12/23/2023

Aloha,

Your request has been assigned to Ms. Vera Koskelo; she has been cc'd on this email, in the event you need to contact her. She will be reaching out if additional information is needed.

Mahalo,

Jen Martin  
Chief, Regulatory Branch

US Army Corps of Engineers, Honolulu District  
808-835-4300



---

**From:** Falls-of-Clyde <Falls-of-Clyde@hhf.com>  
**Sent:** Friday, December 22, 2023 11:59 AM  
**To:** Falls-of-Clyde <Falls-of-Clyde@hhf.com>  
**Subject:** [Non-DoD Source] Removal of Falls of Clyde from Honolulu Harbor--DEA-AFNSI available from 12/23/2023

Aloha,

The attached letter is to notify you that a Draft Environmental Assessment-Anticipated Finding of No Significant Impact (DEA-AFNSI) for the **Removal of Falls of Clyde from Honolulu Harbor** will be available for public review starting Saturday, December 23, 2023. The document can be viewed and downloaded beginning December 23 using this URL:

[https://files.hawaii.gov/dbedt/erp/Doc\\_Library/2023-12-23-OA-DEA-Removal-of-Falls-of-Clyde.pdf](https://files.hawaii.gov/dbedt/erp/Doc_Library/2023-12-23-OA-DEA-Removal-of-Falls-of-Clyde.pdf)

*(attempts to access the file before 12/23 may result in an error message)*

The 30-day public review period will extend from December 23, 2023 to January 23, 2024. See attached letter for information on where to send comments.

Thank you for your interest and participation. Happy holidays!



**DEPARTMENT OF THE ARMY**  
HONOLULU DISTRICT, U.S. ARMY CORPS OF ENGINEERS  
FORT SHAFTER, HAWAII 96858-5440

August 28, 2023

SUBJECT: Proposed Removal of Falls of Clyde, Honolulu Harbor, Honolulu, Island of Oahu, HI, Department of the Army File No. POH-2023-00156

Leslie Kurisaki  
HHF Planners  
733 Bishop Street, Suite 2590  
Honolulu, Hawai'i 96813

Dear Leslie Kurisaki:

The U.S. Army Corps of Engineers – Honolulu District, Regulatory Office (Corps) received your letter dated August 24, 2023, requesting consultation comments for the proposed removal of Falls of Clyde at Honolulu Harbor, Island of Oahu, HI. Your request has been assigned Department of the Army (DA) file number POH-2023-00156. Please reference this number in all future correspondence with our office relating to this action.

Based on the information provided in regard to your proposed project, the Corps provides the following comments.

The Corps authorities are based on two laws: Section 404 of the Clean Water Act (33 U.S.C. 1344; "Section 404") and Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403; "Section 10").

Section 404 of the Clean Water Act requires that a DA permit be obtained for the placement or discharge of dredged and/or fill material into waters of the U.S., including jurisdictional wetlands (33 U.S.C. 1344). The Corps defines wetlands as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Section 10 of the Rivers and Harbors Act of 1899 requires that a DA permit be obtained for structures or work in or affecting navigable waters of the U.S. (33 U.S.C. 403). Section 10 waters are those waters subject to the ebb and flow of the tide shoreward to the mean high water mark, and/or other waters identified by the Honolulu District.

The proposed removal of the Falls of Clyde may require DA authorization if you place dredged and/or fill material into waters of the U.S., including wetlands and/or

perform work in navigable waters of the U.S. The proposed activity may qualify for verification under Nationwide Permit 22 (Removal of Vessels). For more information regarding the NWP Program please visit:

<https://www.poh.usace.army.mil/Missions/Regulatory/Permits/Nationwide-Permits/>.

Thank you for your cooperation with the Honolulu District Regulatory Program. Should you have any questions related to this determination or would like to schedule a pre-application consultation meeting, please contact me via e-mail at [Cristian.J.Cayanan@usace.army.mil](mailto:Cristian.J.Cayanan@usace.army.mil) or via phone at 808-835-4107. You are encouraged to provide comments on your experience with the Honolulu District Regulatory Office by accessing our web-based customer survey form at <https://regulatory.ops.usace.army.mil/ords/f?p=136:4>.

Sincerely,

A handwritten signature in black ink, appearing to read 'CJ Cayanan', with a long horizontal flourish extending to the right.

CJ Cayanan  
Biologist/Regulatory Specialist



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June 3, 2024

Sent electronically to: [Vera.B.Koskelo@usace.army.mil](mailto:Vera.B.Koskelo@usace.army.mil)

Vera Koskelo, Biologist & Project Manager  
Honolulu District, U.S. Army Corps of Engineers  
230 Otake Stret  
Fort Shafter, Hawai'i 96858-5440



Dear Ms. Koskelo:

**HRS Chapter 343 Draft Environmental Assessment  
And Anticipated Finding of No Significant Impact (DEA-AFNSI)  
Removal of *Falls of Clyde* from Honolulu Harbor  
Honolulu, O'ahu, Hawai'i  
TMK (1) 2-1-001:058  
Department of Army File No. POH-2023-00156**

Thank you for your email sent January 23, 2024 providing comments on the above referenced Draft EA. Your letter noted that several of the EA alternatives, including the preferred alternative of Alternative 2b. Dismantle in Place, may require Corps authorization as stated in your 28 August 2023 letter, sent during the EA early consultation period.

We acknowledge that the proposed removal of the *Falls of Clyde* may require DA authorization under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, if dredged and/or fill material is placed into waters of the U.S., including wetlands and/or work is performed in navigable waters of the U.S. The method of ship removal will be determined by the selected construction contractor, and all applicable regulations will be complied with.

Your letter also notes that the proposed activity may qualify for verification under Nationwide Permit 22 (Removal of Vessels). This NWP authorizes "Temporary structures ...required for the removal of wrecked, abandoned, or disabled vessels..." may be applicable if the use of a floating drydock or other temporary structures are proposed as part of the proposed project. This information will be added to the Final EA.

Thank you for your participation in the environmental review process. Your letter and this response will be reproduced in the FEA. If you have any questions, please contact me at [Falls-of-Clyde@hhf.com](mailto:Falls-of-Clyde@hhf.com).

Very truly yours,

Scott Ezer  
Vice President

Cc: DreanaLee Kalili, HDOT Harbors Division

**From:** [Maruoka, Colin](#)  
**To:** [Kalili, DreanaLee K](#)  
**Cc:** [Falls-of-Clyde](#)  
**Subject:** Removal of Falls of Clyde from Honolulu Harbor--DEA AFNSI  
**Date:** Friday, December 22, 2023 2:47:39 PM

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[This message was sent from an outside source.]

Dear DreanaLee Kalili,

The Department of Health (DOH), Clean Water Branch (CWB) has received an email, dated December 22, 2023, requesting comments on the DEA AFNSI for the removal of Falls of Clyde from Honolulu Harbor. The DOH-CWB no longer provides comments for pre-consultation on EA/EIS documents. For agencies and projects owners requiring DOH-CWB comments, please utilize the DOH-CWB standard comments accessible on our website or the following link:

<https://health.hawaii.gov/cwb/files/2018/05/Memo-CWB-Standard-Comments.pdf>.

If you have any questions, please email [cleanwaterbranch@doh.hawaii.gov](mailto:cleanwaterbranch@doh.hawaii.gov).

Sincerely,

**Colin T. Maruoka**

Clean Water Branch

State of Hawaii Department of Health

2827 Waimano Home Road, #225

Pearl City, Hawaii 96782

Phone: (808) 586-4309

**Notice:** This information and attachments are intended only for the use of the individual(s) or entity to which it is addressed, and may contain information that is privileged and/or confidential. If the reader of this message is not the intended recipient, any dissemination, distribution, or copying of this communication is strictly prohibited and may be punishable under state and federal law. If you have received this communication and/or attachments in error, please notify the sender via e-mail immediately and destroy all electronic and paper copies.

# HHF PLANNERS

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June 3, 2024

Sent electronically to: Colin T. Maruoka  
[Colin.Muraoka@doh.hawaii.gov](mailto:Colin.Muraoka@doh.hawaii.gov); and  
[cleanwaterbranch@doh.hawaii.gov](mailto:cleanwaterbranch@doh.hawaii.gov)



Dear Mr. Maruoka:

**HRS Chapter 343 Draft Environmental Assessment  
And Anticipated Finding of No Significant Impact (DEA-AFNSI)  
Removal of *Falls of Clyde* from Honolulu Harbor  
Honolulu, O'ahu, Hawai'i  
TMK (1) 2-1-001:058**

Thank you for your email dated December 22, 2023 in response to the above referenced Draft EA. We note your comment that DOH Clean Water Branch no longer provides comments for pre-consultation on EA/EIS documents. Thank you for sending the link to the CWB Standard Comments on the DOH web site.

Thank you for your participation in the environmental review process. Your letter and this response will be reproduced in the FEA. If you have any questions, please contact me at [Falls-of-Clyde@hhf.com](mailto:Falls-of-Clyde@hhf.com).

Very truly yours,



Scott Ezer  
Vice President

Cc: DreanaLee Kalili, HDOT Harbors

JOSH GREEN, M.D.  
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE  
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



DAWN N. S. CHANG  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE  
MANAGEMENT

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
KA 'OIHANA KUMUWAIWAI 'ĀINA  
LAND DIVISION

P.O. BOX 621  
HONOLULU, HAWAII 96809

December 22, 2023

LD 0160 PART 2

MEMORANDUM

TO:

**DLNR Agencies:**

- Div. of Aquatic Resources (via email: kendall.l.tucker@hawaii.gov)
- Div. of Boating & Ocean Recreation (via email: richard.t.howard@hawaii.gov)
- Engineering Division (via email: DLNR.Engr@hawaii.gov)
- Div. of Forestry & Wildlife (via email: Rubyrosa.T.Terrago@hawaii.gov)
- Div. of State Parks (curt.a.cottrell@hawaii.gov)
- Commission on Water Resource Management (via email: DLNR.CWRM@hawaii.gov)
- Office of Conservation & Coastal Lands (via email: sharleen.k.kuba@hawaii.gov)
- Land Division – Oahu District (via email: barry.w.cheung@hawaii.gov)
- Aha Moku-(via email: leimana.k.damate@hawaii.gov)

FROM:

Russell Y. Tsuji, Land Administrator *Russell Tsuji*

SUBJECT:

**Request for Proposal, Removal of Falls of Clyde from Honolulu Harbor-DEA-AFNSI**

LOCATION:

**Honolulu, Island of Oahu, Hawaii  
Pier 7, Honolulu Harbor**

APPLICANT:

**HHF Planners**

Transmitted for your review and comment is information on the above-referenced project. Please submit any comments to [timothy.chee@hawaii.gov](mailto:timothy.chee@hawaii.gov) at the Land Division by the internal deadline of **January 20, 2024**. If no response is received by this date, we will assume your agency has no comments. If you have any questions, please contact Timothy Chee at the above email address. Thank you.

**BRIEF COMMENTS:**

- We have no objections.
- We have no comments.
- We have no additional comments.
- Comments are included/attached.

Signed:

Print Name: Brian J. Neilson- Administrator

Division: Aquatic Resources

Date: Jan 22, 2024

Attachments

Cc: Central Files

JOSH GREEN, M.D.  
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE  
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



DAWN N.S. CHANG  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE  
MANAGEMENT

RYAN K.P. KANAKA'OLE  
FIRST DEPUTY

DEAN D. 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



**STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII'**  
**DEPARTMENT OF LAND AND NATURAL**  
**RESOURCES DIVISION OF AQUATIC RESOURCES**  
1151 PUNCHBOWL STREET, ROOM 330  
HONOLULU, HAWAII 96813

Date: 1/18/2024  
DAR # AR6540

MEMORANDUM

TO: Brian J. Neilson  
DAR Administrator

FROM: Jesse Boord, Aquatic Biologist

SUBJECT: Request for Proposal, Removal of Falls of Clyde from Honolulu Harbor-DEA-  
AFNSI

Request Submitted by: HHF Planners  
Pier 7, Honolulu Harbor (TMK 2-1-001:058)

Location of Project: Honolulu, Island of Oahu, Hawaii

Brief Description of Project:

The Hawaii Department of Transportation (HDOT) has proposed to remove the Falls of Clyde, a four-masted iron-hulled ship owned by the non-profit Friends of Falls of Clyde, from Honolulu Harbor. The vessel has been impounded by HDOT at Pier 7 since 2016 and presents a risk of structural failure and sinking, threatening harbor safety and regular maritime operations. HDOT plans to issue a Request for Proposal (RFP) to remove the ship. The method of removal will be determined by the selected contractor. The Falls of Clyde is listed in the National Register of Historic Places and is designated as a National Historic Landmark. The landmark has lost most qualities of historic significance due to deterioration. In November 2023, the Falls of Clyde was

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: Jan 22, 2024

Brian J. Neilson  
DAR Administrator

DAR# AR6540

Brief Description of Project

delisted from the Hawaii Register of Historic Places. Removal from the National Register and removal of the national historic landmark designation are still pending.

The listed project alternatives include: 1) no action, 2) drydock and repair, 3) removal via tow or transport to drydock for dismantling, 4) removal by dismantling in place, and 5) removal by sinking the vessel at sea. The requestor would prefer option 4 (referred to as Alternative 2b in the text).

DAR# AR6540

#### Comments

Based on the proposed options, DAR would prefer that Alternative 2b: Dismantle in Place is selected for removal. Compared to towing the vessel, this presents less of a risk to the marine environment associated with the potential transportation and spread of harmful/invasive species that were identified on the vessel hull (*Mycale armata* and *Carijoa riisei*). Utilization of a floating drydock to dismantle at or near pier 7 would be more ideal than in-water scrapping because it is more likely that the present invasive species will spread during in-water scrapping.

The Department of Health should be contacted regarding any in-water cleaning that is planned.

For all regulated species, including but not limited to bivalves and coral, a special activity permit will need to be obtained through DAR.

#### Coral:

Do not cause preventable physical damage to coral. Educate all personnel on site about the importance of minimizing any impacts to coral.

Work performed during coral spawning period (May to August) will require monitoring potential sedimentation and turbidity effects to coral eggs and larvae. Work will halt once sedimentation and turbidity surpass a water quality threshold determined by DAR.

Upon completion, DAR would like to request photo documentation of the translocated corals that are to be moved from the hull of the vessel to bare segments of the adjacent harbor walls.

#### Sedimentation:

Implement regular monitoring programs to assess sediment levels and water quality parameters around the construction site. Provide training and awareness for contractors and construction personnel that will be working on-site regarding sedimentation prevention measures. Educate them about the importance of minimizing sedimentation and the specific techniques to be employed during construction.

DAR would like to request notification, photo-documentation, and GPS-coordinates for any occurrence where above-average amounts of sediment have entered the water, in order to assess impact, if any.



DAR# AR6540

Comments

Protected Species:

In the event that protected species such as the Hawaiian monk seal, other marine mammal, or sea-turtle is observed in close proximity to the construction site, and the activities being conducted may be considered as a "negligent or intentional act which results in disturbing or molesting a marine mammal", contractors should take appropriate action to modify activities in order to avoid disturbance to the regular behavior and activities of the animal. Appropriate action would include but is not limited to ceasing construction activity until the animal leaves the area of its own accord. If a pup is observed in the area, particular caution should be taken including creating a larger buffer between construction and the animals.

All staff working on-site should receive training to recognize the Hawaiian monk seal and sea turtles, as well as learn the necessary procedures to follow if these species are observed.

Any interaction between a protected species and the construction and repair activity proposed should be reported to the NOAA Protected Species Division and State of Hawaii DOCARE:

NOAA Marine Mammal Response Coordinators (Oahu): 808-220-7802

NOAA Sea Turtles (Oahu): Monday-Friday, 7:30am-4pm NOAA National Marine Fisheries Service - PIFSC Marine Turtle Biology and Assessment Program: (808) 725-5730

State of Hawaii Department of Land and Natural Resources (DLNR) Division of Conservation and Resources Enforcement (DOCARE): 808-643-3567

Comments

Entanglement:

DAR recommends that the applicant utilize best management practices to eliminate any potential for incidental entanglement of any marine organism. Entanglement prevention practices will include but are not limited to: minimizing the amount of in-water structures or components that may potentially cause entanglement during operations (loops, holes, slack lines).

At the end of each day and upon completion of the construction project, all construction-related debris that could potentially endanger species by causing entanglement shall be cleared from the construction area.

Barbed wire poses a large hazard for seabirds, especially fledgelings. Fences should not have barbed wire.

If incidental entanglement of protected species occurs DAR and the appropriate federal agency should be notified immediately.

Invasive Species:

An Aquatic Invasive Species (AIS) Mitigation Plan will be filed with the Division prior to conducting any activity under this permit. The Plan will include methods and protocols to minimize AIS or disease movement through gear, supplies and activities of the permittee. The permittee must take actions to verify that collection tools have been disinfected before use if previously used in activities in other locations.

The applicant will mitigate the spread of invasive species between areas of activity. Equipment will be inspected and disinfected between conducting activities in different areas, to mitigate the spread of disease or parasitic organisms. All gear deployed must be visually checked for invasive algae/sponges/other organisms and disinfected with 10% bleach solution for 10 minutes before deployment in alternate location if collecting between multiple watersheds/distinct reef areas. If collection gear cannot be bleached, gear must be thoroughly rinsed with fresh water and dried in sun for 24 hours before deployment in alternate location, sterilized with another viable method or alternate sampling gear should be utilized. If sampling disease or anomalous growth specimens, gear should be sterilized between each specimen or new collection gear should be used. The following species remain a concern to the division: Alien invasive algae (*Kappaphycus* spp., *Euचेuma denticulatum*, *Gracilaria salicornia*, *Acanthophora spicifera*, *Hypnea musciformis* and *Avrainvillea amadelpa*), Coral disease (*Montipora* White Syndrome, *Porites* trematodiasis, *Montipora* white syndrome, *Porites* tissue loss syndrome, and *Porites* spp. and *Montipora* spp. tumors, *Montipora* spp. growth anomaly), Orange keyhole sponge (*Mycale armata/grandis*), and snowflake coral (*Carijoa riisei*).

# HHF PLANNERS

*places for people*

June 3, 2024

Sent electronically to: [Kendall.I.tucker@hawaii.gov](mailto:Kendall.I.tucker@hawaii.gov)

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



Dear Mr. Neilson:

**HRS Chapter 343 Draft Environmental Assessment  
And Anticipated Finding of No Significant Impact (DEA-AFNSI)  
Removal of *Falls of Clyde* from Honolulu Harbor  
Honolulu, O'ahu, Hawai'i  
TMK (1) 2-1-001:058**

Thank you for your memorandum dated January 18, 2024 (DAR #AR6540) providing comments on the above referenced Draft EA. We note that based on the proposed options, DAR would prefer that Alternative 2b: Dismantle in Place is selected for removal. You indicate that compared to towing the vessel, this presents less of a risk to the marine environment associated with the potential transportation and spread of harmful/invasive species that were identified on the vessel hull. Your letter also states that utilization of a floating drydock to dismantle at or near Pier 7 would be more ideal than in-water scrapping because it is more likely that the present invasive species will spread during in-water scrapping. Your preference for Alternative 2b is noted, though it may not necessarily be the choice of the selected contractor to remove the vessel.

### **Coral**

The following mitigations you recommend to minimize physical damage to coral will be included in the Final EA: educating all personnel on site about the importance of minimizing impacts to coral; and that work performed during coral spawning period (May to August) will require monitoring potential sedimentation and turbidity effects to coral eggs and larvae. See separate discussion below on recommendations for Coral Removal from Hull.

### **Sedimentation**

Regular monitoring of sediment levels and water quality parameters around the construction site will be conducted. Training and awareness on sedimentation prevention and minimization will be provided for contractors and construction personnel working on site. This will be included in the Final EA as a mitigation requirement that the selected contractor will need to employ.

Should above-average amounts of sediment enter the water, the contractor will provide DAR with notification, photo documentation and GPS coordinates to assess impacts, if any.

### **Protected Species**

We acknowledge that in the event that protected species such as the Hawaiian monk seal, other marine mammal, or sea-turtle are observed in close proximity to the construction site, and the activities being conducted may be considered as a “negligent or intentional act which results in disturbing or molesting a marine mammal”, contractors will take appropriate action to modify activities in order to avoid disturbance to the regular behavior and activities of the animal. This language will appear as a mitigation requirement in the Final EA.

### **Entanglement**

The contractor will be required to utilize best management practices to eliminate any potential for incidental entanglement of marine organisms. At the end of each day and upon completion of the construction project, all construction-related debris that could potentially endanger species by causing entanglement shall be cleared from the construction area. This language will appear as a mitigation requirement in the Final EA.

Barbed wire, which poses a hazard for seabirds, will not be allowed. If incidental entanglement of protected species occurs DAR and the appropriate federal agency should be notified immediately.

### **Aquatic Invasive Species**

An important consideration in the removal of the *Falls of Clyde* is the prevention of spreading of introduced and invasive species that are present on the hull of the ship. While only one colony was observed on the hull, *Carijoa riisei* has been documented to impact deep water corals. To avoid any spreading of this invasive species, the contractor will be required to physically remove the *C. riisei* colony from the hull and dispose of it landside prior to moving the ship.

### **Removal of Coral From Ship’s Hull**

Your January 18, 2024 memorandum included the following comment: *“Upon completion, DAR would like to request photo documentation of the translocated corals that are to be moved from the hull of the vessel to bare segments of the adjacent harbor walls.”* HDOT and DLNR DAR have subsequently come to an agreement on removal of corals on the ship’s hull.

On April 7, 2024, Mr. Davis Yogi and HDOT staff met with you to discuss this comment and HDOT’s concerns about the safety of coral removal from the hull. This meeting was followed up with a memorandum from HDOT to DLNR DAR dated April 11, 2024. In the memorandum, HDOT explained that based on the Hull Survey prepared by Mr. Joseph Lombardi of Ocean Technical Services, the ship’s hull shell plating is severely corroded and has holes in many areas below the water line that have been repaired over time. The HDOT memorandum also included a written opinion dated March 8, 2024 from Sea Engineering, Inc., which had conducted an underwater hull inspection in August 2023. In the March 8, 2024 opinion, Sea Engineering stated:

*“removal of the coral structures would likely result in failure of the hull. It is expected, given the maturity of the coral on the hull, that the remaining thin steel would likely come off with the coral during the removal operations. Should this occur, it is likely that the water intrusion into the hull would exceed pumping capacity of any pumps. The uncontrolled sinking of the Falls of Clyde creates a potential safety concern for divers working on the bottom of the ship*

*and would likely result in the destruction of any remaining corals not yet removed from the vessel.”*

On April 24, 2024, DLNR DAR replied to HDOT agreeing with the determination that removal of the corals from the hull would cause considerable safety risk to personnel, the harbor infrastructure, and the *Falls of Clyde*. DLNR DAR also stated that if and only if the removal of the *Falls of Clyde* is done in a way that coral may be removed from pieces of the hull when they come on shore, and there is no risk to infrastructure, personnel, or the operation itself, HDOT shall make these corals available to DAR’s coral nursery team at Anuenue Fisheries Research Center.

Your memo also clarifies that upon further review of DAR’s special activity permit issued pursuant to Hawaii Revised Statutes, Section 187-6, HDOT does not need to be issued a SAP for the coral on the *Falls of Clyde*. You further clarified that HDOT is not subject to Section 13-95-70 HAR prohibiting any person to take, break or damage any stony coral because HDOT is a department of the State of Hawai’i and therefore not a “person” as specified under the rule.

**Final EA Revisions**

The Final EA will be revised to reflect the recent information and discussion on coral removal, including the opinion from Sea Engineering, the agreement between HDOT and DAR on the risks of coral removal, and the agreement that if and only if the removal of the *Falls of Clyde* is done in a way that coral may be removed from pieces of the hull when they come on shore, and there is no risk to infrastructure, personnel, or the operation itself, HDOT shall make these corals available to DAR’s coral nursery team at Anuenue Fisheries Research Center. The Final EA will also note that DAR has determined a SAP is not required.

Thank you for your participation in the environmental review process. Your letter and this response will be reproduced in the FEA. If you have any questions, please contact me at Falls-of-Clyde@hhf.com.

Very truly yours,



Scott Ezer  
Vice President

Cc: DreanaLee Kalili, HDOT Harbors

JOSH GREEN, M.D.  
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE  
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



DAWN N. S. CHANG  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE  
MANAGEMENT

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
KA 'OIHANA KUMUWAIWAI 'ĀINA  
LAND DIVISION

P.O. BOX 621  
HONOLULU, HAWAII 96809

January 22, 2024

LD 0160 PART B

DreanaLee Kalili  
869 Punchbowl Street  
Honolulu, Hawaii 96813

*Via email: dreanalee.k.kalili*

Aloha

**SUBJECT: Removal of Falls of Clyde from Honolulu Harbor  
Draft Environmental Assessment and Anticipated  
Finding of No Significant Impacts (DEA-AFNSI),  
Pier 7, Honolulu, O'ahu, Hawai'i**

Thank you for the opportunity to review and comment on the subject project. The Land Division of the Department of Land and Natural Resources (DLNR) distributed copies of your request to DLNR's various divisions for their review and comment.

Enclosed are comments received from our Engineering Division. Should you have any questions, please feel free to contact Timothy Chee via email at [timothy.chee@hawaii.gov](mailto:timothy.chee@hawaii.gov). Thank you.

Sincerely,

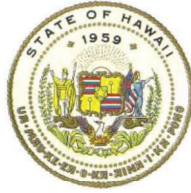
*Russell Tsuji*

Russell Y. Tsuji  
Land Administrator

Attachments  
cc: Central Files

JOSH GREEN, M.D.  
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE  
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



DAWN N. S. CHANG  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE  
MANAGEMENT

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
KA 'OIHANA KUMUWAIWAI 'ĀINA  
LAND DIVISION

P.O. BOX 621  
HONOLULU, HAWAII 96809

December 22, 2023

LD 0160 PART 2

MEMORANDUM

FROM: ☒:

**DLNR Agencies:**

- Div. of Aquatic Resources (via email: kendall.l.tucker@hawaii.gov)
- Div. of Boating & Ocean Recreation (via email: richard.t.howard@hawaii.gov)
- Engineering Division** (via email: DLNR.Engr@hawaii.gov)
- Div. of Forestry & Wildlife (via email: Rubyrosa.T.Terrago@hawaii.gov)
- Div. of State Parks (curt.a.cottrell@hawaii.gov)
- Commission on Water Resource Management (via email: DLNR.CWRM@hawaii.gov)
- Office of Conservation & Coastal Lands (via email: sharleen.k.kuba@hawaii.gov)
- Land Division – Oahu District (via email: barry.w.cheung@hawaii.gov)
- Aha Moku-(via email: leimana.k.damate@hawaii.gov)

TO: FROM:  
SUBJECT:

Russell Y. Tsuji, Land Administrator *Russell Tsuji*  
**Request for Proposal, Removal of Falls of Clyde from Honolulu Harbor-DEA-AFNSI**

LOCATION:

**Honolulu, Island of Oahu, Hawaii  
Pier 7, Honolulu Harbor**

APPLICANT:

**HHF Planners**

Transmitted for your review and comment is information on the above-referenced project. Please submit any comments to *timothy.chee@hawaii.gov* at the Land Division by the internal deadline of **January 20, 2024**. If no response is received by this date, we will assume your agency has no comments. If you have any questions, please contact Timothy Chee at the above email address. Thank you.

**BRIEF COMMENTS:**

- We have no objections.
- We have no comments.
- We have no additional comments.
- Comments are included/attached.

Signed: *Carty S. Chang*  
 Print Name: Carty S. Chang, Chief Engineer  
 Division: Engineering Division  
 Date: Jan 11, 2024

Attachments  
Cc: Central Files



# HHF PLANNERS

*places for people*

June 3, 2024

Sent electronically to: Timothy Chee

[Timothy.chee@hawaii.gov](mailto:Timothy.chee@hawaii.gov)



Dear Mr. Chee:

**HRS Chapter 343 Draft Environmental Assessment  
And Anticipated Finding of No Significant Impact (DEA-AFNSI)  
Removal of *Falls of Clyde* from Honolulu Harbor  
Honolulu, O'ahu, Hawai'i  
TMK (1) 2-1-001:058**

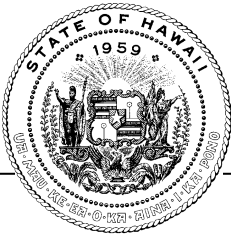
Thank you for your letter dated January 22, 2024 in response to the above referenced Draft EA. We note that DLNR Engineering Division has no comments on the project.

Thank you for your participation in the environmental review process. Your letter and this response will be reproduced in the FEA. If you have any questions, please contact me at Falls-of-Clyde@hhf.com.

Very truly yours,

Scott Ezer  
Vice President

Cc: DreanaLee Kalili, HDOT Harbors



**STATE OF HAWAII  
OFFICE OF PLANNING  
& SUSTAINABLE DEVELOPMENT**

**JOSH GREEN, M.D.**  
GOVERNOR

**SYLVIA LUKE**  
LT. GOVERNOR

**MARY ALICE EVANS**  
INTERIM DIRECTOR

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

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

DTS202312260841NA

Coastal Zone  
Management  
Program

January 18, 2024

Environmental Review  
Program

To: Edwin Sniffin, Director  
State of Hawai'i Department of Transportation

Land Use Commission

Land Use Division

From: Mary Alice Evans, Interim Director  
Office of Planning and Sustainable Development

*Mary Alice Evans*

Special Plans Branch

Attention: DreanaLee Kalili, Deputy Director  
Harbors Division

State Transit-Oriented  
Development

Statewide Geographic  
Information System

Subject: Draft Environmental Assessment on the Removal of the Falls of  
Clyde from Honolulu Harbor, O'ahu  
Tax Map Key No. (1) 2-1-001:058

Statewide  
Sustainability Program

Thank you for the opportunity to provide comments on the Draft Environmental Assessment (Draft EA) for the Falls of Clyde Removal Action from Honolulu Harbor. Our office received the Draft EA review material via memo dated December 14, 2023.

It is our understanding that The Hawai'i Department of Transportation (HDOT) proposes to remove the *Falls of Clyde* from Honolulu Harbor. The *Falls of Clyde* is a four-masted iron-hulled ship and has been impounded by the HDOT at Pier 7 since 2016. The ship is severely corroded, leaking, and has lost its structural and watertight integrity. It poses a risk of structural failure and sinking, threatening harbor safety and maritime operations.

The Office of Planning and Sustainable Development (OPSD) has the following comments to offer:

1. Coastal Zone Management Act (CZMA), Federal Consistency  
We note that based on correspondence between your agency and the U.S. Army Corps of Engineers, in a letter dated August 23, 2023, Proposed Removal of Falls of Clyde, Honolulu Harbor, Honolulu, Island of Oahu, HI, Department of the Army File No. POH-2023-00156, it states: "The proposed removal of the Falls of Clyde may require DA authorization if you place dredged and/or fill material into waters of the U.S., including wetlands and/or perform work in navigable waters of the U.S. The proposed activity may qualify for verification under Nationwide Permit 22 (Removal of Vessels)."

Mr. Edwin Sniffin, Director  
January 18, 2024  
Page 2

If the proposed removal action requires a Department of the Army Permit, then this project may be subject to CZMA Federal Consistency. OPSD is the lead state agency with the authority to conduct CZMA federal consistency determinations. We recommend that HDOT consult with our office on the applicability of CZMA federal consistency.

2. Hawai'i Coastal Zone Management (CZM) Program

Pursuant to HRS § 205A-4, in implementing the objectives of the CZM program, agencies shall consider ecological, cultural, historic, esthetic, recreational, scenic, open space values, coastal hazards, and economic development. As the proposed action is being proposed by HDOT, in a dedicated section within Consistency with Existing Plans, Policies and Controls, the Final Environmental Assessment (Final EA) should include a discussion on the project's consistency with the objectives and supporting policies of the Hawai'i CZM Program, HRS § 205A-2, as amended.

The objectives and supporting policies of the Hawai'i CZM Program serve as the foundation of the enforceable policies of the State of Hawai'i. The evaluation on the project's alignment with HRS § 205A-2 in the Final EA can be used as support material for a CZMA federal consistency determination. Furthermore, disclosure of impacts on CZM objectives and supporting policies as it relates to HRS Chapter 343 requirements, will aid the State in determining impacts to the resources of the coastal zone, and mitigation measures on lands involved for this proposed action.

If you wish to respond to this comment letter, please include DTS 202312260835NA in the subject line. Any questions regarding this on Environmental Assessment concerns, please contact Joshua Hekeia on at (808) 587-2845 or by email to Joshua.K.Hekeia@hawaii.gov, or Debra Mendes on federal consistency matters at (808) 587-2840 or by email to Debra.L.Mendes@hawaii.gov.

cc: Ms. Leslie Kurisaki, HHF Planners

# HHF PLANNERS

*places for people*

June 3, 2024

Sent electronically to: Joshua Hekeia  
[Joshua.k.hekeia@hawaii.gov](mailto:Joshua.k.hekeia@hawaii.gov)

Ms. Mary Alice Evans, Interim Director  
Office of Planning & Sustainable Development  
State of Hawai'i  
235 South Beretania Street, 6<sup>th</sup> Floor  
Honolulu, HI 96813



Dear Ms. Evans:

**HRS Chapter 343 Draft Environmental Assessment  
And Anticipated Finding of No Significant Impact (DEA-AFNSI)  
Removal of *Falls of Clyde* from Honolulu Harbor  
Honolulu, O'ahu, Hawai'i  
TMK (1) 2-1-001:058**

Thank you for your memorandum to Edwin Sniffin, Director Hawai'i Department of Transportation dated January 18, 2024 in response to the above-referenced Draft EA. We offer the following responses to your comments:

**1. Coastal Zone Management (CZMA) Federal Consistency**

**Comment:** The proposed removal of the *Falls of Clyde* may require DA authorization if you place dredged and/or fill material into waters of the U.S., including wetlands and/or perform work in navigable waters of the U.S. The proposed activity may qualify for verification under Nationwide Permit 22 (Removal of Vessels).” If the proposed removal action requires a Department of the Army Permit, then this project may be subject to CZMA Federal Consistency. OPSD is the lead state agency with the authority to conduct CZMA federal consistency determinations. We recommend that HDOT consult with our office on the applicability of CZMA federal consistency.

**Response:** The selected contractor will determine the method of ship removal and thus whether the project is subject to a Department of the Army permit/Nationwide permit. Should a DA permit/Nationwide permit be applicable, the contractor will consult with your office regarding CZMA Federal Consistency requirements.

**2. Hawai'i Coastal Zone Management (CZM) Program**

**Comment:** Pursuant to HRS § 205A-4, agencies shall consider ecological, cultural, historic, esthetic, recreational, scenic, open space values, coastal hazards, and economic development. As the proposed action is being proposed by HDOT, in a dedicated section within Consistency with Existing Plans, Policies

and Controls, the Final Environmental Assessment (Final EA) should include a discussion on the project's consistency with the objectives and supporting policies of the Hawai'i CZM Program, HRS §205A-2, as amended....

The evaluation on the project's alignment with HRS §205A-2 in the Final EA can be used as support material for a CZMA federal consistency determination. Furthermore, disclosure of impacts on CZM objectives and supporting policies as it relates to HRS Chapter 343 requirements, will aid the State in determining impacts to the resources of the coastal zone, and mitigation measures on lands involved for this proposed action.

**Response:** The Final Environmental Assessment will include a discussion of the project's consistency with the objectives and supporting policies of the Hawai'i CZM program.

Thank you for your participation in the environmental review process. Your letter and this response will be reproduced in the FEA. If you have any questions, please contact me at Falls-of-Clyde@hhf.com.

Very truly yours,

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

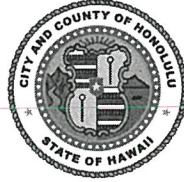
Scott Ezer  
Vice President

Cc: DreanaLee Kalili, HDOT Harbors

DEPARTMENT OF DESIGN AND CONSTRUCTION  
*KA 'OIHANA HAKULAU A ME KE KĀPILI*  
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11TH FLOOR • HONOLULU, HAWAII 96813  
PHONE: (808) 768-8480 • FAX: (808) 768-4567 • WEBSITE: [honolulu.gov](http://honolulu.gov)

RICK BLANGIARDI  
MAYOR  
MEIA



HAKU MILLES, P.E.  
DIRECTOR  
PO'O

BRYAN GALLAGHER, P.E.  
DEPUTY DIRECTOR  
HOPE PO'O

January 11, 2024

SENT VIA EMAIL

DreanaLee Kalili  
[dreanalee.k.kalili@hawaii.gov](mailto:dreanalee.k.kalili@hawaii.gov)

Dear Ms. Kalili:

Subject: Removal of Falls of Clyde from Honolulu Harbor

Thank you for the opportunity to review and comment. The Department of Design and Construction has no comments to offer at this time.

Should you have any questions, please contact me at (808) 768-8480.

Sincerely,

A handwritten signature in blue ink, appearing to read "H. Milles".

Haku Milles, P.E., LEED AP  
Director

HM:cf (914599)

cc: Leslie Kurisaki, HHF Planners

# HHF PLANNERS

*places for people*

June 3, 2024

Sent electronically to: [ddc@honolulu.gov](mailto:ddc@honolulu.gov)

Mr. Dominic Haku Milles, P.E., LEED AP, Director  
Department of Design and Construction  
City and County of Honolulu  
650 South King Street, 11<sup>th</sup> Floor  
Honolulu, Hawai'i 96813



Dear Mr. Milles:

**HRS Chapter 343 Draft Environmental Assessment  
And Anticipated Finding of No Significant Impact (DEA-AFNSI)  
Removal of *Falls of Clyde* from Honolulu Harbor  
Honolulu, O'ahu, Hawai'i  
TMK (1) 2-1-001:058**

Thank you for your Draft EA comment letter dated January 11, 2024. We note that the Department of Design and Construction has no comments to offer at this time.

Thank you for your participation in the environmental review process. Your letter and this response will be reproduced in the FEA. If you have any questions, please contact me at [Falls-of-Clyde@hhf.com](mailto:Falls-of-Clyde@hhf.com).

Very truly yours,

Scott Ezer  
Vice President

Cc: DreanaLee Kalili, HDOT Harbors

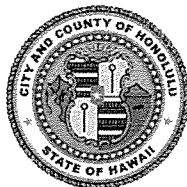


DEPARTMENT OF TRANSPORTATION SERVICES  
KA 'OIHANA LAWELAWE 'ŌHUA  
CITY AND COUNTY OF HONOLULU

711 KAPI'OLANI BOULEVARD, SUITE 1600  
HONOLULU, HAWAII 96813  
Phone: (808) 768-8305 • Fax: (808) 768-4730 • Website: honolulu.gov/transportation

24,0099

RICK BLANGIARDI  
MAYOR  
MEIA



J. ROGER MORTON  
DIRECTOR  
PO'O

JON Y. NOUCHI  
DEPUTY DIRECTOR  
HOPE PO'O

TP1/24-914607

January 22, 2024

DreanaLee K. Kalili, Deputy Director  
Harbors Division  
State of Hawai'i  
Department of Transportation  
869 Punchbowl Street  
Honolulu, Hawai'i 96813

Dear Ms. Kalili:

**SUBJECT:** Removal of Falls of Clyde from Honolulu Harbor - Draft  
Environmental Assessment (Anticipated Finding of No Significant  
Impact)

Thank you for the opportunity to provide written comments regarding the  
Removal of Falls of Clyde from Honolulu Harbor - Draft Environmental Assessment  
(Anticipated Finding of No Significant Impact). We have the following comments.

1. TheBus Stops. The Project is in close proximity to TheBus Stop #1281, as  
such, we have the following comments.
  - i. Air quality may be unhealthy for bus riders waiting at TheBus Stop  
#1281, which is adjacent to Pier 7, if it's not closed or relocated. As  
such, the Applicant shall implement appropriate air quality mitigations.
  - ii. If the Project affects Aloha Tower Drive and Nimitz Highway, TheBus  
Stop #1281 may need to be closed or relocated for the duration of the  
work. TheBus Routes 60 (Honolulu-Kaneohe-Haleiwa), 65 (Honolulu-  
Kaneohe-Ahuimanu), 67 (Honolulu-Kailua-Waimanalo), and 88A  
(North Shore Express) may need to be detoured. Advanced  
notification/coordination with the Department of Transportation  
Services (DTS) - Transportation Mobility Division (TMD) and O'ahu  
Transit Services, Inc. will be needed, contact DTS-TMD at  
TheBusStop@honolulu.gov.

Ms. DreanaLee Kalili, Deputy Director  
January 22, 2024  
Page 2

- iii. If TheBus Stop #1281 is closed, the nearest eastbound bus stop that is served by TheBus Routes 60, 65, 67, and 88A is TheBus Stop #1282 (Ala Moana Boulevard + Opp Punchbowl Street) and is approximately 1300-feet east of TheBus Stop #1281. Americans with Disabilities Act (ADA) accessibility will need to be maintained between Aloha Tower and TheBus Stop #1282 to accommodate the current users of TheBus Stop #1281 (average daily weekday ridership is 120, average daily Saturday ridership is 150, and average daily Sunday ridership is 96).
2. Neighborhood Impacts. The area representatives, neighborhood board, as well as the area guests, businesses, emergency personnel (fire, ambulance, and police), Oahu Transit Services, Inc. (TheBus and TheHandi-Van), etc., should be kept apprised of the details and status throughout the project and the impacts that the project may have on the adjoining local street area network.
3. Disability and Communication Access Board (DCAB). Project plans (vehicular and pedestrian circulation, sidewalks, parking and pedestrian pathways, vehicular ingress/egress, etc.) should be reviewed and approved by DCAB to ensure full compliance with ADA requirements.

Should you have any questions, please contact Greg Tsugawa, of my staff, at (808) 768-6683.

Very truly yours,



J. Roger Morton  
Director

cc: Leslie Kurisaki, Planner  
HHF Planners

# HHF PLANNERS

*places for people*

June 3, 2024

Sent electronically to: [gtsugawa@honolulu.gov](mailto:gtsugawa@honolulu.gov)



Mr. J. Roger Morton, Director  
Department of Transportation Services  
City and County of Honolulu  
711 Kapi'olani Boulevard, Suite 1600  
Honolulu, Hawai'i 96813

Dear Mr. Morton:

**HRS Chapter 343 Draft Environmental Assessment  
And Anticipated Finding of No Significant Impact (DEA-AFNSI)  
Removal of *Falls of Clyde* from Honolulu Harbor  
Honolulu, O'ahu, Hawai'i  
TMK (1) 2-1-001:058**

Thank you for your Draft EA comment letter dated January 22, 2024. We offer the following response to your comments:

**1. Bus Stops**

**Response:** Regarding air quality concerns for bus riders waiting at TheBus Stop #1281 adjacent to Pier 7, the contractor will be required to follow best management practices to mitigate air quality impacts...

We do not anticipate the need to close Aloha Tower Drive or Nimitz Highway or to detour existing bus routes. However, the contractor will be advised that if temporary impacts are anticipated, advanced notification and coordination with DTS will be required.

Although no bus stop closures are anticipated, should TheBus Stop #1281 be affected, the contractor will be required to maintain ADA access to the nearest alternate stop #1282.

**2. Neighborhood Impacts**

**Response:** Area representatives, Neighborhood Board, O'ahu Transit Services and area businesses will be kept apprised of details and status throughout the project and any impacts the project may have on the adjoining local street network.

**3. Disability and Communication Access Board (DCAB)**

**Response:** Project plans impacting vehicular and pedestrian circulation, sidewalks, parking, pedestrian pathways, and/or vehicular ingress/egress will be reviewed and approved by DCAB to ensure full compliance with ADA requirements.

Thank you for your participation in the environmental review process. Your letter and this response will be reproduced in the FEA. If you have any questions, please contact me at Falls-of-Clyde@hhf.com.

Very truly yours,

A handwritten signature in black ink, appearing to read "Scott Ezer". The signature is fluid and cursive, with the first name "Scott" written in a larger, more prominent script than the last name "Ezer".

Scott Ezer  
Vice President

Cc: DreanaLee Kalili, HDOT Harbors



P.O. Box 4674, Honolulu, HI 96812 [www.friendsoffallsofclcyde.org](http://www.friendsoffallsofclcyde.org)

December 26, 2023

Mr. Edward Sniffen, Director  
Ms. DreanaLee Kalili, Deputy Director-Harbors Division  
State of Hawai'i, Department of Transportation  
869 Punchbowl Street  
Honolulu, HI 96813

RE: Comments on Draft Environmental Assessment

Dear Mr. Sniffen and Ms. Kalili:

Friends of Falls of Clyde, Inc. (FFOC) will be making formal comments on the draft plan by the January 23, 2024 deadline. However, we felt compelled to both reassert our rights as owner of *Falls of Clyde* and respond to certain comments in the draft because we feel the tone of the draft report may be misinterpreted by those reviewing the plan. Specifically, the description of the deterioration of the ship and now the mooring lines relates the condition “due to years of insufficient maintenance and neglect.”

We reaffirm our ownership of *Falls of Clyde* as of September 30, 2008 after years of neglect by Bishop Museum and its failure in its stewardship of a National Historic Landmark by not putting the ship into drydock since 1989. When we took ownership, these decades of neglect motivated FFOC to make sure that we firmly understood what needed to be done to preserve and restore an historic vessel. We moved forward in preparing to put her into drydock once our naval architect and engineering company had completed a detailed survey and prepared a drydock plan, which were completed in 2014. At the end of 2014 it was the then Director of the Department of Transportation who contacted FFOC to ask about our plan and we provided a business plan at his request, but never heard anything afterwards. Beginning in 2015, the Deputy Director HDOT began making statements about the ship being a safety hazard to the harbor. FFOC provided surveys more than once contradicting the unsupported statements without ever getting a response nor getting any surveys from HDOT that supported their position. When the ship was seized and impounded in 2016 using the terms of our revocable permit that mandated we remove a vessel

that could not possibly be moved under its own power, we knew that our mission was jeopardized by the HDOT.

FFOC continued our work to maintain the ship during these subsequent years until we were banned from the ship in early 2019 alleging unsafe conditions, even though the conditions had not changed from our perspective and we were maintaining the ship on a weekly basis. For your information, after we were banned, I specifically asked the then Deputy Director to provide FFOC with details of the maintenance that was being conducted. He indicated that there was no set maintenance and there were no written reports about what was done.

Why am I citing these facts? Because the true insufficient maintenance and neglect rests initially with Bishop Museum and since 2019 with HDOT. We can attest to the fact that the condition we saw when we were aboard the ship to take our inventory in 2023 had deteriorated substantially since we were banned in 2019. We plan to make it very clear who was responsible, by action or inaction, for the neglect of the historic ship *Falls of Clyde*.

Sincerely,

A handwritten signature in dark ink that reads "Bruce McEwan". The signature is written in a cursive, slightly slanted style.

Bruce McEwan, President

Cc: FFOC Board of Directors  
State of Hawai'i Ombuds Office



P.O. Box 4674, Honolulu, HI 96812 [www.friendsoffallsofclcyde.org](http://www.friendsoffallsofclcyde.org)

January 17, 2024

Ms. DreanaLee Kalili, Deputy Director-Harbors Division  
State of Hawai'i, Department of Transportation  
869 Punchbowl Street  
Honolulu, HI 96813

Project: Removal of Falls of Clyde from Honolulu Harbor  
RE: Comments on Draft Environmental Assessment

Friends of Falls of Clyde, Inc. (FFOC), as owners of the National Historic Landmark Vessel *Falls of Clyde*, is pleased to make our formal response to the draft of the Environmental Report titled "Removal of Falls of Clyde from Honolulu Harbor." We will address our comments in the order that the draft is structured. However, we do believe that any comments not directly related to the actual removal process should be deleted. Once the ship is out of the harbor, it will be effectively removed as per the project.

#### Introduction

In paragraph 2, the statement "due to years of insufficient maintenance and neglect" seems to imply that this is related to the ownership of Friends of Fall of Clyde, which is false. Because the condition is the critical piece driving the removal, the complete history of the maintenance and neglect over decades should be provided in detail. If this reference is to remain in this section, we insist that it be put in the context of the 35 years since the ship was last in drydock. We will add details to the maintenance and neglect in the Historical Background Section.

#### Historical Background

Paragraph 5 runs some things together that need clarification. First, the mention of a 2005 concern for the ship's corrosion and weakened hull integrity regarding the ship's status as a National Historic Landmark was made under the ownership of Bishop Museum and not FFOC. Bishop Museum owned the ship since 1989 and failed to properly maintain her and put her into drydock to deal with the conditions found in 2005. Second, three years later in 2008, this condition caused Bishop Museum to plan to tow the ship and scuttle it at sea. The public record, we believe, shows that Bishop Museum had a survey done in 2007 in which the surveyor estimated the restoration would cost \$40 million. This is what moved Bishop Museum to have the ship derigged in May 2008 in preparation for its scuttling plan. Your history indicates that



Bishop Museum had a permit from the EPA to execute their plan. The reality is that the community members who were involved in trying to save the ship found out that Bishop Museum neglected to advise the EPA that *Falls of Clyde* is a National Historic Landmark. This led to the cancellation of their plan, the formation of the nonprofit organization FFOC and ultimate transfer of ownership to FFOC on September 30, 2008.

You make what we consider a gratuitous comment about the Transfer Agreement between Bishop Museum and FFOC, which included a condition that the ship be removed from Pier 7 to a local drydock or Bishop Museum had the right to have the ship returned to move it and dispose of it if the terms were not met. Since the ship is still at Pier 7 and you do not know what occurred during that period, why is this even in the draft? It is not relevant to this project, so delete it.

In paragraph 6, you make the statement that the plans of FFOC never came to fruition. This definitely needs details, since it also says "after years of lengthy discussion between HDOT and FFOC." We would like to know what this means. Until the end of 2014 and early 2015, we had virtually no discussion whatsoever with HDOT. We now know from recent information that as early as 2013 there was internal discussion at HDOT about the desire to remove the ship from the harbor. The fact is that by the middle of 2014, FFOC had a drydock plan for the ship and a business plan. This information was communicated to HDOT. As a matter of fact, the request for our business plan came directly from the then acting Director of the DOT. There was absolutely no response. Why? Because our plan, which was based upon visitor figures over a period of years from the Hawaii Maritime Center, stated that the ship had to go into drydock for hull stability before any deck/cabin restoration could take place. The plan called for phased restoration to get the ship ready to regain its position as a museum ship, which would take a substantial number of years. They knew we had a drydock plan and needed to raise funds. It was in 2015 that statements began to come from HDOT about the ship being a safety hazard to the harbor, which effectively undercut any fundraising efforts. We sent HDOT surveys and a mooring plan to counter their claims, but were ignored. We attempted to get State CIP funds, but in the not so lengthy discussions with HDOT, they made it clear that if we took the ship to drydock, they would not guarantee that it would be returned to Pier 7.

This section also seems to emphasize that our Revocable Permit was given to FFOC gratis, which is true we believe because the Deputy Director of the HDOT was supportive of *Falls of Clyde* as being a National Historic Landmark in Hawaii. The gratis status was not questioned by any subsequent HDOT Deputy Directors, but had FFOC be asked to pay a permit fee, we were very capable of doing so.

There is also a point made that the ship was impounded because HDOT invoked a Revocable Permit provision to remove the ship or have it impounded. This demand was made in May 2016, a month in which the State of Hawaii was being lauded for its commitment to historic preservation. Their demand was made knowing that the ship could not be moved on its own and, more importantly, knowing that there was no place to move it. The public record shows that we twice appealed this decision and failed on technical bases. Clearly a sign that HDOT had no intention of allowing FFOC to ever fulfill our mission to preserve and restore the National Historic Landmark Vessel *Falls of Clyde*.

Paragraph 7 includes a discussion of the efforts of Falls of Clyde International (FOCI), a Scottish organization that had taken an interest in returning the historic ship to Scotland where she was built in 1878. FOCI's leader, David O'Neill, offered this plan to FFOC in 2016 and made a few attempts to bring the project together. FFOC considers the return to Scotland to be a viable solution. However, as stated in the paragraph, their proposal was ultimately declined by HDOT primarily for failure to obtain a performance bond. There is also history here. When the HDOT tried to auction off the ship in 2019, there were no bidders. Why, because this type of project is not one that a guarantor would take on at the level required. FFOC advised the then HDOT Deputy Director no one could obtain this type of bond and we questioned the source of the requirement. We were referred to a statutory requirement for this bond for construction projects for which this type of bond is readily available. We could not get a straight answer to our questions about the decision-maker's knowledge of bonds and the bond market nor who it was that required the level of guaranty. After FOCI had their project declined, we continued to pursue the issue and were told that the performance bond is required for removal of derelict vessels and that Travelers Insurance Company does issue the bonds. The point that was missed is that there is most likely a smaller bond limit that the company could guaranty and not a multimillion-dollar project of this type. I have included this discussion because if the performance bond is required for a third party to bid on an RFP then a reasonable limit must be set.

Finally, and this goes back to our concern for statements about insufficient maintenance and neglect, during the years 2008-2014, FFOC was learning as much as we could about preserving an iron-hulled historic vessel. Over the years we engaged an iron specialist, naval architects, marine engineers, and marine surveyors and historic ship experts to provide guidance. We put on a weatherproofed working deck. We installed a pump system to move ballast water between tanks to keep the ship in trim. We monitored water levels in the tanks and arranged to safely remove excess water when needed. We adjusted mooring lines as needed. We worked on the ship on a regular schedule. Following the impoundment, we were still allowed access to continue the type of maintenance work we had been doing. However, after the failed auction attempt in early 2019, we were banned from working on the ship and given the reason that HDOT decided it was too unsafe, even though FFOC members and volunteers had been working on the ship continually since 2008 and were able to do so safely. The point we want to make here is that since early 2019 any insufficient maintenance and neglect solely rests with HDOT. After this ban, we specifically tried to exert our owner's right to know what maintenance was being done. We asked for reports on work, the monitoring of water levels and other details that would show us that the vessel was actually being cared for. The response was that there were no reports.

In closing this section, everything that is reported from our perspective has been directly experienced by our president, Bruce McEwan, who is prepared to make an affidavit, if necessary, to the validity of everything stated here.

### Project Alternatives

As stated earlier in this response, we believe that any details included that are not related to the specific alternative to remove the ship from the harbor should be deleted.

We have some concern as to why Alternative 2b is already labeled the Preferred Alternative. Although this section covers pros and cons of the identified alternatives, the choice of the removal is supposed to be left up to the successful contractor once the RFP is issued, so flagging the consultant's opinion as preferred seems to skew the options for those who may bid on the RFP. It should be up to the contractors to determine how they assess the pros and cons of the project. Definitely remove that label.

Making a statement like the consultant's opinion that dismantling the vessel in either 2a or 2b is the least risk to the marine environment, in our opinion, is speculative unless there is a no detailed analysis of how that opinion was reached. We also direct attention to our comments about historic artifacts in the following section.

Also, in 2a there is a con related to the "uncertain ability of the ship to survive tow intact." This is not fully supported by the Hawaii Marine Surveys LLC (8/2022) inclusion that "The current condition of the vessel *Falls of Clyde* is such that the vessel may be able to be towed from its berth safely out of Honolulu Harbor." This inclusion is supported by the recommendation that a trial towing operation be tried and assessed. Again, this is a decision to be made by a contractor and should not be listed as a con without this recommendation included.

Mostly importantly, FFOC believes that there is yet another alternative. The marine industry is well known for its ability to salvage vessels in the most dire conditions. We propose that an additional alternative be added that the vessel be assessed for its ability to be made safe to tow using salvage techniques that can preserve the hull structure for a removal.

### Potential Impacts and Mitigation of FOC as a Historic Vessel

In this section we find it interesting that a return to Scotland would "be ideal" given if the conditions can be made to work. This section also reconfirms that FFOC owns the vessel, which includes all artifacts and objects that HDOT says have been documented. FFOC also has some documentation of the artifacts. If the ship is not kept intact, those artifacts that have historical significance, which are, at least in part, documented in the plan must be preserved for their value to maritime museums in the United States or other countries. Unfortunately, FFOC has reached out to Bishop Museum and they have declined to take possession of any artifacts from *Falls of Clyde* even given their prior ownership. Any contractor considering dismantling of the vessel must be made to provide FFOC, as owner, the precise manner in which the removal of historic artifacts will be made as they will be liable for destruction of any such artifacts. There is also a comment about FFOC reporting a sale of an artifact to a local bar. There was neither a report nor a sale so this comment needs to be deleted from the final report.

Sincerely,

  
Bruce McEwan, President

Cc: FFOC Board of Directors

Leslie Kurisaki, HHF Planners, 733 Bishop Street, Suite 2590, Honolulu, HI 96813

# HHF PLANNERS

*places for people*

June 3, 2024

Sent electronically to: [bemacewan@gmail.com](mailto:bemacewan@gmail.com)

Mr. Bruce McEwan, President  
Friends of Falls of Clyde  
P.O. Box 4674  
Honolulu, HI 96812



Dear Mr. McEwan:

**HRS Chapter 343 Draft Environmental Assessment  
And Anticipated Finding of No Significant Impact (DEA-AFNSI)  
Removal of *Falls of Clyde* from Honolulu Harbor  
Honolulu, O’ahu, Hawai’i  
TMK (1) 2-1-001:058**

Thank you for your letter dated January 17, 2024 in response to the above-referenced Draft EA. We offer the following responses to your comments:

### **Introduction**

You commented that in Paragraph 2, the statement about “years of insufficient maintenance and neglect” seems to imply that this is related to ownership by the Friends of Falls of Clyde (FFOC). It is not our intent to blame any single party, only to state facts as it relates to the current condition of the ship. That said, a statement will be added in this paragraph to also note Bishop Museum’s ownership during this period.

### **Historical Background**

The intent of this section of the EA is to provide a simple and factual sequence of events to provide context as to how the present situation came about; i.e., the current deteriorated condition of the ship, as documented by the recent surveys and reports referenced in the EA (included as EA Appendices A, B and C).

Your comments expand on the actions taken by Bishop Museum prior to 2008; FFOC’s efforts and plans for *Falls of Clyde* since 2008; a history of communication between FFOC and the HDOT; and a discussion of FFOC’s involvement. Thank you for providing additional information on events that occurred during this time period. A copy of your letter will be included in the Final EA and will become part of the public record.

### **Project Alternatives**

As suggested, reference to Alternative 2b as HDOT’s Preferred Alternative has been removed. That said, this alternative appears to be the most implementable, involves the least environmental risk, and entails minimal regulatory and permitting requirements. Given the *Falls of Clyde*’s precarious physical condition and the threat it poses to harbor operations and the environment, HDOT is prioritizing the expeditious and safe removal of the ship. A proposer’s demonstrated ability to remove the ship in a timely manner,

including obtaining all permits and regulatory approvals, and with minimal environmental risk will be considered during the selection process.

**Potential Impacts and Mitigation of *Falls of Clyde* as a Historic Vessel**

Please note that HDOT, at its own initiative, has met all the proposed (though no longer binding) mitigative measures identified in the 2008 Memorandum of Understanding (MOU) between the various parties at the time of the FFOC's acquisition of *Falls of Clyde*.

In October 2023, HDOT completed the Historic American Engineering Record (HAER) documentation begun in 1989 as a two-year, two-part effort, but never completed. The recent documentation was done through an aerial LIDAR scan of the ship and additional black and white photographs of areas not documented in 1989. Scanning the hull and decks and accessible compartments with LIDAR and additional high-resolution photos created a full documentary record of the vessel. The final drawings and renderings, along with the large format black and white photography, will be submitted to the National Park Service's HAER. NPS will review these to ensure the documentation is to the same standard and format as other HAER-documented ships, and then officially transmit the documentation to the Library of Congress for inclusion, along with the pre-existing *Falls of Clyde* documentation. The LIDAR and photographs will add the details and images that were missing from the initial documentation.

**Historic Artifacts**

We acknowledge your comment that FFOC has some documentation of historic artifacts and objects and that you have reached out to Bishop Museum which has declined to take possession of the artifacts. In 2023, HDOT also inventoried remaining potentially significant artifacts and features.

On May 20, 2024, HDOT sent you a letter requesting that if there are any belongings or artifacts that FFOC would like to retrieve from the vessel, to please arrange to have them removed by June 19, 2024. HDOT will arrange a date and time to provide access and also require signed waiver release forms from anyone who will board the vessel. HDOT will work with an agent or another non-profit organization who has been assigned to work on FFOC's behalf. Any artifacts remaining on the *Falls of Clyde* after June 19, 2024 will be considered abandoned by the FFOC and become property in the custody of the State of Hawai'i. The HDOT would then implement provisions in Hawai'i Revised Statutes (HRS), Chapter 94, and work with the Comptroller and State Archivist to determine the disposition of the artifacts. Should the RFP and subsequent contract award result in the removal of the vessel by dismantling, any artifacts that are removed and recovered during the dismantling work will also be subject to HRS Chapter 94.

Thank you for your participation in the environmental review process. Your letter and this response will be reproduced in the FEA. If you have any questions, please contact me at Falls-of-Clyde@hhf.com.

Very truly yours,



Scott Ezer  
Vice President

Cc: DreanaLee Kalili, HDOT Harbors



680 Iwilei Road Suite 690, Honolulu HI 96817 • (808) 523-2900 • [preservation@historichawaii.org](mailto:preservation@historichawaii.org) • [www.historichawaii.org](http://www.historichawaii.org)

January 22, 2024

DreanaLee Kalili  
Hawai'i Department of Transportation  
869 Punchbowl Street  
Honolulu, HI 96813

VIA Email: [dreanalee.k.kalili@hawaii.gov](mailto:dreanalee.k.kalili@hawaii.gov) and [falls-of-clyde@hhf.com](mailto:falls-of-clyde@hhf.com)

Re: Draft Environmental Assessment & Anticipated Finding of No Significant Impact  
HRS 343 Environmental Review  
Proposed Removal of *Falls of Clyde* from Honolulu Harbor  
Pier 7, Honolulu Harbor, District of Honolulu, Island of O'ahu, Hawai'i

Dear Ms. Kalili:

Historic Hawai'i Foundation is responding to a notice of Draft Environmental Assessment and Anticipated Finding of No Significant Impact (AFNSI) in The Environmental Notice dated December 23, 2023 for the proposed "removal" and disposal of the historic ship *Falls of Clyde*.

#### Interests of Historic Hawai'i Foundation

Historic Hawai'i Foundation (HHF) is a statewide nonprofit organization established in 1974 to encourage the preservation of sites, buildings, structures, objects and districts that are significant to the history of Hawai'i. HHF is an organization with a demonstrated interest in the undertaking and a concern for the effects on historic properties.

#### Proposed Action

The Proposed Action is the removal of the historic vessel the *Falls of Clyde* (FOC) from Pier 7, including the possible disposal of the vessel, although the preferred method of disposal is to be determined. The Hawai'i Department of Transportation (HDOT) states that in the absence of any action, the continued deterioration of the vessel at Pier 7 presents a liability and safety hazard to the State of Hawai'i.

Removal and disposal alternatives being considered may include scuttling the vessel offshore, dismantling at a drydock, as well as other options. HDOT states that the current condition of the FOC is partially flooded, heavily corroded and structurally damaged. The HDOT has determined that due to the ship's physical condition and risk of

structural failure and sinking, removal of the ship is necessary to ensure future safe maritime operations within Honolulu Harbor.

### Historic Hawai'i Foundation Comments

#### **Historic Hawai'i Foundation strongly objects to the proposed finding of no significant impact.**

The *Falls of Clyde* is designated a National Historic Landmark (NHL), which is the highest level of recognition of historic properties in the nation. Federal laws—including the National Historic Preservation Act, the National Environmental Policy Act and the National Transportation Act—make it clear that NHLs are significant contributors to the environment. Destruction of an NHL is, by definition, an irreversible and significant impact to the environment.

HDOT has prepared a Draft Environmental Assessment (DEA) which purports to be in accordance with Hawai'i Revised Statutes (HRS) Chapter 343. The requirement for an assessment of this proposed action is related to the expenditure of state funds to remove the FOC. The DEA fails to note that HRS 343-5 (4) is also applicable for “any use within any historic site as designated in the National Register or Hawai'i Register, as provided for in the Historic Preservation Act of 1966...” (emphasis added).

The *Falls of Clyde* is listed in the National Register of Historic Places and as a National Historic Landmark. Until November 2023, the property was also listed in the Hawai'i Register of Historic Places. The ship was removed from the State historic register as the behest of the HDOT.

It is important to note that the State's action has no effect on the Federal historic listings.

The Environmental Notice states that the “removal from the National Register and removal of its NHL status are pending.”

The DEA claims (Chapter 4 Anticipated Determination) that, “It is anticipated that the delisting process will be completed by the time the Proposed Action is implemented, and therefore the ship will not be considered a historic property. As such, the Proposed Action will have ‘no adverse effect.’”

Both of these statements are inaccurate and misleading. As the U.S. Department of the Interior made clear in its written comments on the pre-assessment consultation, the regulations for withdrawal of National Historic Landmark Designation (36 CFR 65.9) involve action by the Secretary of the Interior separate from any delisting request to the Keeper of the National Register of Historic Places via a state historic preservation office.

The regulations clearly state that, “National Historic Landmarks will be considered for withdrawal of designation only at the request of the owner or upon the initiative of the Secretary” (emphasis added).

Since neither the owner (Friends of Falls of Clyde) nor the U.S. Secretary of the Interior has made any such application, **there is no open or pending action to withdraw the National Historic Landmark designation.**



Therefore, the NHL designation is wholly intact; the historic ship is still recognized as a significant cultural resource and its removal or destruction would be a significant impact to the environment. **HDOT is relying on a non-existent circumstance to justify its finding. Since the underlying assumption is false, the finding is inappropriate.**

Proposed actions that may have a significant effect on the environment require the preparation of an Environmental Impact Statement (EIS) in accordance with Hawai'i Administrative Rules (HAR):

HAR §11-200.1-13 Significance criteria. (a) In considering the significance of potential environmental effects, agencies shall consider and evaluate the sum of effects of the proposed action on the quality of the environment. (b) In determining whether an action may have a significant effect on the environment, the agency shall consider every phase of a proposed action, the expected impacts, and the proposed mitigation measures. In most instances, an action shall be determined to have a significant effect on the environment if it may: (1) Irrevocably commit a natural, cultural, or historic resource (emphasis added).

The nature of the proposed action will result in the complete destruction and loss of a National Historic Landmark. This is an irreversible, irrevocable and significant adverse effect to a cultural and historic resource. Therefore, **a finding of “no significant impact” would be grossly inappropriate and unsupportable.**

The agency's proposed course of action should be evaluated in an Environmental Impact Statement (EIS) with an acknowledgement and resolution of the impact, and appropriate mitigation measures for the loss of this historic and cultural resource.

Thank you for the opportunity to comment.

Very truly yours,



Kiersten Faulkner, FAICP  
Executive Director

# HHF PLANNERS

*places for people*

June 3, 2024

Sent electronically to: [kiersten@historichawaii.org](mailto:kiersten@historichawaii.org)

Ms. Kiersten Faulkner, FAICP

Executive Director

Historic Hawai'i Foundation

680 Iwilei Road, Suite 690

Honolulu, HI 96817



Dear Ms. Faulkner:

**HRS Chapter 343 Draft Environmental Assessment  
And Anticipated Finding of No Significant Impact (DEA-AFNSI)  
Removal of *Falls of Clyde* from Honolulu Harbor  
Honolulu, O'ahu, Hawai'i  
TMK (1) 2-1-001:058**

Thank you for your letter dated January 22, 2024 in response to the above-referenced Draft EA. We note that Historic Hawai'i Foundation strongly objects to the anticipated finding of no significant impact. We offer the following responses to your comments:

**HHF Objection to the Proposed Finding of No Significant Impact**

Your letter notes that *Falls of Clyde* is a designated a National Historic Landmark which “...will be considered for withdrawal of designation only at the request of the owner or upon the initiative of the Secretary...Since neither the owner (*Friends of Falls of Clyde*) nor the U.S. Secretary of the Interior has made any such application, there is no open or pending action to withdraw the National Historic Landmark “ As explained below, the NHL Subcommittee of the National Parks System Advisory Board recently voted unanimously to recommend withdrawal of the ship’s NHL status.

Your letter states that “*destruction of an NHL, by definition, is irreversible and a significant impact to the environment.*” In response, HDOT asserts that that the historic and structural integrity of *Falls of Clyde* has been effectively destroyed by many years of neglect by its previous owners, including the application of inappropriate methods and materials in maintenance and restoration. In the expert opinion of marine surveyors with specialized, licensed experience, the *Falls of Clyde* has been found to be unsafe, and in danger of sinking in the harbor. The “destruction” of the NHL took place with the loss of that integrity.

**NRHP Delisting Update**

Since the Draft EA was published in December 2023, the *Falls of Clyde* was removed from the National Register of Historic Places on February 2, 2024. The National Register delisting was recommended by the State Historic Preservation Officer after its removal from the State Register, and in full compliance with 36 CFR 60.15.

On May 14, 2024, the National Historic Landmarks Committee of the National Park System Advisory Board (NPSAB) voted unanimously to remove the *Falls of Clyde's* NHL designation. This recommendation will go to the full NPSAB at a future meeting. A decision by the NPSAB to remove the NHL designation would then be transmitted to the Secretary of the Department of the Interior for signature and final approval. It is anticipated that the procedural removal of the *Falls of Clyde's* NHL designation will be completed by the time the proposed action is implemented.

What HHF refers to as the “*complete destruction and loss of the NHL*” was not caused by the delisting, but by years of neglect, which led to the ship’s unfortunate current condition. Dr. James Delgado, the same individual who prepared the original NHL nomination for the Department of the Interior, has concluded that the *Falls of Clyde* has ceased to meet the criteria for listing in the National Register because the qualities which caused it to be originally listed have been lost or destroyed.

According to Dr. Delgado, the assumption that until the Secretary of the Interior action, the vessel retains the “protections” of the NHL is flawed. To be an NHL, the qualities and integrity required to be listed in the National Register must be present. If a vessel has lost these qualities and integrity, it may be an NHL in name only, pending its formal removal. Dr. Delgado has cited similar circumstances with other NHL vessels which have been scrapped, or simply allowed to rest as sunken, partially scrapped hulks without mitigation or intervention. Specifically, Dr. Delgado cited the NHL ships *Deluge*, *Inaugural* and *Ste. Claire*, which were officially removed as NHLs in December 2023.

### **Mitigation**

In response to your comment about appropriate mitigation for the loss of this historic and cultural resource, we note that HDOT, at its own initiative, has met all the proposed (but no longer binding) mitigative measures identified in the 2008 Memorandum of Understanding (MOU) between the various parties at the time of the Bishop Museum’s divestiture of *Falls of Clyde*.

In October 2023, HDOT completed the Historic American Engineering Record (HAER) documentation begun in 1989 as a two-year, two-part effort, but never completed. The recent documentation included an aerial LIDAR scan of the ship and additional black and white photographs of areas not documented in 1989. Scanning the hull and decks and accessible compartments with LIDAR and additional high-resolution photos created a full documentary record of the vessel. The final drawings and renderings, along with the large format black and white photography, will be submitted to the National Park Service’s HAER. NPS will review these to ensure the documentation is to the same standard and format as other HAER-documented ships, and then officially transmit the documentation to the Library of Congress for inclusion, along with the pre-existing *Falls of Clyde* documentation. The LIDAR and photographs will add the details and images that were missing from the initial documentation.

In addition, in 2023, HDOT inventoried remaining potentially significant artifacts and features. The list will be included in the Final EA.

On May 20, 2024, HDOT sent a letter to the Friends of Falls of Clyde (FFOC), the ship’s owner, requesting that if there are any belongings or artifacts that FFOC would like to retrieve from the vessel, to please arrange to have them removed by June 19, 2024. HDOT will arrange a date and time to provide access and also require signed waiver release forms from anyone who will board the vessel. HDOT will work with an agent or another non-profit organization who has been assigned to work on FFOC’s behalf. Any artifacts remaining on the *Falls of Clyde* after June 19, 2024 will be considered abandoned by the FFOC

and become property in the custody of the State of Hawai'i. The HDOT would then implement provisions in Hawai'i Revised Statutes (HRS), Chapter 94, and work with the Comptroller and State Archivist to determine the disposition of the artifacts. Should the RFP and subsequent contract award result in the removal of the vessel by dismantling, any artifacts that are removed and recovered during the dismantling work will also be subject to HRS Chapter 94.

**Conclusion**

The loss of this historic resource is extremely unfortunate and not an outcome that anyone, including HDOT, would have chosen. It has been nearly 20 years since concerns about the *Falls of Clyde's* corrosion, weakened hull integrity and NHL status were raised by the Department of the Interior. The fact is that decades of inadequate maintenance and neglect have led to the ship's current condition and loss of integrity. The imminent threat of the ship sinking leaves HDOT with little choice in fulfilling its responsibility to ensure the safe operational and environmental integrity of the harbor.

Finally, it should be noted that the HDOT is calling for the removal, not the destruction of the *Falls of Clyde*, though the EA notes that loss is possible, if not probable. Alternatives to ship deconstruction and disposal will be considered, provided the proposers are able to meet the conditions of the RFP, including a third-party removal of the vessel intact to another destination.

Thank you for your participation in the environmental review process. Your letter and this response will be reproduced in the FEA. If you have any questions, please contact me at Falls-of-Clyde@hhf.com.

Very truly yours,



Scott Ezer  
Vice President

Cc: DreanaLee Kalili, HDOT Harbors

**From:** [John Ewald](#)  
**To:** [DreanaLee Kalili](#); [Falls-of-Clyde](#)  
**Cc:** [John Ewald](#)  
**Subject:** Public Review: Removal of FALLS OF CLYDE from Honolulu Harbor  
**Date:** Monday, January 22, 2024 11:06:25 AM

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[This message was sent from an outside source.]

These comments and two specific requests regarding the “Removal of FALLS OF CLYDE from Honolulu Harbor” are input to the Public Review Period that ends 1/23/2024.

1.

In the Pre-Assessment Consultation (8/24/2023) and the Draft Environmental Assessment (12/14/2023, released on 12/23/2023), an opinion characterizes that the vessel “...has lost the historic integrity that qualified the ship for listing in the State and National Registers of Historic Places.”

That is incorrect as separately detailed in both of the same documents. But that incorrect position is then “supported” with Appendices that are injurious to the basic evaluation and unbiased ranking of the alternatives presented for our consideration.

A curious example is “Cultural Assessment for the Falls of Clyde Removal Project” by the reputable local firm Honua Consulting (p.318). I was honestly surprised by the complete erasure of any reference to the Matson Navigation era. Similar erasure of the entire Bishop Museum era, with its Maritime Center experiment. These explicit omissions ‘feel’ telling, and maybe even instructive, on the forces at work within this set of forthcoming decisions? While there are some Native Hawaiians who have shown interest in the ship over time, namely kūpuna [elders] like Verlie Ann Malinda Wright, there is no evidence to show the ship was significant to Native Hawaiian history or association with Hawaiian traditional [typo in the report] or customary practices. This single name reference (I did meet her) reduces her distinguished and important community role to be just one “kūpuna” [elders] <https://obits.staradvertiser.com/2019/10/12/dr-verlieann-kapule-malina-wright/>

Maritime activities are thoroughly entwined with every conceivable aspect of life in the Islands, from the earliest to present day, with both good and bad stories to share. But that is history. That is life, which continues today in the Harbor with Native Hawaiians working in many leadership and contributing positions.

Most registered historic places have historic integrity and historic significance first recognized and then restored and interpreted, from relics in much worse condition than the FALLS OF CLYDE displays today or on 11/17/1963 when she arrived at Pier 14 (image on p.1-5). This wording comes off as “piling on” just to strengthen a position. The vessel clearly does not look today like she did before the hurricane. We should accept that appearance as fact, but that appearance is not a proper criteria for decisions.

2.

Project Alternatives 2.2.1 (No Action), 2.2.3 (2a or 2b: Dismantling), 2.2.4 (3: Sinking) are the items where the following specific comments apply: I cannot defend the actions nor the stewardship of the Honolulu-based group Friends of Falls of Clyde. They have taken limited specific actions, some that could be viewed as harmful, slow or even wasteful of the financial resources they had. An example is recently selling the figurehead (shown aboard the vessel by pictures in the DEA from March 2023) in direct defiance of the charter this non-profit embraced when accepting the vessel sale from Bishop Museum. The reason to mention this, is to plead for consideration and engaged support for the value that many whole components, artifacts, and even broken or cut pieces from the vessel would have to the world audience for such items. There must be an organized and properly equipped effort to recover and ‘save’ these materials only if any of

these first three Alternatives become the ultimate outcome from the RFP process. I should be able to help such an effort.

3.

Please choose Project Alternative 2.2.5 (5: Third Party Acquisition) as the desired proper decision.

Everyone 'wins' with this approach, and the State of Hawai'i would thus retain a reputation for historical awareness and preservation that it should want and deserves.

I was heartened by the Pre-Assessment Consultation statement that HDOT fully anticipates "...the expenditure of state funds to remove the FOC," which is both reasonable and necessary in this practical environment of removing the vessel, and it should apply to each of the Alternatives in a creative and unbiased manner.

If the entire project is viewed as it is titled, the "Removal of FALLS OF CLYDE from Honolulu Harbor" will be a "success" for all involved. And so I urge, offer to help, and again use the words 'plead for' an open atmosphere for Proposal(s) from Save Falls of Clyde International. This group has demonstrated ability to achieve what they propose, and removing the FALLS OF CLYDE from Honolulu Harbor to the River Clyde in Scotland is the correct next step for the vessel.

4.

Lastly, a personal point: I worked for Bishop Museum as Restoration Manager aboard the vessel in the mid-70's, when the figurehead and sideboards were fitted and she looked as we would like her to appear once again. I learned so much in Honolulu, one of the more complex communities I have ever lived in; a place, with its people, that retains a big place in my heart.

All human efforts must evolve to meet new realities, and no vessel better demonstrates this important point. Your documents actually did a good job of tracing the multiple roles and repurposed configurations that are the real history of FALLS OF CLYDE. I was proud to see much of that explained, as inspiration for visitors and crew alike. Alternative 2.2.5 will be another phase in this life process, so I personally and formally request your careful consideration of Third Party Acquisition.

John Ewald  
206-465-8370 cell  
john.ewald@mac.com  
3 SW Lake Roesiger Rd, Snohomish, WA 98290 (north of Seattle)

# HHF PLANNERS

*places for people*

June 3, 2024

Sent electronically to: [john.ewald@mac.com](mailto:john.ewald@mac.com)



Dear Mr. Ewald:

**HRS Chapter 343 Draft Environmental Assessment  
And Anticipated Finding of No Significant Impact (DEA-AFNSI)  
Removal of *Falls of Clyde* from Honolulu Harbor  
Honolulu, O'ahu, Hawai'i  
TMK (1) 2-1-001:058**

Thank you for your email dated January 22, 2024 in response to the above-referenced Draft EA. We offer the following responses to your comments:

**1.**

**Comment:** In the Pre-Assessment Consultation (8/24/2023) and the Draft Environmental Assessment (12/14/2023, released on 12/23/2023), an opinion characterizes that the vessel "...has lost the historic integrity that qualified the ship for listing in the State and National Registers of Historic Places." That is incorrect as separately detailed in both of the same documents. But that incorrect position is then "supported" with Appendices that are injurious to the basic evaluation and unbiased ranking of the alternatives presented for our consideration.

**Response:** The HDOT stands by the statement that the ship has lost the historic integrity that qualified it for listing in the State and National Registers. The structural integrity of *Falls of Clyde* has been effectively destroyed by many years of neglect by its previous owners, including the application of inappropriate methods and materials in maintenance and restoration. In the expert opinion of marine surveyors with specialized, licensed experience, the *Falls of Clyde* has been found to be unsafe, and in danger of sinking in the harbor.

The determination that the ship has lost its historic integrity was made by Dr. James Delgado, the same individual who prepared the original NHL nomination for the Department of the Interior. Dr. Delgado concluded that the *Falls of Clyde* has ceased to meet the criteria for listing in the National Register because the qualities which caused it to be originally listed have been lost or destroyed. To be an NHL, the qualities and integrity required to be listed in the National Register must be present.

The documentation provided in the Appendices on the ship's structural condition is factual and objective. Rather than being injurious to an evaluation of alternatives, as you suggest, the information provides full disclosure to any potential respondents to a forthcoming Request for Proposal to remove the ship, who must evaluate the feasibility and cost of their proposed alternative.



Since the Draft EA was published in January 2023, the *Falls of Clyde* was removed from the National Register of Historic Places on February 2, 2024. The National Register delisting was recommended by the State Historic Preservation Officer after its removal from the State Register, and in full compliance with 36 CFR 60.15.

On May 14, 2024, the National Historic Landmarks Committee of the National Park System Advisory Board (NPSAB) voted unanimously to remove the *Falls of Clyde's* NHL designation. This recommendation will go to the full NPSAB at a future meeting. A decision by the NPSAB to remove the NHL designation would then be transmitted to the Secretary of the Department of the Interior for signature and final approval. It is anticipated that the procedural removal of the *Falls of Clyde's* NHL designation will be completed by the time the proposed action is implemented.

**Comment:** ...[regarding Cultural Assessment by Honua Consulting (p.318)]. I was honestly surprised by the complete erasure of any reference to the Matson Navigation era. Similar erasure of the entire Bishop Museum era, with its Maritime Center experiment.... "While there are some Native Hawaiians who have shown interest in the ship over time, namely kūpuna [elders] like Verlie Ann Malinda Wright, there is no evidence to show the ship was significant to Native Hawaiian history or association with Hawaiian traditional or customary practices." This single name reference reduces her distinguished and important community role to be just one "kupuna."

...Maritime activities are thoroughly entwined with every conceivable aspect of life in the Islands, from the earliest to present day, with both good and bad stories to share. But that is history. That is life, which continues today in the Harbor with Native Hawaiians working in many leadership and contributing positions.

**Response:** Your comment is noted. Dr. Wright was referenced, because of her role in the Hawaiian community. The Matson Navigation and the Bishop Museum eras were considered in the development of the CIA, and it was determined that no positive contributions to Native Hawaiian traditional or customary practices, as defined under applicable regulations, were identified. It is also unclear how the proposed action would adversely affect Native Hawaiian traditional or customary practices.

**Comment:** Most registered historic places have historic integrity and historic significance first recognized and then restored and interpreted, from relics in much worse condition than the FALLS OF CLYDE displays today or on 11/17/1963 when she arrived at Pier 14 (image on p.1-5)....The vessel clearly does not look today like she did before the hurricane. We should accept that appearance as fact, but that appearance is not a proper criterion for decisions.

**Response:** We agree that appearance alone is not proper criteria for decision on the *Falls of Clyde*. As stated above, RFP respondents must evaluate the feasibility and cost of any proposal. The ship's structural condition will have a significant impact on the feasibility and cost of each alternative. The HDOT has provided full disclosure; and it is the respondent's task to propose, fund and implement a safe removal from the harbor.

**2.**  
**(Project Alternatives Section) Discussion of Historic Artifacts**

**Comment:** ...is to plead for consideration and engaged support for the value that many whole components, artifacts, and even broken or cut pieces from the vessel would have to the world audience for such items.

There must be an organized and properly equipped effort to recover and 'save' these materials only if any of these first three Alternatives become the ultimate outcome from the RFP process. I should be able to help such an effort.

**Response:** HDOT shares your concern for retaining and preserving historic and cultural artifacts, should any of the alternatives involving deconstruction or disposal be selected. In 2023, HDOT inventoried remaining potentially significant artifacts and features. The list will be included in the Final EA.

On May 20, 2024, HDOT sent a letter to the Friends of Falls of Clyde (FFOC) requesting that if there are any belongings or artifacts that FFOC would like to retrieve from the vessel, to please arrange to have them removed by June 19, 2024. HDOT will arrange a date and time to provide access and also require signed waiver release forms from anyone who will board the vessel. HDOT will work with an agent or another non-profit organization who has been assigned to work on FFOC's behalf. Any artifacts remaining on the *Falls of Clyde* after June 19, 2024 will be considered abandoned by the FFOC and become property in the custody of the State of Hawai'i. The HDOT would then implement provisions in Hawai'i Revised Statutes (HRS), Chapter 94, and work with the Comptroller and State Archivist to determine the disposition of the artifacts. Should the RFP and subsequent contract award result in the removal of the vessel by dismantling, any artifacts that are removed and recovered during the dismantling work will also be subject to HRS Chapter 94.

**Conclusion**

In conclusion, it should be noted that the HDOT is calling for the removal, not the destruction of the *Falls of Clyde*, though the EA notes that loss is possible, if not probable. Alternatives to ship deconstruction and disposal will be considered, provided the proposers are able to meet the conditions of the RFP. This includes a third-party removal of the vessel intact to another destination.

Thank you for your participation in the environmental review process. Your letter and this response will be reproduced in the FEA. If you have any questions, please contact me at Falls-of-Clyde@hhf.com.

Very truly yours,



Scott Ezer  
Vice President

Cc: DreanaLee Kalili, HDOT Harbors

## Mahaulu, Daverney Gioia K

---

**From:** Ahakuelo, Didi  
**Sent:** Wednesday, December 27, 2023 12:00 PM  
**To:** Mahaulu, Daverney Gioia K; Iritani, Amy S  
**Cc:** Kalili, DreanaLee K; Yogi, Davis K  
**Subject:** Governor's Referral Due 1/10/24: (CS99637) Constituent David Berg Re: Falls of Clyde

**Importance:** High

Daverney,

Please log and route.

Action: Prepare response for DIR's signature  
Email to GOV by 1/10/24

Mahalo,

Didi Ahakuelo-Kepa

---

**From:** Office of the Governor <officeofthegovernor@hawaii.gov>  
**Sent:** Wednesday, December 27, 2023 9:16 AM  
**To:** Ahakuelo, Didi <didi.ahakuelo@hawaii.gov>  
**Subject:** From the Office of Governor Josh Green, M.D. [CS99637]



EXECUTIVE CHAMBERS  
KE KE'ENA O KE KIA'ĀINA

Josh Green, M.D.  
GOVERNOR  
KE KIA'ĀINA

Constituent Name: Davld Berg	Date of Contact: 12/24/2023
Executive Services Casework #99637	
Address: Calavo Drive Spring Valley, California 91978 United States	
Phone #: (619) 549-9867	Alternate Phone #:

Email Address: <a href="mailto:jester30@cox.net">jester30@cox.net</a>	
Submitted to: Didi Ahakuelo-Kepa- HARBORS	
Email Address: <a href="mailto:didi.ahakuelo@hawaii.gov">didi.ahakuelo@hawaii.gov</a>	
Date Submitted to Department: 12/27/2023	
Estimated Response Date to Executive Services: 1/10/2024	
Executive Services Notes:	
<p><u>Constituent Message:</u>  PLEASE do everything in your power to ensure that the sailing vessel FALLS OF CLYDE is removed and placed into the custody of the FRIENDS of Falls of Clyde organization. They intend to move her to Scotland (where she was built) and restore her to her former sailing glory. We have done the same with STAR OF INDIA here in San Diego. It is a project well worth doing, no matter what it takes to accomplish.</p> <p>She is the ONLY four-masted sailing ship in the world capable of possibly sailing again.</p> <p>DO NOT ALLOW THIS HISTORIC VESSEL TO BE DESTROYED. Maritime history is sitting on your doorstep. You have the authority to save her. Please summon the will and the courage to do so.</p> <p>Thank you.</p>	

**FOR DEPARTMENT USE**

<p>The attached casework is being submitted to your department for response.</p> <p>Please respond directly to the constituent by 1/10/2024 and bcc: <a href="mailto:mona.c.maehara@hawaii.gov">mona.c.maehara@hawaii.gov</a> on the department response.</p> <p>If this matter has already been responded to, please email a copy of the response to <a href="mailto:mona.c.maehara@hawaii.gov">mona.c.maehara@hawaii.gov</a>. If you determine a response is not needed please explain why.</p> <p>If you have any questions, please contact Mona Maehara at 8085860034.</p> <p>Thank you.</p>
--

EXECUTIVE CHAMBERS, STATE CAPITOL • HONOLULU, HAWAI'I 96813  
PHONE: (808) 586-0034 • FAX: (808) 586-0006 • GOVERNOR.HAWAII.GOV

JOSH GREEN, M.D.  
GOVERNOR  
KE KIA'ĀINA



**STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I**  
**DEPARTMENT OF TRANSPORTATION | KA 'OIHANA ALAKAU**  
869 PUNCHBOWL STREET  
HONOLULU, HAWAII 96813-5097

EDWIN H. SNIFFEN  
DIRECTOR  
KA LUNA HO'OKELE

Deputy Directors  
Nā Hope Luna Ho'okele  
DREANALEE K. KALILI  
TAMMY L. LEE  
ROBIN K. SHISHIDO

IN REPLY REFER TO:

GOV 99637  
DEP-H.0002569.24

January 24, 2024

**VIA EMAIL:** Jester30@cox.net

Dear Mr. Berg:

**Subject:** Inquiry Regarding Falls of Clyde

Thank you for your message to Governor Josh Green on December 24, 2023, regarding the Falls of Clyde (FOC) vessel. We will incorporate your message as part of the public comments section in the Final Environmental Assessment (EA) for the Removal of the FOC from Honolulu Harbor.

The Hawai'i Department of Transportation (HDOT) has taken necessary steps, including the preparation of the EA, to prepare to re-issue a Request for Proposal (RFP) for the removal of this vessel from the harbor. We expect to issue the RFP within a few weeks of the publication of the Final EA. Any offeror that can meet the requirements set forth in the solicitation is welcome to submit a proposal. The method of removal and the ship's ultimate disposition are yet to be determined and will be a decision made by the selected contractor.

The State of Hawai'i is dedicated to ensuring that Honolulu Harbor, as Hawai'i's primary port-of-entry of nearly 80 percent of all goods consumed in islands, continues to operate efficiently and resiliently. As detailed in the EA, the condition and location of the FOC are concerning in this context. In addition, HDOT does not have the resources for restoration and preservation and is not authorized by law to expend funds for these purposes. As such, we look forward to evaluating the forthcoming proposals that will facilitate a satisfactory resolution.

Sincerely,

EDWIN H. SNIFFEN  
Director of Transportation

# HHF PLANNERS

*places for people*

June 3, 2024

Sent electronically to: [jester30@cox.net](mailto:jester30@cox.net)

Mr. David Berg  
Calavo Drive  
Spring Valley, CA 91978



Dear Mr. Berg:

**HRS Chapter 343 Draft Environmental Assessment  
And Anticipated Finding of No Significant Impact (DEA-AFNSI)  
Removal of *Falls of Clyde* from Honolulu Harbor  
Honolulu, O'ahu, Hawai'i  
TMK (1) 2-1-001:058**

Thank you for your message to Governor Josh Green on December 24, 2023 regarding the above referenced project, and imploring the Governor to do everything to ensure that the *Falls of Clyde* be placed in the custody of the Friends of Falls of Clyde.

We understand that Mr. Ed Sniffen, Director of the Hawai'i Department of Transportation (HDOT) responded to your message via email dated January 24, 2024. The urgent need for removal of the ship from Honolulu Harbor is due to its deteriorated physical condition and imminent structural failure, which puts the *Falls of Clyde* at risk of sinking in place. HDOT does not have the resources for restoration and is not authorized by law to expend funds for this purpose.

### **Ship's Historic Status**

Since the Draft EA was published, the *Falls of Clyde* was removed from the National Register of Historic Places on February 2, 2024. The National Register delisting was recommended by the State Historic Preservation Officer after its removal from the State Register, and in full compliance with 36 CFR 60.15.

On May 14, 2024, the National Historic Landmarks Committee of the National Park System Advisory Board (NPSAB) voted unanimously to remove the *Falls of Clyde's* National Historic Landmark (NHL) designation. This recommendation will go to the full NPSAB at a future meeting. A decision by the NPSAB to remove the NHL designation would then be transmitted to the Secretary of the Department of the Interior for signature and final approval. It is anticipated that the procedural removal of the *Falls of Clyde's* NHL designation will be completed by the time the proposed action is implemented.

### **Historic Artifacts**

HDOT shares concerns about retaining and preserving historic and cultural artifacts, should any of the alternatives involving deconstruction or disposal be selected. In 2023, HDOT inventoried remaining potentially significant artifacts and features.

On May 20, 2024, HDOT sent a letter to the FFOC requesting that if there are any belongings or artifacts that FFOC would like to retrieve from the vessel, to arrange to have them removed by June 19, 2024. Any artifacts remaining on the *Falls of Clyde* after June 19, 2024 will be considered abandoned by the FFOC and become property in the custody of the State of Hawai'i. The HDOT would then implement provisions in Hawai'i Revised Statutes (HRS), Chapter 94, and work with the Comptroller and State Archivist to determine the disposition of the artifacts. Should the RFP and subsequent contract award result in the removal of the vessel by dismantling, any artifacts that are removed and recovered during the dismantling work will also be subject to HRS Chapter 94.

### **Conclusion**

As stated in Mr. Sniffen's January 24 reply, HDOT intends to re-issue a Request for Proposal (RFP), following completion of the Environmental Assessment process. Any offeror that can meet the requirements set forth in the solicitation is welcome to submit a proposal. The method of removal from the harbor has not yet been determined, and all proposals will be given fair consideration. To date, HDOT has been contacted by at least one third party group outside of Hawai'i that has expressed interest in acquiring the ship for preservation.

Thank you for your participation in the environmental review process. Your letter and this response will be reproduced in the FEA. If you have any questions, please contact me at Falls-of-Clyde@hhf.com.

Very truly yours,

A handwritten signature in black ink, appearing to read "Scott Ezer". The signature is fluid and cursive, with the first name "Scott" being more legible than the last name "Ezer".

Scott Ezer  
Vice President

Cc: DreanaLee Kalili, HDOT Harbors



# **APPENDIX A**

Falls of Clyde Hull Survey

March 20–30, 2023

Joseph Lombardi

Ocean Technical Services LLC

# FALLS OF CLYDE

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## HULL SURVEY

March 20 - 30 2023



**Joseph Lombardi**

Marine Surveyor & Consultant

**Ocean Technical Services, LLC**

1400 El Camino Village Drive, # 707

Houston, Texas 77058

[joe@oceantechserv.com](mailto:joe@oceantechserv.com), [www.oceantechserv.com](http://www.oceantechserv.com)

FALLS OF CLYDE

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JOSEPH W. LOMBARDI  
Marine Surveyor & Consultant  
**Ocean Technical Services, LLC**

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1400 El Camino Village Drive, # 707, Houston, Texas 77058 C 508.958.1299

PRIVILEGED & CONFIDENTIAL  
Vessel Inspection Report No. 2984

Surveyed at: Pier #7, Honolulu Harbor, Honolulu, Hawaii

Dates of Inspection March 20 - 30 2023

Report Preparation: March 31 - 7 April 2023

Vessel surveyed: 'FALLS OF CLYDE' Wrought Iron Four Masted Tanker Barque

Survey commissioned by: Mr. Scott Ezer  
HHF Planners  
733 Bishop St # 2590  
Honolulu, HI 96813

Purpose of survey: Vessel Hull Inspection

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FALLS OF CLYDE at Copenhagen, 1920.

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## FALLS OF CLYDE

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### PREAMBLE

The outline for this survey shall include the following:

The vessel was surveyed on the exterior from truck to the vessel's waterline with all weather-deck spaces (where visible or accessible) to be reported on within the body of this text. The underwater appendages were not inspected at time of survey.

The interior spaces were also inspected (where possible) and the report shall follow the same format as the topsides where each space will be reported on with embedded digital image(s) where appropriate. An attempt will be made to identify and differentiate original from modified structure where possible.

Deck and interior spaces follow the vessel's plans; segmented portions of those plans will be incorporated within this report as needed to aid the reader during the narrative. Frame locations will be given where appropriate. The undersigned shall attempt to outline the lay-out of the interior habitability spaces as appropriate within the body of this report.

Observations that are deemed of interest or are highly in need of immediate attention will be in **bold type**. Items needing repair/replacement are also noted in this style throughout the body of the report and should be considered 'Recommendations' for immediate action. Items listed in the Executive Summary and as items mentioned though-out the 'Hull Survey' report body are considered 'Recommendations'. This will obviate the need for a separate 'Recommendations' section.

*Recommendations/observations shall be made in bold type within each space.*

*Structural damage or a situation that could lead to serious injury requiring immediate attention, either to visitors or to ship's company, shall be denoted in bold, red type.*

Color photographs within the 'Hull Survey' section are attributed to the undersigned.

Other photographs and copies of drawings are attributed to the Bishop Museum of Honolulu, Hawaii.

## FALLS OF CLYDE

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### EXECUTIVE SUMMARY

The sailing vessel FALLS OF CLYDE is a signature vessel in the annals of the early merchant marine trading between the continental United States and the Hawaiian Territory; she signifies the end of a great experiment in the early conversion of ships to carry oil in bulk (as opposed to the early carriage of oil in barrels) by the Matson Lines at the turn of the 20<sup>th</sup> century.

FALLS OF CLYDE represents the sole surviving four masted, wrought iron sailing tank vessel from the windjammer days of sail. That she has survived at all attests to her quality construction, good fortune and luck.



**FALLS OF CLYDE, at the Railroad Pier, Honolulu, 1917.**

There is no question that this ship has historic significance which plays to an international and regional audience. She is the last intact four masted wrought iron barque that may be readily viewed and inspected by both the visiting public and maritime researchers. Her original design was of the standard iron square rigger rigged as a ship; her rig was later revised to a barque configuration with the removal of square yards from the jigger mast and fore and aft sails added. This class of ship were sold off and modified many times during their long careers. Her cargo carrying duties also changed from general bulk cargo and passengers to be re-configured with her cargo holds compartmentalized into five main tanks with a centerline bulkhead that allowed ten different tanks, five per side of the centerline with loading hatches on deck and the installation of a boiler room forward to power her cargo discharge pumps and associated cargo piping below decks.

## FALLS OF CLYDE

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### EXECUTIVE SUMMARY (cont.)

FALLS OF CLYDE's final mooring at Honolulu is a testimonial to the foresight of the regional and local community that fought for her to be saved and moored for future generations. She, and her many sister ships, were designed in a time when manpower was plentiful and an acceptable norm. Her annual costs for maintenance and manning requirements were a penalty that her many owners were willing to pay for her continued presence on ocean service.

Now that she had been saved and previously restored (to a rather high order) as a historic property, the real work of maintaining the ship on an annual basis was not carried out with periodic maintenance cycles with periodic drydocking deferred due to a variety of reasons. The scope of the material condition of the vessel in her present unsafe situation dictates the need for a complete re-assessment to find the best alternative for the disposal of the vessel.

The main problems for FALLS OF CLYDE, observed by the undersigned, are as follows in March 2023:

- 1.) The wooden decking on the raised foredeck is in poor material condition with rotted planking, rotted iron sub-floors and caulking that has failed allowing fresh water into the hull below.
- 2.) Portions of the main deck is rotted away with much scale, pitting and poorly executed weldments where doubler patches have been fitted. A clear danger to shipboard personnel.
- 3.) The plywood sheathing over the wooden decking on main deck has failed; the underlying deck is unsafe for personnel.
- 4.) The bow framing at the stem has come away from the associated wrought iron bow plating indicating an imminent failure of the structure. This is due to poor/non-existent maintenance of protective paint coatings over the long haul. The rivets have rotted away.
- 5.) The vessel's bits, bollards, chocks and mooring hardware are in need of structural support and in many cases are in danger of carrying away.
- 6.) The vessel's mooring lines are UV-damaged and anchor chain shows waste at the waterline. The vessel is not properly moored at present time.
- 7.) The vessel's shore power cable is between the ship and pier side structure and has been repeatedly compressed. A clear danger to shipboard personnel.
- 8.) The vessel's exterior shell plating is holed in many areas above the waterline that have not been repaired or plugged and will contribute to progressive flooding should the vessel take on water.
- 9.) The vessel's shell plating underwater has been holed in many areas, either through the previous sand-blasting progression or through the ravages of time. It is slowly leaking in many areas with failed rivets weeping water, pin holes through the degradation of the wrought iron hull due to galvanic corrosion, leaking rivet seams where shell plating is jogged (where plating overlaps). Patches and wooden plugs are failing where shell plating was previously holed and patched.
- 10.) Much of the interior's 2<sup>nd</sup> deck is badly scaled and in danger of carrying away in the flat above the pump room forward. A clear danger to shipboard personnel.
- 11.) Much of the interior's 2<sup>nd</sup> deck is badly scaled and in danger of carrying away in the boiler



## FALLS OF CLYDE

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### EXECUTIVE SUMMARY (cont.)

room flat above Tank #1. A clear danger to shipboard personnel in Tank #1.

- 12.) All of the transverse watertight bulkheads from the Pumproom to the aft watertight bulkhead at Tank #5 are holed, severely wasted and in danger of collapsing in the event of progressive flooding. Patches made to the bulkheads of fiberglass cloth and epoxy resin will not provide the strength needed to hold back water and have failed.
- 13.) The centerline longitudinal watertight bulkhead through Tanks # 1 – 5 is holed, severely wasted and in danger of collapsing in the event of progressive flooding. Patches made to the bulkheads of fiberglass cloth and epoxy resin will not provide the strength needed to hold back water and will fail.
- 14.) Much of the support framing in the hull, both transverse and longitudinal, is severely wasted.
- 15.) Much of the support stanchions and side braces and gussets are severely deteriorated; many have failed altogether.
- 16.) The rudder (severely rusted away in its own right) is held to the vessel by the crosshead at the rudder post and one set of pintles and gudgeons on the hull; it is in imminent danger of falling away from the vessel.
- 17.) The steering flat is slowly collapsing on the fantail due to the weight of the steering gear and degradation of the vessel's structure.
- 18.) The hull bottom is freely eroding without a cathodic system being properly installed. The bottom paint system has failed.

The decision that must be addressed is as follows:

- 1.) Shall the vessel be saved? This decision has been already made by the very poor material condition of the vessel.

Having given the Calvinistic main points of discussion above, in the opinion of the undersigned, FALLS OF CLYDE should be disposed of in the most expeditious manner possible.

## FALLS OF CLYDE

---

### VESSEL HISTORY

#### THE STORY OF THE FALLS OF CLYDE

It is December 12th in the year 1878 at the Russell & Company shipyard in Port Glasgow, Scotland, on the banks of the River Clyde. Work stops for a time as a graceful, just-finished four-masted square rigger slips down greased planks into the river. Precisely a century before, on 12 December 1778, Captain Cook's two expeditionary ships were slowly cruising the coastline of Hawaii, as Cook carefully, laboriously charted the Islands of "Owyhee" for posterity.



**FALLS OF CLYDE rigged as a ship, pre-1899.**

None of that, of course, was on the minds of the grimy Scottish shipwrights in Port Glasgow as they watched their new wrought-iron creation splash into the Bonnie Clyde. Yet the new ship would eventually become as integral a part of Hawaiian maritime history as Captain Cook himself.

The Falls of Clyde she was christened, after a waterfall of the river on whose banks she took shape. She was the first of nine ships-big, rangy sailing ships flying more than an acre of canvas-intended for the international trade, an industry then dominated by canny Glasgow shipowners. She sailed for Wright, Breakenridge & Co. and was known among sailors as a fast, easy handling ship. At a time when smoky, coal-burning steamers were inexorably taking over the world's shipping routes, the Falls of Clyde crisscrossed the oceans between the world's trading centers Rangoon, Capetown, Hamburg, Shanghai, Melbourne, Liverpool, Buenos Aires, New York, carrying whatever cargo she could rustle up, including lumber, whiskey, cotton, explosives, jute, cement and wheat.

She was called a "tramp," with all the vagabond implications of that word. Bob Krauss, a longtime Honolulu Advertiser columnist and one of a small band credited with saving the Falls in 1963, describes her as "a waterfront woman known in the toughest seaports in the world. She is on intimate terms with fights, drunkenness, cockroaches, hurricanes, prostitutes. "All her life she has consorted with rude sailors and stevedores, and has been married to no less than seventeen sea captains. Many men have fallen in love with her and many still do." In the two decades after her launching in 1878, the Falls made seventy voyages under the British flag.

Her second career began right around her twentieth birthday when she was sold to one Arthur M. Brown of Honolulu for \$25,000-not a bad return for a ship which originally cost her owners \$18,606. The deal was

## FALLS OF CLYDE

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### VESSEL HISTORY (cont.)

a bit convoluted, as Brown was acting as an agent for Captain William Matson in order to secure Hawaiian registry for the Falls.



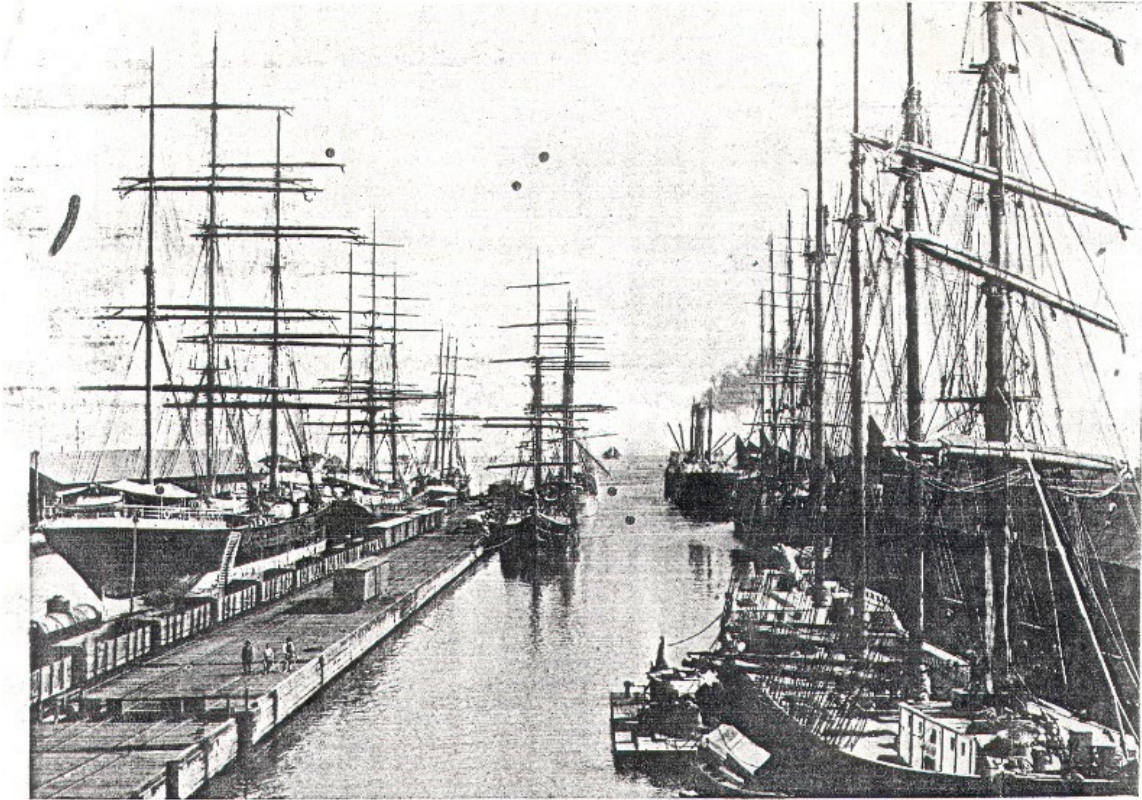
**FALLS OF CLYDE in San Francisco Bay, ca. 1914.**

Some six months prior, President McKinley had signed the order annexing the Islands, so Hawaiian registry was a backdoor to American registry. She arrived at Honolulu on 20 January 1899 flying the Hawaiian flag.

Honolulu Harbor and the city created nearby was the economic center of the Islands. It was the only accessible natural harbor, created when the swift, fresh waters of Nu'uuanu Stream poured into the ocean and prevented coral from growing. Unlike Hawaiian canoes, which could be easily dragged up on a beach, Western ships needed a sheltered anchorage with deep water. The early Hawaiians used the area for fishing and little else. They much preferred Waikiki, with its rich food supply and wide beaches to launch their canoes. But the Westerners needed a harbor and as the trading ships visited more often, the rude huts of a small village sprang up nearby. That village became a town, with ship chandleries and saloons to serve the ships and their occupants and a huge coral fort to imprison the rowdier ones. The town evolved into a city, all based on the nearby harbor. It was into this harbor that the Falls of Clyde sailed, the newest (and largest) member of the sugar fleet.

## FALLS OF CLYDE

### VESSEL HISTORY (cont.)



Corner of Honolulu's Waterfront Before Steam Made the Windjammer almost a Curiosity,—and Not so Many Years Ago.

Honolulu waterfront at the turn of the 20<sup>th</sup> Century.

FALLS OF CLYDE

VESSEL HISTORY (cont.)

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**FALLS OF CLYDE** under sail off coast of Oahu, ca. 1917.



## FALLS OF CLYDE

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### VESSEL HISTORY (cont.)

Captain Matson intended to employ her in the Hawaii sugar trade, specifically servicing the plantations of the Big Island, bringing needed goods and machinery from the West Coast to Hilo, and returning with burlap sacks full of raw sugar on its way to the California refineries and then to the markets of the US. While the British had sailed her with a crew of about 25, Matson realized he could pull the yards and square sails down off the jigger (fourth) mast and replace them with a fore-and-aft sail, thereby reducing the number of sailors he needed. Once he effected this change, the Falls usually sailed with about 12 crew, an enormous saving in operating costs, even in those days of paltry salaries. About \$15,000 was spent to modify her, add a deckhouse and charthouse, and rearrange the after-quarter for passengers. From 1899 to 1907, the Falls made over 60 voyages between these ports. Sailing time averaged 17 days.



**FALLS OF CLYDE, anchored at Monterey, ca. 1917.**

Never one to miss an economic opportunity, Captain Matson realized that Hawaii's coal-fired sugar mills would operate much more efficiently on oil. He invested in a hundred-mile pipeline from California's inland oilfields to the port of Gaviota, near Santa Barbara, and he converted several of his ships to sail powered oil tankers.

A maritime rarity when she was built, the Falls of Clyde became even more a rarity in 1907 when she was converted to a sailing oil tanker to begin her third career. Her sturdy wrought-iron hull was almost 3/4-inches thick, fastened together with thousands of hand-hammered 7/8 inch rivets. Her insides were gutted and ten large tanks were constructed along both sides and the bottom, giving her a capacity of 756,000 gallons of oil. Heavy-duty pumps and a second steam boiler to operate them were installed.

She was "sold" to the Associated Oil Company, in which Captain Matson had a large interest, and sailed between Gaviota and Honolulu Harbor, where she discharged oil into tanks at Oahu Railway & Land Company's Pier 16.

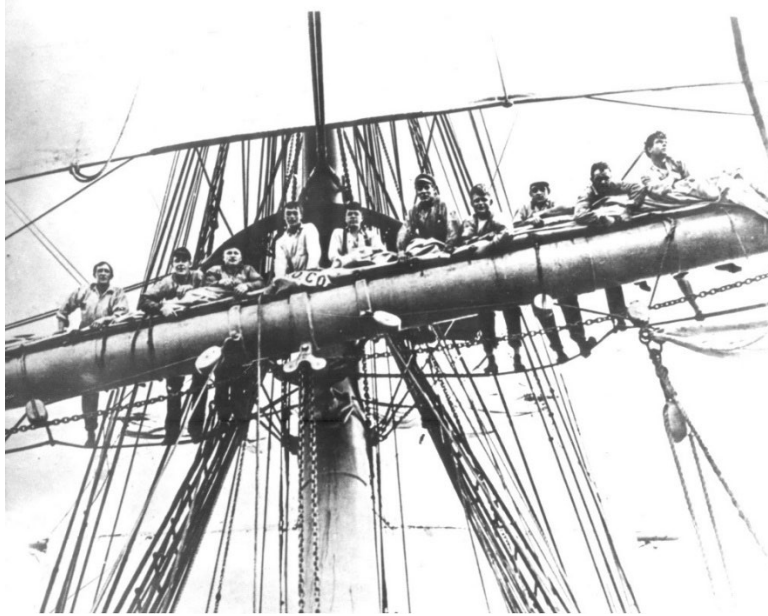
Molasses was often loaded aboard for the run back to California. She continued to carry a few passengers, as well as small amounts of cargo t'weendecks.

## FALLS OF CLYDE

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### VESSEL HISTORY (cont.)

By 1920, her 42nd year, she was an anachronism and, seemingly, not long for the world. She was sold and made two charter trips carrying oil from Texas to Denmark, one voyage to Buenos Aires and another to Panama.



**Crewmen furling sail, FALLS OF CLYDE, ca. 1917.**

The Falls of Clyde sailed to San Pedro, California, where all her rigging, save for her lower masts, was removed. She was towed to Ketchikan, Alaska, where she served as a floating fuel depot for the offshore fishing fleet. By 1958, her 80th year, she was no longer needed and again faced an uncertain future.



**FALLS OF CLYDE as storage hulk, Ketchikan, Alaska, 1950.**



## FALLS OF CLYDE

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### VESSEL HISTORY (cont.)

A private owner purchased her and towed her to Seattle intent upon turning her into a museum ship, not an inexpensive or easy task. For the next five years, she was offered to city after city-Seattle, San Pedro, Long Beach, Philadelphia and Honolulu-and all were unsuccessful in buying the vessel as a museum. As a bankruptcy court prepared to sell her to a Canadian logging company to be sunk as a breakwater at Vancouver, a few local citizens took action. The morning paper led a campaign to "Save the Falls of Clyde," and the people of Hawaii responded by raising over \$35,000-most of it quite literally nickels and dimes and dollar bills-in the weeks before she was to be sunk. The old hulk was saved!



**FALLS OF CLYDE under tow to Honolulu by U.S.S. MOCTOBI in 1963.**

A Navy tug towed the dismantled, dilapidated Falls from Seattle on her final Pacific crossing, home to Honolulu. In time she would be restored, using the combined skills of shipwrights, riggers, iron workers, welders and, always, volunteers. A gift of four new iron masts arrived from Scotland, built at the same shipyard, by the grandsons and great-grandsons of the men who built the ship originally. Yards and rigging were fashioned locally.



**FALLS OF CLYDE entering Honolulu Harbor, ca 1963.**

## FALLS OF CLYDE

### VESSEL HISTORY (cont.)

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**Arrival of FALLS OF CLYDE AT Pier # 14, Honolulu, November 17, 1963.**

‘Vessel History’ attributed to the late MacKinnon Simpson, a maritime historian at the Hawai‘i Maritime Center.

## FALLS OF CLYDE

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### VESSEL DATA

Length (overall):	280' 00"
Beam:	40' 00"
Draft:	21' 00" (loaded)
Molded depth:	25' 01"
Draft forward:	15' 05"
Draft aft:	15' 10"
Displacement:	1,809 tons (light displacement)
Depth from upper part of keel to top of upper deck:	25' 00"
Girth of Half Midship Frame:	40' 03"
Hull Plating:	11/16"
Length of Plating:	6 frames
Floors:	26" x 10/16"
Main longitudinals:	6" x 4" x 9/16"
Gunnel angle stock:	4" x 4" x 9/16"
Frame spacing:	24"
Transverse frames:	6" x 3 1/2" x 1/2" Rev. 3 1/2" x 3 1/2" x 1/2"
Deck transverse frames:	Double angles 3 1/2" x 3" x 1/2"
Transverse deck beams:	9 1/2" Bulb plating with 10" camber
Outside plating doubled two frame width in length	
Rivets 7/8" about 7" on center	
Transverse frames extend from keel to gunwale	
Keel plate:	10" x 2 3/4" flat bar
Maindeck plating:	11/16"
Reverse angle irons are fitted to floors and frames and extend from middle line to maindeck on every frame.	
Keelson plates and angle irons are connected with butt joints properly shifted.	
Garboard plating are double riveted to keel with 1 1/2" rivets on 5 1/2" centers.	

## FALLS OF CLYDE

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### VESSEL DATA (cont.)

Garboard edges to upper part of bilge are worked clencher fashion and are double riveted with 7/8" rivets on 3 1/2" centers.

Butts from keel to turn of bilges are worked carvel, double riveted with 7/8" rivets on 3 1/2" centers.

Butts of strakes at the bilges for the half length of the vessel are treble riveted with butt straps 1/16" thicker than the plates they connect.

Edges from bilge to main sheerstrake are worked clenched fashion and double riveted with 7/8" rivets on 3 3/4" centers.

Edges and butts of main sheerstrake are treble riveted for the vessel's half length amidships.

Butts of upper or spar sheerstrake and spar stringer plates are treble riveted

Breadth of laps in plating in double riveting is 5 1/4".

Decks secured to hull sides with beam ends turned down with six (6) breasthooks and six (6) crutches.

Fore main & mizzen masts were 85' long x 30" diameter; jigger sized 76' x 27" diameter, bowsprit sized 22' long x 28" diameter.

The spars are constructed of three plates single riveted, butts doubled and treble riveted with butt straps fitted outside 1/16" thicker than the plates they join and three (3) angle irons 4" x 3 1/2" x 7/16" except in jigger and bowsprit which are sized 4" x 3" x 7/16" with plates double riveted.

The yards for the fore, main and mizzen lower yards are sized 76' x 19" diameter.

The yards for the fore, main and mizzen lower topsail yards are sized 65' x 16" diameter

The yards for the fore, main and mizzen upper yards are sized 62' x 15" diameter.

The jigger mast lower yards are sized 63' x 15" diameter.

The jigger mast lower topsail yards are sized 55' x 13" diameter.

The jigger mast upper yards are sized 51' x 12" diameter.

The yards are constructed with two plates edged single riveted butt lap and treble riveted plates doubled in way of slings with angle iron throughout.

**All mast sections and most of the spars are stowed on maindeck.**

# FALLS OF CLYDE

## VESSEL DATA (cont.)

RIGGING TABLE				
ITEM	FORE MAIN & MIZEN MASTS		JIGGER MAST	
	NUMBER	SIZE OF WIRE	NUMBER	SIZE OF WIRE
LOWER SHROUDS	6	4 3/4"	5	4"
CAP-STAY	1	4 3/4"	1	4"
TOPMAST SHROUDS	3	4 1/4"	3	3 1/2"
TOPMAST BACKSTAYS	3	4 3/4"	3	4"
TG BACKSTAYS	2	3 1/2"	2	2 3/4"
TG SHROUDS	2	3 1/2"	2	2 3/4"
ROYAL BACKSTAYS	1	2 3/4"	1	2 1/2"
LOWER FEA STAY	DOUBLE	4 3/4"	DOUBLE	4"
TOPMAST " "	DOUBLE	4 3/4"	DOUBLE	4"
TOPGALLANT " "	1	3 1/2"	1	2 3/4"
ROYAL " "	1	2 3/4"	1	2 1/2"
JIB-STAY	1	4 3/4"		
OUTER JIB-STAY	1	4 3/4"		
BOB STAY	BAR 3 3/4"			
BOWSPRIT SHROUDS	TWO PER SIDE 1" CHAIN			
MARTINGALE BACKSTAYS	TWO PER SIDE 7/8" CHAIN			
INNER JIBBOOM GUYS	1 PER SIDE 2 1/2" WIRE			
OUTER JIBBOOM GUYS	1 PER SIDE 2 1/4" WIRE			

MAST & SPAR TABLE							
LOWER MASTS							
MAST	OVER ALL LENGTH	DIAMETERS		HEAD			
FORE, MAIN & MIZEN	85'-0"	30"	23"	25"	20"		
JIGGER	76'-0"	27"	21"	22 1/2"	18"		
TOPMASTS							
MAST	OVER ALL LENGTH	DIAMETERS			HEAD		
FORE, MAIN & MIZEN	50'-0"	18"	16"	13 1/2"			
JIGGER	41'-0"	15"	13 1/2"	11 1/2"			
TOPGALLANT & ROYAL MASTS							
MAST	LENGTH TO ROYAL HOUNDS	LENGTH OF POLE	DIAMETERS				
FORE, MAIN & MIZEN	42'-6"	4'-0"	13"	10"	8"		
JIGGER	34'-0"	3'-6"	11"	8 1/2"	6 5/8"		
YARDS, FORE, MAIN & MIZEN							
YARD	LENGTH OVER CLEATS	LENGTH OF ARMS	DIAMETERS				AT CLEAT
LOWER	76'-0"	2'-6"	19"	18 1/2"	17 1/2"	14 1/2"	9 1/2"
LOWER TOPSL	68'-6"	2'-0"	17"	16 1/2"	15 1/4"	12 3/4"	8 1/2"
UPPER TOPSL	62'-0"	2'-0"	15"	14 5/8"	13 1/2"	11 1/2"	7 1/2"
TOPGALLANT	48'-0"	1'-6"	12"	11 3/4"	10 3/4"	9"	6"
ROYAL	38'-0"	1'-0"	10"	9 3/4"	9"	7 1/2"	5"
YARDS, JIGGER MAST							
LOWER	63'-0"	1'-9"	15"	14 5/8"	13 1/2"	11 1/4"	7 1/2"
LOWER TOPSL	55'-0"	1'-9"	13"	12 5/8"	11 3/4"	9 3/4"	6 1/2"
UPPER TOPSL	51'-0"	1'-6"	12"	11 3/4"	10 3/4"	9"	6"
TOPGALLANT	39'-6"	1'-0"	10"	9 3/4"	9"	7 1/2"	5"
ROYAL	29'-6"	9"	8"	7 7/8"	7 1/4"	6"	4"
BOWSPRIT							
LENGTH OUTBOARD	DIAMETERS						
22'-0"	AT BEG	AT HEEL	AT CAP				
	24"	20"	16 1/2"				
JIBBOOM							
OVERALL LENGTH INCLUDING HEEL CHECK & HEAD	DIAMETERS						
59'-6"	HEEL TO BOWSPRIT CAP	QUARTERS			END		
	16"	15 5/8"	14 1/16"	13 3/8"	10 1/16"		
SPANKER BOOM							
LENGTH 42'-6"	DIA CENTRE 13 1/2"		DIA ENDS 9"				
DRAWING NO 1190							

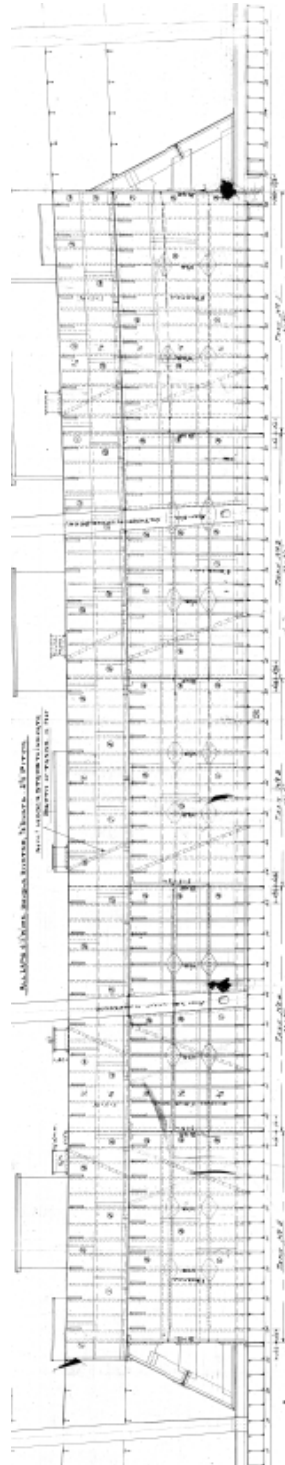
FALLS OF CLYDE Spar & Rigging Table.<sup>1</sup>

<sup>1</sup> Drawing # 1190, Harold Underhill, A.M.I.E.S, Baltonsborough, Somerset, England.



# FALLS OF CLYDE

## VESSEL DATA (cont.)



Side profile of interior of FALLS OF CLYDE as modified for oil carrying role.<sup>3</sup>

<sup>3</sup> Modifications to FALLS OF CLYDE, Tankage Profile & Plan, United Engineering Works, San Francisco, CA



# FALLS OF CLYDE

## VESSEL DATA (cont.)

Tables to follow outline the mid-section tankage of the ship when converted to oil carrying vessel at United Engineering Works of San Francisco:

PLATES ORDERED FOR TRUNK SIDES.

N <sup>o</sup>	LOWER STRAKE	N <sup>o</sup>	UPPER STRAKE
1	3/8" x 48' x 144' - 2 PLY	1	3/16" x 54' x 66' - 1 PLY
2	" " " x 120' " " "	2	" " " x 144' - 2 "
3	" " " x 120' " " "	3	" " " " " - 2 "
4	" " " x 120' " " "	4	" " " x 175' - 2 "
5	" " " x 144' " " "	5	" " " " " - 2 "
6	" " " " " " " " "	6	" " " x 144' - 2 "
7	" " " " " " " " "	7	" " " " " " - 2 "
8	" " " x 120' " " "	8	" " " " " " - 2 "
9	" " " " " " " " "	9	" " " " " " - 2 "
10	" " " " " " " " "	10	" " " x 175' - 2 "
11	" " " " " " " " "	11	" " " x 144' - 2 "
12	" " " " " " " " "	12	" " " " " " - 2 "
13	" " " x 144' " " "	13	" " " " " " - 2 "
14	" " " " " " " " "	14	" " " x 90' - 1 "
15	" " " " " " " " "	15	

PLATES ORDERED FOR TWEEN DECK.

N <sup>o</sup>	A STRAKE	N <sup>o</sup>	B STRAKE	N <sup>o</sup>	C STRAKE	
1	3/8" x 48' x 120'	1	1/2" x 64 1/2' x 213'	1	3/8" x 48' x 120'	
2	" " " x 194'	1	" " " " " 2'	2	" " " " " 2'	
3	" " " " " " " " "	1	" " " " " 2'	3	" " " " " 2'	
4	" " " " " " " " "	1	" " " " " 2'	4	" " " " " 2'	
5	" " " " " " " " "	1	" " " x 175'	2	" " " " " 2'	
6	" " " " " " " " "	1	" " " " " 2'	6	" " " x 144'	
7	" " " x 144'	1	" " " " " 2'	7	" " " x 120'	
8	" " " x 194'	1	" " " " " 2'	8	" " " " " 2'	
9	" " " " " " " " "	1	" " " " " 2'	9	" " " x 144'	
10	" " " x 144'	1	" " " " " 2'	10	" " " " " 2'	
11	" " " " " " " " "	1	" " " x 194'	1	" " " x 120'	
12			12		12	" " " " " 2'
13			13		13	" " " x 144'
14			14		14	" " " " " 2'
15			15		15	" " " x 175'

PLATES ORDERED FOR CENTER LINE BULKHEAD.

N <sup>o</sup>	TANK 1	N <sup>o</sup>	TANK 2	N <sup>o</sup>	TANK 3	N <sup>o</sup>	TANK 4	N <sup>o</sup>	TANK 5
1	3/8" x 64 1/2' x 194'	1	3/8" x 64 1/2' x 194'	1	3/8" x 64 1/2' x 194'	1	3/8" x 64 1/2' x 194'	1	3/8" x 64 1/2' x 194'
2	" " " " " "	2	" " " " " "	2	" " " " " "	2	3/8" " " " "	2	" " " " " "
3	1/2" x 96 7/8' x 194'	3	" " " " " "	3	" " " " " "	3	" " " " " "	3	" " " " " "
4	1/2" x 96 7/8' x 194'	4	" " " " " "	4	" " " " " "	4	" " " " " "	4	" " " " " "
5	1/2" x 84' x 84'	5	" " " " " "	5	" " " " " "	5	" " " " " "	5	" " " " " "
6	1/2" x 64 1/2' x 194'	6	" " " " " "	6	" " " " " "	6	" " " " " "	6	" " " " " "
7	" " " " " "	7	" " " " " "	7	" " " " " "	7	" " " " " "	7	" " " " " "
8	" " " " " "	8	" " " " " "	8	" " " " " "	8	" " " " " "	8	" " " " " "
9	" " " " " "	9	" " " " " "	9	" " " " " "	9	" " " " " "	9	" " " " " "

TRANSVERSE B.H.'S CONTINUOUS. LONG B.H.'S INTERCOSTAL  
 VERT. STIFFENERS 8" BULB ANGLES.  
 HORIZ. " " 2" WEB PLATES WITH 3/8" x 7/8" B.  
 MARGIN ANGLES 5" x 5".

ALL LAPS 4" WIDE, DOUBLE RIVETED, 3/4" RIVETS - 2 1/2" PITCH.

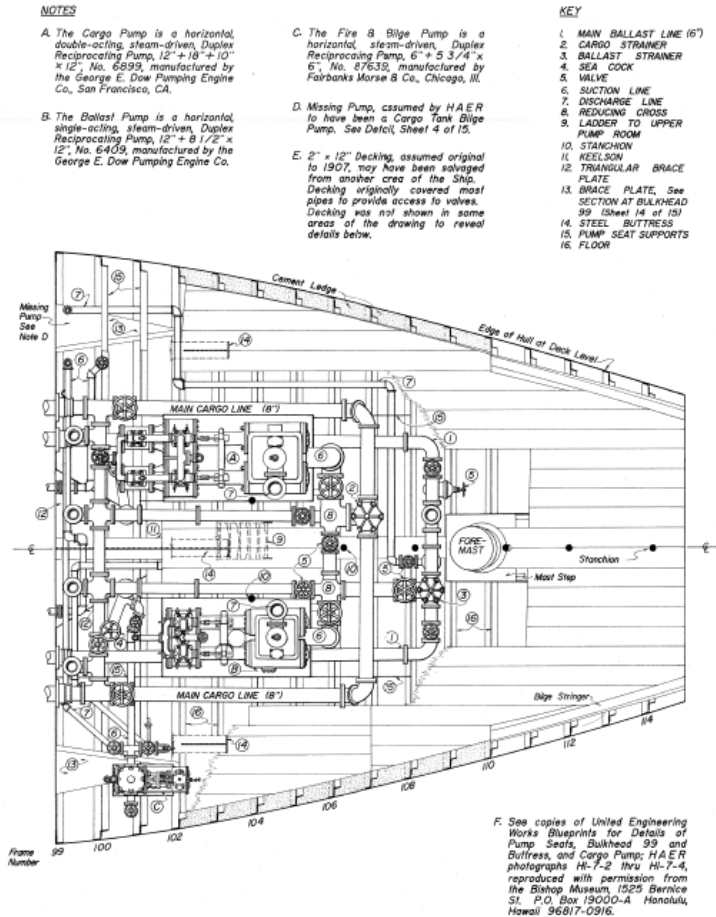
<sup>4</sup> Modifications to FALLS OF CLYDE, Tankage Profile & Plan, United Engineering Works, San Francisco, CA

# FALLS OF CLYDE

## VESSEL DATA (cont.)

The vessel was modified into a product tanker in 1907 and involved the wholesale redesign of the cargo carrying scheme. The bulk cargo tanks were modified into five (5) oil cargo tanks separated by a riveted, oil-tight, centerline longitudinal bulkhead and transverse, oil tight bulkheads, effectively segregating the cargo carrying capacity into ten (10) tanks.

The pump room was fitted just forward of the cargo tanks and an extra boiler was fitted on the t'ween decks. The cargo tanks had a pair of segregated systems of piping for each side of the ship. Oil cargo was discharged by opening main valves for each tank starting at the bow and working their way progressively aft as the tanks emptied; this allowed the bow to rise with product settling into the rear sumps of each cargo tank where stripping valves would be turned allowing the final pump-out of that tank. The product went to the pump room through the vessel's two steam-actuated pumps through the discharge piping on main deck to the pair of discharge hoses and manifolds at the base of the foremast. The discharge hoses could be shifted to the shoreside manifold depending upon which side the vessel was tied to the pier.



## LOWER PUMP ROOM PLAN

Loading was primarily done through the inverse piping system into the tanks. <sup>5</sup>

<sup>5</sup> 'FALLS OF CLYDE' Recording Project, HAER, National Park Service, Dept. of the Interior, 1989.



## FALLS OF CLYDE

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### VESSEL DATA (cont.)

The vessel is constructed of wrought iron and some education is needed to allow the reader to understand the processes required to build this 19<sup>th</sup> century ship.

Wrought Iron and Conservation - Chris Topp

Mild steel and modern arc welding techniques have largely supplanted traditional wrought ironwork. Chris Topp, a blacksmith in the ancient tradition, looks at the historical development of the material and the need for its continued use in conservation work today.

The 12th century iron bound door of Stillingfleet Church and its replacement made by Chris Topp and Co. of London were perfect examples of very early iron work. Before the Romans came, Britons were noted for their iron jewelry; an expensive metal in literal terms, for the time and labor expended to make even a small cinder of iron. Early wrought iron was made in the fire from ore and charcoal. The heat was sufficient for the charcoal to reduce the iron oxide to iron, but not to melt it.

As a result the silicate slags were included, not refined away as we might do now, but entrained in the fibrous structure of the material. For this reason, the old irons have lasted for hundreds of years. Iron may corrode, but not its coating of silicate slags.

However little survives because wrought iron may be repeatedly recycled and benefits from reworking. Scrap could be bundled, heated until it glowed white hot, and forged again by hammering into a solid mass to produce an iron of a higher quality.

The earliest surviving architectural ironwork in Great Britain is probably Norman, such as the portcullis, "ex solido ferro" at Raby Castle and barred treasury windows as at Canterbury Cathedral. Doors too were often strongly bound with iron, frequently of a decorative nature, such as the famous example of Stillingfleet Church. Dating from c 1145, it has only recently been renewed. The original is conserved within the security of the church.

From the exquisite precision of the locksmith and the armourer, to the prosaic work of the mender of ploughs and the shoer of horses, the art of the blacksmith developed. Little of this early architectural ironwork is typical. The catch of a door or the bar of a window for example, were more or less ornamented according to the whim of the smith and as today, the available budget. Familiar types emerged, such as the Suffolk latch, and various forms of hinges. Frequently inventive, often crude, but always fashioned in accordance with the nature of the iron.

With the introduction of blast furnaces in the 15th century the availability of wrought iron increased. Craftsmanship reached new heights in the period of Great English Ironwork which started in 1690 or thereabouts with the arrival of a Belgian, Jean Tijou. Some of the finest examples of the period include his own work, such as the screens at Hampton Court, and the work of his disciples such as Thomas Bakewell's garden arbor now known as the 'Birdcage' at Melbourne Hall (1707 - 1711), William Edney's St. Mary Redcliffe gates (c1710), and the Davies Brothers' gates at Chirk Castle (1715 - 1721).

The change was toward a freer use of beaten sheet metal ornamentation applied to the bars to form baroque leaf-work, swags, masks and all manner of delights. The techniques were no doubt derived from armory. The material was superb, not only for its ability to accommodate deep, cold, repoussé work, but also for its persistence, for much of what we can see today has weathered nearly 300 years.

## FALLS OF CLYDE

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### VESSEL DATA (cont.)

To accurately recreate items from the past, we must, even today use materials and methods similar to those used then. Draughtsmanship is a thing of the modern age, so too are obsessions with dimensions, symmetry and squareness. The delicate lace work of the Golden Gates at Chatsworth is no worse for the absence of a straight line or a square corner. Built without drawings, held together with thousands of tiny rectangular rivets, all different sizes, filed, no doubt, by a team of complaining apprentices. Not easy to restore, but made infinitely more difficult by the attentions of an arc welder of our own time, in the interest of a former standard of 'restoration'.

The iron of this period is now referred to as charcoal iron, a highly carburised form of iron which was made by constant reworking in the fire. It was even hardenable, unlike the puddled irons of the 19th century, and there is no substitute for it. Only very recently has this iron been made again for the conservation industry. It is available in sheet form.

English Ironwork took its course through the 18th century, from Baroque to Rococo, and into a more austere era of mechanization.

#### Cast Iron and the Victorian Age

Cast iron has been known to the Chinese since before Christ, and was in general use in Britain in the 16th century, mainly for items like ordnance, firebacks and cooking pots. It was not until the 18th century that any large scale use in architecture became apparent.

The Adam brothers experimented with cast iron. At first it was used as an ornament to wrought ironwork. It was not however until after the foundation of the Carron Ironworks in 1759 that the headlong rush into all things of cast iron began, so familiar to us from the 19th century.

Industrialization enforced new requirements for design, strength and accuracy. The carefree blacksmith became a technician. Ornamental work too became accurate, made to drawings, and characterized by squareness and symmetry. New industrial methods brought mass produced puddled wrought iron, rolled bars of consistent section, and new sections such as angles and tees, as demanded for the construction of the new iron ships.

19th century ironwork was, however, by no means devoid of fun, as can be seen from the railings of the London Law Courts, the Albert Memorial, Holyrood House, and railway ironwork such as Great Malvern station, as well as from the later glories of art nouveau and arts and crafts ironwork.

Wrought iron, with its high tensile strength came again to the fore in the Railway Age. Shipbuilding practices of fabricating structures by riveting together rolled wrought iron sections, came into use in building, particularly in bridge building for the railways. Riveted plate girders and latticework could span greater distances and carry heavier loads than cast iron structures as tragically illustrated by the collapse of the first Tay bridge in 1878. The wrought iron plate girder became the basic device of building. Assembled into a dynamic framework until, in America, buildings which seemed to scrape the sky became possible.

#### The Emergence of Steel

With its higher carbon content and greater hardness, the value of steel had been recognized since the earliest days of iron making. But it was slow to produce and expensive. In 1856, in an attempt to mass-produce wrought iron and by-pass the established hand puddling process, Henry Bessemer stumbled upon mild steel, an even stronger, more consistent material. The Bessemer process enabled large batch production, and by 1876 mild steel was cheaper than wrought iron, gradually replacing it for structural purposes. However the material was rather more prone to corrosion, and in cases where durability and resistance to weathering were paramount, wrought iron held its own for nearly another century.

## FALLS OF CLYDE

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### VESSEL DATA (cont.)

The general fall in standards since the War, and the inexorable process whereby everything must be the cheapest, not only did away with the production of wrought iron, but we very nearly lost the art and skills so important to the working of the material.

#### Conservation Work

Over the years technological improvements have made the manufacture and working of ironwork much easier. However for the conservation and replication of old ironwork we should bear in mind that only techniques similar to those extant when the particular piece was originally created will produce a thoroughly accurate replica. If a skill is not exercised it will be forgotten, and with it the ability to create in the manner of the past. The conservation of skills is perhaps just as important as the conservation of the artifacts.

Should the use of modern mild steel in the conservation of wrought iron work be permitted there will also be a tendency to compromise on technique. Mild steel does not for example, lend itself so readily to welding in the fire. Furthermore there is a tendency to use modern, mass-produced sections, which are unlikely to match the imperial dimensions used in the past.

Prior to the 19th century, sections of wrought iron were forged to shape, which gave them a more varied form and surface texture. By comparison restorations in mild steel will appear relatively lifeless and the result will be inconsistent with the texture of the original. Finally, wrought iron is a material with a proven record of longevity which will prolong the intervals between successive restorations. It is true that its cost is higher but in many cases the cost of the material is small in comparison with the cost of skilled labor, all of which will be lost as the mild steel rusts away.

Wrought iron is currently available for restoration work, primarily through the recycling of old material. Although sources of early charcoal iron are limited, there are vast quantities of 19th century material available from redundant and demolished structures such as bridges, which can be re-forged. An increase in demand for wrought iron for conservation work could also make the production of charcoal iron viable.<sup>7</sup>

#### Riveting

The below data is included to help the reader understand the construction processes originally utilized to build the 'FALLS OF CLYDE'.

Riveters and machines insert fasteners through aligned holes in parts to be joined, then press or hammer them from the insertion side to provide the second retaining head. Riveters and machines are available in a wide variety of configurations, from manually operated hand riveters and handheld guns to multihead automated tools that are electrically, pneumatically (pop riveters and air riveters), or hydraulically actuated.

There are three main types of and machines: compression, impact, and non-impact (also called orbital riveting). In compression, the head of the rivet is formed as a result of pulling or squeezing the rivet shank. In impact, an impacting to the top of the shank forms the head of the rivet, often achieved through the use of hammers. In non-impact, a rolling or spinning action to the end of top of the shank forms the head of the rivet.

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<sup>7</sup> The Building Conservation Directory, 1994 Author CHRIS TOPP - Chris Topp & Co., Blacksmiths

## FALLS OF CLYDE

### VESSEL DATA (cont.)

Impact riveting was widely used on FALLS OF CLYDE

The three main types of rivets are solid rivets, full tubular rivets, and semi-tubular rivets. These main types are then broken down into several configurations.

Solid rivets have completely solid shafts with no internal cavities. Bending, hammering, or twisting the protruding end to create a strong connection secures solid rivets. They are more difficult to attach than other rivet types and required powered machinery to insert.

FALLS OF CLYDE utilized the solid shaft, pan head rivet.

Tubular rivets have a coaxial cylindrical hole in the headless end that exceeds 112% of the rivet shank diameter. They are designed for securing by splaying the end. Tubular rivets are used most commonly in self-piercing applications, where a pre-drilled hole is not required. Tubular rivets are used in a wide variety of manufacturing areas, including industrial, aerospace and automotive.

Drive rivets have a pin that protrudes through the head of the rivet. They are usually installed by riveters and machines with a hammer or pneumatic tool to drive the pin into the shank of the rivet. Drive rivets installed by riveters and machines can be used for retaining thin or thick walled panels together.

Weight in Pounds per Square Foot,  $w$ , of Steel Plating to the  
Corresponding Thickness in Inches,  $t$ , and Vice Versa  
Weight of 1-in. Plating = 40.84 Pounds per Square foot

$w$	$t$	$w$	$t$	$w$	$t$	$t$	$w$
1	.0245	18	.4408	47½	1.1633		
2	.0490	19	.4653	49	1.200		
3	.0735	20	.4898	50	1.2245	⅜	1.276
4	.0980	21	.5143	52½	1.2857	⅜	2.55
5	.1225	22	.5388	55	1.3469	⅜	3.83
6	.1469	22½	.5510	57½	1.4082	½	5.10
7	.1714	23	.5633	60	1.4694	⅜	7.66
7½	.1837	24	.5878			¼	10.21
8	.1959	25	.6122			⅝	12.76
8½	.2082	26	.6367			⅝	15.31
9	.2204	27	.6612			⅞	17.87
10	.2449	28	.6857			⅞	20.42
11	.2694	29	.7102			1	25.52
12	.2939	30	.7347			¾	30.63
12½	.3061	32½	.7959			¾	35.73
13	.3184	35	.8571			1	40.84
14	.3429	37½	.9184			1 ⅛	45.94
15	.3673	39	.9551			1 ¼	51.04
16	.3918	40	.9796			1 ⅜	56.15
17	.4163	42½	1.0408			1 ½	61.25
17½	.4286	45	1.1020				

The strength and water-tightness of the hull depends largely on the nature and quality of the connection between the individual parts of which the structure is built up. Connections are affected in two ways, by riveting and by welding. Riveting was the method most generally used.

As a general rule rivets should be of essentially the same material as the parts they connect, but the ductility should be somewhat greater. In merchant vessels iron rivets were extensively used in connection with steel plating, the chief reason being that iron rivets require a higher grade workmanship, which is not always available. Iron rivets are as likely to suffer from overheating; they are easier to drive and are less subject to corrosion. The sheering strength of iron rivets of good quality is more uniform and reliable than that of steel rivets, especially those of the higher grades, but, when used in steel plating the strength of iron rivets falls off.



# FALLS OF CLYDE

## VESSEL DATA (cont.)

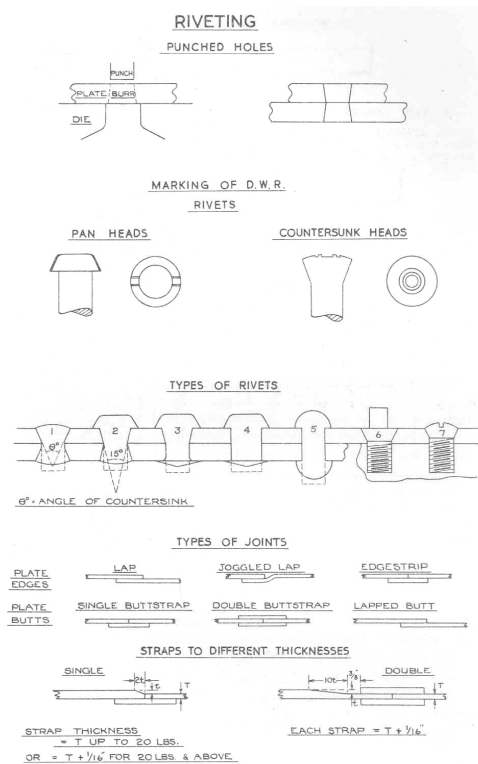
Rivets consist generally of the smoothed cylindrical shank, provided with a projection that is called the head while the other end, after being hammered out by the riveter, forms the point. Often the shank in pan and butthead rivets is given a slight taper under the head so as to fill the countersink of the plate form by punching. This practice was early on abandoned by the U.S. Navy.

The length of the rivets should be sufficient to ensure a proper point a rivet and should be rather too long rather than too short. The allowances for length, over and above the sum of the thicknesses connected, is determined by experience and are usually given in the table.

The pan head rivet was initially used in both commercial and naval applications, and possessed great strength and clamping power, and was well adapted for holding on, and was easily tested, but over time the button head type rivet became the standard. FALLS OF CLYDE is extensively constructed with the pan head rivets.

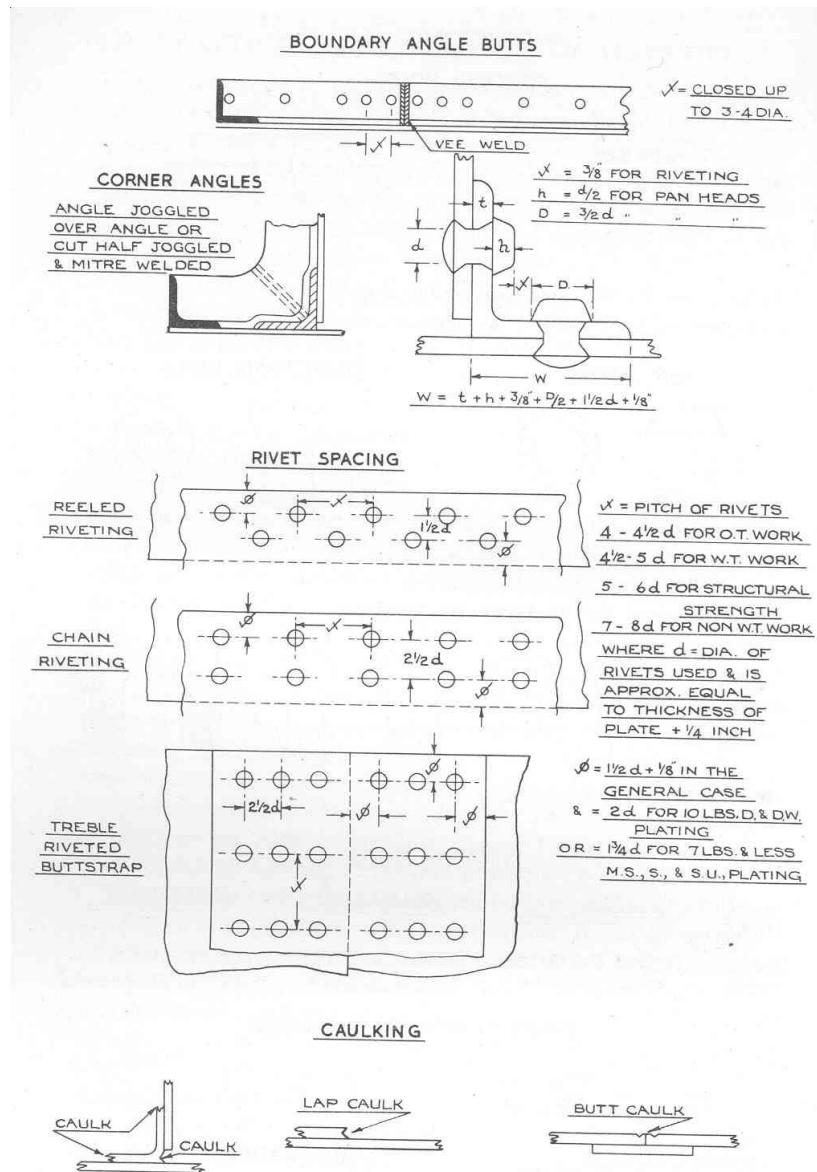
In the days of hand riveting, a hammered point was the most generally used for internal work or where water tightness was not required but where strength was of importance; it is strong and easy to make and requires no chipping, except where countersunk points were required. Button points are formed with the pneumatic or hydraulic camera provided with a button set, which, as explained above, is used also for holding on, giving identical heads and points. The centering is generally satisfactory. The button has great strength and clamping power, provided it is accurately centered; it has a more finished appearance than a hammered point.

The Liverpool point is not quite as full as the hammered point and is countersunk to a depth equal to one half the thickness of the plate and has a somewhat greater clamping power as the hammered point is well adapted to light work and is moderately used aboard FALLS OF CLYDE.



# FALLS OF CLYDE

## VESSEL DATA (cont.)



In medium steel plating of less than 1 inch in thickness, the holes are ordinarily punched. Punching, wherever possible, takes place away from the faying surface. In work of importance, the holes were punched. 1/16" to 1/8" smaller than required and reamed out to size, so as to remove the injured material. Rivet holes through material of more than 1 inch in thickness were drilled or punched small and reamed to size afterwards. The rivet holes through high tensile steel were drilled, but in small thicknesses were punch small and reamed. Rivet holes should be of slightly greater diameter than the rivets before they are closed.

Plates may be connected by 'lapped' or 'butted' joints. Since in the latter case, straps must be used, which overlap both plates, each butted joint consists really of two lapped joints. Hence the overlap is the fundamental form of joint, angle bars and shapes are connected by 'bosomed pieces' or by straps, single or double. The joints so formed are quite similar to those formed by butted plates, and their design is governed by the same principles.

## FALLS OF CLYDE

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### VESSEL DATA (cont.)

The connection of two plates, as previously mentioned, is effected by rivets, generally arranged in straight lines, 'rows', parallel with the edge of the joint. If the rivets in the different rows are placed abreast of each other, in straight lines normal to the rows, the arrangement is called 'chained' riveting. If the rivets are displaced relative to each other in the different rows, the arrangement is referred to as 'zigzag', 'reeled', or 'staggered' riveting, the two latter terms being used where the spacing is opened and the rows are close together. In fact, reeled or staggered riveting is obtained by slightly displacing the rivets in the ordinary single row alternately to one side and the other, so as to form an extremely flat zigzag line alternate.<sup>i</sup>

Spacing in Rivet Diameters	Minimum Distance Between Rows in Rivet Diameters
For 3½ in rows	1¾
For 4 in rows	1¾
For 4½ in rows	1⅞
For 5 in rows	1⅞
For 5½ in rows	2
For 6 in rows	2

On the riveted plate connection, water can penetrate the vessel two ways; through the loose rivet or from the caulking edge. The exposed edge of the outside plate is called the caulking edge. Caulking on steel vessels involves forcing an edge of the outside plate tight against the inside plate sealing the lap joint. This is accomplished with an air powered chipping hammer and a caulking tool that wedges the inboard part of the caulking edge toward the inside plate.

The first pass with the tool cuts a wedge shaped groove about 1/8" to 1/4" wide. The high side of the wedge shape is against the inside plate. On the second pass, the tool is turned 180° and used to force the wedge shape down flat and tight against the inside plate. The finished caulking edge has a slight step on its inboard edge towards the inside plate.

Repairs to caulking edges of riveted plates are done from the outside of the plate. If a gap greater than 1/16" exists between the two plates, the edge can be heated and brought tight by means of a flattening hammer. This double headed hammer has a round end to be hit with a sledge hammer and a square end that rests against the plate. After the plate is heated enough to allow its edge to be hammered back in place, one person holds the flattening hammer against the plate and another hits the round end with a sledge hammer. Finally the edge is re-caulked and neighboring rivets are bobbed or frenched.

Caulked seams are welded in some instances depending on the seam location. The same situation holds true when repairing rivets in place. If you weld a caulked seam, you will have an effect on the neighboring rivets and they may require the bobbing/frenching treatment. Also, the seam will require caulking an additional 12" to 24" beyond the welded end. On smaller vessels, like tug boats, it can be more cost effective to weld the seam all around the ship and weld all the rivets. Continuous welding can be more efficient than doing a section and chasing the leak all around the ship. From a cosmetic point of view, welding seams and rivets may not be as desirable as the caulking, frenching and bobbing method. The later method does not alter the appearance of the vessel as much as welding does. However, for underwater areas on inactive vessels, frenching and welding will only be seen when the vessel is dry-docked. As always the decision rests with the ship owner on unclassified vessels. On vessels classed to haul cargoes, welding of caulking edges of riveted seams has not been allowed, except for small areas at transitions between riveting and welding. Typically this would be outside of the two-thirds mid-length of the vessel.

## FALLS OF CLYDE

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### VESSEL DATA (cont.)

#### Welding of Wrought Iron

Wrought iron can generally be welded in the same manner as mild steel i.e. any conventional welding process. The most common methods being

- 1.) M.M.A. to BS.639 : E43XXR or AWS E6013 type electrodes (rutile. coated)
- 2.) M.A.G. wire complying with BS.2901.A15 or A18 (AWS : ER 70S-5)

During the welding operation butt welds are recommended since any slag in the iron will be orientated in the best manner. The joint should be cleaned and dressed.

The risk of burning lumps of slag into the molten pool can be limited by reducing the amount of weld penetration.

When welding with M.M.A. electrodes use small diameter electrodes, and with M.A.G. welding use dip transfer technique. If the slag tends to be in larger quantities than normal (the analysis you gave me suggests no problems should be encountered) then it might be advisable to "butter" the weld edges.

#### English 19<sup>th</sup> Century Iron and Steel Shipbuilding Technology:

The pace of innovation in the construction of merchant and naval vessels in the last half of the 19<sup>th</sup> century reads like the feats obtained a century later with the advent of the computer age. Many of the innovations are as follows and are observed aboard FALLS OF CLYDE:

- A. Web Frame Construction. Strength considerations did not permit use of unsupported transverse side frames longer than about 7ft. To minimize the use of horizontal hold beams, English shipwrights developed the web frame system. This system used intercostal plate stringers running between widely spaced deep web frames to support more closely spaced lighter transverse side frames. This system was used on many Great Lakes ships (not just whalebacks) as it provided additional strength to withstand local loading from collisions with lock walls and docks. By the time that FALLS OF CLYDE was built, her designers had further refined the system by replacing the intercostal stringers with double bulb angles running continuously to both support the side frames and to provide significant longitudinal hull strength. This system of construction on board Meteor is largely intact.
- B. Plate and Angle System. By 1870, Scottish shipyards were using heavy channel sections for floor members. (Floors are the "ribs" forming the ship's bottom). This is not true for the FALLS OF CLYDE as her constructors were still using built up floors fabricated from steel plate and angle sections. An older and more labor intensive form of construction, that can be seen today onboard FALLS OF CLYDE.
- C. Use of Bulb Angles. Bulb angles were a specialized structural steel shape used in the shipbuilding industry. The first structural shapes used by English shipbuilders were Z shaped and were fabricated from two angles riveted back to back. Steel mills soon learned to roll the complete Z shape eliminating the need for riveting. A channel section is a Z shape with one leg reversed. In salt water service the in-board flange of a Z or channel tended to corrode, as it was not easily painted. The steel mills then began to squeeze the inner flange into a bulb to provide an easily painted section.

FALLS OF CLYDE

VESSEL DATA (cont.)



**FALLS OF CLYDE at Union Iron Works, San Francisco, CA, ca. 1910.**

## FALLS OF CLYDE

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### HULL SURVEY

#### RIGGING ON A SQUARE-RIGGED SHIP

On the ocean, man has had to utilize the dictatorial forces, the sea and the wind in his attempt to contend with two of nature's most unyielding elements. He produced his most functional and beautiful machine, the square-rigged sailing ship.

The earliest and longest development of sailing ship design was for vessels built of wood: and rigged with fiber. Hundreds of years later, practical experience produced methods of such technical validity that they could be applied with little change to ships built of iron and rigged with wire rope. The zenith of this evolutionary process took form in the iron and steel square-rigged vessels of the latter part of the 19th century.

To the romantic associations of sailing ships must be added the fact that they are outstanding examples of engineering skill. The gear of a square rigged vessel, despite any appearance to the contrary, is a model of order and efficiency. Every wire, chain, and line has a purpose and a place which follows a clearly defined principle. Sail-trained seamen can quickly locate gear on an unfamiliar ship.

Some of the larger vessels carried up to 50,000 square feet of canvas and more than 130,000 feet of running gear, yet all of this could be handled in good weather or bad by a small number of men. The dead weight of the gear and sails (especially when wet), some of which was 150 feet above the deck, and relatively light masts and spars. What made this possible was the arrangement of the rigging.

A vessel is square-rigged when she carries sails on yards whose normal position at rest is at right angles to the center line of the vessel (athwartships). Sails set on stays, booms, or gaffs parallel to the vessel's center line are fore and aft rigged. Square-rigged vessels include some fore and aft sails. A fully square-rigged mast carries square sails on all units of its height including the lower masts.

After years of experimentation, under the requirement for strength without unnecessary weight, definite proportions were calculated for masts of wood or steel. These proportions, with those for hull construction, eventually became rules and specifications under which iron and steel vessels were built to qualify for underwriting with such societies as Lloyd's of London.

A square-rigger's masts are supported by standing rigging of three general types:

Shrouds-which strengthen each section of mast in an athwartships direction back-stays (including capstays)-which resist the forward pull of the mast force and aft stays-which lead forward to brace the mast against strain toward the stern,

Stays – which strengthen the masts in a fore and aft manner,

Running Rigging – used to support the yards on the masts to allow best use of wind power for the sails; indirectly they support the masts by steadying the working gear (yards).

The bowsprit and jib-boom projecting from the forward end of the ship are stayed against stress by special rigging. A distinctive feature at the end of the bowsprit is the dolphin striker, and iron spar pointing down.

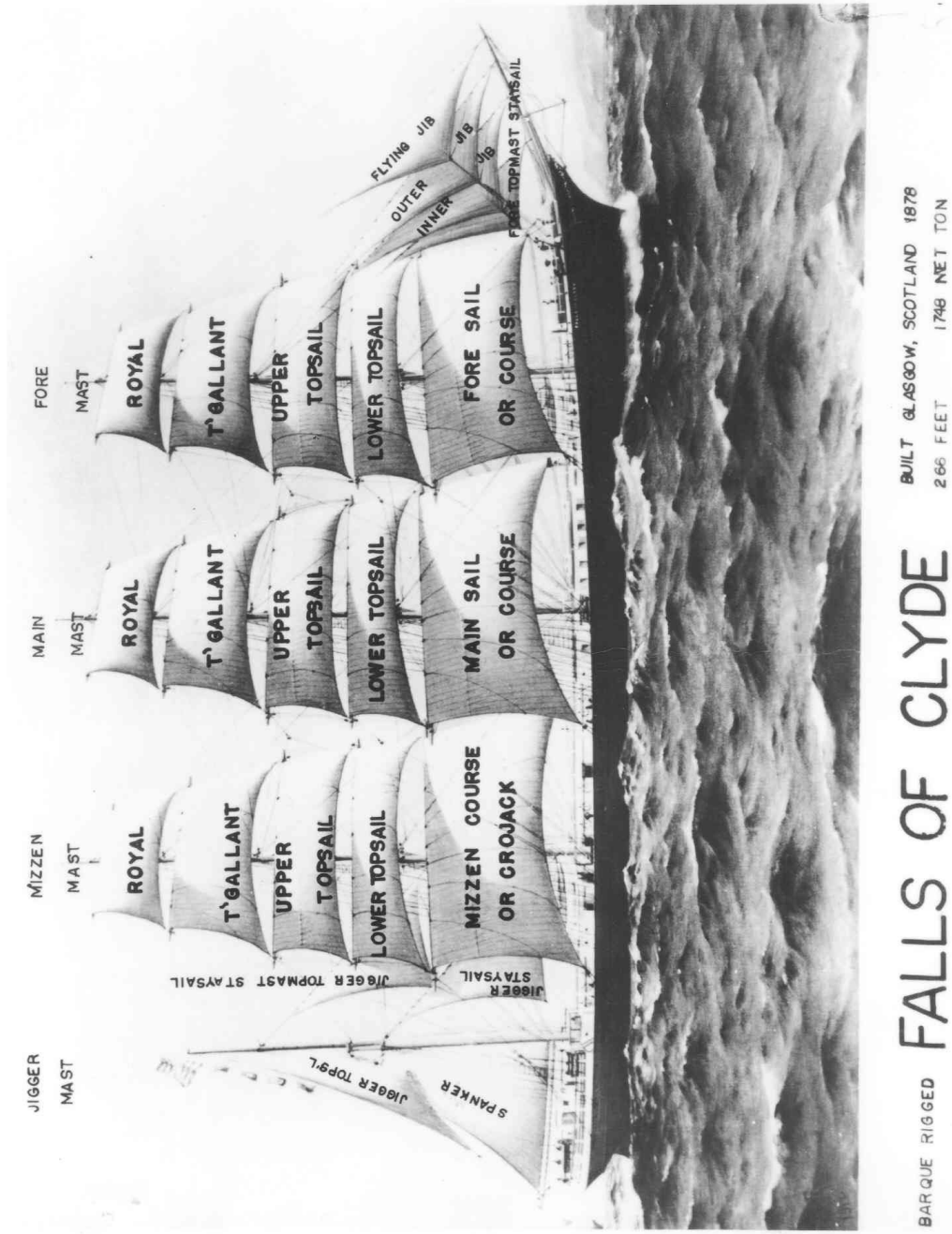
To give additional protection to rope, either hemp or wire, and to prevent chafing of the rigging, an ageless three-step process is used. Worming is to fill the spaces between the strands by winding spun-yard or small cordage into them, to make a smooth surface for parcelling which is winding around the wormed rope strips of canvas or burlap which are then tarred before serving or winding small (usually tarred) cordage tightly over the parcelling in the opposite direction to the lay of the rope. The old sailor's rhyme is "Worm and parcel with the lay, turn and serve the other way."

# FALLS OF CLYDE

## HULL SURVEY (cont.)

The purpose of all this rigging is to make each mast as independently strong as possible.

**NOTE:** The vessel's four masts were down-rigged in 2007-8 by Brian Toss and his crew from Port Townsend, Washington in a masterful display of teamwork and fellowship rarely seen on the waterfront these days.



Former arrangement of sails and standing rig.



FALLS OF CLYDE

HULL SURVEY (cont.)

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**'FALLS OF CLYDE' photographed by the author, March 2023.**

## FALLS OF CLYDE

### HULL SURVEY (cont.)

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#### RAISED FORECASTLE

Essentially, the open foredeck over the anchor gear. This deck is planked with teak and fir and mechanically fastened to the underlying steel/iron frames with threaded studs. The planks are caulked. A pair of massive wooden catheads are fitted to support the anchor tackle and bowsprit.



**Forecastle deck of FALLS OF CLYDE from the ALOHA TOWER.**

*The starboard anchor has been removed from the deck.*

*The figurehead with port and starboard running light pedestals are stored on maindeck.*

**The forward wrought iron margin of the deck is badly corroded and provides support for the guy wires of the bowsprit. This will give way shortly with catastrophic failure of bowsprit to follow.**



**Leading edge of forecastle deck showing massive corrosion.**

## FALLS OF CLYDE

---

### HULL SURVEY (cont.)

#### RAISED FORECASTLE

The decks have failed caulking allowing copious amounts of rainwater to enter the forecastle and below deck spaces causing massive corrosion.

**The deck hardware has rotted bases and are in danger of carrying away with any severe strain.**

**The underlying deck beams are badly corroded.**



**Corrosion of the deck and margin plates is evident in this picture.  
Notice eyebolt supporting bowsprit guywire lacings.**

#### FORECASTLE

This area is located directly under the raised foredeck. This space contains the steam-driven NAPIER (model 282, built 1878) anchor windlass with MURRAY BROS steam apparatus, anchor hawse pipes and deck hardware in the form of double bits and closed chocks. A laid teak/fir deck, with paid seams and bunged fasteners) is mechanically fastened to the underlying wrought iron deck. Miscellaneous gear is casually stored here. Steel cleats welded to plate to frames.

*The transverse iron gussets/floors forward of the closed chocks are rotted away as shown below.*

*The stem is badly corroded with separated shell plating away from framing due to wasted rivets.*

*Shell plating is holed in many places with wasted frames throughout due to rainwater and lack of maintenance..*

*Deck hardware (closed chocks, bits, etc.) have badly corroded foundations.*

*The wooden deck is failing with wasted caulking, exposed fasteners and corroded substrate.*



## FALLS OF CLYDE

### HULL SURVEY (cont.)

---

#### FORECASTLE

*The wooden bowsprit is badly checked and has rot showing.*



**Chains installed in 2008 to support forward collision bulkhead.  
Transverse steel beams welded across space to pull side shell plating in.**



**Holed shell plating to port showing dilapidated transverse frame and wasted rivets at bow.**

## FALLS OF CLYDE

### HULL SURVEY (cont.)

---

#### FORECASTLE



Forecastle showing chains and transverse steel bars supporting collision bulkhead and shell plating to transverse frames.

#### MAINDECK

This area is the central deck from the forecastle forward to the break of the raised poopdeck aft. This space contains the raised trunks for the ten oil tanks, deckhouses for the steam exhaust, galley, berthing and ladders to the t'ween decks spaces. The high sheerstrakes are home to the standing rig of three of the four spars. Outboard rails are fitted for the numerous sail handling braces, halyards and other sail handling running rigging.



Main deck, looking forward to starboard.



FALLS OF CLYDE

HULL SURVEY (cont.)

---

MAINDECK (cont.)



**Wasted transverse frame/rivets and separated shell plating to starboard.**

## FALLS OF CLYDE

### HULL SURVEY (cont.)

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#### MAINDECK (cont.)

The waterways (both port and starboard) have had concrete poured to facilitate water runoff; this concrete is causing corrosion to the substrate.



**Concrete in waterways causing degradation to substrate. Notice wasted plating in right portion of photo.**

The wooden deck aft of the forecastle has failed caulking, failed mechanical fasteners and rotted planks. The underlying iron substrate requires replacement as does the wood deck.



**Wasted caulking on wooden decking, notice exposed cotton.**



## FALLS OF CLYDE

### HULL SURVEY (cont.)

---

#### MAINDECK (cont.)

Riveted butt straps in waterways badly corroded with wasted rivet heads both port and starboard..



**Wasted riveted butt straps connecting deck plating in waterways to port.**

The wrought iron deck (3/8"+) is heavily pitted in many areas; pitting exceeds 70% of original thickness of material.



**Typical pitting action on maindeck, showing failed paint system.**

## FALLS OF CLYDE

### HULL SURVEY (cont.)

---

#### MAINDECK (cont.)

**Weldments made to access ports are failing and are a real danger to museum personnel.**



**Welded access hatches with failed weldments on main deck.**

Fir/teak deck aft of first house is sheathed with plywood due to the decking having failed. This is unsafe for personnel due to de-lamination of the plywood.



**Plywood sheathed with fiberglass is over fir decking de-laminated with underlying plywood badly rotted throughout..**



## FALLS OF CLYDE

### HULL SURVEY (cont.)

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#### MAINDECK (cont.)

*There is wasted deck plating aft at the ladders to the poopdeck, a serious danger for personnel.*



**Wasted deck at foot of ladder aft to starboard.**

*Deck bitts with wooden bases are in danger of structural failure due to wasted wrought iron scantling beneath. Side shell closed chocks are in poor material condition.*



**Wasted wooden base to double bitts securing stern line of vessel.**

## FALLS OF CLYDE

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### HULL SURVEY (cont.)

#### MAINDECK (cont.)

*The paint locker in the winch house needs to be removed immediately with paint stored in proper fireproof steel lockers.*

The cabin trunks require annual scraping, priming caulking and paint preservative.

*Epoxy patches made to maindeck plating have failed. These areas require new inserts or steel doubler plates. They are a possible danger to personnel.*



RED HAND epoxy patches that have failed on maindeck.

*The davit utilized to support the accommodation brow to port (since removed) has a rotted base and is in danger of carrying away.*



Wasted base of davit that previously supported the accommodation brow to port.



## FALLS OF CLYDE

### HULL SURVEY (cont.)

#### MAINDECK (cont.)

*The sheerstrake plating and closed chock is failing port side aft where anchor chain is utilized for the anchor set outboard.*

*Double bitt securing port quarter is badly wasted with rotted fir deck and underlying iron deck.*



Wasted side shell plating in danger of giving away under strain from anchor rode; port side aft maindeck.



Wasted double bitts, fir foundation and deck badly corroded and rotted. Unsafe, yet still securing vessel under load.

## FALLS OF CLYDE

### HULL SURVEY (cont.)

---

#### DECK HOUSES

*All deck houses have rotted structures, wasted roof materials and all have heavy mildew and rot.*



#### RAISED POOP DECK

This area consists of a fiberglass sheathed fir deck with wrought iron railings, steering station aft, skylight/seats forward and deck hardware.



## FALLS OF CLYDE

---

### HULL SURVEY (cont.)

#### RAISED POOP DECK (cont.)

The canvas awning has been removed..

The KROUGH Manufacturing Co. bronze worm steering gear is intact although the beautiful varnished teak cabinetry. was removed and stored on main deck in a very deteriorated condition.



*The handrails leading to the ladders to maindeck require chains to prevent accidental falls.*

*The poop deck stanchions and railings are failing with the underlying wrought iron bases no longer riveted as these have failed.*

*The fiberglass sheathed fir deck has failed with rotted plywood substrate throughout.*



## FALLS OF CLYDE

---

### HULL SURVEY (cont.)

#### RAISED POOP DECK (cont.)



De-laminated sheathing on poop deck.

### MASTS

The four masts consist of the bases attached to the keel and are supported at the deck partners with wooden hardwood wedges (various state of condition). The bases for the masts at the keel are badly corroded and exerting additional stress on the hull itself.

*The steel wire shrouds, hardware and stays are in serviceable condition, most need to be tightened if the masts are to remain aboard. Recommend that these four spars be cut down to the maindeck level before move of ship.*



Base of foremast in bilges.

## FALLS OF CLYDE

---

### HULL SURVEY (cont.)

#### AFTER HOUSE

Comprising the officer's berthing cabins, Captain's berthing and office, Ship's office, and washrooms. Previously well restored, but suffering neglect.

The vanished wooden veneer in the main salon is delaminating due to rainwater making its way below decks. The ceiling is also collapsing due to rot. Much evidence of rain making its way below deck. Portholes to port have been removed (stolen). Much mildew in all cabins with rot present. Vermin have also used these spaces to enjoy their cruise! Side ports, windows and doorways open to the weather decks throughout.

Paperwork for the ship is strewn about three cabins with no order in evidence.



**Delaminated veneer in main salon.**



**Heavily mildewed hull sheathing with rainwater coming through deck.**



FALLS OF CLYDE

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HULL SURVEY (cont.)

AFTER HOUSE



**Captain's cabin showing debris strewn about space.**

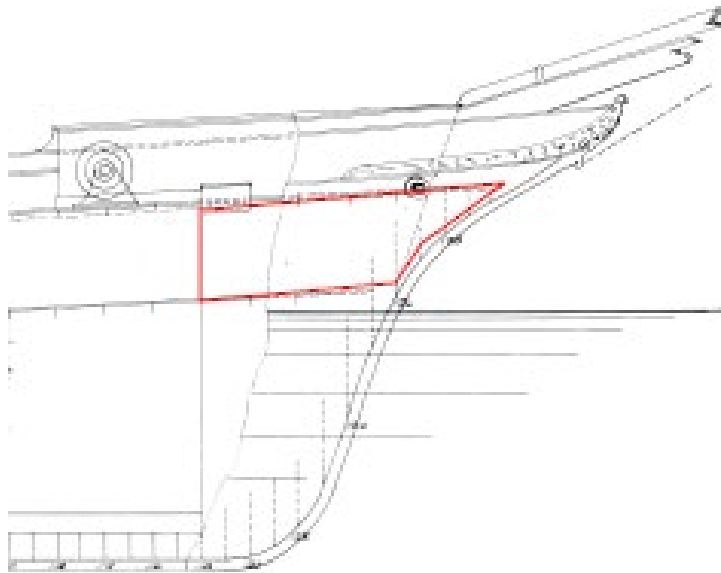


**Small cabin to port at the counter showing overhead sagging down at top of photo and poorly maintained inner hull facing.**

## FALLS OF CLYDE

### HULL SURVEY (cont.)

FOREPEAK (Frames 118 – 130)



A very interesting space, this space is the forward most enclosed space on the 2<sup>nd</sup> deck. Utilized for storage of deck gear, lines, etc.



*Shell plating is holed in many places within this space.*

*Small bulkhead at stem is badly corroded due to rainwater from above.*

*Shell plating detached from transverse frames due to wasted rivets in many places and wasted > 50%.*

*The clamp (both port and starboard) is heavily corroded and with wasted rivets in many places and wasted > 50%.*



# FALLS OF CLYDE

## HULL SURVEY (cont.)

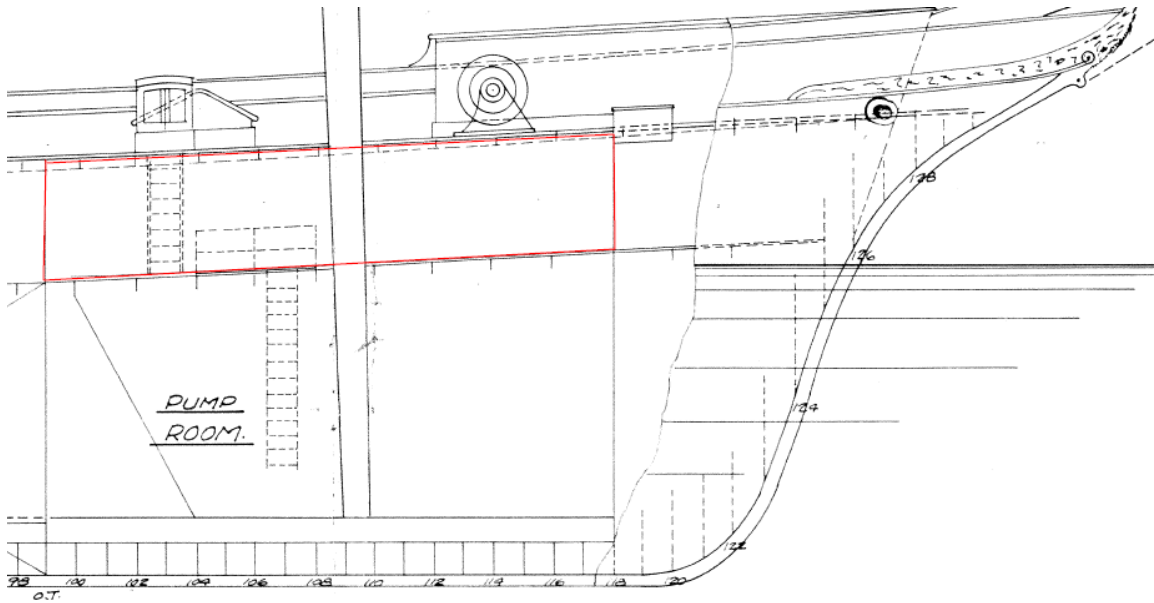
FOREPEAK (Frames 118 – 130)



Holed and severely wasted shell plating at stem.

UPPER PUMP ROOM, Frames 99 - 118

Largely an open storage space. The deck is of fir planks and mechanically fastened to the wrought iron frames beneath.



## FALLS OF CLYDE

### HULL SURVEY (cont.)

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UPPER PUMP ROOM, Frames 99 - 118 (cont.)

*The underlying wrought iron supports for the wooden deck at the rear bulkhead are severely wasted and pose a threat of imminent failure.*

*The waterways (both port and starboard) are sheathed in concrete over the wrought iron substrate causing much unnecessary corrosion.*

*A valve is open to the topside to starboard, properly blank.*

*Overhead deck transverse frames are exploding from rust/scale. Much rainfall leaks through deck.*



Upper Pump Room, ship's wheel stored to starboard.



Loose gear stored to port.



FALLS OF CLYDE

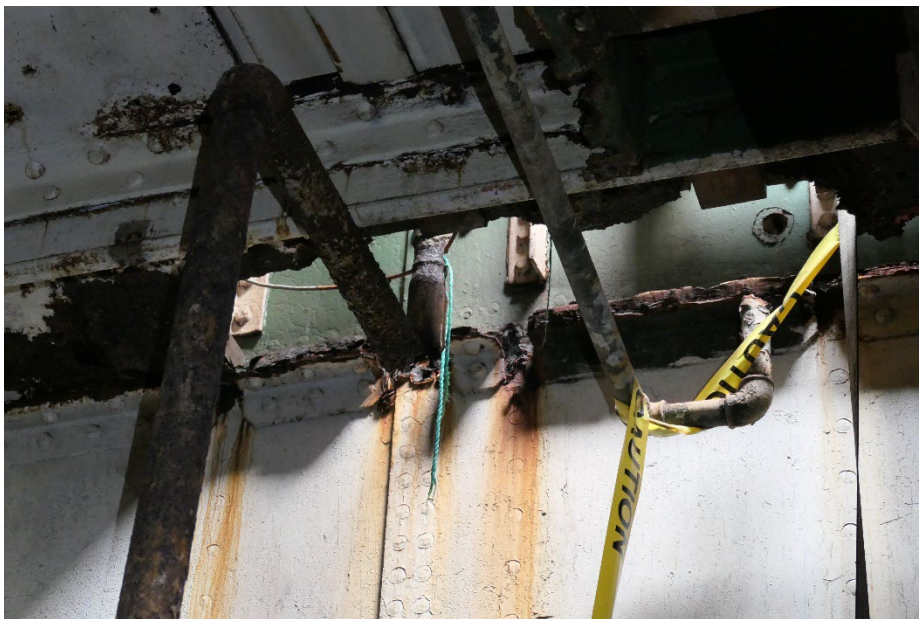
HULL SURVEY (cont.)

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UPPER PUMP ROOM, Frames 99 - 118 (cont.)



**Rotted deck and scantlings at aft end of upper pump room to starboard.**



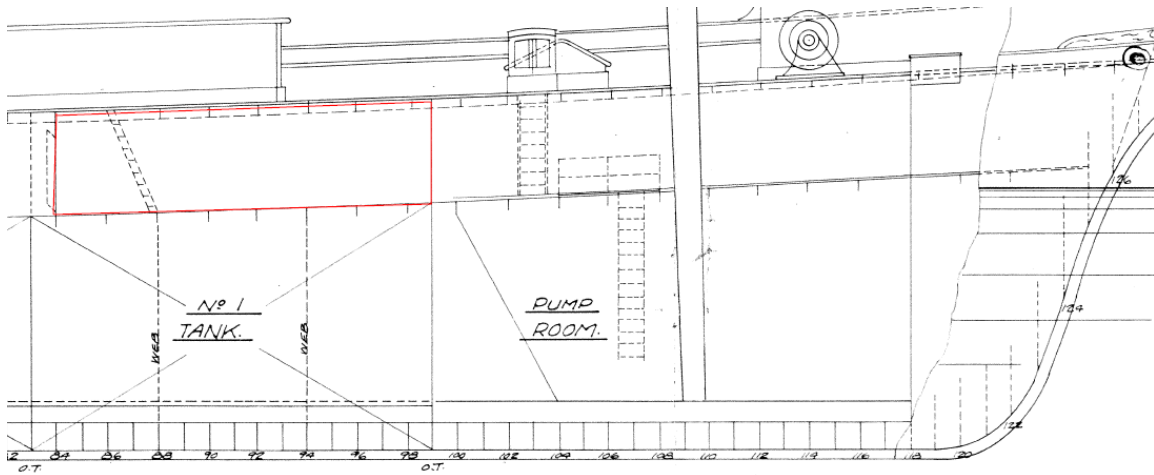
**Rotted deck and scantlings at aft end of upper pump room to port.**



## FALLS OF CLYDE

### HULL SURVEY (cont.)

BOILER ROOM, Frames 83 - 99



This space contains the boilers and other related gear. The deck is painted. Currently in poor material condition; the space has a workbench and much loose gear in storage.



Boiler-room, holed plating to port under boiler.

*The deck is badly corroded in many areas with holed plating at the sides of the space. The deck is in danger of collapsing and should be considered 'off limits' to personnel due to danger from wasted support scantlings in Tank #1 below.*

## FALLS OF CLYDE

### HULL SURVEY (cont.)

BOILER ROOM, Frames 83 - 99

*Much wood and loose debris about, a severe fire hazard. Remove loose gear and stores immediately.*

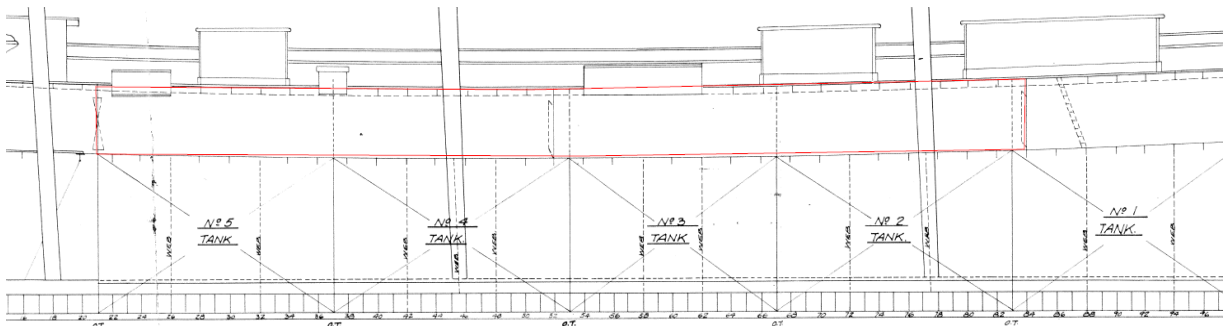
*The wooden deck above on the overhead to port is badly wasted and should be considered a danger to personnel on maindeck.*



Boiler-room, looking aft to port.

CENTERLINE T'WEEN DECKS, Frames 21 - 99

This space is the long centerline trunk between the outboard fuel tanks. Currently a work shop with locked chain link fence is fitted followed aft by open space formerly utilized as museum exhibit space. Two ladders lead up to the maindeck which were formerly cargo hatches. The deck is painted.



*The wooden deck above on the overhead to very badly wasted and should be considered a danger to personnel on maindeck.*



## FALLS OF CLYDE

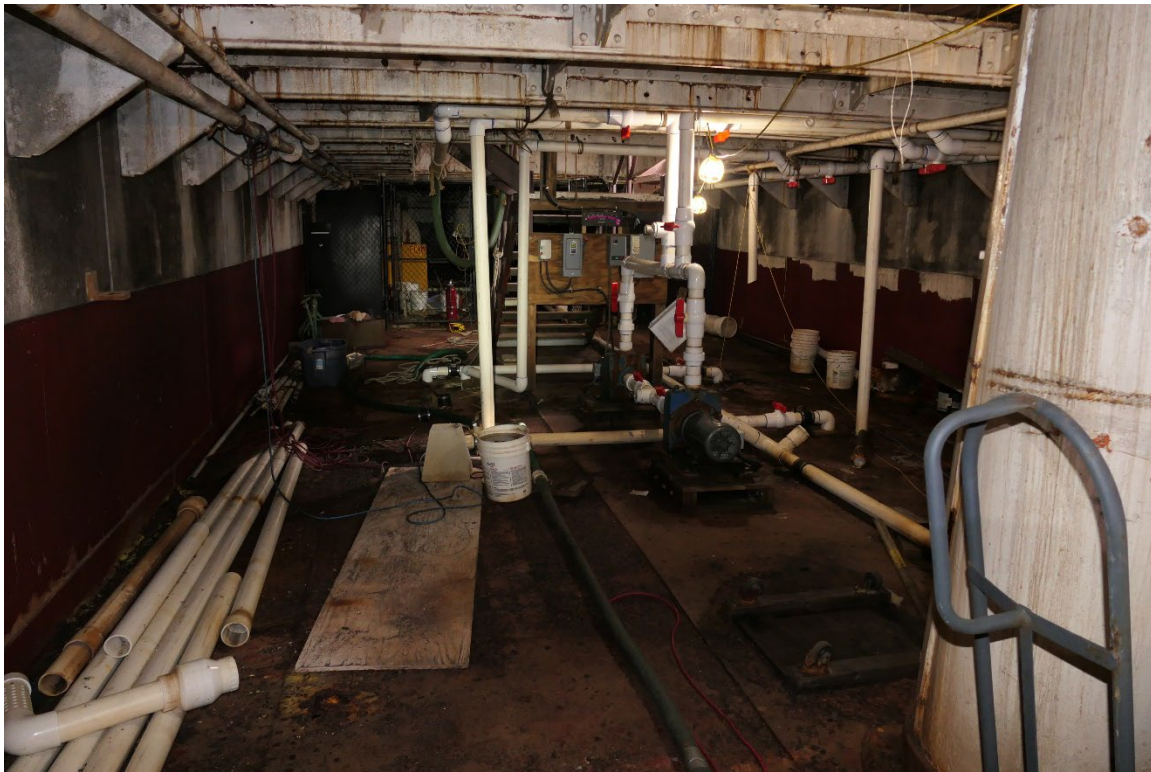
### HULL SURVEY (cont.)

CENTERLINE T'WEEN DECKS, Frames 21 – 99

The deck is pitted at the base of the ladders from the deck hatches above due to rainfall/corrosion issues. Deck maintenance has been neglected for some time. The deck has many doubler plates over previously holed plating. The deck wastage is > than 40%.

Holes have been drilled in many locations for the PVC bilge pumping system; system not activated at time of survey.

*The overhead transverse deck frames are exploding from rust/scale with wasted rivets.*



T'ween decks amidships, looking forward to port.

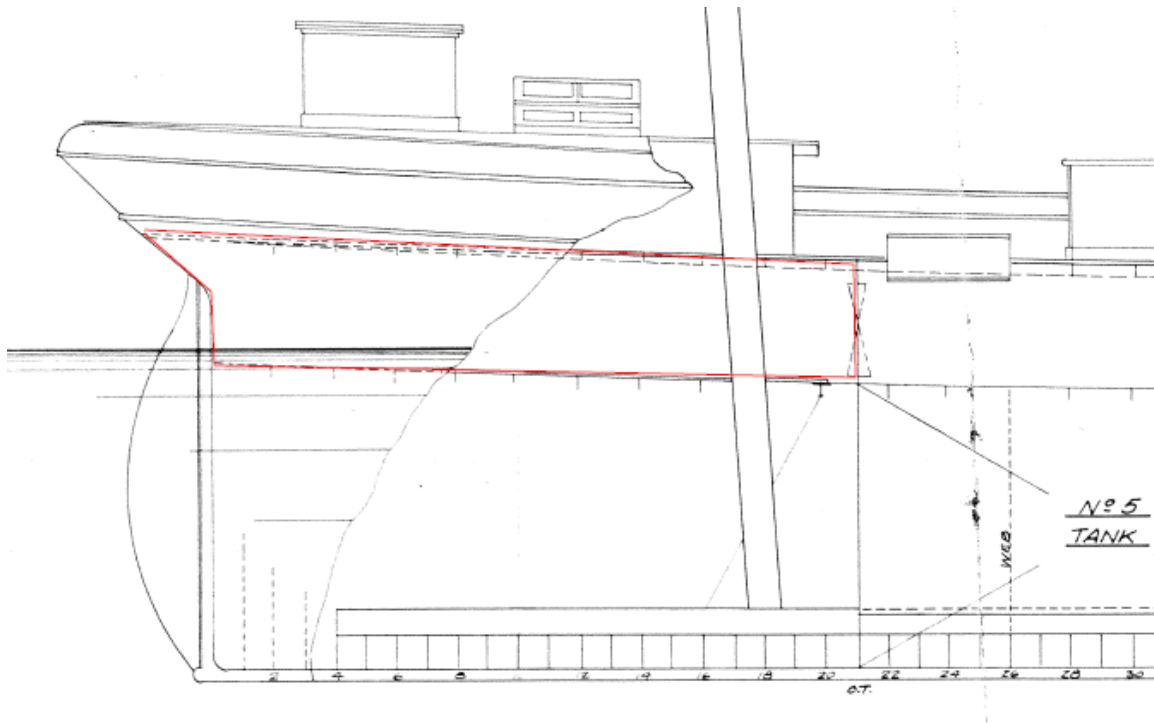
*Much holed plating on deck. Inspection of deck from below in Tanks # 1 – 5 indicated heavy pitting/wastage from beneath and heavy scaling and/or total failure of structural members supporting deck; transverse bulkhead (forward and aft) supporting this deck badly wasted (swiss cheese throughout).*

*This space should be 'off limits' to all but essential personnel until underlying tank supports and decking can be renewed.*

## FALLS OF CLYDE

### HULL SURVEY (cont.)

AFT STOREROOM, Frames 0 – 21



This space largely utilized as a storeroom with all types of deck gear and furniture strewn about.

*There are three (3) overboard discharge valves/piping open to the topsides. Close and cap immediately.*

*Remove loose debris as it is a fire hazard.*

*Properly stow all rigging gear and hardware.*

*Frames separated from shell plating from Frame 0 to Frame 6 both port and starboard. Rivets wasted away due to total lack of maintenance over the years.*

*Shell plating holed in too many areas adjacent to the stern casting/post leading forward. Wastage of shell plating generally exceeds 60-70%.*

*Stern casting forward of the rudder is badly deteriorated. A piece of 3/8" steel plate has been crudely fitted with foam backing attempting to make this a watertight entity. Not watertight in bilge space below.*

*The deck is partially planked with teak/fir in some areas, in other areas it is wrought iron. Margin plates and framing; all show serious rust/scale. Great care must be taken by personnel when traversing this space as flooring is in very poor condition due to wasted scantlings below.*

## FALLS OF CLYDE

### HULL SURVEY (cont.)

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AFT STOREROOM, Frames 0 – 21 (cont.)



Storeroom, looking aft to port.



Storeroom at stern, looking aft.. Shell plating separated from frames on both sides leading forward.

*Fir decking missing for most of the starboard side leaving a gaping hole to the bilges below.*

*Side margin plates and deck frames badly corroded in this space.*



FALLS OF CLYDE

HULL SURVEY (cont.)

AFT STOREROOM, Frames 0 – 21 (cont.)



Holed shell plating just above waterline to port of stern casting. Nothing left to repair.



FALLS OF CLYDE

HULL SURVEY (cont.)

AFT STOREROOM, Frames 0 – 21 (cont.)

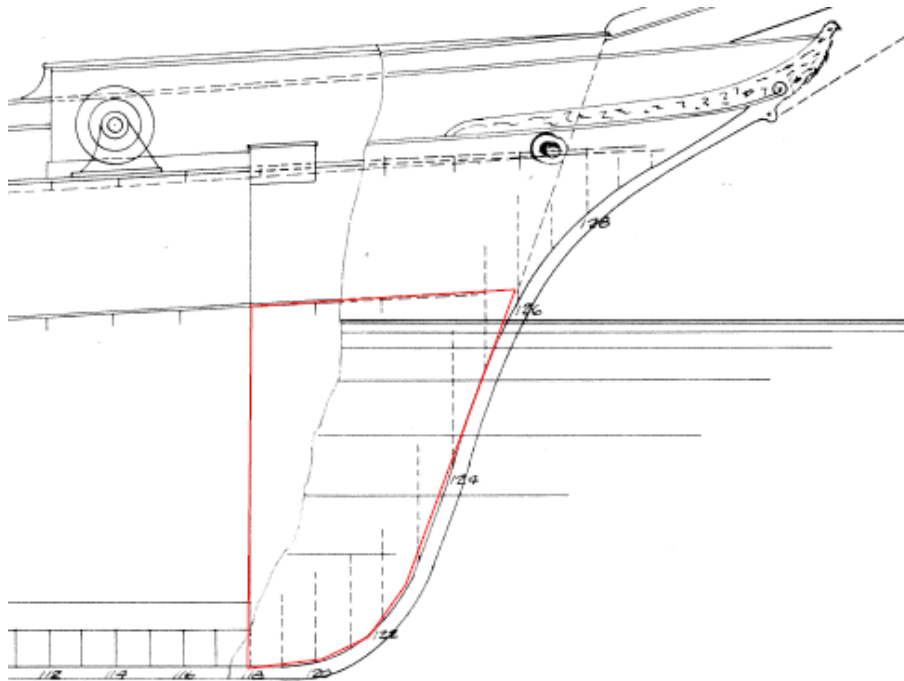


Shell plating detached from transverse frame in Aft Storeroom.

## FALLS OF CLYDE

### HULL SURVEY (cont.)

FOREPEAK TANK, Frames 125 – 118



Located on the lowest level of the ship, this space contained the chain locker for the ship; partially closed off from the Pump Room.

This space is in total disrepair with totally wasted and/or broken transverse frames. Many rivet seams missing rivets; much wastage/scale of remaining rivets. The containment plating for the chain locker has failed.

Shell plating holed in many areas that have been patched from the exterior with wooden plugs below the waterline; open holes remain above the waterline. Shell plating wastage exceeds 70%+.





## FALLS OF CLYDE

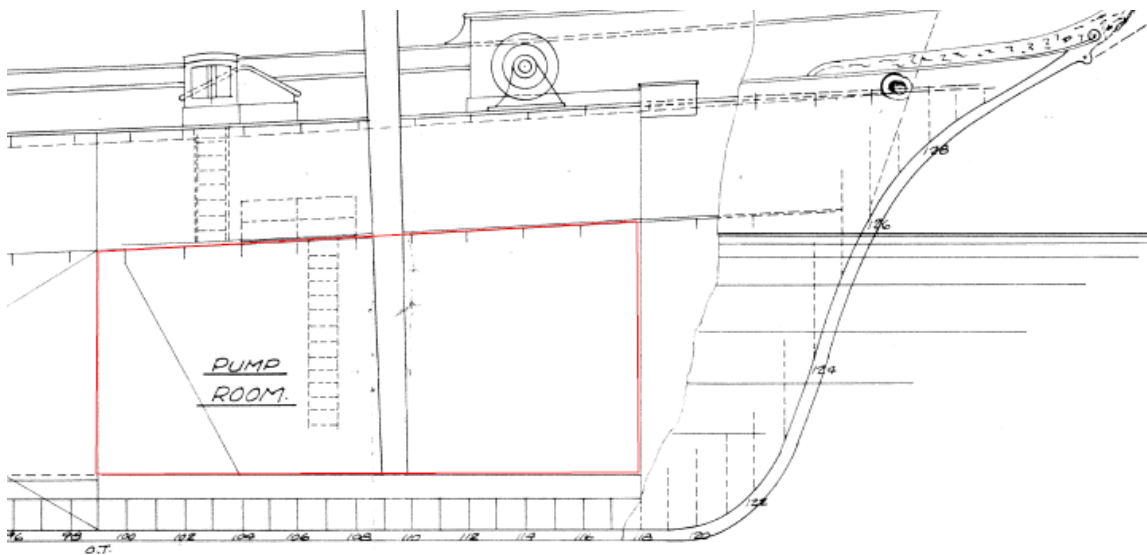
### HULL SURVEY (cont.)

FOREPEAK TANK, Frames 125 – 118



Chain locker at stem.

PUMP ROOM, Frames 99 - 118



This space contains the tattered remnants of the pair of steam pumps and associated piping utilized to load and discharge the cargo. The space contained 2'+ of standing water at time of survey.

*The aft wrought iron flange fitted to the aft bulkhead to support the Storeroom Deck is wasted and must be considered hazardous to personnel entering that space from the Boiler-room. The deck is in danger of collapse.*

## FALLS OF CLYDE

### HULL SURVEY (cont.)

---

PUMP ROOM, Frames 99 - 118 (cont.)



**Wasted deck flange on aft bulkhead.**

The aft bulkhead is badly holed to port into Tank #1. The entire bulkhead has wastage exceeding 80% and there are many pinholes throughout. Support scantlings are badly rusted/scaled with little remaining life left to them.



**Holed main aft bulkhead into Tank #1 port.**



## FALLS OF CLYDE

### HULL SURVEY (cont.)

PUMP ROOM, Frames 99 - 118 (cont.)

*Piping is dilapidated and badly broken throughout compartment. Footing is very hazardous to personnel.*



**Pump room, showing installed patch (failing with leaks) to starboard at Frame 109 looking aft to port.**

### HULL SURVEY (cont.)

PUMP ROOM, Frames 99 - 118 (cont.)

There is heavy rust/scale on all shell plating and associated transverse frames, longitudinals and bilge clamps. Many rivets are in poor condition; many have already totally failed.



**Pump room, looking aft to starboard.**

## FALLS OF CLYDE

### HULL SURVEY (cont.)

---

#### Pump Room, (cont.)



**Wasted or non-existent rivets on transverse framing in Pump Room, port side looking aft.**



**Base of foremast in Pump Room, Heavily scaled.**



## FALLS OF CLYDE

### HULL SURVEY (cont.)

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PUMP ROOM, Frames 99 - 118 (cont.)



**Piping manifold aft of dual steam pumps, showing broken sections in bilges,**

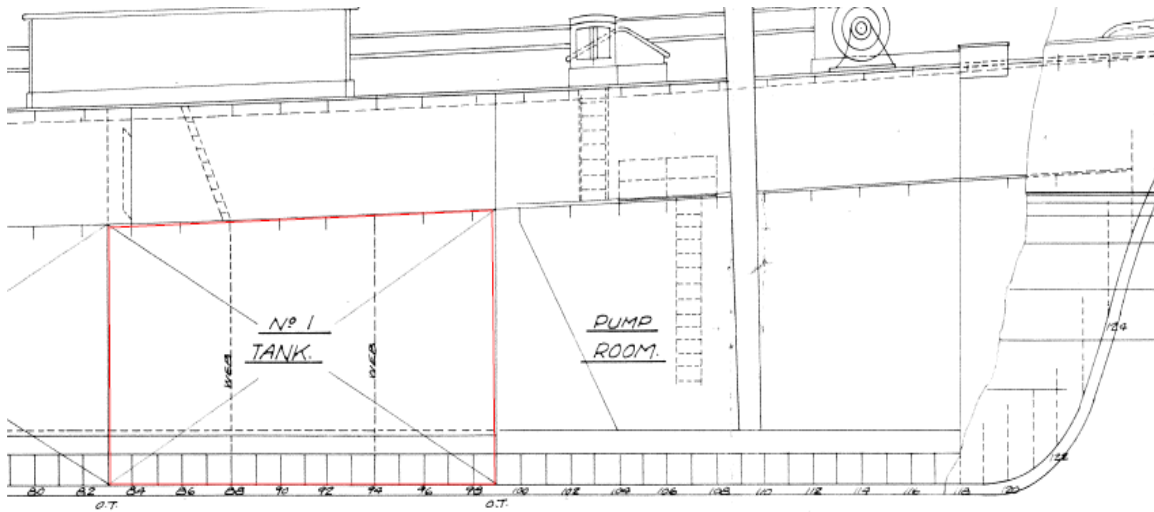


**Main steam pump, totally wasted with rust/scale.**

## FALLS OF CLYDE

### HULL SURVEY (cont.)

TANKS #1 Port & Starboard, Frames 83 – 99



These two tanks comprise the first set of fuel tanks aft of the Pump room. Access is via wrought iron ladders (dilapidated & unusable) to the intermediate deck thence another ladder to the bottoms of the tanks.

*The shell plating has been holed in many areas below the waterline with repairs consisting of wooden plugs, damage control patches and fiberglass/epoxy patches. All are failing with seepage noted.*

*The forward bulkhead is holed in Tank #1 port. The forward bulkhead to Tank #1 starboard will be shortly as there are numerous pinholes. The forward bulkhead is in an unsafe way and could collapse due to heavy weight of the Boiler Room.*

*Side shell transverse frames, clamps and longitudinals are heavily wasted with many failed rivet patterns.*

*Vertical deck and horizontal sideshell supports are heavily wasted or tripped (broken).*

*The overhead floor to the Boiler room is badly holed indicating a possible failure.*

*Much blasting sand and muck covers the bottom; there is 2'+ of standing water.*

*These tanks had not been 'sand blasted, primed and painted' at time of inspection.*



## FALLS OF CLYDE

### HULL SURVEY (cont.)

---

TANKS #1 Port & Starboard, Frames 83 – 99



**Wasted bulkhead in Tank #1.**



**Wasted deck and scantlings below boiler flat, Tank #1 starboard.**

FALLS OF CLYDE

HULL SURVEY (cont.)

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TANKS #1 Port & Starboard, Frames 83 – 99

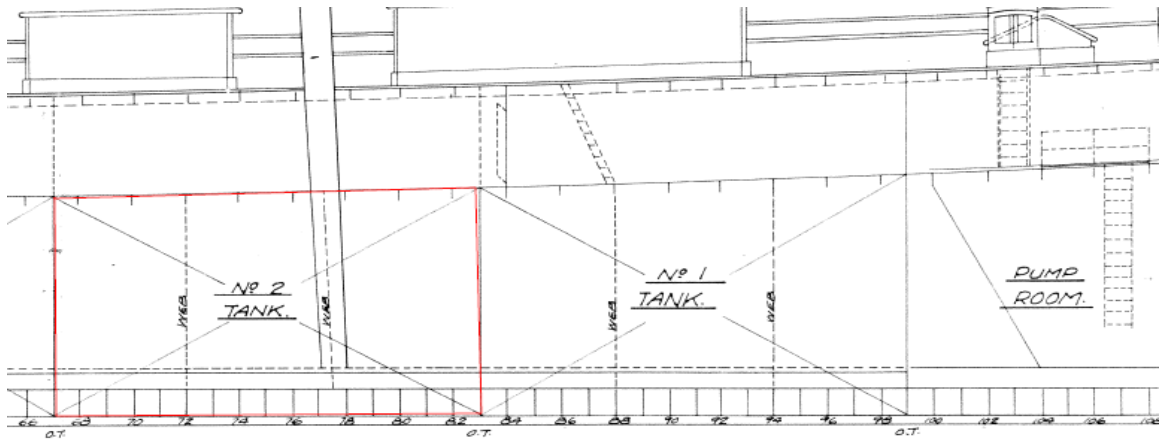


*Tank #1, upper flat, looking forward.*

## FALLS OF CLYDE

### HULL SURVEY (cont.)

TANKS #2 Port & Starboard, Frames 67 – 83



These two tanks comprise the 2nd set of fuel tanks. Access is via wrought iron ladders (dilapidated & unusable) to the intermediate deck thence another ladder to the bottoms of the tanks.

*The shell plating has been holed in many areas below the waterline with repairs consisting of wooden plugs, damage control patches and fiberglass/epoxy patches.*

*Side shell transverse frames, clamps and longitudinals are heavily wasted with many failed rivet patterns.*

*Vertical deck and horizontal sideshell supports are heavily wasted or tripped (broken).*

*Much blasting sand and muck covers the bottom; there is 1'+ of standing water.*

*All scantlings and plating rusted/scaled.*



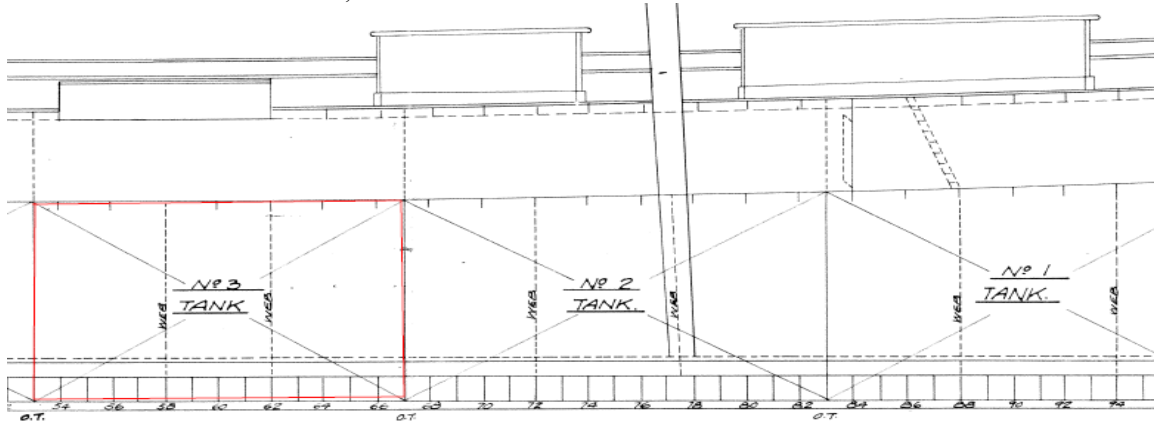
**Wasted intermediate platform in Tank #2 port.**



## FALLS OF CLYDE

### HULL SURVEY (cont.)

TANKS #3 Port & Starboard, Frames 53 – 67



These two tanks comprise the 3rd set of fuel tanks. Access is via wrought iron ladders (dilapidated & unusable) to the intermediate deck thence another ladder to the bottoms of the tanks.

*The shell plating has been holed in many areas below the waterline with repairs consisting of wooden plugs, damage control patches and fiberglass/epoxy patches.*

*Side shell transverse frames, clamps and longitudinals are heavily wasted with many failed rivet patterns.*

*Vertical deck and horizontal sideshell supports are heavily wasted or tripped (broken).*

*Much blasting sand and muck covers the bottom; there is 1 - 2'+ of standing water.*

*These tanks have been 'sand blasted, primed and painted' at time of inspection.*

*The bulkheads, both transverse and longitudinal have been badly damaged by sandblasting.*

*Entry into Tanks is dangerous to personnel due to wasted access ladders and wasted intermediate platforms that are structurally unsafe.*

Additionally, the side shell plating has been repeatedly holed by the painting contractor by repeatedly blasting pinholes through shell plating, both above and below the waterline.

**The paint system applied is already failing with sheets of it coming off the bulkheads indicating poor preparation or incompatible paint system.**

**Fiberglass patches over bulkheads, side shell plating and exterior underwater rivet holes are failing with seepage into bilges.**



FALLS OF CLYDE

HULL SURVEY (cont.)

---

TANKS #3 Port & Starboard, Frames 53 – 67



**Overhead plate scaling in Tank #3 starboard..**



**Wasted ladder entering #3 Tank to starboard.**

## FALLS OF CLYDE

### HULL SURVEY (cont.)

---

TANKS #3 Port & Starboard, Frames 53 – 67



**Tripped or broken horizontal support in Tank #3 starboard.**



**Patched bulkhead in Tank #3.**





FALLS OF CLYDE

---

HULL SURVEY (cont.)

TANKS #4 Port & Starboard, Frames 37 – 53



Re-patched holes in bulkheads in Tank #4 port.



Leaking rivets and patches in Tank #4 starboard.

## FALLS OF CLYDE

### HULL SURVEY (cont.)

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TANKS #4 Port & Starboard, Frames 37 – 53



**Tank #4 Port, looking forward.**

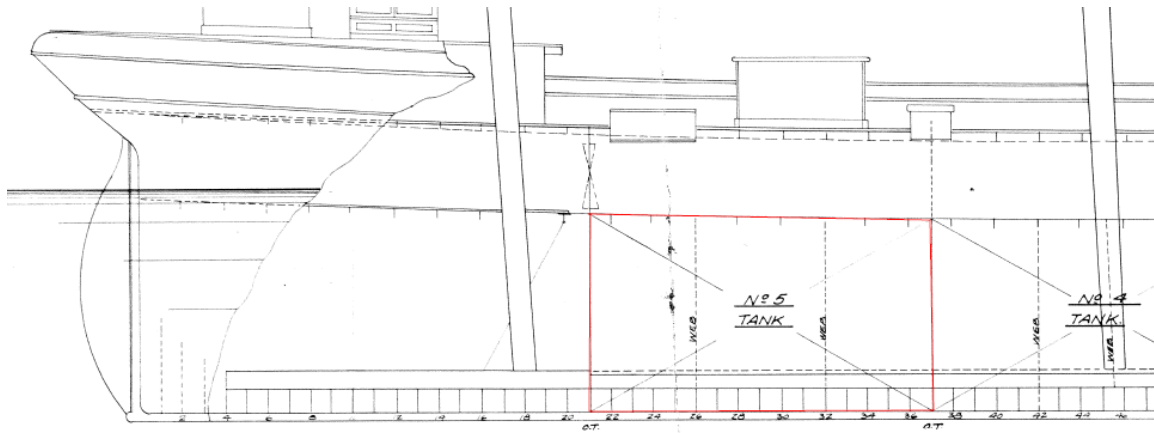


**Tank #4 starboard showing wasted side shell plating and non-existent rivets.**

## FALLS OF CLYDE

### HULL SURVEY (cont.)

TANKS #5 Port & Starboard, Frames 21 – 37



These two tanks comprise the 5th and final set of fuel tanks. Access is via wrought iron ladders (dilapidated & unusable) to the intermediate deck thence another ladder to the bottoms of the tanks.

*The shell plating has been holed in many areas below the waterline with repairs consisting of wooden plugs, damage control patches and fiberglass/epoxy patches.*

*Side shell transverse frames, clamps and longitudinals are heavily wasted with many failed rivet patterns.*

*Vertical deck and horizontal sideshell supports are heavily wasted or tripped (broken).*

*Much blasting sand and muck covers the bottom; there is 2 - 3'+ of standing water.*

*These tanks have been 'sand blasted, primed and painted' at time of inspection.*

*Additionally, the side shell plating has been repeatedly holed by the painting contractor by repeatedly blasting pinholes through shell plating, both above and below the waterline.*

*The paint system applied is already failing with sheets of it coming off the bulkheads indicating poor preparation or incompatible paint system.*

*Fiberglass patches over bulkheads, side shell plating and exterior underwater rivet holes are failing with seepage into bilges.*

*Entry into Tanks is dangerous to personnel due to wasted access ladders and wasted intermediate platforms that are structurally unsafe.*



## FALLS OF CLYDE

### HULL SURVEY (cont.)

---

TANKS #5 Port & Starboard, Frames 21 – 37



Wasted transverse bulkhead, indicative of conditions found throughout tank system. Bulkheads are Swiss cheese.



FALLS OF CLYDE

HULL SURVEY (cont.)

---

TANKS #5 Port & Starboard, Frames 21 – 37



**New paint system failure on bulkhead.**

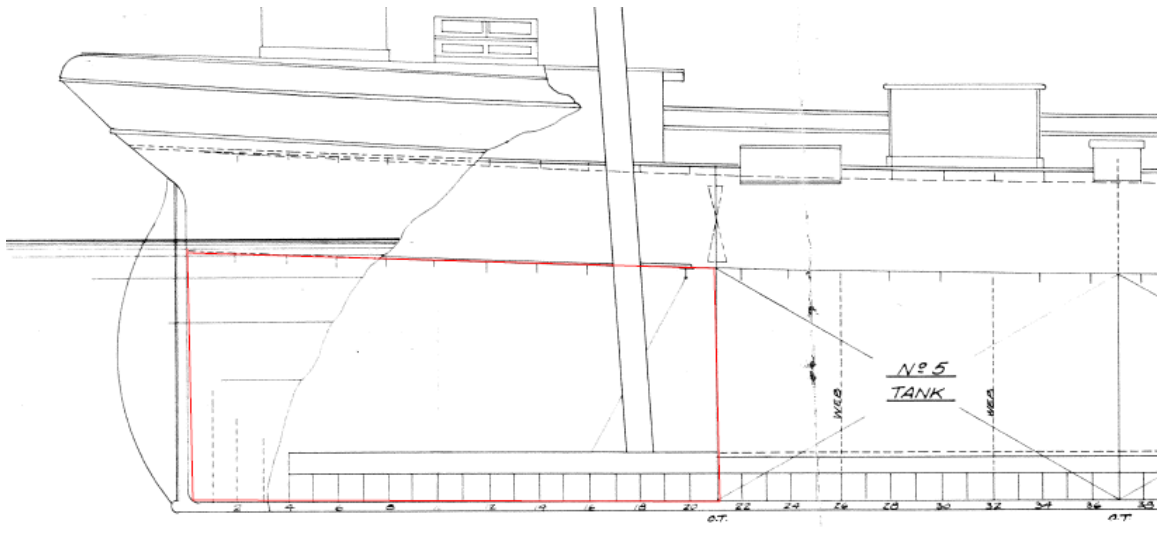




## FALLS OF CLYDE

### HULL SURVEY (cont.)

LAZERETTE, Frames 0 - 21



This is a wide open space just aft of Tank #5 and under the aft storeroom. Access is via two shaky ladders from the storeroom. This space is nothing more than an open void.



Lazerette, seen from forward part of space near bulkhead, looking back to starboard toward stern casting.

## FALLS OF CLYDE

---

### HULL SURVEY (cont.)

LAZERETTE, Frames 0 – 21 (cont.)

This space is in total disrepair with totally wasted and/or broken transverse frames. Many rivet seams missing rivets; much wastage/scale of remaining rivets.

**Shell plating holed in many areas that have been patched from the interior/exterior with wooden plugs below the waterline; open holes remain above the waterline. Shell plating wastage exceeds 70%+.**

**The stern casting is in very poor condition with major degradation and waste apparent.**

**Many frames leading forward from stern casting are separated from shell plating with wasted rivets.**

**Much shell plating is holed above and below the waterline and are sealed with wooden plugs, damage control patches.**

**There is much standing water (4 – 5') and muck from the sandblasting of the forward tanks in the bilges.**

**Base of mizzen mast badly corroded.**

**Vertical support stanchions on centerline badly wasted.**



**Wooden plugs keeping the ocean out.**



## FALLS OF CLYDE

### HULL SURVEY (cont.)

---

LAZERETTE, Frames 0 – 21 (cont.)



More wasted plating with wooden plugs. Notice separation of shell plating from frames.



Stern casting, inboard face showing much wastage.



FALLS OF CLYDE

HULL SURVEY (cont.)

---

LAZERETTE, Frames 0 – 21 (cont.)



**Intermediate level Aft Peak Tank.**



**Flooded lower flat of Aft Peak Tank.**



## FALLS OF CLYDE

---

### EXTERIOR HULL

#### TOPSIDES ABOVE WATERLINE

External shell plating badly pitted with poor coverage of topside throughout. Surface rust/scale is popping out due to lack of systemic maintenance; endemic to the entire vessel.

No preservation has occurred in years....

**Side shell bulwarks above main deck are failing, particularly where chocks are feeling the loads from mooring lines and chain. Mooring lines are junk and in danger of carrying away with any type of strong weather. This could occur at any time....**

**Deck double bitts are also in danger of carrying away with sets of bitts becoming detached from the main deck particularly just before the aft house,**



**Double bitts made up with line and chain. Load of chain pulling bulwark in around chock.  
Double bitts pinned to rotted laid deck and iron substrate. Absolute junk....**

## FALLS OF CLYDE

---

### EXTERIOR HULL

#### TOPSIDES ABOVE & BELOW WATERLINE

*The stem has a several carpenter C clamps holding shell plating to the stem. They have been there for over 14 years.*



The entire hull has rusticles protruding from the iron hull. These corrosive nodules form with the unprotected iron hull in salt water. When they break off, and they will, a perfect hole is formed.



**Rusticles formed at the waterline of FOC. Endemic to the entire hull bottom of FALLS OF CLYDE.**



## FALLS OF CLYDE

### EXTERIOR HULL

---

#### TOPSIDES ABOVE & BELOW WATERLINE

The underwater portion of the rudder was cut away years ago; the rest of it should be removed.



Artifacts have been carelessly stowed on main deck which includes the figurehead, running lights, varnished teak hardwood framed for steering over for steering worm gear on the poop deck, Ship's papers are carelessly strewn about the cabins aft, there are approximately six (6) yards missing from main deck.



**Figurehead laying on deck unprotected; figurehead is starting to rot and has termites.**

## FALLS OF CLYDE

---

### PESTS, ANIMAL CONTROL

It is apparent that sea birds, raccoons, and other varmints are having their way aboard FALLS OF CLYDE. Numerous bird nests were found in the topside hamper, and numerous bird droppings from sea gulls and pigeons (also nesting aboard) were prevalent about the decks and topside hamper. To say nothing about the ants and other insect infestations.

---

### PIER #7 AND VICINITY

The wooden pier at the stern of FALLS OF CLYDE is collapsing. The mooring bollards secured to the concrete cap rail of the dock have heavily wasted steel pins; these cannot be relied upon going forward to properly secure the vessel. Fendering for the FALLS OF CLYDE is haphazard and much evidence of chafing against the concrete pier is apparent.





FALLS OF CLYDE

PIER #7 AND VICINITY

---



**Looking aft at FOC mooring system showing lack of fendering.**



**Typical mooring bitt on quay wall with severely deteriorated pins.**

## FALLS OF CLYDE

---

### SECURITY

Many security devices have and should be implemented to protect the Pier #7. A chain link fence surrounding the berth site has been installed with padlocked gate.

*The ship should be equipped with motion detecting lights and an onboard security system.*

*Adequate fire, bilge and intruder alarms should be installed aboard.*

*Stand by pumps with adequate de-watering hoses should be stationed aboard as soon as possible. Units currently aboard are questionable.*

---

### SUMMARY

That the FALLS OF CLYDE is an important link to the age of pure sail, the innovative use of wrought iron in her construction in the interval between wooden ships and vessel constructed of steel is beyond dispute. Her previous Owners in the deep sea trade realized that they had a powerful vessel that when re-rigged to her final configuration, and with reduced manning, was still capable of very fast passages and could turn a profit.

But her age worked against her ultimately.

The time has come to look ahead to the possible fate of the ship and there are two avenues,

Lacking a 'white knight' to save her and restore her to her former glory the time is now to make the decision to either scrap her or reef the vessel.

A task list for both avenues will be developed shortly and a historical record closure will bring the curtain down. Hopefully, the ship can be reefed to provide divers with a new venue to explore.

It has been my privilege to survey and work aboard this fine vessel.

Respectfully submitted,



---

Joseph Lombardi  
Marine Surveyor



# **APPENDIX B**

Falls of Clyde Condition Reassessment & Value Survey

Hawai'i Marine Surveys, LLC

2022

---

# FALLS OF CLYDE, CONDITION RE-ASSESSMENT & VALUE SURVEY

---



**Hawaii**  
**Marine Surveys, LLC**

2568 Lai Road  
Honolulu, HI  
96816 USA  
Mobile: +1808 277 5035  
Skype: Freedom. Dennis  
[email: freedom@himarinesurveys.com](mailto:freedom@himarinesurveys.com)

## **Special Survey Report Condition Re-assessment & Value of Vessel “Falls of Clyde”**

12 August 2022

Principal:

The State of Hawaii Department of Transportation Harbors Division  
79 S. Nimitz Highway  
Honolulu, Hawaii 96813

This is to certify that the undersigned surveyor for Hawaii Marine Surveys, LLC, did, at the request of the State of Hawaii Department of Transportation Harbors Division, attend on 12 August 2022 at Pier 7 Honolulu Harbor, for the purpose of observing, re-assessing, reporting on the condition and value, and providing potential options for removal of the Vessel “Falls of Clyde” since her last survey conducted on 13 September 2018, as she lay afloat, and has the following to report. The original assessment was completed by the undersigned surveyor on 17 May 2017 under Project Number DOT-DEP-H-17-01

Attending, Representing:

Nelson, State of Hawaii Department of Transportation Harbors Division  
F. Dennis, Hawaii Marine Surveys, LLC

### **General Information**

Vessel: Falls of Clyde  
Official No.: 80436  
Displacement: 1740.57 Tons  
Length (reported): 280 Feet  
Breadth (reported): 40 Feet  
Depth (reported): 25.1 Feet  
Built: 1878 by Russell and Co., Port Glasgow, Scotland

### **Vessel Background:**

The vessel “Falls of Clyde” has served as a floating museum ship since the mid-1960s. The vessel has been reportedly declared a “permanently moored craft” by the United States Coast Guard since the year 2000.

The vessel was impounded in 2016 and is in the custody of the State of Hawaii Department of Transportation Harbors Division. The legal owner of the vessel is the organization “The Friends of Falls of Clyde”. The vessel’s Condition was previously Assessed by the undersigned surveyor on 17 May 2017 and 13 September 2018 in accordance with Public Procurement Solicitation Number Q17001555, and Contract Award Number DOT-HAR-SPRO-17-002.

**Condition:**

On 12 August 2022 at approximately 1100 hours, the undersigned surveyor arrived at Pier 7 Honolulu Harbor to observe, re-assess, and report on the condition and value of the vessel, the "Falls of Clyde". The vessel was a single hulled, oil tanker, bark rigged, four masted sailing vessel. The vessel was observed to have 13 compartments in total, namely: an aft peak, a fore peak, forward pump room, and five pairs of cargo oil tanks. The vessel was berthed at Pier 7, in close proximity to the Honolulu Harbor Main Ship Channel and the Aloha Tower turning basin.

The vessel was found to be in an overall state of disrepair with her physical condition deteriorating. The vessel had no means of propulsion, no operable steering system. There were noticeable improvements in the condition of the vessel's mooring lines with noted increase of chaffing gear and less chaffing damage to the lines. The condition of the vessel's hull exterior, rigging aloft, upper decks, and lower decks, appeared to be worse since the last assessment.

There were two (2) noted condition changes to the vessel:

1) Hull compromised:

The hull plating in the forepeak slightly above the waterline yet within the area of hull bottom growth had been compromised and recently been repaired. There was dunnage on the interior of the hull and sealant visible on the exterior.  
(photos #1, #2)

2) Deck wastage had increased:

- a. The main deck had increased wastage, including areas around the deck bits.  
(photo #3)
- b. The below deck areas had increased wastage, including areas around equipment. (photo #4)

Based on the rate of deterioration of the hull and decks, the overall assessment is that the vessel will eventually sink in place if not removed proactively. Recommendations are listed in the Report Summary.

**Potential Options for removal:**

- Least risk to Honolulu Harbor operations: disassemble in place for disposal.
- Low risk to Honolulu Harbor operations: load on to semi-submersible ship, export.
- Moderate risk to Honolulu Harbor operations: tow outside of harbor by way of at least two (2) harbor assist tugs.

**Contractual “Specifications For Work To Be Performed”:**

- 1) *Conduct an inspection of the vessel FALLS OF CLYDE to the extent necessary to determine and certify whether it is seaworthy as defined by the Section 19-41-3, Hawaii Administrative Rules (i.e., “seaworthy vessel” means a vessel that is in good material and operating condition and is capable of sustained operations at sea);*

Based on the observed condition of the vessel on 12 August 2022 at approximately 1100 hours as detailed above, the undersigned surveyor has determined that the vessel “Falls of Clyde” is not sea seaworthy as defined by the Section 19-41-3, Hawaii Administrative Rules. The vessel was not in good material condition. The vessel had no propulsion or operable steering system and therefore not capable of sustained operations at sea.

- 2) *Prepare a report detailing the inspection and survey;*  
The report is detailed herein.

- 3) *Provide an assessment as to whether the current condition of the vessel is such that the vessel is able to sail or be sailed from its current berth safely out of Honolulu Harbor;*

Based on the observed condition and assessment of the vessel on 12 August 2022 at approximately 1000 hours as detailed above, the undersigned surveyor has determined that the vessel “Falls of Clyde” is not able to sail or be sailed from its current berth safely out of Honolulu Harbor. The vessel had no observed sails, the sail rigging was dismantled and in disrepair, and the steering system was inoperable.

- 4) *Provide an assessment as to whether the current condition of the vessel is such that the vessel is able to be towed from its current berth safely out of Honolulu Harbor;*

Based on the observed condition and assessment of the vessel on at approximately 1100 hours as detailed above, the undersigned surveyor’s professional opinion that the current condition of the vessel “Falls of Clyde” is such that the vessel may be able to be towed from its current berth safely out of Honolulu Harbor with the following recommendations:

- 1) Conduct trial towing maneuvers near the dock prior to entering the main harbor basin in order to assess the vessel hull's ability to withstand the forces of towing.
- 2) All Hazardous materials should be removed from the vessel prior to towing.

Due to the vessel's condition as noted above and state of disrepair, the following recommendations are offered, in no order of priority, for consideration in the interest of safety, prior to towing the vessel from its current berth safely out of Honolulu Harbor:

- Engage a professional, experienced towing organization to draft a tow plan and move the vessel using at least two harbor assist boats. Typical costs for professional towing vessels range from USD \$5000 to \$10,000 per boat per job, depending on the scope of services.
  - In the event that the vessel should be intentionally sunk, develop a "Trip and Tow Plan". Approximate associated costs are: USCG approved Plan \$2,000, Survey \$700, Insurance may be covered by the towing company, otherwise the cost could be approximately \$2000. Submit a written Notice of Intent of Ballast Water discharge to the State of Hawaii DLNR (Department of Land Natural Resources) and the USCG (United States Coast Guard).
  - Remove and dispose of Hazardous materials such as paint, varnishes, etc. Approximate cost: \$1,500.
  - Remove all loose deck gear for a safe sea transit and to avoid flotsam.
  - Rig navigation lights and shapes for a vessel being towed in accordance with United States Coast Guard Rules of the Road.
  - Remove any items from the vessel that may be desired to be preserved or placed in a museum.
- 5) *Coordinate all work with the designated Harbors Division project manager, including use of State piers or facilities, use of equipment on State piers or facilities, and any on-water operations within State waters;*



The marine survey work that was conducted on 12 August 2022 was coordinated with Peter Pillone, State of Hawaii Department of Transportation Harbors Division and has been concluded.

- 6) *Arrange with the United States Coast Guard any reviews, inspection and approvals for any action or operation that may warrant their consent or involvement, or any coordination requested by the United States Coast Guard.*

During the marine survey work conducted on 12 August 2022, there were no actions or operations that warranted the consent or involvement of the United States Coast Guard. With the submission of this report, the contracted work has been completed.

Until the removal of the vessel from Pier 7 Honolulu Harbor, the undersigned surveyor remains available to coordinate requests issued by the United States Coast Guard and DOT Harbors Hawaii.

## **Summary**

The undersigned surveyor was requested to observe, re-assess, report on the condition and value, and provide potential options for removal of the Vessel "Falls of Clyde" as she lay afloat at Pier 7 Honolulu Harbor, as dictated by the six (6) contractual "Specifications For Work To Be Performed" listed above. The summary of conclusions for each work task are detailed above and are as follows:

- 1) The vessel "Falls of Clyde" is not sea seaworthy as defined by the Section 19-41-3, Hawaii Administrative Rules.
- 2) The report is detailed herein.
- 3) The vessel "Falls of Clyde" is not able to sail or be sailed from its current berth safely out of Honolulu Harbor.
- 4) The current condition of the vessel "Falls of Clyde" is such that the vessel may be able to be towed from its current berth safely out of Honolulu Harbor. Trial towing operations are recommended near the berth to assess the vessel hull's ability to withstand the forces of towing.

Due to the vessel's condition, the above recommendations are offered prior to towing the vessel from its current berth safely out of Honolulu Harbor.

- 5) The marine survey work was coordinated with the State of Hawaii Department of Transportation Harbors Division and has been concluded.
- 6) The marine survey conducted had no actions or operations that warranted the consent or involvement of the United States Coast. Until the removal of the vessel from Pier 7 Honolulu Harbor, the undersigned surveyor remains available to coordinate requests issued by the United States Coast Guard and DOT Harbors Hawaii.

The undersigned does not consider this vessel to be a suitable risk for offshore waters and to have:

An estimated market value of .....\$0.00 (zero)

The vessel reportedly has sentimental value to some members of the community.

This report is issued without prejudice and for whom it may concern.

Hawaii Marine Surveys,



Freedom K. Dennis  
Principal Surveyor  
NAMS – CMS 111-987

Enclosures:

Photos

**THIS CERTIFICATE IS NOT A FORM OF INSURANCE, OR GUARANTEE, AND IS ISSUED ON THE FOLLOWING TERMS AND CONDITIONS:** This Certificate and performance of services by Hawaii Marine Surveys, LLC. ("HMS") shall in no way be deemed to be a representation, statement, or warranty of seaworthiness, quality or fitness for a particular use or service, of any vessel, container, cargo, structure, item of material, or equipment. HMS shall not be liable for, and the party to whom this Certificate is issued agrees to indemnify and hold HMS harmless from and against any and all claims, demands, actions for damages, including legal fees, to persons and/or property which may be brought against HMS incidental to, arising out of, or in connection with the services performed hereunder, except for those claims caused solely by the negligence of HMS. HMS shall be discharged from all liability for negligent performance or non-performance of any services in connection with issuance of this Certificate, unless the same is discovered prior to and is claimed in writing made to HMS within 180 days and litigation is commenced within one year after performance of survey services. **IN NO EVENT SHALL HAWAII MARINE SURVEYS BE LIABLE FOR ANY CONSEQUENTIAL DAMAGES, INCLUDING, BUT WITHOUT LIMITATION, DELAY, DETENTION, LOSS OF USE, OR CUSTOMARY PORT CHARGES TO THE PARTY TO WHOM THIS CERTIFICATE IS ISSUED OR TO ANY OTHER PERSON, CORPORATION OR BUSINESS ENTITY FOR WHOSE BENEFIT THIS CERTIFICATE MAY BE ISSUED.**

**Photos**



Photo #1, damage repair, exterior of hull



Photo #2, damage repair, interior of hull



Photo #3, main deck wastage



Photo #4, below deck wastage

# **APPENDIX C**

Falls of Clyde Hull Inspection and Benthic Survey

Hull Inspection Report Rev. 01

Sea Engineering, Inc.

August 29, 2023



# **Sea Engineering, Inc.**

## **Falls of Clyde Hull Inspection and Benthic Survey**

**SEI Job No: 12949**

### **Hull Inspection Report Rev. 01**

**Drafted for: HHF Planners**

**Pier 7, Honolulu Harbor, Oahu, Hawaii**

**August 29, 2023**

<b>VESSEL INFORMATION:</b>			
Vessel Name:	Falls of Clyde	Length:	266 feet
Vessel Type:	Iron hulled sailing tanker	Beam:	40 feet
Status:	Museum ship	Depth:	25.5 feet

<b>JOB DETAILS:</b>			
Client:	Scott Ezer	Survey Date:	August 09, 2023
Client Rep:	HHF Planners	Location:	Pier 7, Honolulu

<b>INSPECTION DETAILS:</b>			
Dive method:	Surface supplied air SCUBA	Inspection type:	*Modified level 1 on SSA **Benthic survey on SCUBA
Dive supervisor:	Ken Kohnfelder	SEI Contact:	808-536-3603

\* No cleaning performed during this inspection per Honolulu Harbor protocol.

\*\* Benthic survey report attached as separate document from MRC.

<b>SUMMARY OF FINDINGS:</b>	
Bow:	<p><b>STBD:</b></p> <p>12ft water depth draft. 100% marine growth coverage. 34ft water depth to natural bottom. Cone shaped protrusions sporadically placed around lower portion of hull. Appears to be composed of compacted rust and corrosion. Some of the cones have holes at tip. Cones easily breaks apart by hand. Average 4 inch diameter at the base of cone, protrudes out average of 4 inches. V-shaped hull at the bow.</p> <p><b>PORT:</b></p> <p>Healthy reef system on port side. 100% marine growth coverage. Cone shaped stalactite protrusions also appears throughout port side. The cones appears more often towards bottom of hull.</p>
Midship:	<p><b>STBD:</b></p> <p>100% marine growth coverage. 14ft water depth draft. 33ft water depth to natural bottom. Flatter bottom of hull. Cone shaped corroded protrusions appearing more frequently, presumably due to flatter</p>



	<p>bottom shape of hull. No indication of docking blocks or patterns visible through the marine growth.</p> <p>PORT:                  Healthy reef system on port side. 100% marine growth coverage. Marine growth appears layered with dense marine life nested inside. Cone shaped stalactite protrusions also appears throughout port side.</p>
Stern:	<p>STBD:                  100% marine growth coverage. 16ft water depth draft. 34ft water depth to natural bottom. Hull reverts back to V shaped hull. Cone shaped stalactite protrusions appears throughout starboard side.</p> <p>PORT:                  Heavy marine growth density on port side due to increased sunlight exposure. Stalactite like corroded cones appear larger and longer, 12 inch diameter and 18" in length on port side.</p>
Rudder:	No rudder visible. Vertical bracket for possible rudder stem on aft side of vessel.
Cathodic Protection:	None visible.
Anti-fouling paint:	None visible.

<b>ENVIRONMENTAL INFORMATION:</b>	
Harbor bottom type:	Soft mud and silt. Diver can stick arm in and not feel any hard substrate, appx. Three (3) feet.
Hull clearance:	Between 22ft and 18ft based on diver obtained depths noted above.
Harbor depth:	33ft to 34ft based on diver obtained depths noted above.

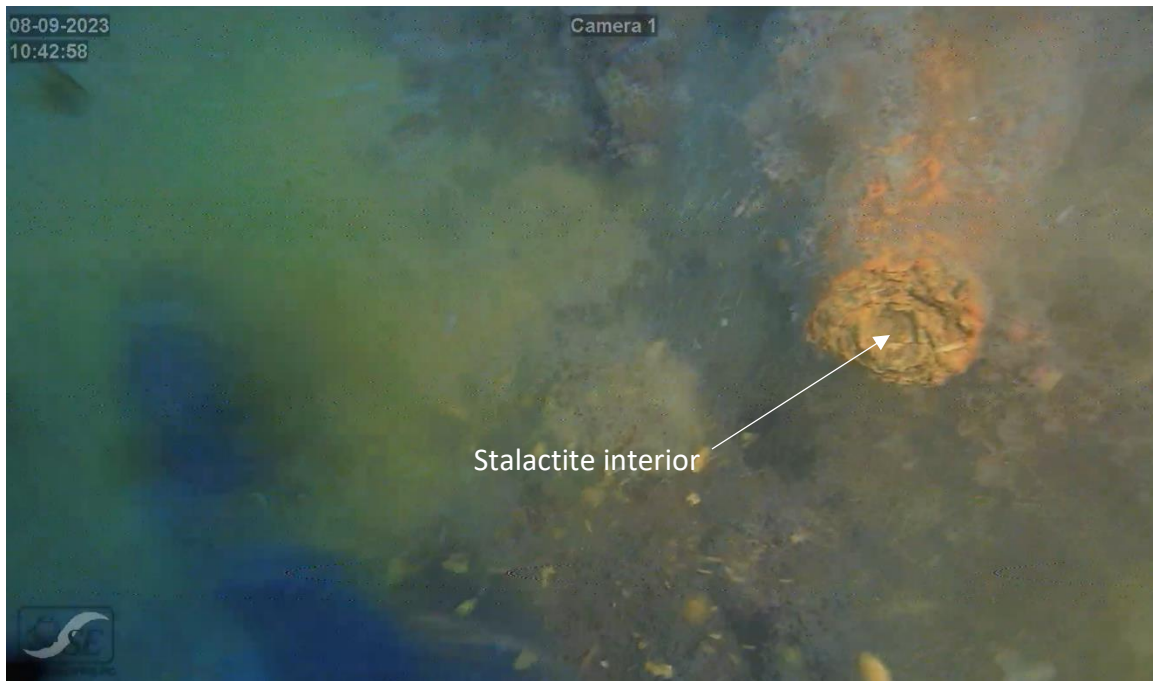
**PHOTOS:**



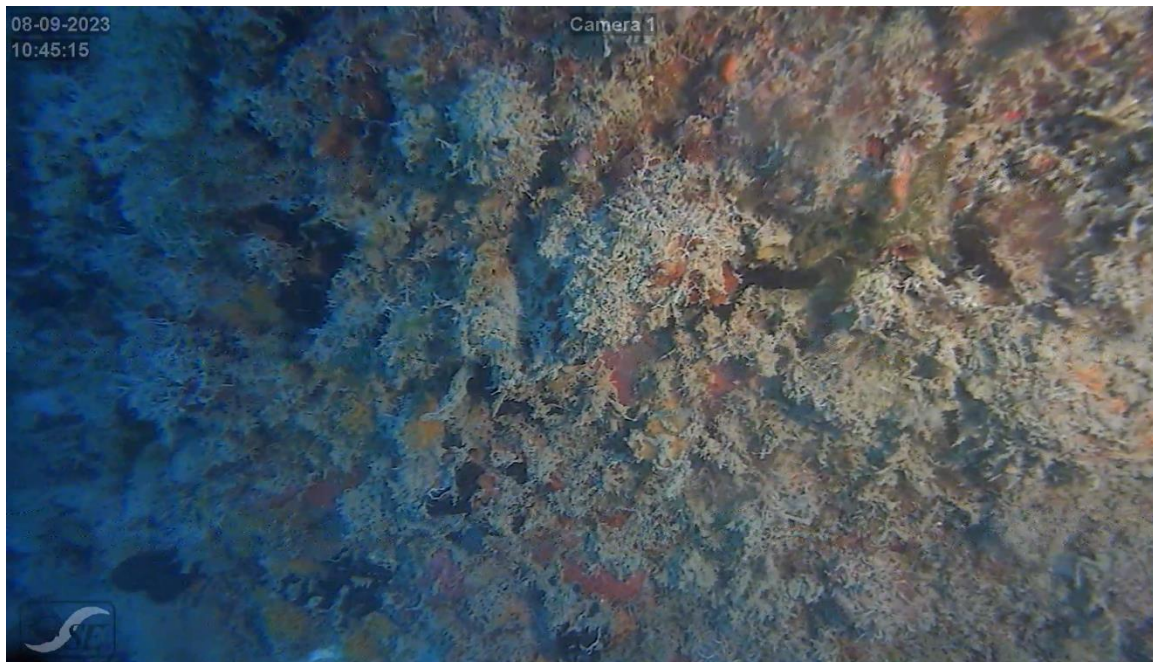
**Figure 1: Typical cone shaped corrosion protrusion, appears throughout vessel. Protrusions appeared more frequent towards bottom of hull.**



**Figure 2: Cone shaped corrosion stalactite varied in size, up to 12 inch in diameter and 18 inch in length.**

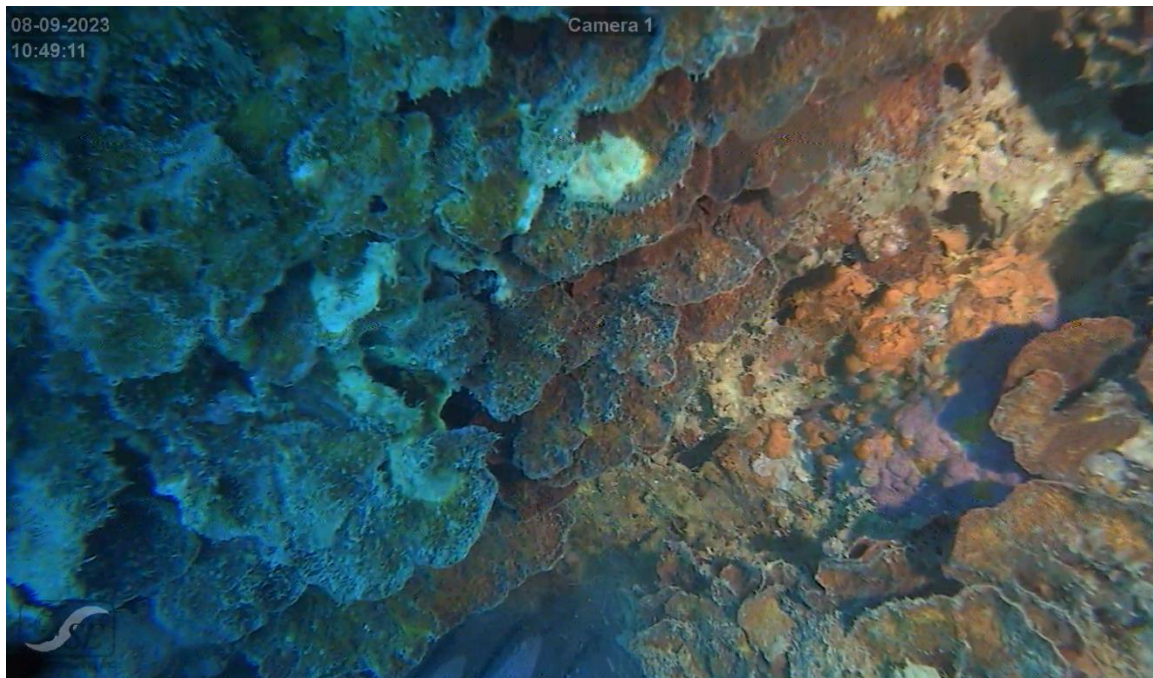


**Figure 3: Cone shaped stalactite appears to be composed of rust, easily broken off by hand.**



**Figure 4: Typical hull condition with 100% marine growth coverage. No spot cleaning was performed due to uncertain hull integrity.**

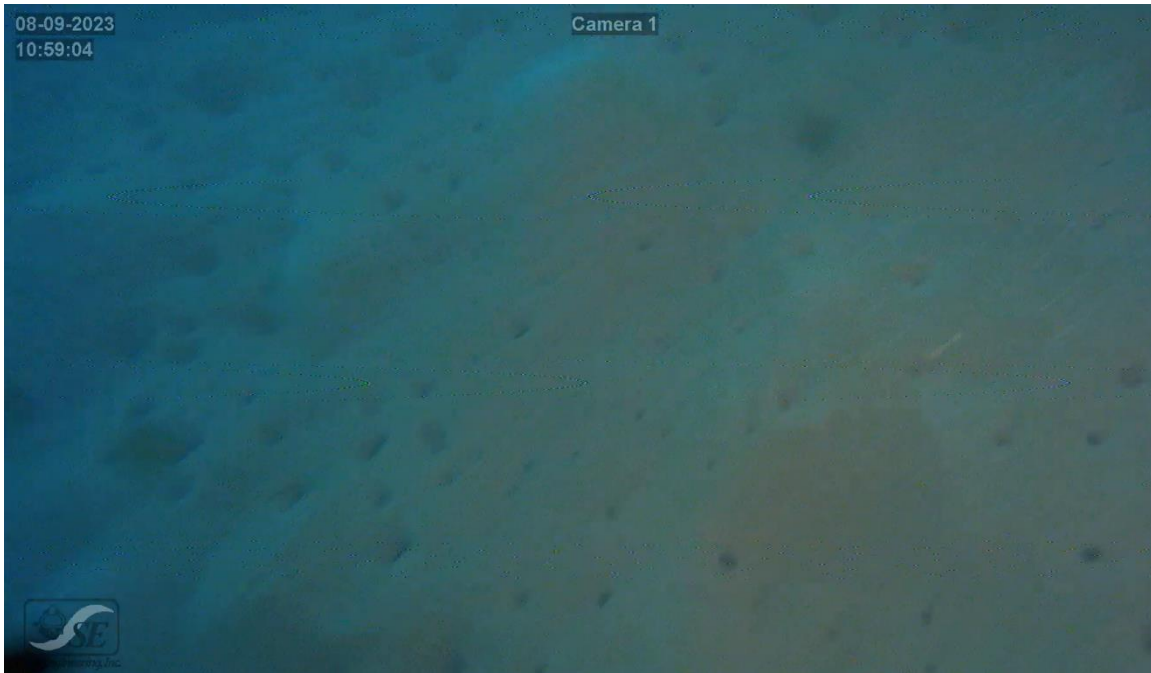




**Figure 5: Healthy reef structure throughout port side of vessel due to increased sunlight exposure.**



**Figure 6: Stern end of vessel with possible brackets for rudder stem.**



**Figure 7: Typical bottom condition directly underneath vessel. Average 33ft water depth.**

# **APPENDIX D**

Falls of Clyde Marine Biotic Survey Report

Submitted to Sea Engineering Inc.

Marine Research Consultants, Inc.

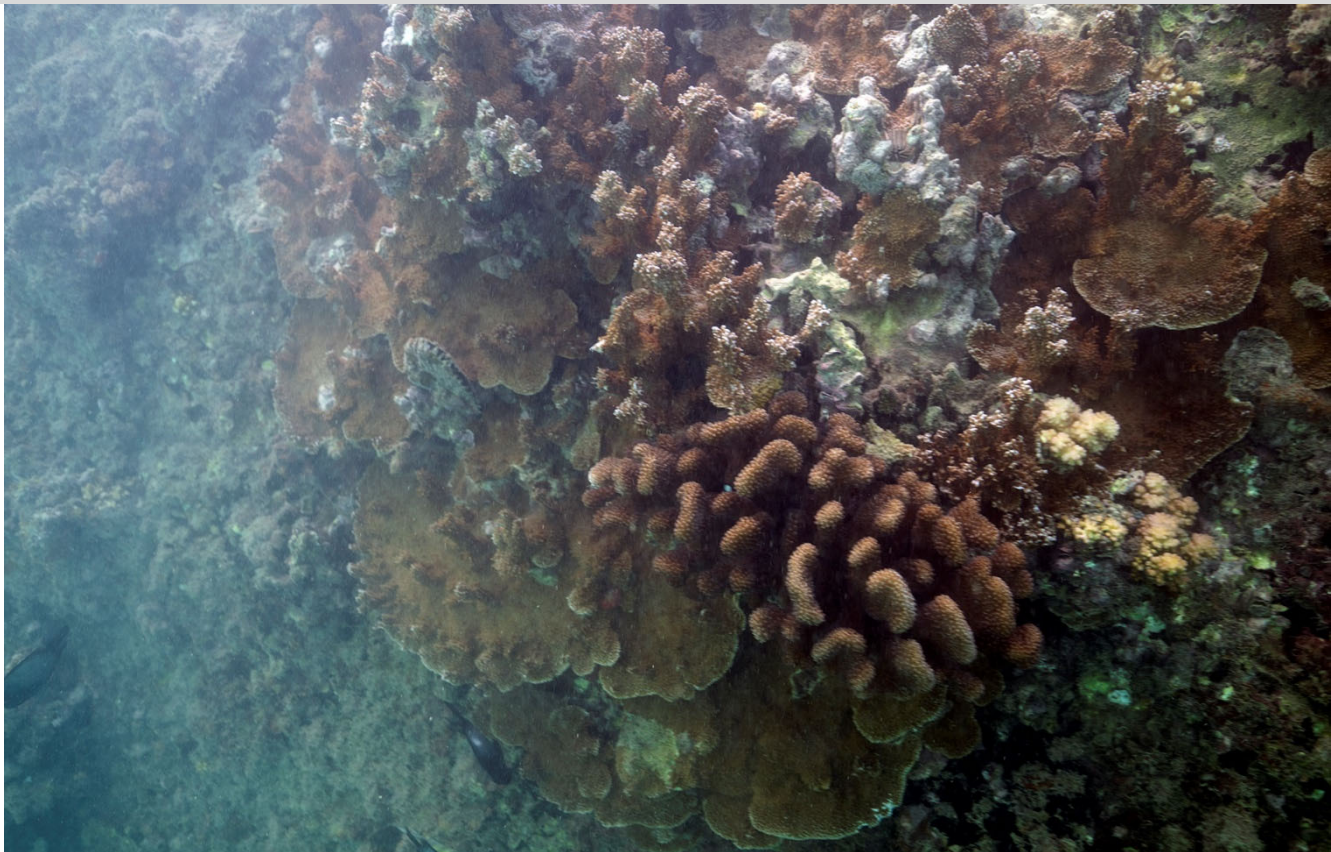
September 18, 2023





MARINE RESEARCH CONSULTANTS, INC.

# FALLS OF CLYDE MARINE BIOTIC SURVEY FINAL REPORT



**SUBMITTED TO:**

Sea Engineering, Inc.  
863 N. Nimitz Hwy  
Honolulu, HI 96817

**PREPARED BY:**

Marine Research Consultants, Inc.  
46-312C Haiku Rd  
Kaneohe, HI 96744  
808-779-4009

**DATE:** September 18, 2023

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The Falls of Clyde is an iron-hulled, four-masted sailing ship that was brought to Honolulu, Hawaii in 1963 and converted to a museum ship in 1968. Lack of adequate maintenance and drydocking as well as damage from sandblasting and Hurricane Iwa are primary factors that led to the deterioration of the ship. At present, planning is underway for the removal and disposal of the Falls of Clyde. As part of the planning process for removal a marine biotic assessment is necessary to evaluate the condition of communities of the hull of the ship as well surrounding substrates underneath and adjacent to the mooring site. The purpose of this report is to present data on the biotic community structure colonizing the submerged portion of the ship, as well as the areas of the floor and shoreline structures of Honolulu Harbor that may be affected by removal of the Falls of Clyde.

## 2 METHODS

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The Falls of Clyde benthic survey was conducted on August 9, 2023, by two marine biologists operating on SCUBA. At the time of the survey the water column was turbid with underwater visibility ranging from 2 to 4 meters (m). The tide was rising from 1.8 feet (ft) to 2.0 ft during in-water operations. The weather was sunny with no precipitation during the survey or in the 24-hour period prior to the survey.

Surveys were conducted in three areas: the submerged portion of the hull of the ship, the harbor floor surrounding the ship, and the submerged portion of the constructed shoreline in the vicinity of the ship (Figure 1). Support divers from Sea Engineering, Inc., marked the hull of the Falls of Clyde in 10-foot increments with brightly colored paint. However, the degraded and unsafe condition of the hull prevented cleaning biofouling organisms from the surface of the ship. Therefore, marks were difficult to apply and were not always visible. The area of the harbor floor that was investigated consisted of a rectangle with dimensions of 40 m by 150 m (Figure 1). The portion of the shoreline investigated consisted of approximately 40 m along the northeast side and 35 m along the southeast side (Figure 1). Divers did not enter the area under the pier with overhead obstructions.

One marine biologist diver carried a digital mirrorless camera fitted with a 24-millimeter lens in an underwater housing. The photographer collected representative images of the physical structure of the hull as well as marine biota of interest. With the exception of *Leptastrea purpurea*, all corals present on the hull were enumerated. The single exception was the species *Leptastrea purpurea*, which was present as small (less than 10 centimeters [cm]) in diameter encrusting colonies. The presence of this species was estimated. All other species of coral observed on the hull were quantified. The longest diameter of each colony was determined with a scale bar marked in 10-cm increments. Each colony was identified to the species level, photographed, and binned

During the survey, divers looked for the presence of seagrass. Two species of seagrass are present in Hawaii, *Halophila decipiens* and the endemic *H. hawaiiiana*. During this investigation, these two species were not differentiated and are referred to as “*Halophila* spp.” Divers also noted the presence of alien and invasive species (AIS) as defined by the State of Hawaii Department of Aquatic Resources (DAR, 2023a and 2023b) and introduced species (Bishop Museum, 2002).

All species of fish observed during the survey of the hull, wall, and harbor floor were recorded. Divers also noted the presence of sea turtles, monk seals, and any other federally protected species during all surveys.

## 3 RESULTS

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### 3.1 Hull

The hull of the Falls of Clyde is completely covered in marine biota comprised primarily of fouling organisms, macroalgae, and scattered corals. The starboard side of the Falls of Clyde faces the pier and therefore receives little direct sunlight. In contrast, the port side faces north-northwest and has no shading structures directly blocking sun exposure to the hull (Figure 1). Sections of the hull have degraded to the point of loss of the outer layer, thus exposing an inner layer of the hull (Figure 2 and Figure 3). Numerous protrusions up to 40 cm in length extend from the hull of the ship in an outwards and/or downward direction. The protrusions were present in a multitude of shapes comprised of variations of spheres (Figure 4) and funnels (Figure 5). The protrusions appeared to be abiotic and consist of an accumulation of rust.

A total of 254 corals comprised of 7 species were enumerated on the hull of the Falls of Clyde (Table 1). In addition to these corals, it is estimated that approximately 150 small (<10 cm) colonies of *L. purpurea* were also present. The port side of the ship, which receives more sunlight than the starboard side, had slightly more than half of the total corals. In addition, the port side had 1.5 times more of the larger (>40 cm) colonies than the starboard side (23 and 15 colonies, respectively).

The species of coral with the greatest number of colonies were *L. purpurea* (~150), *Montipora capitata* (81) and *Pocillopora damicornis* (80). *Leptastrea purpurea* was present as primarily small (<10 cm), flat, encrusting colonies (Figure 6). *Montipora capitata* was present primarily as flat encrusting colonies although this species also occurred as overlapping plates angling out from the side of the hull (Figure 7). This species was the only one with a colony greater than 160 cm in diameter (Figure 8). *Pocillopora damicornis* was most common within 1 m of the water surface where it occurred primarily as small (<20 cm) branching colonies (Figure 9).

*Pocillopora meandrina*, a branching species, was present primarily near the waterline in



encrusting although several colonies were observed as small mounds protruding from the surface of the hull (Figure 12). While accounting for only 5% of all colonies, *Pavona varians* accounted for 24% of colonies >40 cm. This species was typically present as non-continuous encrustations with occasional plating edges (Figure 13). A single colony of the branching species *Pocillopora grandis* was present on the starboard side of the hull. This colony was in the >40-80 cm size class and included branches at the base of the colony with new tissue growth (Figure 14).

Most of the corals on the hull of the Falls of Clyde did not display any signs of stress such as bleaching or disease. A single colony on the hull to be discolored, which may indicate some form of disease (Figure 15). There were no signs of Stony Coral Tissue Loss Disease. Several dead colonies of *P. damicornis* were observed above the waterline (Figure 16). These colonies must have settled and grown at a time when the hull of the ship was heavier and sat deeper in the water column.

Numerous non-coral invertebrates were identified on the hull of the ship (Table 2). Five of these species included motile organisms: one species of crab, one species of sea cucumber, and three species of sea urchins (Table 2, Figure 17, Figure 18, Figure 19). Also common on the hull was the endemic Hawaiian pearl oyster, *Pinctada galtsoffi* (Figure 21). Numerous bivalves, bryozoans, hydroids, sponges, and tunicates were present on the hull with densities of either abundant or common (Figure 21). These organisms were often established on top of other organisms as well as directly on the hull. Finally, several mats of colonial zoanthids were observed on port side of the hull (Figure 22).

Two invertebrate species classified as invasive were identified on the hull of the Falls of Clyde: *Mycale armata* (orange keyhole sponge, DAR 2023) and *Carijoa riisei* (snowflake coral, DAR 2023b). *Mycale armata* was present on the hull on both the starboard and port sides. The largest colony was approximately 30 cm in diameter (Figure 23). A single colony of *C. riisei* was observed approximately 40 ft from the stern of the ship on the starboard side (Figure 24). The colony consisted of approximately 25 branches and was approximately 30 cm in longest diameter.

Six invertebrates that are not classified as invasive but are non-native to Hawaii were also identified on the hull of the ship (Table 2). The only one of these with a density that can be considered abundant was *Pennaria disticha* (Christmas tree hydroid, Figure 25). Two non-native bryozoans present of the hull were *Amathia distans* (bushy bryozoan, Figure 26) and *Schizoporella errata* (erratic bryozoan, Figure 27). Three non-native tubeworms, all with a density that can be considered rare, were also identified: *Filograna implexa* (lacy tubeworm, Figure 28), *Sabellastarte spectabilis* (feather duster worm, Figure 29), and *Salmacina dysteri* (sea frost worm, Figure 27).

The most commonly observed species of algae on the hull of the Falls of Clyde was *Lobophora variegata*, which despite the deep red color, is classified as a brown alga. This species was abundant on the lower 2/3 of the submerged portion of the hull on

*Neomiris* sp., and *Micropora pikeana* (Figure 34).

Fifty-one individual fish within 6 species were enumerated swimming around the hull of the Falls of Clyde. The most common fish family observed were the damselfishes. Within this family, the species with the greatest number of individuals was *Dascyllus albisella* (Hawaiian damsel). This species was commonly observed with *Abudefduf abdominalis* (Hawaiian sergeant) and *A. vaigiensis* (Indo-Pacific sergeant) sheltering amongst the larger plating colonies of *M. capitata* (Figure 8). The only other fish observed along the hull were *Canthigaster jactator* (Hawaiian whitespotted pufferfish), *Chlorurus spilurus* (bullethead parrotfish), and *Thalassoma duperrey* (saddle wrasse).

### 3.2 Constructed Shoreline

The perimeter of the harbor in the vicinity of the ship is comprised of a manmade concrete wall that abuts the limestone fossil reef that was dredged to create the harbor basin. These hard surfaces provide suitable substrates for the settlement and growth of stony corals. All coral species observed growing on the hull of the Falls of Clyde were also observed on the harbor walls (Table 1). The northeastern edge of the harbor provides ideal conditions for coral growth as large colonies of *Montipora*, *Pavona*, *Pocillopora*, and *Porites* covered the majority of the substrate (Figure 35, Figure 36). Coral colonies were also observed growing attached to the vertical manmade wall along the southeast side of the Falls of Clyde (Figure 37, Figure 38). Coral coverage was higher along the northeast side compared to the southeast side.

The invasive species *C. riisei* and *M. armata* observed on the hull of the Falls of Clyde were not detected on the harbor walls adjacent to the ship. The most conspicuous non-coral invertebrates on the wall were a variety of sea urchins, the most common of which were *Echinometra mathaei* and *Tripneustes gratilla*. The only macroalgae observed on the harbor walls was crustose coralline algae.

One hundred individual fish comprised of 15 species were observed along the harbor walls adjacent to the Falls of Clyde. The four species observed sheltering along the hull of the ship were also observed along the walls of the harbor. In addition, butterflyfish, jacks, surgeonfish, and the Moorish idol were also detected along the walls.

### 3.3 Harbor Floor

The harbor floor beneath and adjacent to the Falls of Clyde consists of a bed of accumulated fine-grained sediment (Figure 39). Several boulders and unidentified pieces of debris were observed that provided hard substrate for the settlement of *Montipora capitata* and sponges (Figure 40). The only macroalgae detected on the harbor floor was cyanobacteria, which formed a thin, dark film on the surface of the sediment. *Halophila* sp. (seagrass) was observed on the harbor floor but was limited to the area off the stern of the ship in approximately 33 ft of water. No fish were detected while surveying the harbor floor in the vicinity of the Falls of Clyde.

While it cannot be considered a unique or expansive community, there are assemblages of common Hawaiian reef corals inhabiting the hull of the Falls of Clyde. Alternatives regarding avoidance of coral loss/mitigation may include translocating these corals. Should this alternative be exercised it is recommended that only branching and plating corals greater than 20 cm in diameter be relocated. Removal of the many small encrusting colonies is not generally feasible as the removal process causes fragmentation and results in small chips. As there are well established coral communities of the same species on the harbor walls adjacent to the ship, colonies removed from the hull could be translocated to bare segments of the wall with a minimum of effort. In particular, areas of the walls that are presently shaded by the ship's hull that would become unshaded after removal would provide ideal relocation sites for translocated corals.

Though not identified to the species level, it is likely that the zoanthids on the hull of the ship contain deadly palytoxin. Handling of this species should be done with care (or avoided).

An important consideration in the removal of the Falls of Clyde is the prevention of spreading of introduced and invasive species that are present on the hull of the ship. While only one colony was observed on the hull, *Carijoa riisei* has been documented to impact deep water corals. To avoid any spreading of invasive species (i.e., *C. riisei*, *Mycale armata*, *Pennaria disticha*) it is recommended that these species are physically removed from the hull and disposed of landside prior to moving the ship.

Fish observed were common harbor species. As these species were also detected along the wall, the fish found sheltering on the hull will find suitable habitat nearby after the removal of the ship.

No protected species (turtles, seals, and whales) were observed during the marine surveys of the Falls of Clyde. These species may occur periodically in the vicinity of the ship. During any removal procedures, monitoring should be implemented to ensure that no negative impacts occur to the behavior of these species.

During all removal procedures care should be taken to avoid any contact by barges or boats to the well-developed coral communities that occur on the harbor walls adjacent to the Falls of Clyde.

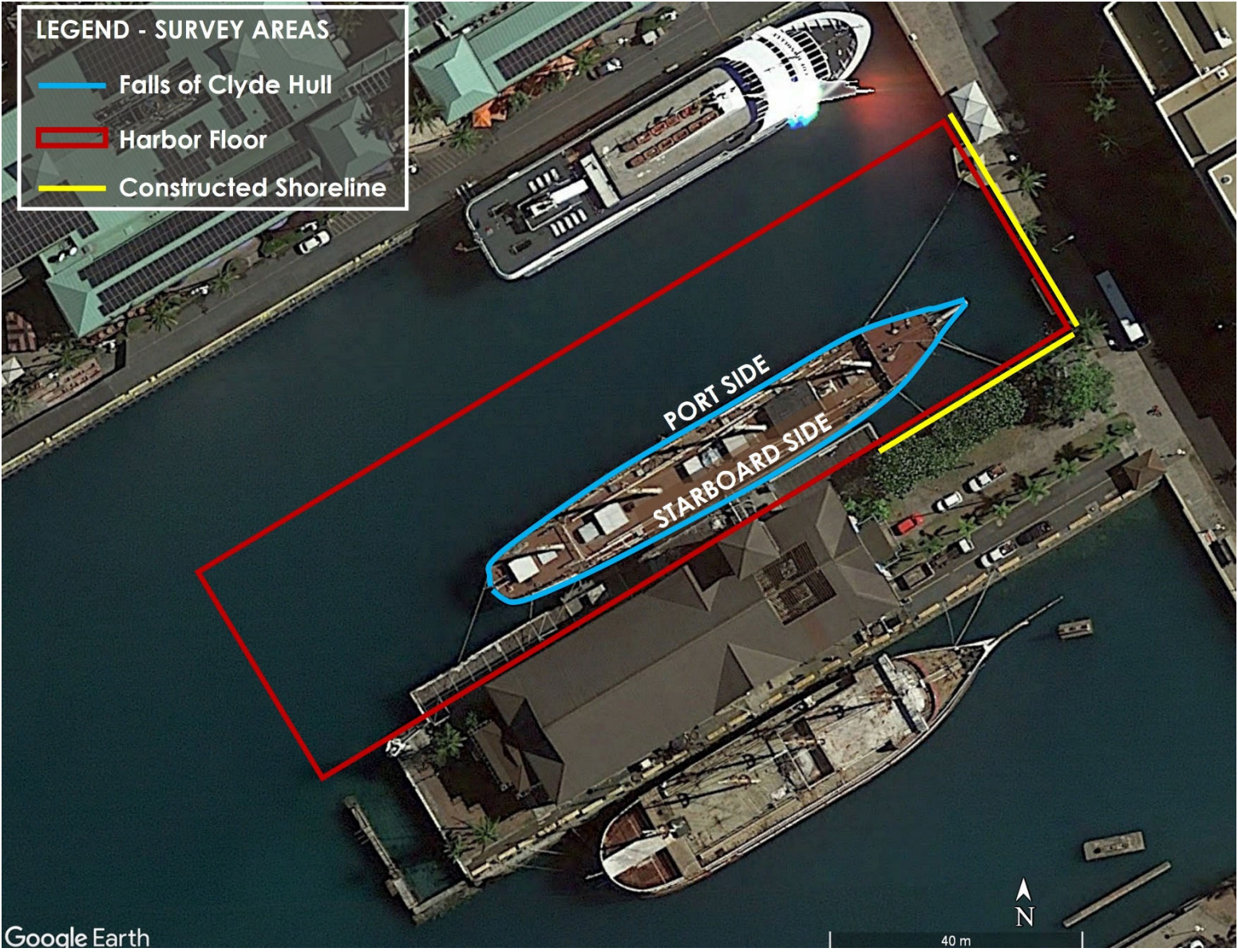
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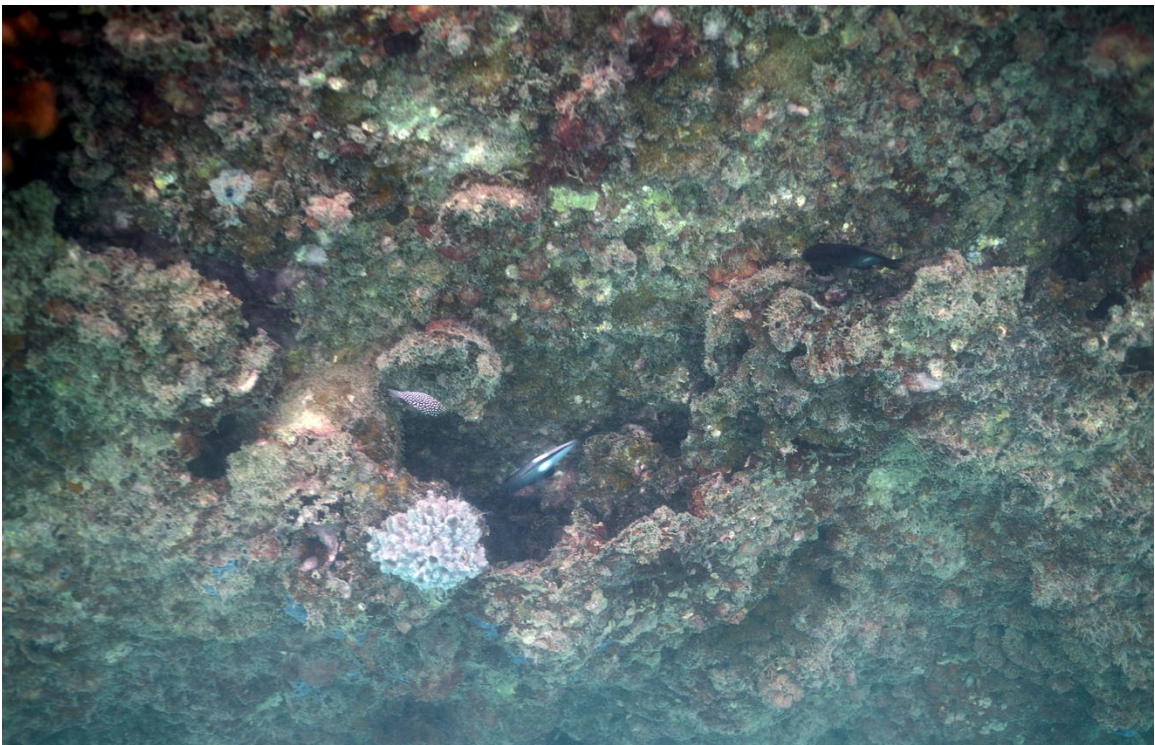


1 Survey Areas for Falls of Clyde marine Biotic Survey





**Figure 2 Deteriorated Outer Portion of Hull Exposing Inner Potion of Hull.**



**Figure 3 Deteriorated Outer Portion of Hull Exposing Inner Potion of Hull.**





**Figure 4 Spherical Protrusion Consisting of Rust on the Hull of the Falls of Clyde.**



**Figure 5 Funnel-Shaped Protrusion Consisting of Rust on the Hull of the Falls of Clyde.**

**Table 1 Coral Colonies (excluding *Leptastrea purpurea*) on the Hull of the Falls of Clyde**

SPECIES	SIZE CLASS	PORT	STARBOARD	TOTAL
<i>Montipora capitata</i>	>0-10	6	5	11
	>10-20	13	9	22
	>20-40	12	13	25
	>40-80	8	7	15
	>80-160	5	2	7
	>160-320	1	-	1
	<b>ALL</b>	45	36	81
<i>Montipora patula</i>	>0-10	1	-	1
	>10-20	1	6	7
	>20-40	-	6	6
	>40-80	-	3	3
	>80	-	1	1
	<b>ALL</b>	2	16	18
<i>Pavona varians</i>	>10-20	1	1	2
	>20-40	-	1	1
	>40-80	4	1	5
	>80-160	3	1	4
	<b>ALL</b>	8	4	12
<i>Pocillopora damicornis</i>	>0-10	30	35	65
	>10-20	6	9	15
	<b>ALL</b>	36	44	80
<i>Pocillopora grandis</i>	>40-80	1	-	1
<i>Pocillopora meandrina</i>	>0-10	8	6	14
	>10-20	9	6	15
	>20-40	7	2	9
	>40-80	1	-	1
	<b>ALL</b>	25	14	39
<i>Porites</i> sp.	>0-10	8	6	14
	>10-20	8	1	9
	<b>ALL</b>	16	7	23
<b>ALL SPECIES</b>	<b>&gt;0-10</b>	<b>53</b>	<b>52</b>	<b>105</b>
	<b>&gt;10-20</b>	<b>38</b>	<b>32</b>	<b>70</b>
	<b>&gt;20-40</b>	<b>19</b>	<b>22</b>	<b>41</b>
	<b>&gt;40-80</b>	<b>14</b>	<b>11</b>	<b>25</b>
	<b>&gt;80-160</b>	<b>8</b>	<b>4</b>	<b>12</b>
	<b>&gt;160-320</b>	<b>1</b>	<b>-</b>	<b>1</b>
	<b>ALL</b>	<b>133</b>	<b>121</b>	<b>254</b>

**Table 2 Non-Coral Invertebrates by Survey Area**

GROUP	SPECIES (if known)	WALL	HULL	HARBOR FLOOR
BRYOZOANS	<i>Amathia distans</i>	-	R	-
	Bryozoan	-	R	-
	<i>Bugula dentata</i>	-	R	-
	<i>Schizoporella errata</i>	-	R	-
BIVALVES	Bivalve	R	C	-
	<i>Pinctada galstoffi</i>	R	C	-
CRABS	Crab	R	R	-
HYDROIDS	Hydroid	-	A	-
	<i>Pennaria disticha</i>	R	A	-
SEA CUCUMBERS	<i>Actinopyga varians</i>	-	C	-
SEA URCHINS	<i>Diadema paucispinum</i>	C	-	-
	<i>Echinometra mathei</i>	C	C	-
	<i>Echinostrephus aciculatus</i>	R	-	-
	<i>Echinothrix calamaris</i>	A	R	R
	<i>Tripneustes gratilla</i>	A	R	R
SOFT CORAL	<i>Carijoa riisei</i>	-	R	-
SPONGES	<i>Mycale armata</i>	-	R	-
	Porifera	A	A	R
TUBEWORMS	<i>Filograna implexa</i>	-	R	-
	<i>Sabellastarte spectabilis</i>	R	R	R
	<i>Salmacina dysteri</i>	-	R	-
TUNICATES	Tunicates	-	C	-
ZOANTHIDS	Zoanthids	-	R	-

NOTE: Species highlighted in red are designated as invasive by the State of Hawaii DLNR DAR; species highlighted in purple are introduced (non-native) to Hawaii.

**Table 3 Macroalgae Species by Survey Area**

ALGAE	WALL	HULL	HARBOR FLOOR
<i>Cladophora</i> spp.	-	R	-
Crustose Coralline Algae	A	R	-
Cyanobacteria	-	C	A
<i>Dasya iridescens</i>	-	R	-
<i>Dichotomaria marginata</i>	-	C	-
<i>Halophila</i> sp.	-	-	R
<i>Halymenia</i> spp.	-	R	-
<i>Lobophora variegata</i>	-	A	-
<i>Neomeris</i> sp.	-	R	-
<i>Titanophora pikeana</i>	-	R	-

**Table 4 Number of Fish by Survey Area**

FAMILY / SPECIES	WALL	HULL
<b>Acanthuridae (Surgeonfishes)</b>		
<i>Acanthurus blochii</i>	10	-
<i>Zebrasoma flavescens</i>	9	-
<i>Z. veliferum</i>	1	-
<b>Carangidae (Jacks)</b>		
<i>Caranx melampygus</i>	1	-
<b>Chaetodontidea (Butterflyfishes)</b>		
<i>Chaetodon lunula</i>	2	-
<i>C. unimaculatus</i>	1	-
<i>Forcipiger</i> sp.	1	-
<b>Labridae (Wrasses)</b>		
<i>Thalassoma duperrey</i>	2	2
<b>Pomacentridae (Damselfishes)</b>		
<i>Abudefduf abdominalis</i>	26	5
<i>A. sordidus</i>	1	-
<i>A. vaigiensis</i>	3	9
<i>Dascyllus albisella</i>	30	30
<b>Scaridae (Parrotfishes)</b>		
<i>Chlorurus spilurus</i>	2	3
<b>Tetraodontidae (Pufferfishes)</b>		
<i>Canthigaster jactator</i>	6	2
<b>Zanclidae (Moorish Idol)</b>		
<i>Zanclus cornutus</i>	5	-
<b>TOTAL SPECIES</b>	<b>15</b>	<b>6</b>
<b>TOTAL FISH</b>	<b>100</b>	<b>51</b>

R





**Figure 6** Three Small (<10 cm) Colonies of *Leptastrea purpurea* on the Hull of the Falls of Clyde.



**Figure 7** Plating Colony of *Montipora capitata*, in the >20-40 cm Size Class on the Hull of the Falls of Clyde.





**Figure 8** *Dascyllus albisella* and *Abudefduf* sp. Sheltering among a Plating Colony of *Montipora capitata* greater than 160 cm on the Hull of the Falls of Clyde.



**Figure 9** *Pocillopora damicornis*, >10-20 cm, on the Hull of the Falls of Clyde.





Figure 10 *Pocillopora meandrina*, >10-20 cm, on the Hull of the Falls of Clyde.

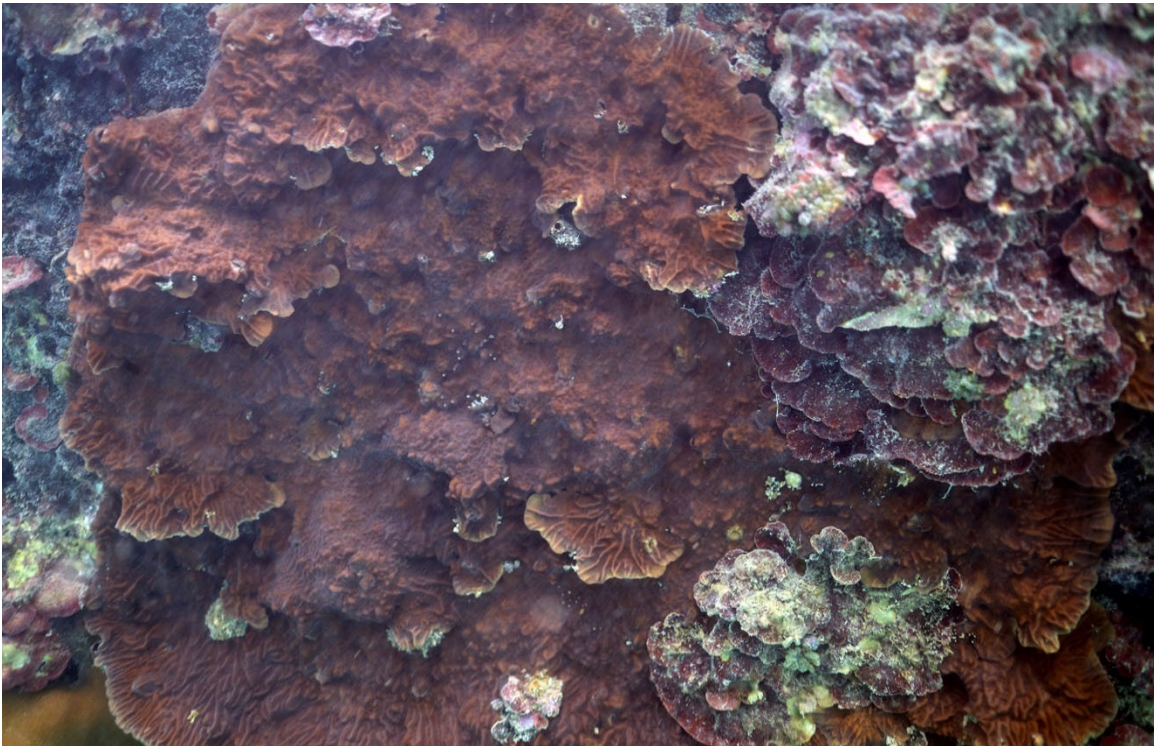


Figure 11 Plating colony of *Montipora patula*, >10-20 cm, on the Hull of the Falls of Clyde





**Figure 12** *Porites* sp. Growing in an Encrusting Morphology on the Hull of the Falls of Clyde.



**Figure 13** Encrusting Colony, >40-80 cm, of *Pavona varians* with Raised Plating Edges on the Hull of the Falls of Clyde.





**Figure 14** *Pocillopora grandis*, >40-80 cm, on the Hull of the Falls of Clyde.



**Figure 15** Colony of *Montipora capitata* on the Hull of the Falls of Clyde Showing Possible Diseased Coloration.





**Figure 16 Dead Colonies of *P. damicornis* (Visible as Pure White Branching Skeleton) Above the Waterline on the Hull of the Falls of Clyde.**



**Figure 17 Crab above a Rust Protrusion on the Hull of the Falls of Clyde.**





Figure 18 *Actinopyga varians* (white spotted sea cucumber) on the Hull of the Falls of Clyde.



Figure 19 *Tripneustes gratilla* (pebble collector urchin) on the Hull of the Falls of Clyde.



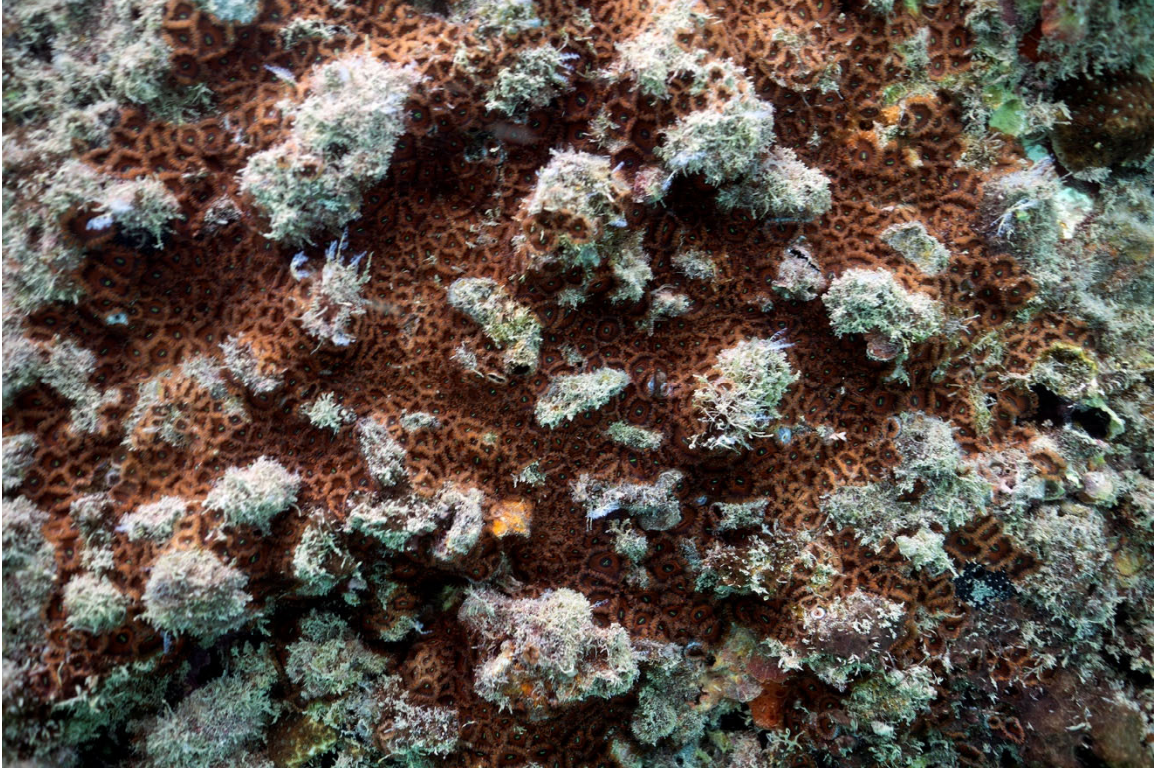


**Figure 20** *Pinctada galtsoffi* (Hawaiian pearl oyster) on the Hull of the Falls of Clyde.



**Figure 21** Blue Sponge Growing on Top and Adjacent to a Colony of *Montipora patula*.





**Figure 22** Mat of Zoanthids Growing on the Hull of the Falls of Clyde.



**Figure 23** *Mycale armata* (orange keyhole sponge), an Invasive Species Growing on the Hull of the Falls of Clyde.





**Figure 24** *Carijoa riisei* (snowflake coral), an Invasive Octocoral Growing on the Hull of the Falls of Clyde.



**Figure 25** *Pennaria disticha* (Christmas tree hydroid), Growing on the Hull of the Falls of Clyde.





Figure 26 *Amathia distans* (bushy bryozoan), Growing on a Colony of *Montipora capitata* the Hull of the Falls of Clyde.



Figure 27 *Schizoporella errata* (erratic bryozoan, center, orange tips) and *Salmacina dysteri* (sea frost worm, left, small white) Growing on the Hull of the Falls of Clyde.





**Figure 28** *Filograna implexa* (lacy tubeworm) Growing on the Hull of the Falls of Clyde.



**Figure 29** *Sabellastarte spectabilis* (featherduster worm) and *Pinctada galtsoffi* (Hawaiian pearl oyster) Growing Beneath a Plating Colony of *Montipora capitata* on the Hull of the Falls of Clyde.



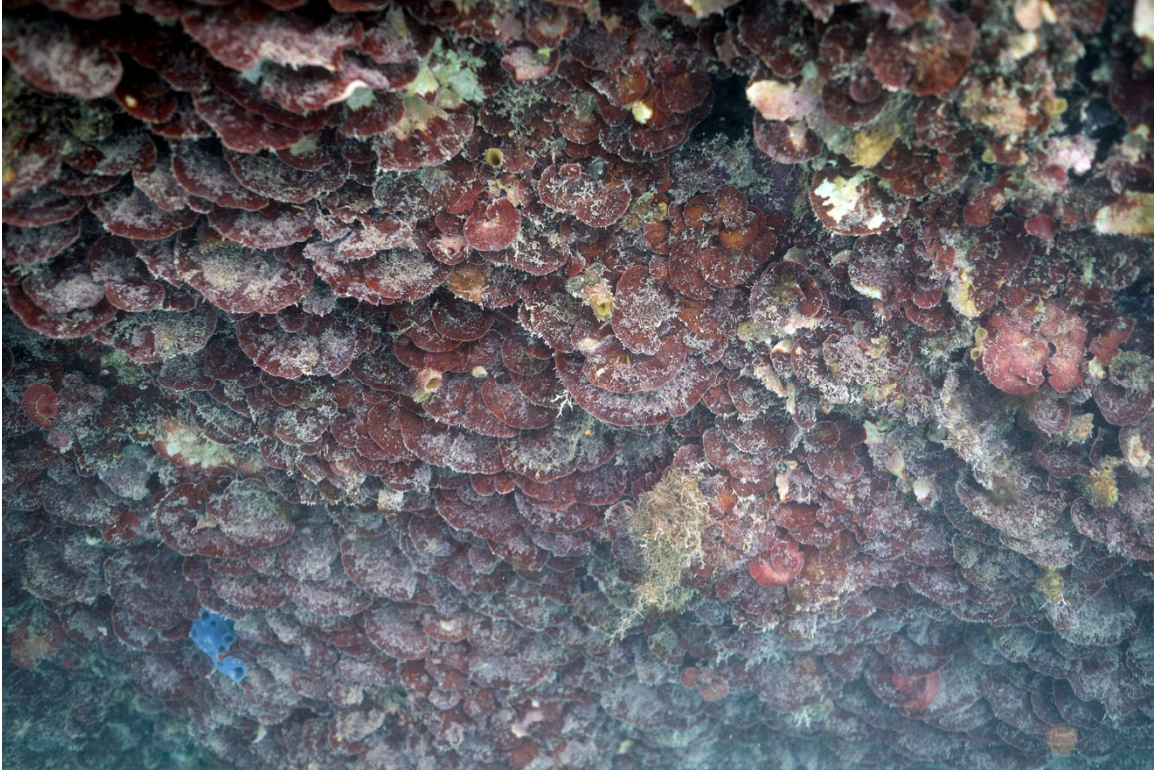


Figure 30 *Lobophora vareigata* (variegated seaweed) Growing on the Hull of the Falls of Clyde.



Figure 31 *Dasya iridescens* Growing on the Hull of the Falls of Clyde.





**Figure 32** *Dichotomaria marginata* Growing on the Hull of the Falls of Clyde.



**Figure 33** *Halymenia* spp. Growing on the Hull of the Falls of Clyde.

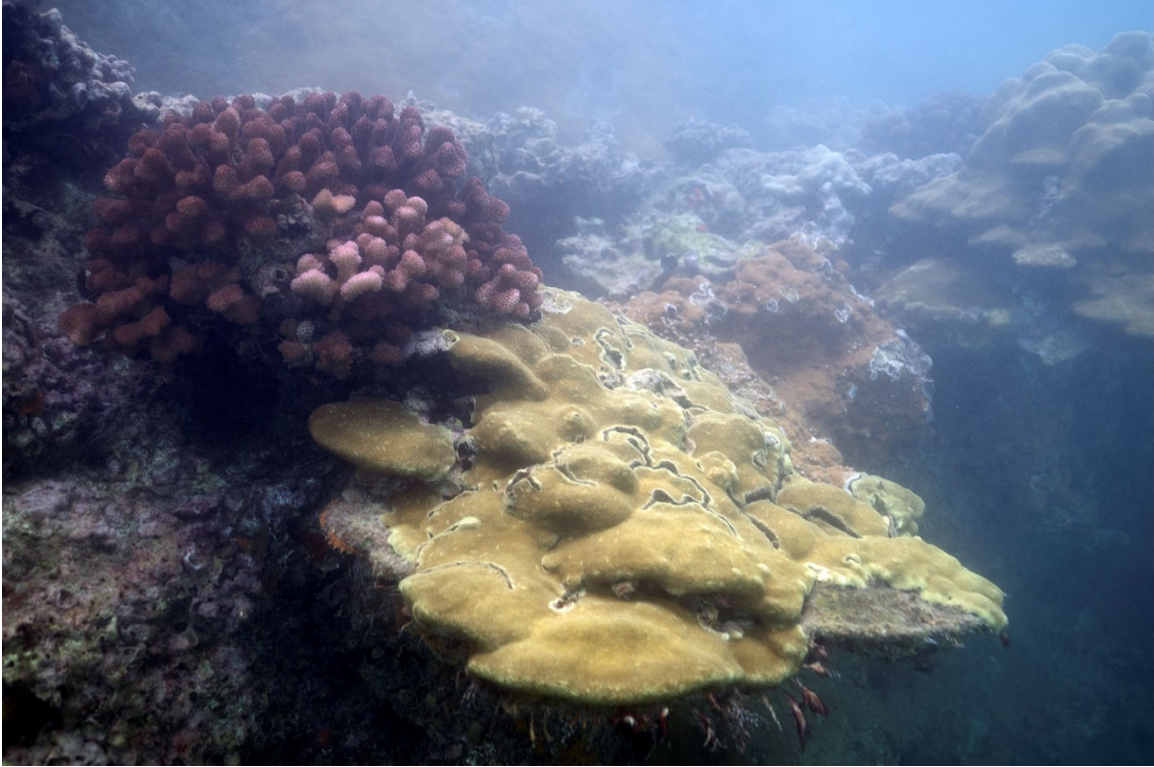




**Figure 34** *Titanophora pikeana* Growing on the Hull of the Falls of Clyde.



**Figure 35** Large Colonies of *Montipora capitata*, *M. patula*, and *Porites* sp. Growing on the Northeastern Wall Adjacent to the Falls of Clyde.



**Figure 36** Large Colonies of *Montipora capitata*, *M. patula*, and *Porites* sp. Growing on the Northeastern Wall Adjacent to the Falls of Clyde.

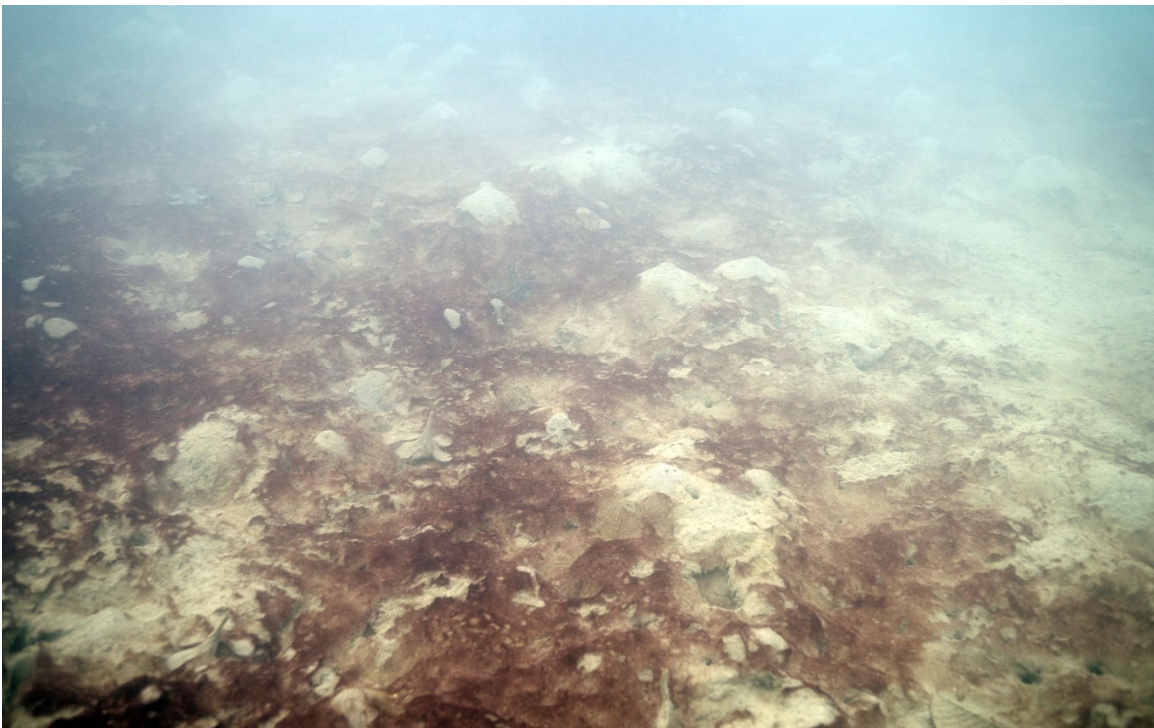


**Figure 37** Colonies of *Pocillopora grandis* and *Porites* sp. Growing on the Southeastern Wall Adjacent to the Falls of Clyde.





**Figure 38** Colonies of *Montipora patula*, *Pocillopora meandrina*, and *Porites* sp. Growing on the Southeastern Wall Adjacent to the Falls of Clyde.



**Figure 39** Soft sediment with Cyanobacteria on the Harbor Floor in the Vicinity of the Falls of Clyde.





**Figure 40 Boulder or Debris on the Soft sediment on the Harbor Floor Providing Substrate for the Attachment of Coral (*Montipora capitata*) and Sponges in the Vicinity of the Falls of Clyde.**



**Figure 41 A Patch of *Halophila* sp. (seagrass) on the Soft Sediment of the Harbor Floor in the Vicinity of the Falls of Clyde.**



## **APPENDIX D-1**

### HDOT and DLNR DAR Correspondence on Coral Removal

- HDOT Memo to DAR, Subject: Safety Concerns Regarding Hull Scraping and Translocation of Coral, April 11, 2024
- Memorandum from Sea Engineering, Inc., Subject: Removal of Coral from the Falls of Clyde, March 8, 2024
- DLNR DAR Memo to HDOT, Subject: Safety Concerns Regarding Hull Scraping and Translocation of Coral April 24, 2024



**STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII'**  
**DEPARTMENT OF TRANSPORTATION | KA 'OIHANA ALAKAU**  
869 PUNCHBOWL STREET  
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:

**HAR.24.2908**

April 11, 2024

TO: BRIAN NEILSON, ADMINISTRATOR  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF AQUATIC RESOURCES

FROM: DAVIS K. YOGI   
HARBORS ADMINISTRATOR

SUBJECT: SAFETY CONCERNS REGARDING HULL SCRAPING AND  
TRANSLOCATION OF CORAL

The Hawaii Department of Transportation (HDOT), has received comments from the Department of Land and Natural Resources, Division of Aquatic Resources (DAR), in response to the Draft Environmental Assessment (DEA) for the Removal of the Falls of Clyde (FOC) from Honolulu Harbor that was published in The Environmental Notice, on December 23, 2023.

In its December 23, 2023, letter DAR requested "*photo documentation of the translocated corals that are to be moved from the hull of the vessel to bare segments of the adjacent harbor walls.*" In considering this request, the HDOT reviewed the FOC Hull Survey prepared by Mr. Joseph W. Lombardi of Ocean Technical Services, LLC, Vessel Inspection Report No. 2984, in March 2023 (see DEA, Appendix A). The report describes that the shell plating of the vessel has holes in many areas below the waterline that have been repaired over time, using wooden plugs, damage control patches, and fiberglass/epoxy pages. The report also stated that there were open holes above the water line that has shell wastage exceeding 70 percent (see Appendix A, page 62). The HDOT also reviewed the FOC Condition Reassessment and Value Survey conducted by the Hawaii Marine Surveys, LLC, in 2022 (see DEA, Appendix B). The surveyor observed that the rate of the deterioration of the hull and decks has increased and provided an overall assessment that the vessel will eventually sink in place if not removed proactively (see Appendix B, page 2).

Upon further review of these appendices, the HDOT acknowledges these documents provide a technical presentation and analysis of the condition of the hull but do not address whether coral, as coral polyps attaches to a hard surface for coral growth, can be removed without damaging the hull of the vessel, or where removal can cause a leak and sink the vessel. To address this safety concern, the HDOT requested clarification from the consultants responsible for the most recent survey of the condition of the hull. In response, Sea Engineering, Inc., provided the attached letter dated March 8, 2024, which reports the following:

*“It is Sea Engineering’s belief the removal of the coral structures would likely result in failure of the hull. It is expected, given the maturity of the coral on the hull, that the remaining thin steel would likely come off with the coral during the removal operations. Should this occur, it is likely that the water intrusion into the hull would exceed pumping capacity of any pumps. The uncontrolled sinking of the Falls of Clyde creates a potential safety concern for divers working on the bottom of the ship and would likely result in the destruction of any remaining corals not yet removed from the vessel.”*

In exploring the feasibility of conducting a “*photo documentation of the translocated corals*,” the HDOT believes that removing the coral poses a risk of damaging the hull and sinking the vessel, and thereby creating a safety risk to both personnel who would conduct this work and nearby property.

At this time, the HDOT requests concurrence from DAR that removal of the corals from the hull of the FOC represents a risk of additional perforation of the hull, thereby having the potential to sink the vessel in place, thus causing a significant safety concern within Honolulu Harbor and seeks guidance regarding the filing of the Special Activity Permit that may be issued pursuant to Hawaii Revised Statutes, Section 187-6.

We kindly request a response by April 24, 2024, so that we may complete the Final Environmental Assessment in a timely manner. We sincerely appreciate the consideration which DAR has already provided on this matter.

Attachment



# Sea Engineering, Inc.

---

863 N. Nimitz Hwy • Honolulu, Hawaii 96817  
Phone: (808) 536-3603 • FAX (808) 536-3703 • [www.seaengineering.com](http://www.seaengineering.com)

March 8, 2024

**Scott Ezer**

HHF Planners  
733 Bishop St. Ste 2590  
Honolulu, HI 96813

**SUBJECT: Removal of Coral from the Falls of Clyde**

**Dear Scott**

Sea Engineering completed the underwater inspection to supplement the topside marine surveyor report. Sea Engineering completed an underwater inspection on August 9<sup>th</sup> 2023. Work included a hull inspection by SEI divers as well as a benthic inspection with marine biologist.

Observations by both teams noted heavily covered marine growth of varying thicknesses as well as heavy corrosion, with cone shaped protrusions from the hull, which were observed to be composed of compacted rust and hull material. Hull degradation, while largely blocked by the marine growth, did appear to coincide with the marine surveyors report, which indicated thin to failing steel plate along significant portions of the hull. For this reason, SEI's inspection was visual only, as it is believed that removal of any marine growth or cleaning of the hull would result in a structural failure and potential sinking of the Falls of Clyde.

It is Sea Engineering's belief the removal of the coral structures would likely result in failure of the hull. It is expected, given the maturity of the coral on the hull, that the remaining thin steel would likely come off with the coral during the removal operations. Should this occur, it is likely that the water intrusion into the hull would exceed pumping capacity of any pumps. The uncontrolled sinking of the Falls of Clyde creates a potential safety concern for divers working on the bottom of the ship, and would likely result in the destruction of any remaining corals not yet removed from the vessel.

Sea Engineering believes that, should coral removal be required, significant safety protocols, for environmental and human safety must be in place prior to starting operations, and the vessels should be in its final demolition location with all required BMPs in place.

Thank you.

---

Andrew Rocheleau  
President  
Sea Engineering, Inc.  
[arocheleau@seaengineering.com](mailto:arocheleau@seaengineering.com)

JOSH GREEN, M.D.  
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE  
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



DAWN N.S. CHANG  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE  
MANAGEMENT

RYAN K.P. KANAKA'OLE  
FIRST DEPUTY

DEAN D. 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



STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII  
DEPARTMENT OF LAND AND NATURAL  
RESOURCES DIVISION OF AQUATIC RESOURCES  
1151 PUNCHBOWL STREET, ROOM 330  
HONOLULU, HAWAII 96813

Date: 4/24/24  
DAR # AR6629

MEMORANDUM

TO: Brian J. Neilson  
DAR Administrator

FROM: Kendall Tucker, Aquatic Biologist

SUBJECT: SAFETY CONCERNS REGARDING HULL SCRAPING AND  
TRANSLOCATION OF CORAL

Request Submitted by: Davis K. Yogi-Harbors Administrator

Location of Project: Honolulu Harbor

Brief Description of Project:

In its December 23, 2023, letter DAR requested "photo documentation of the translocated corals that are to be moved from the hull of the vessel to bare segments of the adjacent harbor walls."

In considering this request, the HDOT reviewed the FOC Hull Survey prepared by Mr. Joseph W. Lombardi of Ocean Technical Services, LLC, Vessel Inspection Report No. 2984,

in March 2023 (see DEA, Appendix A). The report describes that the shell plating of the vessel

has holes in many areas below the waterline that have been repaired over time. using

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: Apr 24, 2024

Brian J. Neilson  
DAR Administrator



DAR# AR6629

Brief Description of Project

The report also stated that there were open holes above the water line that has shell wastage exceeding 70 percent. The HDOT also reviewed the FOC Condition Reassessment and

Value Survey conducted by the Hawaii Marine Surveys, LLC, in 2022.

The surveyor observed that the rate of the deterioration of the hull and decks has increased and

provided an overall assessment that the vessel will eventually sink in place if not removed proactively.

To address this safety concern, the HDOT requested clarification from the consultants responsible for the most recent survey of the condition of the hull. In response, Sea Engineering, Inc., provided the attached letter dated March 8, 2024, which reports the following:

“It is Sea Engineering’s belief the removal of the coral structures would likely result in failure of the hull. It is expected, given the maturity of the coral on the hull, that the remaining thin steel would likely come off with the coral during the removal operations. Should this occur, it is likely that the water intrusion into the hull would exceed pumping capacity of any pumps. The uncontrolled sinking of the Falls of Clyde creates a potential safety concern for divers working on the bottom of the ship and would likely result in the destruction of any remaining corals not yet removed from the vessel.”

DAR# AR6629

Comments

Given the additional information regarding the status of the hull of Falls of Clyde DAR agrees with HDOT's determination that removal of the corals from the hull would cause considerable safety risk to personnel, the harbor infrastructure, and the Falls of Clyde. Upon further review of DAR's special activity permit (SAP) issued pursuant to Hawaii Revised Statutes, Section 187-6 HDOT does not need to be issued a SAP for the coral on the Falls of Clyde. HDOT is not subject to section 13-95-70, Hawaii Administrative Rule, (HAR), under which the taking of corals and live rock is prohibited because the rule specifies that it is unlawful for any person to take, break, or damage any stony coral, except as provided select sections and HDOT is a department of the State of Hawaii and therefore not a "person" as specified under the rule.

If, and only if, the removal of Falls of Clyde is done in a way that coral may be removed from pieces of the hull when they come on-shore, and there is no risk to infrastructure, personnel, or the operation itself, HDOT shall make these corals available to DAR's coral nursery team at Anuenue Fisheries Research Center.

## **APPENDIX E**

The Four-Masted Iron Ship *Falls of Clyde*: Evaluation of Loss of Integrity and Recommendation for Delisting from the National Register of Historic Places

James P. Delgado, Ph.D.

SEARCH, Inc.

May 10, 2023

**THE FOUR-MASTED IRON SHIP *FALLS OF CLYDE*: EVALUATION OF LOSS OF INTEGRITY AND  
RECOMMENDATION FOR DELISTING FROM THE NATIONAL REGISTER OF HISTORIC PLACES**

**James P. Delgado, Ph.D.**

**SEARCH, Inc.**

**May 10, 2023**



**Figure 1: Bow view of *Falls of Clyde*, March 2023 (Joseph Lombardi).**

**Introduction**

The 1878-built ship *Falls of Clyde* is the world's only surviving four-masted, full-rigged ship. Currently berthed at Pier Seven in Honolulu Harbor, the ship is now a partially flooded, heavily corroded vessel with structural failure and a substantial loss of historical and architectural integrity. Listed in the National Register of Historic Places in 1973 (NRIS 73000569), *Falls of Clyde* was subsequently studied as part of the *Maritime Heritage of the United States: Large Preserved Historic Vessels Thematic Study* in 1988 and was designated a National Historic Landmark (NHL) on April 11, 1989.

The author of this report conducted the evaluation of the ship and prepared the NHL study for *Falls of Clyde* in 1988 when then serving as chief of the National Maritime Initiative in the History Division as the Maritime Historian of the National Park Service. The author has visited the ship periodically since 1988, the last being a shoreside visit in 2022. The author's review and understanding of the most recent survey report (Lombardi 2023) was facilitated by the author's extensive history with and familiarity with the vessel.

In 2005, the status of the ship was noted by the NHL Program as threatened due to corrosion of the hull that weakened the hull's integrity and caused leaking. The vessel has further deteriorated substantially in the eighteen years since then. The State of Hawaii commissioned the most recent survey (March 2023), which was undertaken by Joseph Lombardi, AMS (Accredited Marine Surveyor) of Ocean Technical Services, LLC, who has over four decades of professional experience, including surveys of National Historic Landmark/National Register-listed historic vessels, including past surveys of *Falls of Clyde*. This survey, building on that experience and familiarity with *Falls of Clyde*, notes that "the scope of the material condition of the vessel in her present unsafe situation dictates the need for a complete reassessment to find the alternative for the disposal of the vessel" (Lombardi 2023: 5).

There is a strong risk of the ship sinking. It is leaking and if there is a loss of power, the failure of the pumps that are *keeping Falls of Clyde* afloat would lead to catastrophic flooding due to multiple failures in the lower and upper hull due to holes, failed rivets and patches from previous repairs that are failing, and the loss of structural and watertight integrity in the bulkheads and tanks. The bow, the lower masts and the main (weather) deck are also structurally compromised. In some cases, hull plating is now held in place to the frames with C-clamps. The loss of the ship's inherent structural integrity will complicate, if not preclude, the ability of a salvor to raise it without risk of substantial hull failure. If it transitions from a leaking hulk to a wreck, raising the vessel might require raising it in pieces, effectively "scrapping" it in place. Because of these factors, it is likely that *Falls of Clyde* will not survive afloat, above the water, nor even be intact by 2024.

The loss of the vessel is irreversible and extremely unfortunate if not tragic. It is a unique surviving sailing craft, and its historic significance is clear. However, the vessel has already lost most of the qualities, or aspects of integrity that convey its significance, that led to its listing in the National Register and its designation as a National Historic Landmark. This report, based on observations made by the author on subsequent visits to the ship since 1988, and the recent March 2023 professional marine survey, therefore recommends the delisting of *Falls of Clyde* from the National Register and the subsequent withdrawal of the NHL designation at this time. The property has ceased to meet the criteria for listing in the National Register because the qualities which caused it to be originally listed have been lost or destroyed. The vessel has already been documented by HABS/HAER and that documentation is archived in the HALS collection at the Library of Congress (HAER-HI-7).





**Figure 2: Profile view of the down-rigged *Falls of Clyde* (Joseph Lombardi).**

### **Summary of *Falls of Clyde*'s NRHP/NHL Significance**

*Falls of Clyde* was built in Great Britain in the last quarter of the 19th century during a shipbuilding boom inspired in part by increased trade with the United States, and made several voyages to American ports, notably San Francisco and Portland, Oregon, while under the British flag. Sold to American owners in 1898, *Falls of Clyde* gained American registry by a special act of Congress in 1900. Henceforth the vessel was involved in the nationally important Hawaiian transpacific sugar trade for Capt. William Matson's Matson Navigation Co., a shipping firm of international scope and significance that remains in business today. *Falls of Clyde*, the ninth vessel acquired by Matson, is the oldest surviving member of the Matson fleet. After 1907, *Falls of Clyde* entered another nationally significant maritime trade, transporting petroleum as a sailing oil tanker. Specifically modified for the petroleum trade as a bulk cargo carrier, *Falls of Clyde* was determined in 1988-1989 to retain integrity of design, materials, and workmanship, and was designated a National Historic Landmark because of its exceptional national significance as the oldest surviving American tanker and the only surviving sailing oil tanker left afloat, not only in the United States but also in the world.

### **Condition of and Loss of Integrity, 2023**

In the National Historic Landmark study for the ship, the author noted in 1988 that *Falls of Clyde* retained integrity of design, materials, and workmanship, as represented by the hull, rigging, fittings, equipment, machinery, and furnishings. What was apparent then but not specifically listed was that the integrity of those various aspects of *Falls of Clyde* also contributed to the integrity of feeling. The vessel had undergone considerable and well-conducted restoration, was in good condition, and was being professionally managed by the Hawaii Maritime Center. This was on par with the NHL-designated three-

masted ship *Balclutha* (1886) at Hyde Street Pier at what is now San Francisco Maritime National Historical Park.

The vessel is now a partially flooded hulk, with some three feet of standing water in its bilges, stripped of much of its equipment, and badly deteriorated. The ship has insufficient structural integrity to remain afloat without constant pumping, due to the numerous holes and failed rivets in the hull plating above and below the waterline, and the failure of the decks to keep water out. The likely failure of and collapse of the bow, with the water already in the bilges, and with the loss of structural integrity of transverse bulkheads, there would be rapid and progressive flooding if the hull were to fail or the power to the external pumps were to be lost. If an attempt was made to raise the hull, should it sink due to loss of structural integrity in the frame strakes and rivets of the outer hull, and the structural failure of the transverse bulkheads, there would be a risk of collapse of the masts, and possible collapse of the hull.

***Falls of Clyde* is effectively a dead ship that has now lost its National Register qualities (integrity) as its materials, design and workmanship have corroded, and are missing or have failed. As such, it has also lost its integrity of feeling that was generated by the intact and complete nature of the ship in 1989.**

This loss of integrity starts with the rigging of the vessel. As built in 1878, *Falls of Clyde* was an iron-hulled, four-masted vessel originally rigged as a ship, later downrigged to a bark, then subsequently dismasted, and then restored in 1970 to the original ship rig. To be clear, while “ship” can and is used as a generic term for a vessel, the NHL study specifically focused on the rig in assessing *Falls of Clyde* as that of a ship. It is no longer a ship under that definition. It is currently not rigged, with only the lower fore, main, mizzen and jigger masts standing. In 1988, the author noted in the National Historic Landmark study that led to designation that the vessel’s masts and rig, which had been cut down and discarded in 1922 when it had been converted into a fuel barge, had been restored in 1970:

*...the masts were replaced with rolled and plug-welded steel joined to the original iron lowermast sections. New steel lower and topsail yards produced by the Scott-Lithgow Shipyard in Glasgow, Scotland, the vessel’s builder, and new wooden topgallant and royal yards, jibboom, and spanker boom turned in Oregon to original specifications, were installed and the vessel was re-rigged with wire rope in historic fashion (Delgado 1988: 7.3).*

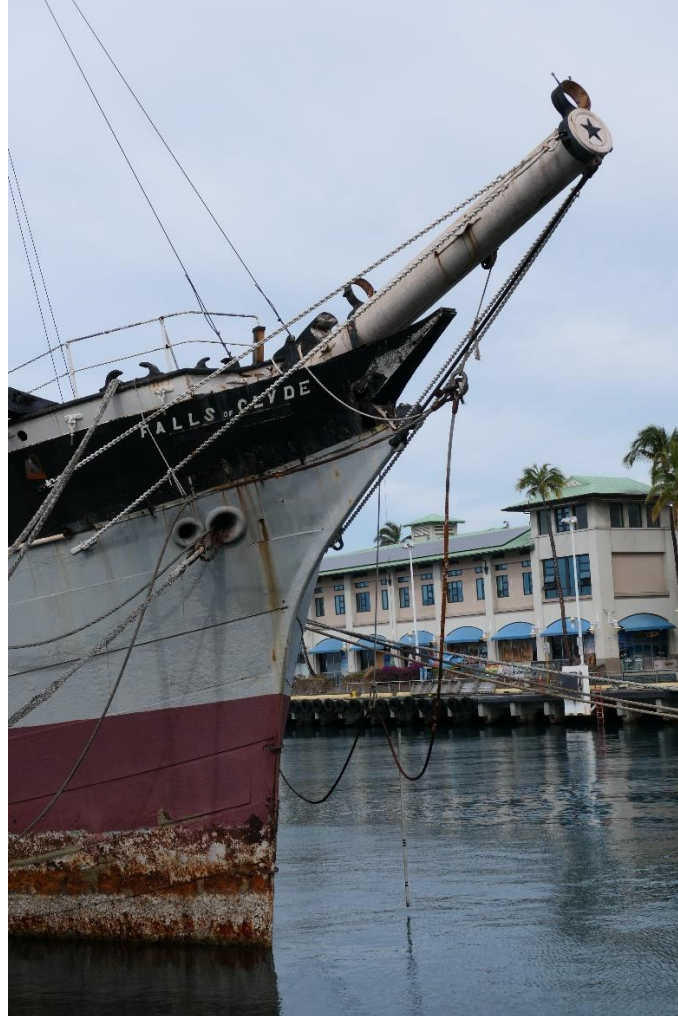
*The restoration of “the vessel’s hull, equipment, and decks has proceeded since 1968; the only major areas left unrestored in 1988 are the boilerroom, pumproom, and weather deck. All restoration work has followed original plans and employs in-kind replacement and adherence to historic technique” (Delgado 1988: 7.3).*

The vessel is now, in 2023, a partially flooded hulk, with the topmasts, topgallant masts, yards, booms and gaffs stowed in a deteriorated condition on the weather deck. There is no running rigging; only some of the standing rigging that supports the lower masts. The existing down-rigged condition of the vessel no longer reflects or represents a sailing vessel. The masts are corroding; “bare poles” in sailing parlance.



**Figure 3: Condition and status of standing rigging for the mizzen and jigger masts (Joseph Lombardi).**

The bowsprit, a key feature of the vessel and its rigging, was rigged to balance the upward pull of head stays and the downward pull of bobstays; these were key to maintaining taut support for the masts. The bowsprit, now also down-rigged, is missing its outer jibboom, jibboom head, martingale and associated rigging, such as the outer jibboom guys, fore-royal stay, fore-topgallant-stay, flying jibboom downhaul, outer jib-stay, fore-royal-stay, outer-martingale-stay, martingale stay, and martingale backstays. The bowsprit, supported by its inner-bowsprit guys, are about to fail; *“The forward wrought iron margin of the deck is badly corroded and provides support for the guy wires of the bowsprit. This will give way shortly with catastrophic failure of bowsprit to follow”* (Lombardi 2023: 35).



**Figure 4: Bowsprit and guys (Joseph Lombardi).**

The loss of much of the standing rigging has an effect on both the structural integrity of the bowsprit and masts as well as the historical integrity of the vessel as a preserved historic sailing ship.

Compounding the untenable nature of the structural integrity of the masts is the fact that the masts are all attached to the ship's keel, and the *"bases for the masts at the keel are badly corroded and exerting additional stress on the hull itself"* (Lombardi 2023: 48). The marine survey recommends *"that these four spars be cut down to the maindeck level before move of ship"* (Lombardi 2023: 48).

Figure 5 is a close-up view of Figure 3 and shows the port chainplates that supported the standing rigging for the mast. This is where the masts will need to be cut, and it is also an area where the loss of integrity is apparent even now, before the removal of more of the masts and rigging.





**Figure 5: Chain-plates on the port side with minimal rigging for the mizzen-mast (Joseph Lombardi).**





**Figure 6: Corroded base of the foremast in the bilge, March 2023 (Joseph Lombardi).**

The standard reference for the rigging of the types of vessels (Underhill 1946) that *Falls of Clyde* represents specifically addresses the style and type of the chain-plates; the rigging of the masts, while structurally important, was a key aspect of the high standard of integrity that was referenced in the NHL study:

*New steel lower and topsail yards produced by the Scott-Lithgow Shipyard in Glasgow, Scotland, the vessel's builder, and new wooden topgallant and royal yards, jibboom, and spanker boom turned in Oregon to original specifications, were installed and the vessel was re-rigged with wire rope in a historic fashion (Delgado 1988: 7.3)*

The emphasis on the rig reflected the emphasis placed on the significance of properly rigging the masts stressed by Underhill (1946):

*The chain-plates are of round bar iron with flanges forged on their lower ends; the upper ends are brought up through the teak main-rail, immediately above which they are forged in a close fitting eye round the bow of a large shackle, which in turn bolts to the lower end of the rigging-screw. The set of these chain-plates is very important and they must line up with their respective stays – in both fore and aft and thwart-ship directions – otherwise they will put undue stress on the main-rail and bulwarks (Underhill 1946: 79).*

The wire rope that ran from the chain-plates to rig each mast collectively were known as the shrouds. These were rigged and looped around the mast top in a specific and precise order. As is seen in Figure 4, only two shrouds are rigged, with the other chain-plates unrigged and lying slack against the bulwarks. The complexity of the standing rigging once rigged on the restored *Falls of Clyde*, which was a factor in the determination of integrity and significance, is gone.

While down-rigging was a practice employed in maintaining vessels historically as well as historic vessels, the level of deterioration of both the lower masts, which as noted are at risk of separating from the keelson and falling, and the various spars stored on the ship, effectively means the down-rigging of *Falls of Clyde*, now decades old, reflects the loss of historic integrity. This is specifically related to the rigged aspects of the vessel that were considered as part of the integrity that led to its listing and designation. Even prior to the necessity of cutting down the lower masts, which were original to the 1878 construction of the ship, *Falls of Clyde* is now a hulk, not a ship or bark-rigged sailing vessel.

The structural integrity of the hull, including the decks, also relate to the question of retention of integrity. As built, modified during its working career, and restored, *Falls of Clyde* was, as noted in the NHL study, “built staunchly with iron Z-bar frames and double riveted iron plate laid as inner and outer strakes” with longitudinal bulkheads, and a teak wood deck overlaid on iron deck beams (Delgado 1988: 7.1). After 1907, it had steel deck plates placed against the bulkheads that topped the steel oil tanks installed in the hull. Maintaining a metal hull in salt water in any environment is challenging, but it is especially so in tropical environments, such as Hawaii.

The hull has holes that are the result of corrosion and wastage of the metal. Many of the iron rivets have failed, with heads missing as well as the body of the rivet as it passes through iron hull plating or attaches stanchions, knees, gussets and other fittings to the hull and decks. The exterior hull is leaking through holes both above and below the waterline, and the level of corrosion on the hull below the waterline has grown “rusticles” of corrosion byproduct that is also seen on shipwrecks. In addition to corrosion caused by seawater, the main (weather) deck is no longer watertight, and its leaking has also compromised and caused the failure of the deck below it. The failure of both decks to repel water has led to the loss of structural integrity for the decks to the extent they are no longer safe to walk on. This has also allowed water from rain as well as hull leaks to accumulate in the hold, flooding the lower level of the vessel.





Figure 7: Condition of the lower hull, March 2023 (Joseph Lombardi).



Figure 8: Larger patches cover area where the hull is leaking more substantially, but the loss of up to fifty percent of hull plating thickness in many areas, lost rivets, and rainwater entering through the decks have essentially made *Falls of Clyde* a floating wreck (Joseph Lombardi).





**Figure 9: Water in the hold, March 2023 (Joseph Lombardi).**



**Figure 10: Corrosion has reached the level of complete loss of structural integrity in a number of areas in the hull and decks (Joseph Lombardi).**



**Figure 11: Condition of the rudder, March 2023 (Joseph Lombardi).**

The condition of the iron and steel components of the vessel that has resulted in the loss of structural integrity has also negatively impacted the vessel's integrity of design, materials and workmanship. In 1988, *Falls of Clyde* as visited and assessed for the National Historic Landmark study was obviously an older vessel that had undergone modifications to become a sailing oil tanker, and at more than a century in age, was not a new vessel; it had, however, been restored and was being maintained. The decks and hull at that time were not in the condition that they are now. The integrity of those major elements of the ship that were a factor in the determination of integrity and significance is now gone.





**Figure 12: Corrosion has opened holes that have accelerated corrosion inside the ship as well as outside of the vessel (Joseph Lombardi).**

Another major aspect of *Falls of Clyde* as a then well-preserved, restored and professionally maintained historic vessel and museum ship that had led to its study and designation as a National Historic Landmark, and updated and expanded on the initial National Register nomination and listing of the ship in 1973, were the elements and structure added in 1907 when *Falls of Clyde* was modified and converted into a sailing oil tanker. Ten riveted steel bulk liquid cargo tanks - five on the port, five on the starboard side - were built into the ship. The tanks, reinforced by cross braces, are separated into two levels, with smaller wing or "summer" tanks atop larger tanks. The steel tops of the wing tanks form part of the weather deck; two 10-foot-wide steel deck sections run from the poop to the forecastle on the port and starboard sides of the vessel, with the original wooden deck running in a 20-foot-wide section along the centerline. Each tank is marked by a 3 x 4 x 2.6-foot steel expansion trunk on the steel sections of the weather deck. Steel ladders running through the trunks provide access to the tank interiors and control valves.



**Figure 13: Interior of one of the tanks (Joseph Lombardi).**

The ten riveted steel bulk liquid cargo tanks are all flooded with two to three feet of water, and have corroded to the point of not being able to be restored; replacement of much of the physical structure of the tanks would be necessary, especially with as much as 80 (eighty) percent wastage; the physical condition poses a significant hazard to access and work in the area; *“Entry into Tanks is dangerous to personnel due to wasted access ladders and wasted intermediate platform that are structurally unsafe”* (Lombardi 2023: 78):

*The shell plating has been holed in many areas below the waterline with repairs consisting of wooden plugs, damage control patches and fiberglass/epoxy patches. All are failing with seepage noted. The forward bulkhead is holed in Tank #1 port. The forward bulkhead to Tank #1 starboard will be shortly as there are numerous pinholes. The forward bulkhead is in an unsafe way and could collapse due to heavy weight of the Boiler Room. Side shell transverse frames, clamps and longitudinals are heavily wasted*



*with many failed rivet patterns. Vertical deck and horizontal sideshell supports are heavily wasted or tripped (broken). The overhead floor to the Boiler room is badly holed indicating a possible failure (Lombardi 2023: 68-78).*

The steel bulk liquid storage tanks of *Falls of Clyde*, corroded beyond restoration and extremely hazardous to the point of being unsafe for access for further documentation, have lost their integrity of design, materials and workmanship.

A large pumproom and boiler room were added forward behind an oiltight steel bulkhead during the 1907 conversion of the ship into a sailing tanker. The boiler room, a 20 x 30-foot space, has a single oil-fired “Scotch” fire-tube boiler, a D.C. dynamo, and a fuel-feed pump. A short smokestack originally rose above the weather deck from the boiler room; the opening remains in the deck, but the stack had been removed at the time of the NHL study in 1988.

The pumproom, divided into two levels, contains large feedwater tanks for the boiler on its upper (‘tween deck) level. The lower pumproom, in the hold, is reached by a single steel ladder. It contains a 10-inch horizontal reciprocating oil cargo pump and a similar 8-inch saltwater ballast pump, both manufactured by the George P. Dow Pumping Engine Co. of San Francisco. Steel piping, including pipes for heating crude oil and molasses cargoes, transfer and discharge pipes, and control valves, line the pumproom. In 1988, when the author toured the vessel and extensively studied it for consideration as an NHL, these areas were intact, and only lightly corroded with surface rust as they were the only major areas inside the ship left unrestored at time. They are now corroded beyond the ability to restore them.



**Figure 14: Corroded machinery and piping in 2023 (Joseph Lombardi).**

The significance of these spaces and equipment as the only surviving, sailing oil tanker in the United States (and the world) was a key factor in both the National Register listing and the National Historic

Landmark designation. Because of this, the National Maritime Initiative (now the NPS Maritime Heritage Program), then under the direction of the author, provided funding for the documentation of the oil tanker structure and systems on *Falls of Clyde* by the Historic American Engineering Record (HAER). The existing documentation for *Falls of Clyde* (HAER-HI-7) is fifteen sheets of measured drawings: 1) the locator or main sheet, 2) pumping system, 3) cargo and ballast system, 4) boiler room isometric, 5) tank venting and steam heating system, 6) upper and lower pump room plan, 7) the inboard profile of the pump room, 8) the starboard profile of the pump room, 9) the hull section at frame 108, 10) looking aft, section at bulkhead 99 looking aft, 11) boiler room plan, 12) inboard profile of boiler room and port tank, 13) starboard profile of boiler room and port tank, 14) starboard profile of boiler room and tank No. 1, and 15) section at frame 94, looking aft. The sheets are accompanied by 25 photos. The documentation began in the summer of 1989, but due to a lack of funding was not continued to include the rest of the vessel.

The condition of these spaces and equipment in March 2023 reflects that restoration did not proceed after the 1988 study and 1989 documentation, and four additional decades of corrosion, lack of maintenance, and the regular ingress of both fresh and salt water have degraded the structural and historical integrity to the point of no return. Safe access to the spaces is compromised by badly corroded decks, some in danger of collapse, such as in the boiler room (Lombardi 2023: 55), an 80 (eighty) percent wastage of steel and iron, with some bulkheads essentially thin metal covered with corrosion and no longer capable of structural support (Lombardi 2023: 64), pumps corroded and “completely wasted,” (Lombardi 2023: 67) and the piping, an integral part of the pumping system, “dilapidated and badly broken throughout” (Lombardi 2023: 65).



**Figure 15: Corroded and partially flooded tank (Joseph Lombardi).**

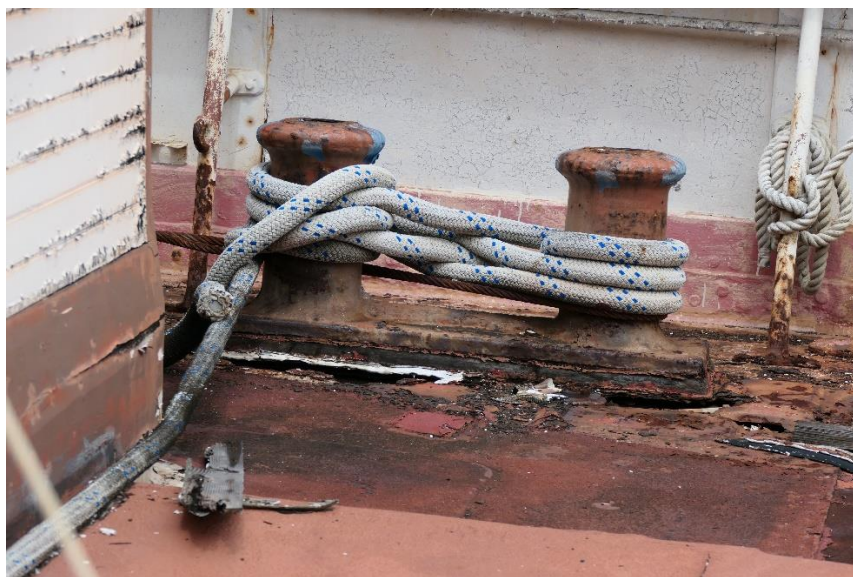


The other elements of *Falls of Clyde* that were present were the main deck with the ship's deck house, decking, and the deck equipment. The decks, which had not been restored, but were in fair condition and had their historic appearance in 1988, were given a protective covering of plywood which has now completely failed, as has the decking beneath it; *"The plywood sheathing over the wooden decking on main deck has failed; the underlying deck is unsafe for personnel"* (Lombardi 2023:5).



**Figure 16: Main deck and aft deckhouses, spars stowed on deck in March 2023 (Joseph Lombardi).**

If the vessel could be saved, which the hull condition indicates cannot be done, the entire deck would need to be replaced. The various fittings on the deck have failed or are failing due to corrosion. *"The vessel's bitts, bollards, chocks and mooring hardware are in need of structural support and in many cases are in danger of carrying away"* (Lombardi 2023: 5).



**Figure 17: Bitts that have corroded and are detaching from the deck; this is one example of many (Joseph Lombardi).**



As noted in 1988, the open wood deck is interrupted by the 34-foot forecastle deck, and a 23-foot poop deck. The forecastle sheltered the crew and the ship's large patent windlass. The deck is penetrated by three hatches, and two riveted iron deckhouses which housed the galley, cook and steward's cabins, and the young "brassbounder" apprentice bunks also interrupt the openness of the deck. These two houses are now corroding, open to the elements, with the roofing for them failing. They are also filled with discarded and deteriorating modern furnishings. The deck is covered with deteriorating spars, as noted, and reflects the fact that *Falls of Clyde* is an abandoned, derelict hulk that will sink if power is lost to the pumps that keep the leaks from filling the hull.



**Figure 18: The corroding, dry-rotted and crowded decks of the ship are in danger of collapse and a hazard to anyone who boards the vessel (Joseph Lombardi).**



**Figure 19: Significant artifacts are exposed on the deck and deteriorating, including the ship's figurehead, the running lights, and the ornate woodwork that covered the steering mechanism on the poop deck (Joseph Lombardi).**

In 1988, the author noted that the poop deck housed a large dining saloon with birdseye maple and mahogany panels and pilasters, polished brass hardware, and marble sideboard. Cabins for officers and passengers line the saloon; aft are the master's stateroom and a stairway leading above into a shelter house on the poop deck. This joinery (the term for shipboard carpentry) of vessels, starting in the age of sail, was important; for officers and crew, the cabins and saloon (dining area) of a ship represented the most that a vessel could offer *"in the way of comfort, luxury and beauty. The interiors, always fitted out in artistic fashion, were to the interior joiner what figureheads were to the woodcarvers – the challenge and opportunity to indulge and exhibit their consummate skills"* (Crothers 2000: 438). This took the form of paneling that wainscoted bulkheads, embellishing and often sheathing the beams of overhead decks and cabinetry. As maintained and on display in 1988, this was a key aspect of the overall integrity of the ship that led to the listing and subsequent designation of *Falls of Clyde*.



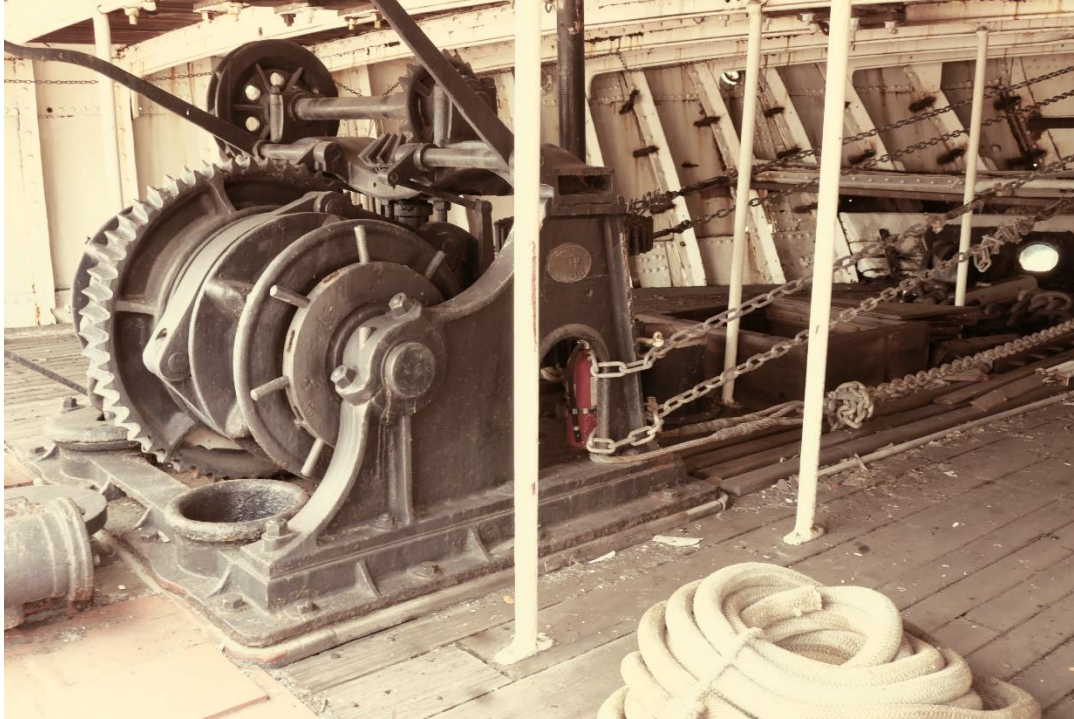
**Figure 20: Condition of interior spaces, 2023 (Joseph Lombardi).**

These spaces are now open to weather, with freshwater leaks, resulting in dry rot, and filled with rotting furniture and gear. The marine survey in March 2023 noted that the *"varnished wooden veneer in the main salon is delaminating due to rainwater making its way below decks. The ceiling is also collapsing due to rot. Much evidence of rain making its way below deck. Portholes to port have been removed (stolen). Much mildew in all cabins with rot present. Vermin have also used these spaces to enjoy their cruise! Side ports, windows and doorways open to the weather decks throughout"* (Lombardi 2023: 49). The joinery has been severely compromised, and the qualities inherent in the joinery which caused it to be originally listed have been lost or destroyed.

The condition of the figurehead is unknown, but its open storage in tropical conditions does not bode well for its preservation. This artifact and others that are significant aspects of the ship should be immediately removed, assessed, and if needed, conserved and placed in museum for conservation, and climate-controlled storage and/or display.

Equipment on the deck includes the Napier patent windlass original to the ship, the Murray Brothers patent steam apparatus, and the Krough Manufacturing steering gear. The windlass is in fair condition, but the margin plates that support the apparatus are corroded and delaminating. The windlass is an important artifact that could and should be saved for museum display or storage, but it will require conservation and probable repair.





**Figure 21: The windlass under the leaking forecastle deck, 2023 (Joseph Lombardi).**

The iron and bronze steering apparatus as surveyed in March 2023 *“is intact although the beautiful, varnished teak cabinetry was removed and stored on main deck in a very deteriorated condition.... The poop deck stanchions and railings are failing with the underlying wrought iron bases no longer riveted as these have failed. The fiberglass sheathed fir deck has failed with rotted plywood substrate throughout”* (Lombardi 2023: 47). It is also a significant artifact that could and should be removed and saved for museum display or storage; it is also potentially at more imminent risk because the *“steering flat is slowly collapsing on the fantail due to the weight of the steering gear and degradation of the vessel’s structure”* (Lombardi 2023: 6). As noted, the woodwork that covered it, stored exposed on the open deck, has deteriorated and may not be savable. Fortunately, the ship’s wheel, a significant artifact, has survived because it was stored below deck in the pump room.



**Figure 21: The Krough Manufacturing Co. steering apparatus on the decayed, collapsing poop deck (Joseph Lombardi).**



**Figure 22: The ship's wheel in the pump room, 2023 (Joseph Lombardi).**

### **Comparative Assessment of Other Delisted National Register Listed and Withdrawn National Historic Landmark Vessels**

As of May 2023, there are five NHL-designated historic ships that have had their designations withdrawn and which have also been delisted from the National Register. As well, two National Register-listed vessels that have been delisted offer pertinent examples. These two are the 1846/1847-built schooner

*Alvin Clark*, a wooden wreck that sank in the cold freshwater of Lake Michigan in 1864. Rediscovered and raised intact and in excellent condition in 1969, the schooner was displayed ashore, but began to deteriorate. Listed in the National Register in 1974, the remains of the schooner were demolished in 1994. The ship, no longer extant, was delisted in June 2020.

The *Independence*-class carrier USS *Cabot*, the sole floating survivor of its class of World War II emergency-built small carriers, was brought to New Orleans for preservation and display in 1988 and designated a National Historic Landmark in 1990. Preservation efforts failed, and the carrier was sold by the United States Government for scrapping in November 2000. Towed to Brownsville, Texas, it was scrapped, and the NHL designation was withdrawn in August 2001.

The 1923-built fireboat *Deluge*, the oldest fireboat of the Port of New Orleans, and then the second oldest fireboat in the United States was designated a National Historic Landmark in 1989. Sold by the City of New Orleans to a private owner in 2000, by 2008, *Deluge* was documented as a partially sunk, badly rusted hulk in the backwaters of the port. The vessel was reportedly scrapped after Hurricane Katrina. Efforts to contact the owner and determine the status of the vessel were unsuccessful. The National Park Service prepared a report recommending withdrawal of the NHL designation “because it has ceased to meet the criteria for designation because the qualities which originally led it to be designated, have been destroyed,” which was approved by the National Park System Advisory Board in August 2022.

The 1944-built minesweeper USS *Inaugural* (ANM-242), served in the last months of World War II, and was designated a National Historic Landmark in 1986. Preserved afloat at St. Louis, Missouri, *Inaugural* was torn loose from its moorings by floodwaters in 1993. The hull was breached, and *Inaugural* sank near the riverbank, coming to rest on its side. Intact, but damaged, rusted and deteriorating, the museum and the city determined that the vessel could not be saved and restored and was unsalvageable. The NHL designation was withdrawn in August 2001 because it had ceased to meet the criteria for designation. Twenty years later in 2021, the hulk of USS *Inaugural*, badly rusted was still visible at the site of its sinking at low water with substantial portions of the hull and part of its superstructure cut away by salvagers.

The 1924-built, steel-hulled sidewheel steamer *President*, built for and operated on the Upper Mississippi River, was designated a National Historic Landmark in 1989 as the last surviving Western Rivers sidewheel excursion steamboat. Retired from service and modified into a floating casino with its sidewheels removed, *President* was sold in 2009 for relocation to another site. The dismantled hull was to be placed atop concrete piers in an artificial lake where it would be displayed. It remains dismantled and unrestored in 2023. The loss of historic integrity led to the withdrawal of the NHL designation and delisting from the National Register in 2011.

The 1933-built, steel-hulled tugboat *Huntington*, built at the Newport News Shipbuilding and Drydock Company yard for service at the yard, was retired and placed ashore for preservation and display in 1992. Listed in the National Register in 1999, it was scrapped in 2010, with the pilothouse being retained for preservation. The National Register listing was removed in 2017.

The 1915-built, wooden-hulled steam schooner *Wapama*, the last of some 225 of these uniquely Pacific Coast craft, was a museum vessel at San Francisco Maritime National Historical Park, where it had been restored after being saved from scrapping in 1958. Listed in the National Register in 1973, it was



designated a National Historic Landmark in 1984. The structural integrity of the hull led to the decision to place *Wapama* on a barge in 1980. Plans to restore the hull were unfortunately deferred until the vessel could no longer be saved. The National Park Service documented the vessel for the Historic American Engineering Record, and dismantled *Wapama* in August 2013. The triple expansion marine steam engine was preserved. The National Historic Landmarks designation was withdrawn in February 2015.

## **Conclusions**

As noted in the summary at the beginning of this report, the loss of the vessel is irreversible and extremely unfortunate if not tragic. It is a unique surviving sailing craft, and its historic significance is clear. However, the vessel has already lost the qualities, or aspects of integrity, that convey its significance, which led to its listing in the National Register and its designation as a National Historic Landmark. This report, based on observations made by the author on subsequent visits to the ship since 1988, and the recent March 2023 professional marine survey, recommends the delisting of *Falls of Clyde* from the National Register and the subsequent withdrawal of the NHL designation at this time. The property has ceased to meet the criteria for listing for listing in the National Register because the qualities which caused it to be originally listed have been lost or destroyed as noted in 36 CFR § 60.15.

Additional documentation, such as LiDAR or 3-d laser scanning, could be pursued to add to the HAER documentation that exists in the HALS collection at the Library of Congress. For example, SEARCH has worked on this and are familiar with the most recent mitigation measures, having completed one for another NHL ship this past winter using both LiDAR and additional photography. The caveat for *Falls of Clyde* is the risk of boarding and accessing the ship in the condition it is in. The author recommends saving and preserving the figurehead, windlass, steering gear and the ship's wheel; the running lights and other artifacts stored on the ship that should be assessed and saved for museum display or storage.

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Lombardi, Joseph

2023 *Falls of Clyde* Hull Survey.

Underhill, Harold A.

1946 *Masting and Rigging: The Clipper Ship and Ocean Carrier*. Brown, Son and Ferguson, Ltd., Glasgow.

## Appendices

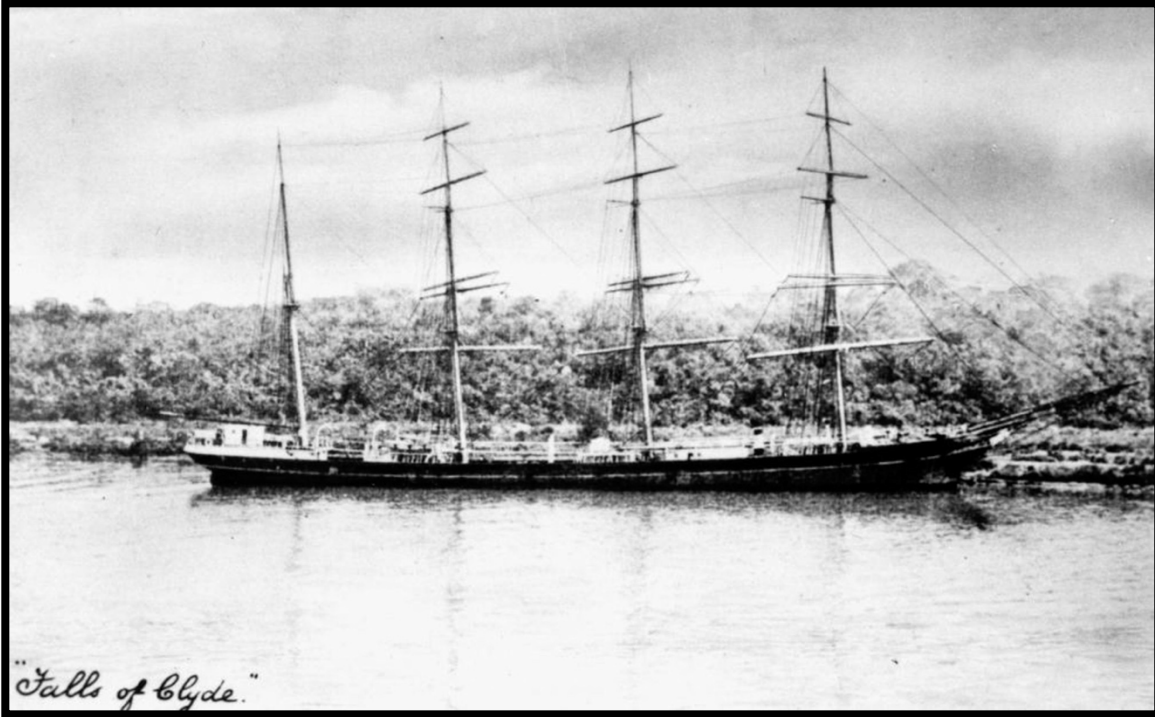
Appendix 1: National Historic Landmark Study for Falls of Clyde (Delgado 1988)

Appendix II: *Falls of Clyde* Hull Survey (Lombardi 2023)

# **APPENDIX F**

Cultural Assessment for the *Falls of Clyde*  
Removal Project

Honua Consulting  
November 2023



Cultural Assessment for the *Falls of Clyde* Removal Project

Prepared for  
HHF Planners and the State of Hawaii Department of Transportation

Prepared by

  
CONSULTING  
November 2023

## Introduction

By request of HHF Planners, this cultural review was conducted for the removal of *The Falls for Clyde* from Pier 7. The project consists of the removal of the vessel from Pier 7 in Honolulu Harbor. The specific means of removal has not yet been determined. The vessel is owned by the Friends of the Falls of Clyde, a non-profit organization, but the vessel is currently under legal control of the state. After years of failing to pay rent or fees for the use of Pier 7, the Hawaii Department of Transportation is taking steps to have the vessel removed from the harbor, as the area has been inactive for the last fourteen (14) years since the closure of the Maritime Center, which was operated by Bishop Museum.

To facilitate the disposition of the vessel and prepare for the issuance of a new Request for Proposals (RFP) for its removal from the harbor, HDOT has taken on the responsibility of completing the planning and entitlement processes. An environmental assessment is being prepared. Per state law, a full cultural impact assessment is not required for an environmental assessment (EA), therefore this cultural assessment is being prepared to support the preparation of the EA.

HDOT Harbors Division has supported the Friends of Falls of Clyde by not charging any rent or fees for the use of Pier 7 since April 2009. On May 16, 2016, HDOT Harbors Division sent the Friends of Falls of Clyde a written 30-day advance notice of termination for its gratis (no rent) revocable permit for the berth at Pier 7; the permit terminated on June 15, 2016, and the Friends of Falls of Clyde were required to remove all its property from the premises, including its vessel by July 16, 2016.

On August 10, 2016, HDOT Harbors Division posted and personally served a notice of illegal mooring requiring the Friends of Falls of Clyde to remove it from Pier 7 within 72 hours; the notice also informed the Friends of Falls of Clyde that failure to remove the vessel within 72 hours would result in impoundment of the vessel. On August 13, 2016, as *The Falls of Clyde* remained moored illegally, HDOT Harbors Division posted and personally served a notice of impoundment of the Falls of Clyde. On August 16, 2016, the Friends of Falls of Clyde requested an administrative hearing to contest the basis of the impoundment; the hearing was held on August 24, 2016. The hearings officer ruled in favor of the HDOT Harbors Division.

In December 2018, the vessel began taking on water in the stern. A hole was discovered in the stern ballast tank causing it to flood. The hole was patched. In early January 2019 the vessel began to list heavily to port. A hole was found on the port side, which began flooding the vessel. The hole was patched.



Later in January, HDOT observed the vessel beginning to sink. Further inspection revealed the vessel taking on water. HDOT received an emergency procurement to pump the water from the vessel and make repairs. Multiple holes and cracks in the hull were patched.

It is evident the vessel is deteriorating due to the lack of proper maintenance. The condition of the vessel is at a critical point which jeopardizes the vessel's ability to stay afloat and threatens the safety of Honolulu Harbor.

HDOT has an obligation to ensure public resources, including commercial harbors and related infrastructure, are being managed effectively. A condition assessment of the vessel conducted in March 2023 revealed that the structural integrity of *The Falls of Clyde* has deteriorated substantially over the years. The assessment is publicly available and included as an appendix to the EA. HDOT currently pays a contractor to regularly monitor water levels and pump water from its hull. Without this intervention, the ship would likely sink, list, or damage surrounding facilities.

In November 2023, the State Historic Review Board voted to delist *The Falls of Clyde* from the State Register of Historic Places due to its lack of integrity.

### **Cultural Assessment**

There are no archaeological concerns related to the removal of *The Falls of Clyde*, an iron-hulled four-masted sailing ship built in Glasgow, Scotland in 1878. From an architectural standpoint, the property has been extensively documented. The ship no longer has integrity, as evaluated by James Delgado, Ph.D., of SEARCH, Inc., who prepared the original nomination of the property to the National Register of Historic Places (NRHP).

The *Falls of Clyde* has already been determined to have historic significance. Although it is important to emphasize that absent integrity, the property cannot be considered a "significant property" or found eligible for the state or national registers of historic places.

### **Methodology**

The following provides a general description of the property's social, cultural, and historical characteristics, and impacts to these characteristics resulting from the proposed action. The approach to developing this analysis is as follows:

- 1) Gather Best Information Available
  - a) Gather historic cultural information from ethnographic resources about the affected area to provide cultural foundation for the report; and
  - b) Inventory as much information as can be identified the property as a known cultural and historic resource.
- 2) Identify Potential Impacts to Cultural Resources
- 3) Develop Reasonable Mitigation Measures to Reduce Potential Impacts
  - a) Involve the community and cultural experts in developing culturally appropriate mitigation measures; and
  - b) Develop specific Best Management Practices (BMPs), if any are required, for conducting the project in a culturally appropriate and/or sensitive manner as to mitigation and/or reduce any impacts to cultural practices and/or resources.

While there are some Native Hawaiians who have shown interest in the ship over time, namely kūpuna like Verlie Ann Malinda Wright, there is no evidence to show the ship was significant to Native Hawaiian history or association with Hawaiian tradiitonal or customary practices.

The ship was written about in local Hawai'i media. These documents effectively illustrate the extensive efforts undertaken in the mid 20<sup>th</sup> century to preserve and restore the vessel. It is clear that there were numerous local Hawaii residents with interest in the ship, but there is no evidence that the property has “important value to the native Hawaiian people or to another ethnic group of the state due to associations with cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events or oral accounts – these associations being important to the group’s history and cultural identity” (HAR 13-275-6(b)(5)).

The ship undoubtedly has some significance to the Scottish people, although documentation of said significance as related to this specific property is limited. Nonetheless, in this regard, it is appropriate to evaluate it under criterion “e” as part of the HRS 6E analysis, which will be completed separately from the environmental assessment. The following includes the history of the vessel’s Scottish origins.

While the following is not a full ethnographic study, it is intended to complete a good faith effort to set forth “sufficient information to enable the decision-maker to consider fully the environmental factors involved and to make a reasoned decision after balancing the risks of harm to the environment against the benefits to be derived from the proposed action, as well as to make a reasoned choice between alternatives” *Price v Obayashi Hawaii Corp*, 81 Hawaii 171, 182 (1996), upheld in *Kaleikini v Yoshioka*, 283 P. 3d 60, 74 (2012).

### **Cultural Significance of *The Falls of Clyde***

*The Falls of Clyde* is a four-masted, iron-hulled sailing ship that was built in 1878 by Russell & Company in Port Glasgow, Scotland. It was originally constructed as a bulk cargo carrier for the Falls Line, a Scottish shipping company. The ship was primarily used for carrying various cargoes, including jute, coal, and timber, to destinations around the world. It made voyages to ports in Europe, North America, South America, and the Pacific.

Scotland has a rich and storied history of shipbuilding that spans several centuries. The shipbuilding industry in Scotland played a crucial role in maritime trade, naval warfare, and the global shipping industry. Shipbuilding in Scotland dates to ancient times, with evidence of ship construction dating as far back as the medieval period. Initially, wooden sailing ships were the primary focus of Scottish shipbuilders.



Figure 1. An engraving of Port Glasgow (1859) Credit: Alamy Stock Photo

Scotland was one of the pioneers in transitioning from wooden ships to iron and steel construction. The use of iron and later steel allowed for larger and more durable vessels, contributing to the industry's growth and competitiveness. Scottish shipyards were known for building fast and sleek sailing ships, known as clippers, which were used for carrying goods

around the world. Famous clippers like the *Cutty Sark* and the *Thermopylae* were built in Scotland.

### *Russell & Company*

The Falls of Clyde was built by Russell & Company, as was recognized in the National Register application (Delgado, 1988). Russell & Company was a prominent shipbuilding and engineering firm located in Greenock, Scotland. The company played a significant role in the shipbuilding industry during the 19th and early 20th centuries.

The company was founded by Alexander Stephen and Thomas Russell in 1843 as "Russell & Co." It began as a shipbuilding and engineering partnership in the shipbuilding town of Greenock on the River Clyde. Russell & Company quickly gained a reputation for producing high-quality ships, including sailing vessels, steamships, and later, iron-hulled ships. They were known for their innovative ship designs and engineering capabilities.

The company expanded its operations over the years, and by the late 19th century, it had become one of the leading shipbuilders in the United Kingdom. It played a crucial role in the growth of the Clyde shipbuilding industry during this period. It was one of the early adopters of iron and steel construction in shipbuilding, transitioning away from wooden ships. This shift in materials was a significant advancement in shipbuilding technology. Russell & Company built a wide range of ships, including cargo vessels, passenger liners, warships, and other specialized vessels. Their ships were in demand by various shipping companies and navies around the world.

Like many other shipbuilders, Russell & Company faced challenges during the decline of the shipbuilding industry in the mid-20th century. Changes in technology, markets, and economic conditions led to a decline in shipbuilding on the Clyde. Russell & Company faced financial difficulties in the mid-20th century, and in 1968, the company went into liquidation. The closure marked the end of an era for one of Scotland's most renowned shipbuilders.

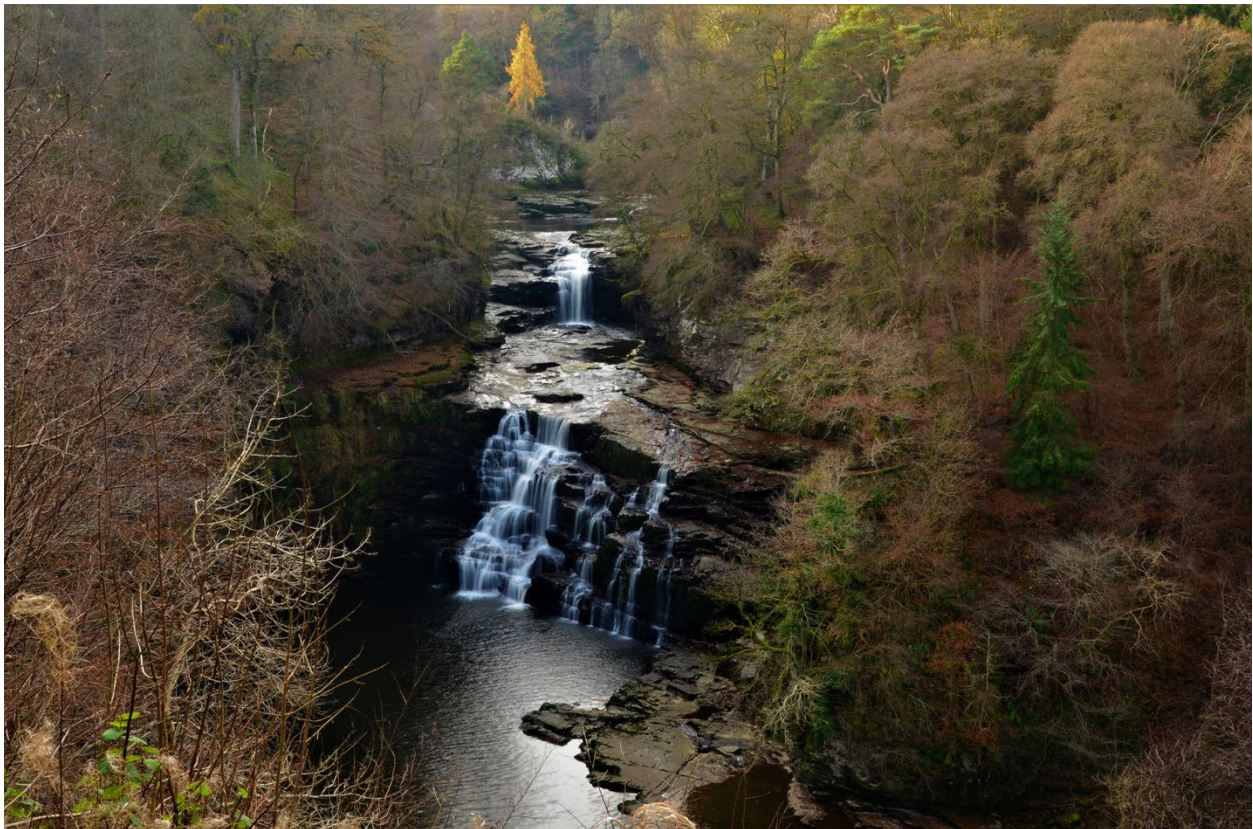
The legacy of Russell & Company lives on through the ships they built, some of which are preserved as historic vessels, and through the history of shipbuilding in Greenock and the Clyde region. The company's contributions to the maritime industry are remembered as an important part of Scotland's industrial history.

In the 20th century, as steamships and motorized vessels became more common, many sailing ships were retired from commercial service. However, the *Falls of Clyde* was preserved and eventually made its way to Hawaii. The history of its move to Hawai'i is well-documented in the existing National Register application form (Delgado, 1988).

In 1963, the Falls of Clyde was purchased by a group in Honolulu called the *Falls of Clyde Maritime Museum*, led by Robert Krauss, a columnist for the daily newspaper, *The Honolulu Advertiser*. It was transported to Hawai'i from Alaska and became a part of the museum's maritime collection. The ship was later purchased from the group in 1968 by the Bishop Museum in Honolulu, Hawai', which subsequently sold the ship to the Friends of *Falls of Clyde* in 2008. The history of its place in Hawaii's history is documented through this environmental assessment.

### *Ship Building on the River Clyde*

The 19th century saw the Clyde River, especially the area around Glasgow, emerge as a significant center for shipbuilding. The Clyde became known for producing innovative and high-quality ships, including sailing vessels and later, steamships.



The Clyde shipbuilding industry was once one of the most significant shipbuilding regions in the world. Shipbuilding on the River Clyde in Scotland has a history dating back to the 18th century. The Clyde's proximity to abundant timber resources and its access to the sea made it an ideal location for shipbuilding.



In the 19th century, the Clyde became known for its production of wooden sailing ships, including clippers and other merchant vessels. Some of these ships gained fame for their speed and design. The mid-19th century saw a significant shift in shipbuilding materials from wood to iron and later steel. Clyde shipyards were quick to adopt these new materials, which allowed for larger and more durable vessels.

The Clyde shipbuilding industry experienced rapid growth and expansion during the late 19th and early 20th centuries. Clyde shipyards built a wide variety of ships, including passenger liners, cargo vessels, warships, and more. Both World War I and World War II brought a surge in demand for ships and warships. Clyde shipyards played a critical role in supporting the British war effort, producing a substantial number of naval vessels and merchant ships.



Figure 2. Steam boats tied up along the Broomielaw on the river Clyde, Glasgow Scotland (1889) Credit: Alamy Stock Photo

After World War II, the Clyde shipbuilding industry faced several challenges, including increased competition from other shipbuilding regions, changing technologies, and economic fluctuations. Many shipyards closed or consolidated during this period.

The Clyde produced some iconic and historic ships, including the *RMS Queen Mary*, *RMS Queen Elizabeth*, and the famous tea clipper, the *Cutty Sark*, and, of course, the *Falls of Clyde*. Despite the decline of the shipbuilding industry on the Clyde, some historic ships and

shipbuilding facilities have been preserved as museums and historic sites. For example, the Tall Ship at Riverside in Glasgow is a museum housed on a Clyde-built sailing ship. The Bishop Museum were the stewards of the *Falls of Clyde* when it was refurbished for preservation in Hawai'i.

While the Clyde shipbuilding industry has seen a significant reduction in its scale, some shipyards in the region continue to build and repair ships, including naval vessels and offshore oil rigs. The Clyde shipbuilding industry holds a prominent place in Scotland's industrial history and the history of maritime engineering. It played a crucial role in the development of shipbuilding technology and the construction of numerous vessels that shaped the course of history. The *Falls of Clyde* is a representation of this proud Scottish history and expert shipbuilding culture.

## **Conclusion**

It is gravely unfortunate the *Falls of Clyde* has not been properly maintained during the entirety of its residence in Honolulu Harbor. It was once highly valued and properly cared for. It has since fallen into disrepair and no longer has integrity. No adverse effect would result from the proposed action due to the lack of integrity (i.e., "To be significant, a historic property shall possess integrity of location, design, setting, materials, workmanship, feeling, and association..." HAR 13-275-6(b)).

Nonetheless, the property is associated with Scotland's shipbuilding history and culture. It would be ideal if the property owners or interested parties from Scotland could move the vessel back to Scotland to reconnect the ship to its place of origin. As the property is privately owned, such responsibility lies with the owners. To date, such efforts have been unsuccessful.

## *Ka Pa‘akai* Analysis

The State and its agencies have an affirmative obligation to preserve and protect Native Hawaiians’ customarily and traditionally exercised rights to the extent feasible.<sup>1</sup> State law further recognizes that the cultural landscapes provide living and valuable cultural resources where Native Hawaiians have and continue to exercise traditional and customary practices, including hunting, fishing, gathering, and religious practices. In its *Ka Pa‘akai* decision, the Hawai‘i Supreme Court provided government agencies an analytical framework to ensure the protection and preservation of traditional and customary Native Hawaiian rights while reasonably accommodating competing private development interests. This is accomplished through:

- 1) The identification of valued cultural, historical, or natural resources in the project area, including the extent to which traditional and customary Native Hawaiian rights are exercised in the project area;
- 2) The extent to which those resources—including traditional and customary Native Hawaiian rights—will be affected or impaired by the proposed action; and
- 3) The feasible action, if any, to be taken to reasonably protect Native Hawaiian rights if they are found to exist.

While there are some Native Hawaiians who have shown interest in the ship over time, there is no evidence to show the ship was significant to Native Hawaiian history or association with Hawaiian traditional or customary practices that would warrant additional protections for this property. The action is not associated with any valued cultural, historical, or natural resources of Native Hawaiian origin and no traditional and customary Native Hawaiian rights as associated with this property.

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<sup>1</sup> Article XII, Section 7 of the Hawai‘i State Constitution, *Ka Pa‘akai O Ka ‘Āina v. Land Use Commission*, 94 Haw. 31 [2000] (*Ka Pa‘akai*), Act 50 SLH 2000.

## **APPENDIX G**

Description of Applicable Federal Laws and Regulations for the  
Proposed Shipbreaking or Disposal of the Derelict Sailing  
Vessel *Falls of Clyde*

SEARCH, Inc.  
September 2023

**DESCRIPTION OF APPLICABLE FEDERAL LAWS AND REGULATIONS FOR THE  
PROPOSED SHIPBREAKING OR DISPOSAL OF THE DERELICT SAILING VESSEL  
*FALLS OF CLYDE*, HONOLULU HARBOR, HAWAII**

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## **ACRONYMS AND ABBREVIATIONS**

ACHP Advisory Council on Historic Places

BMP Best Management Practice

CFR Code of Federal Regulations

FFOC Friends of Falls of Clyde

FONSI Finding of No Significant Impact

FOCI Save Falls of Clyde, International

HAER Historic American Engineering Record

MARAD United States Maritime Administration

MPRSA Marine Protection, Research and Sanctuaries Act

NEPA National Environmental Policy Act

NHL National Historic Landmark

NHPA National Historic Preservation Act

NOAA National Oceanic and Atmospheric Administration

NRHP National Register of Historic Places

HDOT Department of Transportation, Harbors Division

PCB Polychlorinated biphenyl

SHPO State Historic Preservation Office

SINKEX sink-at-sea live fire training exercise

USACE U.S. Army Corps of Engineers

USC U.S. Code

USCG U.S. Coast Guard

## BACKGROUND

The Hawai'i Department of Transportation, Harbors Division (HDOT), is proposing the removal of *Falls of Clyde*, a derelict hulk that is currently moored in a sinking condition at a State-owned and controlled berth alongside Pier 7 at Honolulu Harbor. Pier 7 is the location of the former Hawai'i Maritime Center, which is now an abandoned facility. *Falls of Clyde*, based on recent marine surveys that included an underwater inspection, is at the end of its life as a museum vessel, and requires constant pumping to stay afloat. Pumping does not remove all of the water from the hull, which remains partly flooded at all times. The State Department of Transportation impounded the vessel in 2016 and has assumed oversight of the ship since that time.

The vessel was slated for ocean disposal in 2017 and that action was underway after the approval of a general dumping permit issued under the Marine Protection Research and Sanctuaries Act (MPRSA) when it was stopped over concerns that mitigation of the loss of the vessel as a National Register-listed, National Historic Landmark had not been undertaken and that the disposal would meet the criteria of adverse effect on the resource. As a result, the disposal process was halted.

The structural integrity of *Falls of Clyde* has continued to deteriorate to the point that it requires continuous pumping to avoid sinking at its berth. If it sinks at its berth it likely cannot be raised as an intact hull. It is unsafe to board and is inaccessible except for necessary maintenance for the ongoing pumping of the leaking hull and assessment. The vessel in its current condition poses a clear and definite threat to ongoing use and operation of this portion of the harbor and to the repair and restoration of Pier 7, which is itself in a deteriorated state and requires immediate intervention.

HDOT is preparing an Environmental Assessment (EA) under the provisions of Chapter 343, Hawaii Revised Statute (HRS), the Hawai'i Environmental Protection Act (HEPA) to evaluate the potential effects on the environment from the removal of the vessel from Honolulu Harbor.

*Falls of Clyde* is at the end of its life as a viable, floating ship and has suffered a substantial loss of historical integrity. The ship was listed in the National Register of Historic Places in 1973 (NRIS 73000569) under criterion A, association with events in U.S. history, and criterion C, as it embodied distinctive characteristics of a now rare type of vessel both as a sailing ship and as a sailing oil tanker, of which it is the last floating example. *Falls of Clyde* was subsequently studied as part of the Maritime Heritage of the United States: Large Preserved Historic Vessels Thematic Study in 1988 and was designated a National Historic Landmark on April 11, 1989.

By 2005, the status of the ship was noted by the NHL Program as “threatened” due to leaking and corrosion of the hull. The vessel has further deteriorated substantially in the eighteen years since then. The most recent marine survey (March 2023) noted that “the scope of the material condition of the vessel in her present unsafe situation dictates the need for a complete reassessment to find the alternative for the disposal of the vessel” (Lombardi 2023: 5). The loss of the majority of the vessel’s historical fabric is irreversible. It is a unique surviving sailing craft. However, the vessel has already lost most of the qualities, or aspects of integrity that convey its significance, and led to its listing in the National Register and its designation as a

National Historic Landmark. The ship has ceased to meet the criteria for listing for listing in the National Register because the qualities which caused it to be originally listed have been lost or destroyed. The first step in that process was the removal of the ship from the State of Hawai'i Register of Historic Places in November 2023.

HEPA requires that an EA identify and evaluate all reasonable alternatives, including a “No-Action Alternative” in which the Proposed Action is not undertaken. The information and analysis contained in this EA will serve as the basis for a decision if the Proposed Action would result in a significant impact to the environment, which would require the preparation of an Environmental Impact Statement (EIS), or if no significant impacts would occur and therefore a Finding of No Significant Impact (FONSI) would be appropriate. This report identifies reasonable alternatives for the removal of the FOC and identifies potential permitting that might be required as a result.

## **PROPOSED ACTION AND ALTERNATIVES**

There are two options for the removal of *Falls of Clyde*: 1) removal by dismantling the vessel, or 2) removal by sinking. A separate alternative, no action, is included but is not practical as the vessel is at risk of sinking in Honolulu Harbor. If it sinks, the structural integrity of the vessel is such that it likely could not be raised intact.

### **Applicable Federal Law: The National Historic Preservation Act of 1966, as Amended**

Under the National Historic Preservation Act of 1966, as Amended, any undertaking by a Federal agency that affects a property listed in or determined eligible for the National Register of Historic Places requires a Section 106 consultation and mitigation of the consequences of an undertaking. That includes anything that a federal agency carries out, assists, funds, permits, licenses, or approves. That law currently applies to *Falls of Clyde*, as long as it is listed in the National Register of Historic Places and is a designated National Historic Landmark.

It is important to note that the process of delisting the vessel is underway because the qualities which caused it to be originally listed have been lost or destroyed. The Hawaii State Historic Preservation Department has initiated the process of delisting after the SHPO's State Review Board meeting on November 17, 2023. The Board's decision to remove *Falls of Clyde* from the State Register will come with a simultaneous conveyance of the petition to delist within fifteen days of the Advisory Board meeting to the Keeper of the National Register.

As per § 60.15 of 36 CFR, Part 60, “Removing properties from the National Register:”

The Keeper shall respond to a petition for removal within 45 days of receipt, except where the Keeper must notify the owners and the chief elected local official. In such cases the Keeper shall respond within 90 days of receipt. The Keeper shall notify the petitioner and the applicable State Historic Preservation Officer, Federal Preservation Officer, or person or local government where there is no approved State Historic Preservation Program, of his decision. The State Historic Preservation Officer or Federal Preservation Officer transmitting the petition shall notify the petitioner, the owner(s), and the chief elected local

official in writing of the decision. The Keeper will provide such notice for petitions from persons or local governments where there is no approved State Historic Preservation Program. The general notice may be used for properties with more than 50 owners. If the general notice is used it shall be published in one or more newspapers with general circulation in the area of the nomination.

The Keeper may remove a property from the National Register on his own motion on the grounds established in paragraph (a) of this section, except for those properties listed in the National Register prior to December 13, 1980, which may only be removed from the National Register on the grounds established in paragraph (a)(1) of this section. In such cases, the Keeper will notify the nominating authority, the affected owner(s) and the applicable chief elected local official and provide them an opportunity to comment. Upon removal, the Keeper will notify the nominating authority of the basis for the removal. The State Historic Preservation Officer, Federal Preservation Officer, or person or local government which nominated the property shall notify the owner(s) and the chief elected local official of the removal.

The loss of the qualities that led to *Falls of Clyde*'s listing and the pending delisting through the long-established public process argue that the NHPA no longer will apply to *Falls of Clyde*. The delisting of a National Register of Historic Places property also means that the qualities that led to designation as a National Historic Landmark are also lost, and in these cases, the Secretary's Advisory Board reviews a brief summary prepared by the National Historic Landmark Program in consultation with the Keeper of the National Register, and then votes to recommend to the Secretary of the Interior that they withdraw the designation.

While well-intentioned maritime preservationists and supporters of the ship have sought to preserve and restore the vessel for decades, the vessel is at risk of sinking, and the loss of the qualities that led to its listing are reflected in the comprehensive marine survey that preceded the request for delisting. *Falls of Clyde* will likely be delisted by early 2024. **Therefore, disposing of *Falls of Clyde* would not trigger a Section 106 review.**

#### **Applicable Historic Preservation Case Law: USS *Cabot***

A group of veterans, the USS *Cabot* CVL 28 Association, Inc., "sought a preliminary injunction 1) ordering the Commander of the Eighth Coast Guard District to require that a Dead Ship Tow Plan be submitted to plaintiff prior to any movement of the ex-Navy aircraft carrier USS *Cabot*, a National Historic Landmark, and 2) prohibiting the Commander from approving any Dead Ship Tow Plan for the *Cabot* unless and until he has complied with the provisions of the National Historic Preservation Act" (USS *Cabot* CVL 28 Assn., Inc. v. Josiah, 1998 WL 315387 (E.D. La. 1998), Docket No. CIV. A. 98-0154). The

The court found several serious questions in regards to the merits of plaintiff's case. As a preliminary matter, the court stated that plaintiff had not shown that, under the circumstances, the regulations required the Coast Guard to control any further movement of the *Cabot*. Any decisions on further vessel movement were left to the discretion of the District Commander and the Commander of the Port (COTP). Further, plaintiff was unable to show that conditions mandating action by the COTP currently existed. There was also a serious question as to whether

the movement of the *Cabot* from Port Isabel to Brownsville would constitute an “undertaking” under NHPA. However, the court refused to rule on this issue and decided to deny the petition for a preliminary injunction on the issue of harm to the public interest. After assuming that plaintiff had demonstrated irreparable harm, the court concluded that the potential harm to plaintiff if the injunction did issue (i.e., moving the vessel and scrapping it) did not outweigh the potential hardship to Global and the foundation if the injunction were granted (i.e., losing the vessel through capsizing or sinking in a storm due to its present location). The court further found that the issuance of the preliminary injunction would not be in the public interest. While acknowledging that there is a public interest in the preservation of National Historic Landmarks such as the *Cabot*, the court stated that the interest of public safety posed by the current location and size of the *Cabot* was more important. In its current location, the *Cabot* posed a threat to Port Isabel in the event of a tropical storm, exposing the community to a risk of loss of life and damage to facilities and the environment. Since plaintiff could not show that the requested preliminary injunction would not undermine the public interest, it failed to establish another of the necessary prerequisites to the issuance of a preliminary injunction, and the court denied the request. In order to be granted a preliminary injunction, the movant must demonstrate by a clear showing that 1) there is a substantial likelihood of success on the merits; 2) there is a substantial threat of irreparable harm if the injunction is not granted; 3) the threatened injury outweighs any harm that may result from the injunction to the non-movant; and 4) the injunction will not undermine the public interest. Bypassing the first issue, and assuming the second issue in favor of plaintiff, the court found against plaintiff regarding the third and fourth issues. The petition was, therefore, denied (USS *Cabot* CVL 28 Assn., Inc. v. Josiah, 1998 WL 315387 (E.D. La. 1998), Docket No. CIV. A. 98-0154).

Even if *Falls of Clyde* were still listed in the National Register and designated a National Historic Landmark, the precedent of the court ruling in USS *Cabot* CVL 28 Association vs. Josiah to not interfere with towing the vessel for scrapping suggests that an expeditious remediation of the threat posed by *Falls of Clyde* at its current berth would be in line with the court decision on *Cabot* in that “the interest of public safety posed by the current location and size of the *Cabot* was more important. In its current location, the *Cabot* posed a threat to Port Isabel in the event of a tropical storm, exposing the community to a risk of loss of life and damage to facilities and the environment” (USS *Cabot* CVL 28 Assn., Inc. v. Josiah, 1998 WL 315387 (E.D. La. 1998), Docket No. CIV. A. 98-0154).

### **General Discussion: Removal of the Vessel**

If there is to be an ocean disposal of the vessel, then the Environmental Protection Agency is the Federal lead. Following a meeting with the EPA in October 2023, EPA staff noted that they approve preparing an environmental assessment, and suggested the preferred options – in this order:

- Removal through scrapping ashore, which would not involve the EPA, and
- Removal at sea.



The question of the physical integrity of the vessel at this stage and whether it is capable of an open-ocean tow (not in a dry dock, but on its own with tugs) is paramount. The permit for disposal would need to clearly demonstrate a “robust need for disposal (which the EPA staff noted that if it is the case here, that it needs to be documented through the marine surveys), a description of the vessel, evaluation of the alternatives in addition to disposal – in this order: a) scrap, 2) salvage, 3) repair and lay out the issues with each, i.e. timing, logistics and safety. Safety includes hazardous materials disposal prior to any of the actions (PCBs, fuel, asbestos, etc.) There are specific regulations and protocols, and these would be the responsibility of the contractor who undertakes the work. The scrapping may initially be viewed as requiring the work be done by an authorized ship scrapping site (the closest is in Brownsville on the Gulf) hence requiring being put into a dry dock and towed, but as *Falls of Clyde* is essentially an empty iron hulk, with any issues (asbestos, PCBs, etc.) being unlikely or minimal, disposal could be approved for Honolulu.

### **Alternative One: Removal by Dismantling**

There are two options for the removal of *Falls of Clyde* through dismantling. The first is to systematically dismantle in the water, at or near its current berth at Pier 7 if it is determined by a marine surveyor that the vessel cannot safely be towed to a harbor facility for break up in a dry dock or ashore. Scrapping *Falls of Clyde* could take place within a floating dry dock, or in a slip at pier-side, where the vessel would be systematically cut up and pulled ashore for further dismantling. This type of activity is regulated by OSHA. A contractor would break up the vessel and would be required through a scope of work be responsible for remediation of any potential environmental threat through the draining and removal of wastewater, black water, and oil, as well PCBs and asbestos.

The process of moving *Falls of Clyde* to a disposal facility is regulated by the USCG and this constitutes a federal action. **As noted, if the *Falls of Clyde* is delisted and is no longer designated as a National Historic landmark, it would no longer require Section 106 consultation.**

If a floating dry dock were to be used to move *Falls of Clyde* to a scrapping site or offshore for disposal by sinking, it may be argued that the applicable Federal regulatory framework is the Vessel Incidental Discharge Act (VIDA) and U.S. Coast Guard regulations for ballast water management found in 33 CFR Part 151, Subpart D and the Vessel General Permit (2013). A floating dry dock that has a flow-through ballast water system is exempt from VIDA (CWA §312(p)(6)(B)). As well, vessels exempt from the VIDA discharge standard are those that 1) Operate between ports/places in one COTP Zone; 2) Operate between ports/places in more than one COTP Zone but takes on/discharges ballast water exclusively in a single COTP Zone; 3) Do not travel more than 10 nautical miles and crosses no physical barriers or obstructions (e.g., locks); and 4) Unmanned, unpowered barges. The largest full service shipyard in Hawai'i, Pacific Shipyards International, has a VIDA compliant 450 by 141 foot floating dry dock capable of lifting 7,500 LT and a smaller 200 by 80 floating dry dock with 2000 LT lifting capacity; it is also VIDA compliant. If a dry dock was introduced to Hawaiian waters for lifting *Falls of Clyde*, it would need to be VIDA compliant.

If a floating dry dock comes from another jurisdiction, such as another country, VIDA stipulates that ballast water would need to be discharged outside the waters of the United States (no less

than 200 NM from any shore). Scrapping ashore would not trigger an EPA consultation, but there are pertinent regulations on hazardous materials handling and disposal.

### **Alternative Two: Removal at Sea by Sinking**

The transportation and disposal of vessels at sea is authorized and regulated by the Environmental Protection Agency under Federal law 33 U.S.C. 1412 and 1418 (40 CFR 229.3) working in consultation with the U.S. Army Corps of Engineers and/or the U.S. Coast Guard.

Under the law, all departments, agencies, or instrumentalities of the United States are hereby granted a general permit to transport vessels from any location for the purpose of disposal in the ocean subject to the following conditions:

(1) Except in emergency situations, as determined by the U.S. Army Corps of Engineers and/or the U.S. Coast Guard, the person desiring to dispose of a vessel under this general permit shall, no later than 1 month prior to the proposed disposal date, provide the following information in writing to the EPA Regional Administrator for the Region in which the proposed disposal will take place:

- (i) A statement detailing the need for the disposal of the vessel;
- (ii) Type and description of vessel to be disposed of and type of cargo normally carried;
- (iii) Detailed description of the proposed disposal procedures;
- (iv) Information on the potential effect of the vessel disposal on the marine environment; and (v) Documentation of an adequate evaluation of alternatives to ocean disposal (*i.e.*, scrap, salvage, and reclamation).

(2) Transportation for the purpose of ocean disposal may be accomplished under the supervision of the District Commander of the U.S. Coast Guard or his designee (40 CFR 229.3).

To prepare a vessel for ocean disposal, “appropriate measures shall be taken, prior to disposal, by qualified personnel to remove to the maximum extent practicable all materials which may degrade the marine environment, including without limitation

- (i) emptying of all fuel lines and fuel tanks to the lowest point practicable, flushing of such lines and tanks with water, and again emptying such lines and tanks to the lowest point practicable so that such lines and tanks are essentially free of petroleum, and
- (ii) removing from the hulls other pollutants and all readily detachable material capable of creating debris or contributing to chemical pollution (40 CFR 229.3)

The regulations provide timelines for reporting readiness for sinking, inspection, and clearance for sinking, which would take place in daylight after a minimum 48 hour notice, “in a site designated on current nautical charts for the disposal of wrecks or no closer than 22 kilometers (12 miles) from the nearest land and in water no less than 50 fathoms (300 feet) deep, and all necessary measures shall be taken to insure that the vessels sink to the bottom rapidly and that marine navigation is not otherwise impaired” and the site of sinking is then reported to the National Oceanic and Atmospheric Administration for marking the disposal site on navigational charts (40 CFR 229.3 and [42 FR 2489, Jan. 11, 1977, as amended at 84 FR 31517, July 2, 2019).

The EPA can issue a permit for disposal of a vessel at sea without separate NEPA review, because the overarching general permit underwent NEPA review. That review determined that the general permit’s provisions were in compliance with the National Environmental Protection Act. Specifically, the issuance of the nationwide general permit for the disposal of vessels at sea as authorized by the Marine Protection, Research and Sanctuaries Act (MPRSA) previously underwent full NEPA consultation, Any vessel subsequently being disposed of at sea falls under the already issued NEPA permit as long as it meets the specified conditions in the general permit regulations in 40 CFR 229.3. In discussions with EPA, the agency’s opinion is that there is no need for a separate NEPA consultation regarding the ocean disposal of the *Falls of Clyde*.

The disposal of *Falls of Clyde* would therefore **not** require a specific NEPA consultation if the disposal is conducted in strict adherence to the specified conditions. EPA provides a document of best management practices entitled “National Guidance: Best Management Practices for Preparing Vessels Intended to Create Artificial Reefs” (EPA842-B-06-002), which was designed to promote a consistent, nation-wide approach to preparing military and commercial vessels for artificial reefing projects. The document was jointly developed with a federal workgroup that include MARAD, NOAA, the Army Corps of Engineers, the U.S. Fish and Wildlife Service, the U.S. Coast Guard, the Department of the Navy, and the EPA.

The scope of work for the disposal of *Falls of Clyde* at sea would follow those guidelines, and be the responsibility of the contractor with the winning bid for the disposal with review and oversight by EPA and the State of Hawaii. The categories of concern and focus in preparing for sinking are:

- Oil and fuel
- Asbestos
- Polychlorinated biphenyls (PCBs)
- Paint
- Solids/Debris/Floatables, and
- Other materials of environmental concern.

The goals of the BMP standards for disposal of sea are managing:

Oil and Fuel: Remove liquid fuels and oils and semi-solids (greases) so that: no visible sheen is remaining on the tank surfaces (this includes all interior fittings, piping, structural members); no film or visible accumulation is remaining on any

vessel structure or component (e.g., on machinery or from spills on decking or carpet). The end result of such clean-up should be that no sheen be visible upon sinking a vessel.

**Asbestos:** Remove any loose asbestos and asbestos that may become loose during vessel sinking; remove or seal accessible friable asbestos.

**Polychlorinated Biphenyls (PCBs):** Remove all manufactured products containing greater than or equal to ( $\geq$ ) 50 parts per million (ppm) of solid PCBs; remove all liquid PCBs regardless of concentration; remove all materials contaminated by PCB spills where the concentration of the original PCB source is  $\geq$  50 ppm.

**Paint:** Remove harmful exterior hull anti-fouling systems that are determined to be active; remove exfoliating (peeling) and exfoliated paint.

**Solids/Debris/ Floatables:** Remove loose debris, including materials or equipment that are not permanently attached to the vessel that could be transported into the water column during a sinking event.

**Other Materials of Environmental Concern:** Remove other materials that may negatively impact the biological, physical, or chemical characteristics of the marine environment.

This approach, which needs to be taken with *Falls of Clyde* if disposal by sinking is undertaken, would be incorporated into the scope of work for the contractor preparing the vessel for disposal.

Disposal at sea will need to be at a designated site, as per EPA guidance, more than twelve nautical miles offshore and at a depth greater than three hundred feet. The disposal would be done under a general permit from the EPA under the Marine Protection, Research and Sanctuaries Act (MPRSA) (16 USC § 1431 et seq. and 33 USC §1401 et seq., 1988). The area of the disposal would be EPA's South Oahu Ocean Disposal Site (US053) in EPA Region 9. Recent ship disposals at the South Oahu Site listed by EPA are:

*Weeks 190*, a deck/barge/crane barge/dredged material disposal scow of 1092 tons, sunk in 9204 feet of water under an MPRSA General Permit on November 11, 2020;

*Red Dolphin*, a 142 foot long, 91 ton general passenger vessel sunk in 4500 feet of water under an MPRSA General Permit on December 31, 2019;

*Kulamanu*, a 222 foot long, 949 ton passenger vessel sunk in 8568 feet of water under an MPRSA General Permit on July 10, 2019.

*AWB-140*, a 140 foot long, 434 ton freight barge sunk in 9456 feet of water under an MPRSA General Permit on October 10, 2018;

*Pacific Paradise*, a 79 foot long, 161 ton commercial longline fishing vessel, sunk in 3276 feet of water under an MPRSA General Permit on December 6, 2017;

If disposed of at sea, *Falls of Clyde* would likely be sunk in the same general area and under the same conditions and protocols.

The process of moving *Falls of Clyde* to a facility to be stripped and remediated, and then towed off shore for disposal at sea is regulated by the USCG and this constitutes a federal action. **As noted, *Falls of Clyde*, through delisting and no longer being designated as a National Historic landmark would no longer require Section 106 consultation. If *Falls of Clyde* were still listed in the National Register, Section 106 consultation would be required to take into account the effects of the undertaking that require federal review or action such as the permits for moving and disposal issued by the USCG and the EPA.**

Additional concerns and informal comments from the EPA focus on the question of the physical integrity of the vessel at this stage and whether it is capable of an open-ocean tow (not in a dry dock, but on its own with tugs) is paramount. The permit for disposal would need to clearly demonstrate a robust need for disposal, a description of the vessel, evaluation of the alternatives in addition to disposal – in this order: a) scrap, 2) salvage, 3) repair, all of which would require documentation through the marine surveys, and lay out the issues with each, i.e. timing, logistics and safety.

A key question is whether the vessel can be safely towed; they will require a towing plan that includes any work required to make *Falls of Clyde* towable to as far out as twenty miles offshore. If *Falls of Clyde* requires being placed on a dry dock to be taken out to sea, it is not eligible for offshore disposal as “non-seaworthy vessels” do not meet the criteria, and “if you can get it into a dry dock, then it has to be scrapped.” There are no pre-approved areas for disposal, and each disposal requires a separate ruling. No explosive charges could be used to sink it; it would need to be sunk by unplugging pre-cut holes in the hull.

### **Alternative 3: No Action**

The no-action alternative is not an effective or acceptable alternative. The situation with *Falls of Clyde* is nearing a crisis point. *Falls of Clyde* was initially going to be disposed of in 2008 by its then owners, the Bishop Museum. The Federal Register of September 3, 2008 published the temporary final rule of the U.S. Coast Guard to create a safety zone surrounding *Falls of Clyde* to establish a:

...temporary 500-yard moving safety zone around the S/V FALLS OF CLYDE and her tow vessel(s) during transit within the Honolulu Captain of the Port Zone. The safety zone is established at the request of the Hawaii Maritime Center to protect vessels and persons from approaching too close to the dead-ship tow of the S/V FALLS OF CLYDE. On or after September 2, 2008 the dead-ship tow of the S/V FALLS OF CLYDE is scheduled to transit U.S. navigable waters in the Honolulu Captain of the Port Zone from the Honolulu Harbor to off the southern coast of Oahu, HI. The Coast Guard is establishing this safety zone to ensure the public’s safety during the transit of the S/V FALLS OF CLYDE from the



Honolulu Harbor entrance channel commencing at a line between channel buoys no. 1 and no. 2 to 12 nautical miles off the southern coast of Oahu, HI (Federal Register (v. 73, no. 171, September 3, 2008, pp. 51364-51365).

Approval for disposal in 2008 was granted in 2008 with *Falls of Clyde* listed in the National Register of Historic Places and as a National Historic Landmark. The plan to dispose of the ship at sea was replaced by the transfer of ownership of the ship by the Bishop Museum to the Friends of the *Falls of Clyde* (FFOC), a local non-profit, whose plans for the restoration of the ship did not come to fruition. A separate opportunity by the Scotland-based group, Save *Falls of Clyde* – International (FOCI) to tow the vessel to Scotland for restoration in response to the State of Hawaii’s RFP to remove *Falls of Clyde* from Honolulu Harbor was approved by the Harbors Division of the Hawaii Department of Transportation (HDOT) in November 2021. However, approval of the contract to remove the ship was canceled by HDOT in May 2022 as FOCI failed to meet the terms of the contract including securing a performance bond. *Falls of Clyde* is now at a critical stage facing imminent loss by sinking, and with insufficient structural integrity to be raised intact if it sinks in the harbor.

### **Remediation of the Loss of Historic Artifacts and Data**

As noted, despite the fact that the process of removing the *Falls of Clyde* from Honolulu Harbor regulated by the USCG and EPA, and thus constitutes a federal action, the process of delisting *Falls of Clyde*, however, constitutes an effective reevaluation of the vessel as an historic property from eligible to ineligible. That removes the requirement for Section 106 consultation to assess adverse effects to historic properties. Adverse effects begin with physical destruction of or damage to all or part of an historic property, including that caused by “Neglect of a property which causes its deterioration.”

Dismantling of the long-neglected, highly deteriorated *Falls of Clyde* is an effect, but if the vessel is ineligible and no longer listed, whatever method of disposal is adopted, what takes place does not constitute an adverse effect as defined in 36 CFR § 8.4 because the vessel would no longer be listed in the National Register, nor considered eligible. Therefore, the removal of the vessel from Honolulu harbor either by dismantling or disposal at sea, would not require a Section 106 consultation by the Environmental Protection Agency (EPA), the U.S. Coast Guard (USCG) and the National Oceanic and Atmospheric Administration (NOAA), the Federal agencies involved in the permit process for disposal at sea.

Even though *Falls of Clyde* has lost the qualities that led to its listing in the National Register, it is still an historic vessel, albeit one past the point of being capable of restoration. It is for that reason that even if not required under the National Historic Preservation Act, because of the imminent loss of *Falls of Clyde* and a lack of complete archival documentation, HDOT has implemented the following actions to mitigate; 1) Photo Documentation, 2) Video Documentation, 3) Inventory of Artifacts and Objects, and 4) Documentation of Activities.

HDOT has undertaken preservation through additional documentation of the vessel for inclusion into the existing record for *Falls of Clyde* in the Historic American Engineering Record in the Library of Congress. In existence since 1933, the Historic American Buildings Survey, the Historic American Engineering Record, and the Historic American Landscapes Survey (HABS/HAER/HALS) of the National Park Service has documented nationally significant achievements in architecture, engineering and landscape design in the United States and its

territories, and archived those records, initially comprised of measured drawings and large-format black and white photographs at the Library of Congress.

HABS/HAER/HALS documentation is standardized, and the guidelines for documentation reflect this:

HABS/HAER/HALS records include both formal documentation (drawings, photographs, histories) and informal documentation (field records, and other significant materials not meeting HABS/HAER/HALS standards):

- Measured drawings are produced at a precise scale from actual dimensions recorded in the field. Drawings may be produced either by hand or with computer-aided drafting (CAD).
- Large-format photographs are produced as contact prints from 4x5, 5x7, and 8x10 black-and-white negatives and color transparencies. The formats allow maximum enlargement with minimal loss of detail and clarity, and the black-and-white processing allows for archival stability.
- Written histories place the site or structure within the appropriate context, addressing both the historical and the architectural or engineering aspects of its significance.
- Field records are not considered formal documentation because they are the notes, sketches, 35 mm or digital photographs, and field measurements used to create the drawings. Nevertheless, they are the primary source of HABS/HAER/HALS measured drawings and can reveal aspects of a structure or site not emphasized in the formal documentation. They are an important record of the documentation process, and often provide the greatest detail. In addition, field records may include copies of historical views or documents.
- When recording exceptionally large structures, sculptural objects, and ones that are not readily accessible, HABS/HAER/HALS uses a high-definition laser scanner. While laser scanning is gaining momentum in the field of heritage recording, scans are only the tip of the iceberg when it comes to creating comprehensive documentation that is useful in efforts such as rehabilitation and historical investigation. Thus, HABS/HAER/HALS supplements the laser scans with hand-measuring, and after the scanning process, uses software to migrate the point clouds into AutoCAD to produce two- (and sometimes three-) dimensional drawings to its standards. This is necessary because the role of the HABS/HAER/HALS drawing is to make the site or structure understandable to the general public, and to interpret the industrial processes, patterns of use, and the cultural values imbedded within. Not only are the measured drawings more easily understood than laser scans, they ensure the long-term permanence of the information. The Library of Congress continues to explore sustainable methods and formats for "born digital" records in order to mitigate the significant back-end costs involved in the storage and frequent upgrading of files, but for now still requires documentation in hard copy. Likewise, scanned data does not meet the Secretary of the Interior's Standards and Guidelines for Architectural and

Engineering Documentation requiring that the documentation is reproducible and durable long-term, and that it is clearly and concisely produced.

The National Park Service created specific guidelines for recording historic ships in 1989. The guidelines have since been updated with two subsequent editions with the current edition dating to 2004. Since then, the documentation of a number of historic ships has been accomplished, notably, since 1990 with the National Trust and the Council of American Maritime Museums (CAMM) which established the Sally Kress Tompkins Maritime Internship following Sally Tompkins' untimely death early that year. The projects have included historic ships facing demolition or scrapping, starting with the 1915-built, wooden-hulled steam schooner *Wapama* at San Francisco Maritime National Historical Park, and continuing with government-owned vessels from National Defense Reserve fleets. As of 2020, the National Park Service, working through a cooperative agreement with the U.S. Maritime Administration, completed HAER surveys and documentation for twenty-seven vessels prior to disposal, including the Historic Mechanical Engineering Landmark-designated USCGC *Glacier* (WAGB-4) through 39 large format black and white photographs and the archival scanning of the ship's plans.

*Falls of Clyde* is currently in the inventory of historic vessels documented by the Historic American Engineering Record. However, the initial documentation of the vessel in 1989, was incomplete, as the second phase of the documentation did not take place as planned in 1991. The existing documentation in the Library of Congress includes twenty-five large format black and white photographs, and fourteen sheets of measured drawings that document the pumping system, cargo and ballast system, tank venting and steam heating system, and a boiler room isometric, upper pump room plan, lower pump room plan, an inboard profile of pump room, a starboard profile of pump room, a sectional view at frame 108, looking aft, a sectional view at bulkhead 99, looking aft, a boiler room plan, the inboard profile of boiler room and port tank, a starboard profile of the boiler room and port tank, a starboard profile of boiler room and tank No. 1, a sectional view at frame 94, looking aft, and the locator/title sheet.

Efforts in October 2023 completed the archival record, even though not specifically required by the fact that the vessel has lost the qualities for listing and designation, through an aerial LIDAR (high resolution Light Detection and Ranging) scan of the exterior hull and main (weather) deck, LIDAR scans of the upper and lower pump rooms, the boiler room, a typical oil tank, the forecastle and windlass, and the forward deck house and galley. An additional set of black and white photographs to document the current condition of the vessel and to include areas and features not documented in 1989 include a general three-quarter view, at the port stern, a starboard view of the bow, looking aft from the pier, two views of the forecastle head and the windlass machinery beneath the forecastle deck, the exposed steering apparatus, the main hatch with the ship's registration number and tonnage, the forward deck house with the ship's galley and shipmate stove, the 'tween deck, the interior of the bow and stern, documenting framing and hull plating, mast steps, and riveting patterns.

Scanning the hull and decks and accessible compartments with LIDAR and additional high-resolution photographs created a full documentary record of the vessel; this latest was undertaken to replace the MOA suggestion of video documentation with a superior, more archival-best practices technology.

The best management practices (BMP) for sinking a vessel call for the removal of materials that would potentially float free or have a negative impact on the sunken environment. As that aspect

would be included in the scope of work for the contractor who will prepare *Falls of Clyde* for disposal by sinking, as part of that process, which will include the removal of the weather deck's deteriorated wooden deck, will also be wherever possible due to safety concerns, the removal of significant artifacts and some features. These include a range of historic artifacts left behind by the Friends of the *Falls of Clyde* which include museum cataloged historic artifacts in the forward deck house/galley, and if it can be safely and successfully removed without damaging the artifact, the original 1878 patent windlass and associated machinery, including the capstan, the anchors, and the patent steering apparatus. An inspection of the vessel was undertaken in August 2023 and a list of artifacts was prepared; the Friends of the *Falls of Clyde* were also provided with the opportunity to remove artifacts and any of their property in August 2023. Among the artifacts removed was the ship's modern (replica) figurehead, which the Friends reported they had sold to a local bar.

## **REFERENCES**

Delgado, James P.

1988 National Historic Landmark Study, Four-Masted Ship *Falls of Clyde*, Honolulu, Hawaii.

Lombardi, Joseph

2023 *Falls of Clyde* Hull Survey.

## APPENDIX H

### Historic Delisting Correspondence and Documentation

-SHPD Letter to National Register of Historic Places, NPS  
Re: NRHP Request to Delist Falls of Clyde (NHL#73000659)  
December 14, 2023

-SHPD Letter to Hawai'i Department of Transportation  
Re: Request to Delist from Hawai'i and National Register,  
December 15, 2023

-National Park Service National Register of Historic Places  
Weekly List 2024 02 02, Weekly List of Actions Taken on Properties:  
1/26/2024 through 2/2/2024

-NPS National Historic Landmarks Program, Withdrawal of NHL Designation for  
Falls of Clyde (Executive Summary and Report)  
NHL Committee, May 2024 meeting



JOSH GREEN, M.D.  
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE  
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII'  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
KA 'OIHANA KUMUWAIWAI 'ĀINA

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

DAWN N.S. CHANG  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
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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

December 14, 2023

IN REPLY REFER TO:

**Project No.: 2023PR00552**

**Document No: 2312JLP03**

Paul Lusignan  
National Register of Historic Places  
National Park Service  
1849 C Street NW  
Mail Stop 7243  
Washington, DC 20240-0001

RE: National Register of Historic Places Request to De-list  
Falls of Clyde National Historic Landmark (NHL #73000659)  
Address: Honolulu Harbor, Honolulu, Oahu  
TMK: (1) 2-1-001:058

---

Dear Paul Lusignan:

The Hawaii State Historic Places Review Board (Review Board) evaluated a petition to delist the Falls of Clyde National Historic Landmark (NHL #73000659) from the National Register of Historic Places, during their meeting held on November 17, 2023. They determined that the Falls of Clyde has ceased to meet the criteria for listing in the National Register because the qualities which caused it to be originally listed have been lost or destroyed, or such qualities were lost subsequent to nomination and prior to listing, pursuant to 36 CFR § 60.15(a)(1).

The Hawaii State Historic Preservation Officer has also evaluated the petition to delist, pursuant to 36 CFR § 60.6(g), and concurs with the Review Board's findings. The Falls of Clyde has lost sufficient integrity and ceases to meet the criteria for listing in the National Register of Historic Places or to be considered a National Historic Landmark.

Mahalo,

*Alan Downer*

Dr. Alan Downer  
Deputy State Historic Preservation Officer

JOSH GREEN, M.D.  
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE  
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII'  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
KA 'OIHANA KUMUWAIWAI 'ĀINA

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CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

December 15, 2023

IN REPLY REFER TO:  
**Project No.:** 2023PR00552  
**Document No.:** 2312JLP04  
**Architecture**

Dreananlee Kalili  
Deputy Director of Transportation, Harbors  
State of Hawaii  
Department of Transportation  
869 Punchbowl Street  
Honolulu, HI 96813  
Via email: dreananlee.k.kalili@hawaii.gov

RE: Request to Delist from Hawaii and National Register of Historic Places  
Nomination Name: Falls of Clyde National Historic Landmark  
Address: Honolulu Harbor, Honolulu, Oahu  
TMK: (1) 2-1-001:060

Dear Dreananlee Kalili:

Thank you for submitting the petition to delist the Falls of Clyde to the Hawaii State Historic Preservation Division (SHPD). The Hawaii Historic Places Review Board (Review Board) evaluated your petition during their meeting on November 17, 2023. They determined that the Falls of Clyde has ceased to meet the criteria for listing in the Hawaii or National Register of Historic Places because the qualities which caused it to be originally listed have been lost or destroyed, or such qualities were lost subsequent to nomination and prior to listing, pursuant to 36 § CFR 60.15(a)(1). Thus, the Review Board has delisted the Falls of Clyde from the Hawaii Register of Historic Places and has recommended that the National Park Service delist the Falls of Clyde from the National Register of Historic Places.

The Hawaii State Historic Preservation Officer has also evaluated the petition to delist, pursuant to 36 CFR § 60.6(g), and concurs with the Review Board's findings. The Falls of Clyde has lost sufficient integrity and ceases to meet the criteria for listing in the National Register of Historic Places or to be considered a National Historic Landmark. SHPD submitted the request to delist to the National Park Service on December 15, 2023.

Mahalo,  
*Alan Downer*

Dr. Alan Downer  
Deputy State Historic Preservation Officer



# National Register of Historic Places

## Weekly List 2024 02 02

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WEEKLY LIST OF ACTIONS TAKEN ON PROPERTIES: 1/26/2024 THROUGH 2/2/2024

### ATTENTION:

The Draft Traditional Cultural Properties Bulletin is now available for comments through March 25, 2024, and may be accessed at [Draft TCP Bulletin Federal Register Notice \(federalregister.gov\)](https://www.federalregister.gov/documents/2024/01/25/2024-01401/request-for-comments-on-a-draft-of-updated-national-register-bulletin-identifying-evaluating-and#addresses) (<https://www.federalregister.gov/documents/2024/01/25/2024-01401/request-for-comments-on-a-draft-of-updated-national-register-bulletin-identifying-evaluating-and#addresses>).

### Key to Prefix Codes:

- AD - Additional documentation
- BC - Boundary change (increase, decrease, or both)
- FD - Federal DOE property under the Federal DOE project
- FP - Federal DOE Project
- MC - Multiple cover sheet
- MP - Multiple nomination (a nomination under a multiple cover sheet)
- MPS - Multiple Property Submission
- MV - Move request
- NL – NHL
- ADNL-Updated documentation (NHL)
- OT - All other requests (appeal, removal, delisting, direct submission)
- RS - Resubmission

KEY: State, County, Property Name, Address/Boundary, City, Vicinity, Reference Number, NHL, Action, Date, Multiple Name

ARIZONA, MARICOPA COUNTY,

Luhrs Building,

11 W. Jefferson,  
Phoenix, 85003561,  
LISTED, 1/26/2024  
(Phoenix Commercial MRA)

HAWAII, HONOLULU COUNTY,  
FALLS OF CLYDE,  
Pier 7, Honolulu Harbor,  
Honolulu, OT73000659,  
REMOVED, 2/1/2024

MARYLAND  
The Women's Suffrage Movement in Maryland MPS,  
MC100009812,  
COVER DOCUMENTATION APPROVED, 1/29/2024

MARYLAND, BALTIMORE INDEPENDENT CITY,  
Upland,  
1022 St. George's Road,  
Baltimore, MP100009813,  
LISTED, 1/29/2024  
(The Women's Suffrage Movement in Maryland MPS)

MARYLAND, BALTIMORE INDEPENDENT CITY,  
The Maryland Club,  
1 East Eager St.,  
Baltimore, SG100009814,  
LISTED, 1/29/2024

NEBRASKA, SEWARD COUNTY,  
Ella Eager House,  
915 Walnut St.,  
Beaver Crossing, RS100009512,  
LISTED, 1/30/2024

NEW YORK, DUTCHESS COUNTY,  
Standard Gage Company Plant,  
58 Parker Avenue,  
Poughkeepsie, SG100009881,  
LISTED, 2/2/2024

NEW YORK, ERIE COUNTY,

Winspear Extension Historic District,

393-638 Highgate Avenue; 16-258 Rounds Avenue (north side only); 361-605 B street & number and 412-604

Winspear Avenue; Orleans Street and Suffolk Street between Winspear Avenue and Rounds Avenue,

Buffalo, SG100009880,

LISTED, 2/2/2024

NEW YORK, ONTARIO COUNTY,

South Farmington Friends Cemetery and Meetinghouse Site,

4899 Shortsville Rd & County Road 28,

Farmington, SG100009878,

LISTED, 2/2/2024

SOUTH CAROLINA, AIKEN COUNTY,

McGhee Block,

201-209 Richland Avenue W,

Aiken, SG100009883,

LISTED, 1/30/2024

SOUTH CAROLINA, SPARTANBURG COUNTY,

Groce, Augustus Belton and Margaret Wheeler, House,

110 Ridge Road,

Lyman, SG100009889,

LISTED, 1/31/2024

SOUTH DAKOTA, CUSTER COUNTY,

Buffalo Gap Historic District (Boundary Decrease),

Portions of Main, Second, and Walnut Streets,

Buffalo Gap, BC100009859,

BOUNDARY DECREASE APPROVED, 1/29/2024

(Rural Resources of Eastern Custer County MPS)

TENNESSEE, BEDFORD COUNTY,

Bedford County Jail (Additional Documentation),

210 N. Spring Street,

Shelbyville, AD75001728,

ADDITIONAL DOCUMENTATION APPROVED, 2/1/2024

TENNESSEE, BEDFORD COUNTY,



River Side Farmhouse (Additional Documentation),  
497 Shofner Rd.,  
Shelbyville vicinity, AD97001501,  
ADDITIONAL DOCUMENTATION APPROVED, 1/30/2024

TENNESSEE, DE KALB COUNTY,  
Alexandria Cemeteries Historic District (Additional Documentation),  
Cemetery St.,  
Alexandria, AD02000584,  
ADDITIONAL DOCUMENTATION APPROVED, 1/29/2024  
(Rural African-American Churches in Tennessee MPS)

TENNESSEE, HAMILTON COUNTY,  
Brabson House (Additional Documentation),  
407 E. 5th St.,  
Chattanooga, AD73001772,  
ADDITIONAL DOCUMENTATION APPROVED, 1/30/2024

TENNESSEE, HAMILTON COUNTY,  
Old Post Office (Additional Documentation),  
31 E. 11th Street,  
Chattanooga, AD73001777,  
ADDITIONAL DOCUMENTATION APPROVED, 1/29/2024

TENNESSEE, HAMILTON COUNTY,  
Trigg-Smartt Building (Additional Documentation),  
701--707 Broad St.,  
Chattanooga, AD86001383,  
ADDITIONAL DOCUMENTATION APPROVED, 1/30/2024

TENNESSEE, KNOX COUNTY,  
Seven Islands Methodist Church (Additional Documentation),  
8100 Seven Islands Rd.,  
Knoxville vicinity, AD97000244,  
ADDITIONAL DOCUMENTATION APPROVED, 2/1/2024  
(Knoxville and Knox County MPS)

TENNESSEE, SEVIER COUNTY,  
Harrisburg Covered Bridge (Additional Documentation),  
S of Harrisburg off U.S. 411 over East Fork of Little Pigeon River,

Harrisburg vicinity, AD75001777,  
ADDITIONAL DOCUMENTATION APPROVED, 2/1/2024

TENNESSEE, WEAKLEY COUNTY,  
Sims, Capt. William, House (Additional Documentation),  
1912 Liberty Road,  
Greenfield vicinity, AD82004066,  
ADDITIONAL DOCUMENTATION APPROVED, 1/30/2024

TENNESSEE, WILLIAMSON COUNTY,  
Montpier,  
1837 Old Natchez Trace,  
Franklin vicinity, AD82004073,  
ADDITIONAL DOCUMENTATION APPROVED, 1/29/2024

TEXAS, BASTROP COUNTY,  
Mary Christian Burleson House,  
117 Louise Street,  
Elgin, RS100009778,  
LISTED, 1/30/2024

TEXAS, DALLAS COUNTY,  
Longhorn Ballroom,  
200 Corinth Street,  
Dallas, SG100009894,  
LISTED, 2/1/2024

TEXAS, REFUGIO COUNTY,  
Mitchell-Simmons House,  
904 Commerce Street,  
Refugio, SG100009893,  
LISTED, 2/1/2024

Last updated: February 2, 2024

**Was this page helpful?**



# United States Department of the Interior

NATIONAL PARK SERVICE  
1849 C Street, N.W.  
Washington, DC 20240

February 8, 2024

## ***Notice of a Study to Determine Potential for Withdrawal of National Historic Landmark Designation***

The National Park Service announces that a study is being conducted on the following property to determine the potential for the withdrawal of its designation as a National Historic Landmark:

### ***Falls of Clyde (Four-Masted Oil Tanker) Honolulu, Hawai'i Designated April 11, 1989***

National Historic Landmarks are nationally significant places that illustrate important themes, persons, or events in American history. The National Historic Landmarks Program recognizes properties of exceptional national significance in the nation's history, architecture, archeology, engineering, and culture.

When the study is completed and scheduled for review by the National Park System Advisory Board, you will receive a link to download a copy of the nomination and have 60 days to comment in writing, if you so desire. After the 60-day period, the nomination and any comments received will be submitted to the National Park System Advisory Board.

For your information, the Federal Effects of National Historic Landmark Designation and program regulations are available at  
<https://www.nps.gov/subjects/nationalhistoriclandmarks/regulations.htm>

For further information on the National Historic Landmarks Program, including the designation process and questions on this specific study please contact Lisa P. Davidson, Ph.D., NHL Program Manager, National Park Service, [lisa\\_davidson@nps.gov](mailto:lisa_davidson@nps.gov) or call 202-354-2179.

Additional information on the National Historic Landmarks Program is available at:  
[www.nps.gov/nhl](http://www.nps.gov/nhl)



# United States Department of the Interior

NATIONAL PARK SERVICE  
1849 C Street, NW  
Washington, DC 20240

H32 (2200)

April 3, 2024

This is official notification of a meeting of the National Historic Landmarks Committee of the National Park System Advisory Board to consider the following properties for National Historic Landmark (NHL) designation.

## **CALIFORNIA**

Tor House (Robinson Jeffers Home), Carmel

Summit Camp, Placer and Nevada Cos.

## **COLORADO**

Boulder County Courthouse, Boulder

## **DISTRICT OF COLUMBIA**

Lucy Diggs Slowe and Mary Burrill House, Washington, DC

## **DISTRICT OF GUAM**

Manenggon Concentration Camp, Yona

## **LOUISIANA**

*Mr. Charlie* Offshore Oil Rig, Morgan City

## **NEW YORK**

Winged Foot Golf Course, Mamaroneck

## **NORTH CAROLINA**

F.W. Woolworth Co. Building, Greensboro

## **NORTH CAROLINA AND VIRGINIA**

Blue Ridge Parkway, multiple

## **VIRGINIA**

Loudoun County Courthouse, Leesburg

Azurest South, Petersburg

The meeting will also consider the following properties for updates to their National Historic Landmarks designation.

## **MARYLAND**

Monocacy Battlefield (Updated Documentation), Frederick

## **VIRGINIA**

Fort Monroe (Updated Documentation), Hampton

## **WASHINGTON**

Fort Worden (Updated Documentation), Port Townsend

In addition, the meeting will consider the following property for withdrawal of its National Historic Landmark designation.

## **HAWAII**

*Falls of Clyde* (Four-Masted Oil Tanker), Honolulu

A meeting of the National Historic Landmarks Committee (Landmarks Committee) of the National Park System Advisory Board (Advisory Board) will be held to consider nominations of certain properties for designation as National Historic Landmarks, nominations for updating the NHL designation for certain properties, and studies for the withdrawal of NHL designation for certain properties. The properties to be considered are listed above.

The meeting will be held on Tuesday and Wednesday, May 14 and 15, 2024 from 10:00 a.m. to 4:00 p.m. (EST). The meeting will be held virtually at the date and time noted and instructions and access information will be provided online at <https://www.nps.gov/subjects/nationalhistoriclandmarks/nhl-committee-meetings.htm>

All the nominations for the properties that may be considered at this meeting and the regulations governing the NHL Program are also available at the above website.

The National Park Service (NPS) is notifying property owners, local and state officials, interested individuals, organizations, and Congressional offices. Notice of this proposed action is also published in the Federal Register.

Interested parties are encouraged to submit written comments or letters of support to the contact listed below, which will be reviewed by the Landmarks Committee and provided to the Advisory Board. All notified entities have 60 days to provide comment on the proposed designation, updated documentation, or withdrawal of designation if they so choose. Interested parties may also attend the Landmarks Committee meeting and, upon request, will be given an opportunity to address the Committee concerning a property's significance, integrity, and proposed boundaries.

The NPS partners with NHL managers and owners to encourage and support conservation of these nationally significant sites. Designation as an NHL is not a land withdrawal, does not change the ownership of an area, and does not dictate activity. Owners of NHLs do not give up any rights or privileges of ownership, nor do they give up use of the area.

Owners of private properties nominated for NHL designation have an opportunity to concur with or object to designation, in accordance with the National Historic Preservation Act and 36 CFR §65. Any owner or partial owner of private property who wishes to object to designation shall submit a notarized statement that the party is the sole or partial owner of the property, as appropriate, and objects to the designation. The NPS must also consider objections made under penalty of perjury consistent with 28 U.S.C. § 1746 to be valid objections, even if they are not notarized, if those objections otherwise comply with the requirements in the NPS's regulations. The code provides the following language for unsworn declaration under penalty of perjury: I



declare (or certify, verify, or state) under penalty of perjury that the foregoing is true and correct.  
Executed on (date). (Signature)

Comment letters may be sent to Sherry A. Frear, Chief, National Register of Historic Places and National Historic Landmarks Program, National Park Service, 1849 C Street NW, Mail Stop 7228, Washington, DC 20240, email: [nhl\\_info@nps.gov](mailto:nhl_info@nps.gov)

The Landmarks Committee will review and report on these proposed actions to the Advisory Board, which in turn will make recommendations concerning these actions to the Secretary of the Interior.

If you have questions, please contact Dr. Lisa Davidson, Manager, National Historic Landmarks Program, National Park Service, 1849 C Street NW, Mail Stop 7228, Washington, DC 20240; e-mail: [lisa\\_davidson@nps.gov](mailto:lisa_davidson@nps.gov)



## Withdrawal of NHL Designation Executive Summary



<b>Name of Property:</b>	<i>Falls of Clyde</i> (Four-Masted Oil Tanker)
<b>City, State:</b>	Honolulu, HI
<b>Period of Significance:</b>	1878-1922
<b>NHL Criteria:</b>	1, 4
<b>NHL Theme:</b>	V. Developing the American Economy 6. exchange and trade; VIII. Changing Role of the United States in the World Community 2. commerce
<b>Previous Recognition:</b>	National Register of Historic Places, 1973 National Historic Landmark, 1989

**National Historic Context:** Maritime Heritage of the United States: Large Vessels

### NHL Significance:

- *Falls of Clyde* was designated a National Historic Landmark (NHL) in 1989 as the world's only surviving four-masted fully-rigged ship. Built in Glasgow, Scotland in 1878, *Falls of Clyde* made several trading voyages to western US ports before being sold to American owners in 1898. The vessel was subsequently involved in the Hawaiian transpacific sugar trade as part of Capt. William Matson's Matson Navigation Co. fleet. *Falls of Clyde* is the oldest surviving vessel from the Matson fleet.
- After 1907, *Falls of Clyde* was modified as a sailing oil tanker for the maritime petroleum trade, making multiple voyages every year between California and Hawai'i. The period of national significance ended in 1922 when the vessel was converted for use as a fuel barge in Ketchikan, Alaska. At the time of NHL designation, *Falls of Clyde* possessed exceptional national significance as the oldest surviving American tanker and the only surviving sailing oil tanker left afloat in the world.

### Integrity:



- At the time of NHL designation, *Falls of Clyde* had recently undergone restoration and retained a high level of integrity of design, materials, and workmanship, as represented by the hull, rigging, fittings, equipment, machinery, and furnishings. The ship deteriorated over the ensuing years; and in 2005, the NHL Program listed the vessel’s status as “threatened” due to a loss of hull integrity from corrosion that was causing leaking. Since then, the ship’s condition has continued to decline, resulting in structural failures and substantial loss of historic and architectural integrity. Currently berthed at Pier 7 in Honolulu Harbor, the ship is partially flooded and heavily corroded, with many of the features that qualified it for designation now severely deteriorated, structurally compromised, or missing. As a result, *Falls of Clyde* no longer retains the high level of integrity required to meet NHL criteria for designation.

**Owner of Property:** Friends of Falls of Clyde

**Acreage of Property:** less than one acre

**Origins of Withdrawal:** In May 2023, maritime historian James P. Delgado, author of the original NHL nomination, prepared a report recommending the vessel’s delisting from the National Register of Historic Places (NRHP) and withdrawal of NHL designation due to substantial loss of integrity.<sup>1</sup> On November 17, 2023, the Hawai‘i Historic Places Review Board evaluated the petition and determined that *Falls of Clyde* had ceased to meet the criteria for listing in the NRHP. In a letter to the National Park Service on December 14, 2023, the Hawai‘i State Historic Preservation Officer concurred with the Review Board’s finding, stating that *Falls of Clyde* “has lost sufficient integrity and ceases to meet the criteria for listing in the National Register of Historic Places or to be considered a National Historic Landmark.”<sup>2</sup> *Falls of Clyde* was removed from the NRHP on February 1, 2024.

**Potential for Positive Public Response or Reflection on NHL Program:** The severely deteriorated vessel is at imminent risk of sinking and poses a safety and environmental hazard. Efforts to preserve the ship since 2008 have been unsuccessful, resulting in it being delisted from the NRHP. As a result, while members of the preservation community and others may prefer that NHL designation be retained, there is potential for a positive response among segments of the general public to withdrawal of designation.

**Potential for Negative Public Response or Reflection on NHL Program:** Despite the poor condition of the ship, loss of integrity, and delisting from the NRHP, members of the preservation community and others who have worked towards or supported the vessel’s preservation may respond negatively to delisting.

**Public Comments Favoring Withdrawal (received as of \*Add Date\*):**

**Landmarks Committee Comments:**

**Landmarks Committee Recommendation:**

**Advisory Board Recommendation:**

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<sup>1</sup> James P. Delgado, PhD, SEARCH, Inc., “The Four-Masted Iron Ship Falls of Clyde: Evaluation of Loss of Integrity and Recommendation for Delisting from the National Register of Historic Places,” 2023.

<sup>2</sup> Hawai‘i State Historic Preservation Division, Letter to National Register of Historic Places, National Park Service, Re: NRHP Request to Delist Falls of Clyde National Historic Landmark (NHL#73000659), December 14, 2023.

**FALLS OF CLYDE (FOUR-MASTED OIL TANKER)**

United States Department of the Interior, National Park Service

**Withdrawal Report**

National Register of Historic Places Registration Form

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**NATIONAL HISTORIC LANDMARK WITHDRAWAL OF DESIGNATION REPORT**

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**FALLS OF CLYDE (FOUR-MASTED OIL TANKER)**

**Designated:** April 11, 1989

**Location:** Pier 7  
Honolulu, HI

**Owner:** Friends of Falls of Clyde  
P.O. Box 4674  
Honolulu, HI 96812-4674

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**Significance of the Landmark:**

*Falls of Clyde* was designated a National Historic Landmark (NHL) in 1989 as the world's only surviving iron-hulled, four-masted, fully-rigged ship. Built in Glasgow, Scotland in 1878, *Falls of Clyde* made several trading voyages to western US ports before being sold to American owners in 1898. After gaining American registry by a special act of Congress in 1900, the vessel was involved in the nationally significant Hawaiian transpacific sugar trade as part of Capt. William Matson's Matson Navigation Co. fleet. *Falls of Clyde* is the oldest surviving vessel from the Matson fleet.

After 1907, *Falls of Clyde* was modified as a sailing oil tanker for the maritime petroleum trade. The vessel made multiple passages every year between California and Hawai'i until 1920 when it was sold and fitted out for a voyage from San Francisco to Denmark with a cargo of case oil. From there, *Falls of Clyde* sailed to Beaumont, Texas, then to Port Arthur before making one additional crossing of the Atlantic in 1920 and 1921. The period of its national significance ended in 1922 when the vessel was dismasted and converted for use as a fuel barge in Ketchikan, Alaska.

In 1963, *Falls of Clyde* was towed to Honolulu where it began to undergo restoration. The ship was acquired by the Bishop Museum and open to the public as a floating museum in 1968, remasted in 1970, and subsequently rerigged. At the time of NHL designation, *Falls of Clyde* retained a high degree of integrity of design, materials, and workmanship and possessed exceptional national significance as the oldest surviving American tanker, and the only surviving sailing oil tanker left afloat in the world.

### **Condition of Landmark:**

The 1988 thematic study that resulted in NHL designation of *Falls of Clyde* determined that the ship retained integrity of design, materials, and workmanship, as represented by the hull, rigging, fittings, equipment, machinery, and furnishings.<sup>1</sup> At that time, the vessel had undergone restoration and was in good condition. The ship deteriorated over the ensuing years; and in 2005, the NHL Program listed the vessel's status as "threatened" due to a loss of hull integrity from corrosion that was causing leaking. Since then, the ship's condition has continued to decline, resulting in structural failures and substantial loss of historic and architectural integrity. Currently berthed at Pier 7 in Honolulu Harbor, the ship is partially flooded and heavily corroded, with many of the features that qualified it for NHL designation now severely deteriorated, structurally compromised, or missing.

Survey reports completed on behalf of the State of Hawai'i in 2022 and 2023 provide detailed documentation of the poor condition of the vessel.<sup>2</sup> Primary issues include: severe corrosion of the hull and failed rivets causing leaking; rotting of the main deck including the foredeck and poop deck; corrosion of iron components, including the rudder and hull support structures; loss of structural support for mooring hardware; separation of the bow framing from the associated wrought iron bow plating; wasting of the transverse watertight bulkheads; slow collapse of the steering flat onto the fantail; deterioration of the masts and rigging; and a loss of means of propulsion or operable steering system. The ship is presently not seaworthy as defined by Hawai'i Administrative Rules §19-41-3 "Definitions; small craft and smaller commercial vessels." See the appendix of this report for a list of deficiencies excerpted from a March 2023 survey conducted by Joseph Lombardi, AMS (Accredited Marine Surveyor) of Ocean Technical Services, LLC.<sup>3</sup>

In May 2023, maritime historian James P. Delgado, author of the original NHL nomination for *Falls of Clyde*, prepared a report recommending the vessel's delisting from the National Register of Historic Places (NRHP) and withdrawal of NHL designation due to substantial loss of integrity.<sup>4</sup> On November 17, 2023, the Hawai'i Historic Places Review Board evaluated the petition and determined that *Falls of Clyde* had ceased to meet the criteria for listing in the NRHP. In a letter to the National Park Service, NRHP Program on December 14, 2023, the Hawai'i State Historic Preservation Officer concurred with the Review Board's finding, stating that *Falls of Clyde* "has lost sufficient integrity and ceases to meet the criteria for listing in the National Register of Historic

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<sup>1</sup> James P. Delgado, "*Falls of Clyde* (Four-Masted Oil Tanker)," in *Maritime Heritage of the United States: Large Preserved Historic Vessels Thematic Study* (Washington, DC: National Park Service, 1988).

<sup>2</sup> The surveys are listed in the bibliography below and are included as appendices to HHF Planners, "Removal of Falls of Clyde from Honolulu Harbor: Draft Environmental Assessment – Anticipated Finding of No Significant Impact," Prepared for Hawai'i Department of Transportation, December 2023.

<sup>3</sup> Joseph Lombardi, Ocean Technical Services, LLC., "Falls of Clyde Hull Survey [Vessel Hull Inspection]," Prepared for HHF Planners, March 31-7 April 2023.

<sup>4</sup> James P. Delgado, PhD, SEARCH, Inc., "The Four-Masted Iron Ship Falls of Clyde: Evaluation of Loss of Integrity and Recommendation for Delisting from the National Register of Historic Places," 2023.



Places or to be considered a National Historic Landmark.”<sup>5</sup> *Falls of Clyde* was removed from the NRHP on February 1, 2024.<sup>6</sup> Key findings of the delisting report are summarized below.<sup>7</sup>

Most of the rigging identified as an important aspect of the vessel’s integrity at the time of designation is no longer in place. As described in the delisting report, “the topmasts, topgallant masts, yards, booms and gaffs stowed in a deteriorated condition on the weather deck. There is no running rigging; only some of the standing rigging that supports the lower masts. The existing down-rigged condition of the vessel no longer reflects or represents a sailing vessel. The masts are corroding; “bare poles” in sailing parlance.”<sup>8</sup> The bowsprit is now also down-rigged and close to failure. The bowsprit is missing several important features including its outer jibboom, jibboom head, martingale and associated rigging, fore-royal stay, for-topgallant-stay, flying jibboom downhaul, outer jib-stay, fore-royal-stay, outer-martingale-stay, martingale stay, and martingale backstays. Severe deterioration of the lower masts, which are at risk of separating from the keelson and falling, means that the de-rigging, performed decades ago, is likely not reversible.

The exterior iron hull is severely corroded and leaking through multiple holes below and above the waterline. Iron rivets have failed, and the hull below the waterline displays multiple “rusticles,” cone-shaped stalactites composed of corrosion byproduct that are common on shipwrecks. A marine biotic survey conducted in September 2023 also found the hull to be “completely covered in marine biota comprised primarily of fouling organisms, macroalgae, and scattered corals.”<sup>9</sup> At present, the ship cannot stay afloat without continuous operation of external pumps and is at risk of hull failure and sinking.

The main (weather) deck is no longer watertight and has become seriously compromised. Leaking has also caused a loss of structural integrity to the second deck below. Many character-defining elements of the main deck that were in fair condition at the time of NHL designation are in a state of disrepair. Two riveted iron deckhouses on the ship’s foredeck are open to the weather and corroding. A large dining saloon on the poop deck containing officer cabins, a master’s stateroom, and a stairway leading to a shelter house is also now open to the elements. These spaces are affected by dry rot and mold and are filled with rotting furnishings and gear. Much of the carpentry, or “joinery,” that embellished the interior is also severely compromised.

*Falls of Clyde* contains ten riveted steel bulk liquid cargo tanks added ca. 1907 as part of the vessel’s conversion to an oil tanker. The tanks are currently flooded with two to three feet of water and have corroded to the point of being unrepairable. Corrosion of machinery and piping in the two-level pumproom in the hold has also advanced substantially since the 1989 NHL designation. Restoration is no longer a feasible option for these components.

## **Recommendations:**

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<sup>5</sup> Hawai‘i State Historic Preservation Division. Letter to National Register of Historic Places, National Park Service, Re: NRHP Request to Delist Falls of Clyde National Historic Landmark (NHL#73000659), December 14, 2023.

<sup>6</sup> NRHP, “Weekly List, February 2, 2024,” <https://www.nps.gov/subjects/nationalregister/weekly-list-2024-02-02.htm>.

<sup>7</sup> Except where otherwise indicated, information below comes from Delgado, “The Four-Masted Iron Ship *Falls of Clyde*.”

<sup>8</sup> Delgado, “The Four-Masted Iron Ship *Falls of Clyde*,” 4.

<sup>9</sup> Marine Research Consultants, Inc, “Falls of Clyde Marine Biotic Survey Draft Report,” September 18, 2023, 2.

Since the mid-2000s, efforts to relocate and restore the *Falls of Clyde* have been unsuccessful. In 2008, the Bishop Museum, the owner at the time, signed an agreement to transfer ownership to the non-profit Friends of Falls of Clyde (FFOC). The agreement included the condition that the ship be moved to a local drydock. At that time, FFOC also indicated an intent to raise funds for restoration. FFOC was unable to carry out relocation or restoration. Subsequent discussions between the Hawai'i Department of Transportation (HDOT) and FFOC resulted in the State issuing a 30-day advance notice of termination for FFOC's gratis (no rent) revocable permit for the berth at Pier 7. The ship was not removed by the termination date, and in August 2016, HDOT impounded the vessel. In 2021, Scotland-based Falls of Clyde International (FOCI) submitted a proposal to tow the ship to Scotland for restoration. HDOT issued a conditional award of contract to FOCI in November 2021. FOCI could not meet required conditions, however, and HDOT canceled the award after five months.<sup>10</sup> *Falls of Clyde* has remained at Pier 7 throughout and continued to deteriorate to the point that the vessel no longer retains a high degree of historic integrity. Therefore, NHL designation should be withdrawn.

Historic American Engineering Record (HAER) documentation for *Falls of Clyde* was transmitted to the Library of Congress (LOC) HAER collection in 1989, with photographs submitted as an addendum in 1998. The documentation includes a written report, black and white large format photographs, color transparencies, and measured drawings of the oil tanker structure and systems. The 2023 Draft Environmental Assessment (DEA) for the removal of *Falls of Clyde* states that in October 2023, HDOT completed additional recordation including LIDAR (high resolution Light Detection and Ranging) scans of the exterior hull and main (weather) deck, the upper and lower pump rooms, the boiler room, a typical oil tank, the forecastle and windlass, and the forward deck house and galley; and additional black and white photography to record the current condition of the ship and areas not previously photographed.<sup>11</sup> It is recommended that HDOT contact the Historic Documentation Programs at the National Park Service to initiate the process of including the new documentation in the existing LOC record as an addendum.

The 2023 DEA also states that under a future Request for Proposals (RFP) for removal of the ship, "the contractor will be required to remove potentially significant artifacts and features, including museum cataloged historic artifacts in the forward deck house/galley, and if it can be safely and successfully removed without damaging the artifact, the original 1878 patent windlass and associated machinery, including the capstan, the anchors, and the patent steering apparatus."<sup>12</sup> It is recommended that these and any other significant artifacts and equipment still on board be assessed and preserved in a museum collection.

### **Justification for Withdrawing Landmark Designation:**

The qualities which originally led *Falls of Clyde* to be designated have been lost or severely deteriorated beyond repair and the vessel no longer retains the high level of integrity required to meet NHL criteria for designation [36 CFR 65.9 (b)(1)].

### **Select Bibliography:**

Delgado, James P. "Falls of Clyde (Four-Masted Oil Tanker)," in *Maritime Heritage of the United States: Large Preserved Historic Vessels Thematic Study*. Washington, DC: National Park Service, 1988.

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<sup>10</sup> HHF Planners, "Removal of Falls of Clyde from Honolulu Harbor: Draft Environmental Assessment," 1-4, 1-6.

<sup>11</sup> HHF Planners, "Removal of Falls of Clyde from Honolulu Harbor: Draft Environmental Assessment," 3-20.

<sup>12</sup> HHF Planners, "Removal of Falls of Clyde from Honolulu Harbor: Draft Environmental Assessment," 3-20.

Delgado, James P., PhD, SEARCH, Inc. “The Four-Masted Iron Ship *Falls of Clyde*: Evaluation of Loss of Integrity and Recommendation for Delisting from the National Register of Historic Places.” 2023.

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HHF Planners. “Removal of Falls of Clyde from Honolulu Harbor: Draft Environmental Assessment – Anticipated Finding of No Significant Impact.” Prepared for Hawai‘i Department of Transportation. December 2023.

Honua Consulting, Inc. “Cultural Assessment for the Falls of Clyde Removal Project.” November 2023.

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Sea Engineering, Inc. “Falls of Clyde Hull Inspection and Benthic Survey.” Rev. 01. August 29, 2023.

SEARCH, Inc. “Description of Applicable Federal Laws and Regulations for the Proposed Shipbreaking or Disposal of the Derelict Sailing Vessel Falls of Clyde, Honolulu Harbor, Hawai‘i.” September 2023.

Hawai‘i State Historic Division (SHPD). Letter to National Register of Historic Places, National Park Service, Re: NRHP Request to Delist Falls of Clyde National Historic Landmark (NHL#73000659). December 14, 2023.

**Photographs:**



Figure 1: *Falls of Clyde* at Pier 7, Honolulu Harbor, February 20, 2024 (Melia Lane-Kamahele, NPS)



Figure 2: Condition of the hull, rudder, and standing rigging on mizzen and jigger masts, February 20, 2024 (Melia Lane-Kamahele, NPS)





Figure 3: Bow view showing bowsprit, foremast, and mainmast, February 20, 2024 (Melia Lane-Kamahele, NPS)



Figure 4: Corroded base of the foremast in the bilge, March 2023 (Joseph Lombardi), source: Delgado, "The Four-Masted Ship Falls of Clyde."





Figure 5: Patches cover more substantial leaks, but water infiltration is also resulting from loss of up to fifty percent of hull plating thickness in many areas, lost rivets, and rainwater entering through the decks (Joseph Lombardi), source: Delgado, “The Four-Masted Ship Falls of Clyde.”



Figure 6: Corrosion has resulted in a loss of structural integrity in a number of areas in the hull and decks (Joseph Lombardi), source: Delgado, “The Four-Masted Ship Falls of Clyde.”





Figure 7: The corroding, dry-rotted and crowded decks of the ship are in danger of collapse, March 2023 (Joseph Lombardi), source: Delgado, “The Four-Masted Ship Falls of Clyde.”



Figure 8: Condition of interior deck spaces, March 2023 (Joseph Lombardi), source: Delgado, “The Four-Masted Ship Falls of Clyde.”

**Appendix: List of Main Deficiencies for *Falls of Clyde*, excerpted from Lombardi, “Falls of Clyde Hull Survey,” 2023:**

- 1.) The wooden decking on the raised foredeck is in poor material condition with rotted planking, rotted iron sub-floors and caulking that has failed allowing fresh water into the hull below.
- 2.) Portions of the main deck is rotted away with much scale, pitting and poorly executed weldments where doubler patches have been fitted. A clear danger to shipboard personnel.
- 3.) The plywood sheathing over the wooden decking on main deck has failed; the underlying deck is unsafe for personnel.
- 4.) The bow framing at the stem has come away from the associated wrought iron bow plating indicating an imminent failure of the structure. This is due to poor/non-existent maintenance of protective paint coatings over the long haul. The rivets have rotted away.
- 5.) The vessel’s bits, bollards, chocks and mooring hardware are in need of structural support and in many cases are in danger of carrying away.
- 6.) The vessel’s mooring lines are UV-damaged and anchor chain shows waste at the waterline. The vessel is not properly moored at present time.
- 7.) The vessel’s shore power cable is between the ship and pier side structure and has been repeatedly compressed. A clear danger to shipboard personnel.
- 8.) The vessel’s exterior shell plating is holed in many areas above the waterline that have not been repaired or plugged and will contribute to progressive flooding should the vessel take on water.
- 9.) The vessel’s shell plating underwater has been holed in many areas, either through the previous sand-blasting progression or through the ravages of time. It is slowly leaking in many areas with failed rivets weeping water, pin holes through the degradation of the wrought iron hull due to galvanic corrosion, leaking rivet seams where shell plating is jogged (where plating overlaps). Patches and wooden plugs are failing where shell plating was previously holed and patched.
- 10.) Much of the interior’s 2nd deck is badly scaled and in danger of carrying away in the flat above the pump room forward. A clear danger to shipboard personnel.
- 11.) Much of the interior’s 2nd deck is badly scaled and in danger of carrying away in the boiler room flat above Tank #1. A clear danger to shipboard personnel in Tank #1.
- 12.) All of the transverse watertight bulkheads from the Pumproom to the aft watertight bulkhead at Tank #5 are holed, severely wasted and in danger of collapsing in the event of progressive flooding. Patches made to the bulkheads of fiberglass cloth and epoxy resin will not provide the strength needed to hold back water and have failed.
- 13.) The centerline longitudinal watertight bulkhead through Tanks # 1 – 5 is holed, severely wasted and in danger of collapsing in the event of progressive flooding. Patches made to the bulkheads of fiberglass cloth and epoxy resin will not provide the strength needed to hold back water and will fail.
- 14.) Much of the support framing in the hull, both transverse and longitudinal, is severely wasted.

15.) Much of the support stanchions and side braces and gussets are severely deteriorated; many have failed altogether.

16.) The rudder (severely rusted away in its own right) is held to the vessel by the crosshead at the rudder post and one set of pintles and gudgeons on the hull; it is in imminent danger of falling away from the vessel.

17.) The steering flat is slowly collapsing on the fantail due to the weight of the steering gear and degradation of the vessel's structure.

18.) The hull bottom is freely eroding without a cathodic system being properly installed. The bottom paint system has failed.

DRAFT

# **APPENDIX H-1**

## Historic Artifacts

-Memorandum from James Delgado to HDOT  
Subject: Visit to Falls of Clyde, August 9, 2023

-FOC Image Inventory, 7/17/2023





August 9, 2023

Memorandum

To: DreanaLee Kalili, Deputy Director, State of Hawaii Department of Transportation, Harbors Division

From: James Delgado, Senior Vice President, SEARCH, Inc.

Subject: Visit to *Falls of Clyde*

Thank you and your team for facilitating access to the vessel this morning. I inspected the vessel on this visit with a specific focus on the remaining machinery, equipment and artifacts on the ship that are of museum curatorial quality and those that were identified as a top priority for retention by the Friends of the *Falls of Clyde*. I was also present as the movers retained by the Friends of the *Falls of Clyde* completed their removal of the ship's figurehead. The figurehead is in poor condition, and removal of it was difficult for the movers.

I am concerned, as a former museum director and maritime preservation professional, to have been told by the head of the Friends of the *Falls of Clyde* that they sold the figurehead to a local bar for \$1500. That to me does not speak to standards that I and colleagues adhere to, even for a non-profit's stewardship in and for the public interest. Museum practice when an artifact is to be deaccessioned is to first offer it to other museums and preservation organizations. This has been the practice of groups that belong both the Council of American Maritime Museums (CAMM) and the Historic Naval Ships Association (HNSA). In other cases where an historic vessel has reached the point of being readied for scrap, the owners have offered other qualified institutions access to, at the other institution's expense, to fittings, equipment and artifacts for their ships and museums.

I did not see the ship's builders' plate or the bell; the chairman of the Friends noted yesterday in our meeting that the bell is at his home, and that may also be where the builders' plate is located. These, like the figurehead, are the most iconic small artifacts and among the most significant.

The top priority artifacts Friends of the *Falls of Clyde* identified in addition to the figurehead that remain on the vessel are located in various areas of the ship, some of which I deemed unsafe to venture into. Many on the list, which were previously observed, are small and portable, such as the ship's wheel, running lights, or the binnacle with the ship's compass, and if they could be safely removed, are candidates for museum curation and possible display.

My detailed assessment of larger artifacts that include ship machinery and equipment identified as high priority found that many of them are in relatively good condition as artifacts as opposed to the hull, decks, masts, superstructure, steam and pumping



machinery and the tanks of *Falls of Clyde*. If the vessel was either to be scuttled or scrapped I would recommend saving the windlass in the forecastle head, the steering apparatus at the stern on the poop deck, the Shipmate patent galley stove on the main deck in its own deck house, the capstan on the forecastle head deck, and the two sheet anchors, one catted and on the port bow and the other mounted ashore.

One consideration, for both the State and the Friends of the *Falls of Clyde* would be the donation of artifacts/deck equipment to the Scottish group, along with the bell and builder's plate, subject to their raising the funds to transport them to Scotland from Honolulu. The Shipmates, a late 19<sup>th</sup> or early 20<sup>th</sup> century stove of Canadian manufacture, is an antique, but is not original, and may not be of interest to the Scottish group. It is of value as a museum piece by itself and should not be scrapped. This artifact, like the others, could, and in my professional opinion should be offered to museums and museum ships, likely through the auspices of CAMM and HNSA, with the caveat that this would require working within the parameters of the disposition of the vessel and the costs of removal and shipping.

The galley area is filled with a variety of what the Friends categorize on their list as miscellaneous cookware. Some of them are museum-quality artifacts, others are what could be found in an antique store. I noted that some of them had museum catalog numbers on them, meaning they are/were formally accessioned artifacts; again, noting the professional standards of CAMM and other museums, these could and should be removed and offered to qualified institutions.

On a final note, my inspection noted where HABS/HAER documentation through photographs as part of the mitigation would be needed; I estimate no more than forty images maximum as well as an aerial and a possible deck-mounted LIDAR scan.



Page Three: Selected Images from the August 9, 2023 Inspection



Figure 1: The main hatch coaming has the ship's Official Number from its registration as a British vessel in 1878. If the vessel were to be scrapped, retention of this coaming, if possible, would make it a significant relic of the vessel.



Figure 2: This is the ship's binnacle, which was located on the aft (poop) deck next to the helm. It holds the ship's compass.





Figure 3: The ship's compass remains inside the binnacle. This is a valuable artifact.





Figure 4: This is the ship's patent steering apparatus. It was covered by a wooden (teak) box that is on the ship but in poor condition. The wheel was attached to it. The red cylinders are oil-filled "brakes" used to assist in handling the helm. There is a solid shaft that runs through the deck and down to the rudder.



Figure 5: This is the front of the patent steering apparatus, showing where the wheel, which also remains on the ship, and is stowed below, would have been fitted.





Figure 6: This is the Napier Patent Windlass of the ship; it is original and is in very good condition.



Figure 7: This is the front of the Napier Patent Windlass; it is located in the forecabin head and is bolted to the deck; the gearing includes a connector that runs up to the forecabin head deck that drove the capstan.





Figure 8: One of two original patent plates attached to the windlass.





Figure 9: The capstan on the forecastle head deck.



Figure 10: The patent sheet anchor on the forecandle head deck, port side.





Figure 11: The galley with a variety of artifacts identified in the FFOC inventory as “cookware.”



Figure 12: The Canadian-manufactured “Shipmate” galley stove with associated artifacts.





Figure 13: A coffee server, one of the museum artifacts in the galley.





Figure 14: Museum catalog number on one of the artifacts in the galley.





32	2	capstan		PXL 20230718 000306385		Iconic; on dock
33	1	Sheet anchor		PXL 20230718 000551508		Iconic; on shore
34	2	Caulking tool	djf jul2023 axe			rare
35	2	Foredeck bits and capstan	djf jul2023 forward deck anchor bollards and capstan			rare
36	3	Misc workshop tools	djf jul2023 freds drill press			easy to remove
37	3	Misc tools on deck			Falls 2023 408; Falls 2023 441	easy to remove
38	2	Rigging (blocks)			Falls 2023 409	Iconic; easy to remove
39	3	inclinometer			Falls 2023 421	Not original
40						
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