

Casco Bay Island Transit District Staff Informational Presentation

Public Meeting:
Fleet Evaluation Project
Proposed New Peaks
Ferry Design

March 7, 2020



Welcome

- Please sign in!
- Audio of this meeting is being recorded
- Introductions (Staff & Directors)
- CBL Directors guidance
- Paper feedback forms are available
- Hard stop at 12:30

Agenda

10:15 – Welcome and Agenda Overview (*Hank Berg*)

10:20 – New Peaks Ferry Project Background (*Hank Berg*)

10:30 – Preliminary Design Report Review (*Paul Pottle*)

11:00 – Funding & Recent Events (*Hank Berg*)

11:15 – Public Comment Period (*Hank Berg*)

12:25 – Next Steps (*Hank Berg*)

12:30 – Adjourn

Meeting Purpose & Objectives

Meeting Purpose:

- To provide a review of the new vessel Preliminary Design Report (PDR)
- Solicit public input on the new vessel for the Board's consideration
- Review next steps

Outcomes:

- A shared understanding of the preliminary design and next steps
- A record of public feedback on the preliminary design

Meeting Scope

Scope of this meeting includes:

- Preliminary Design of a new vessel to service Peaks

It *does not* include:

- CBITD projects or initiatives that have been, or would need to be, considered separately by the Board of Directors (e.g. priority boarding, reservations, etc.).
- Anything that would fall outside of the purview of CBITD.

Meeting Norms

- **Public Comment will be taken at the end**
- **Minimize distractions**
 - Please silence cell phones
 - Avoid side conversations
- **Shared responsibility for success**
 - We are all responsible for achieving the outcomes of the meeting

A detailed map of Casco Bay, Maine, showing numerous islands and ferry routes. The map is overlaid with a semi-transparent white box containing the title text. The background image shows various islands such as Peaks Island, Great Diamond, and others, with ferry routes indicated by colored dashed lines.

New Peaks Ferry Project

Background

Current Law

- Enabling legislation states “**...District...is for public purposes in the interest of public health, safety, comfort, and convenience of the inhabitants of the islands comprising the district and other passengers served by the district.**”

CBITD Governance

The Casco Bay Island Transit District (CBITD) is governed by a Board of Directors composed of 12 Directors.

- 10 elected from the islands
 - 1 appointed by the City of Portland
 - 1 appointed by the Commissioner of the Maine Department of Transportation
-
- Responsible for making policy
 - Not responsible for implementing policy
 - Employer/Supervisor of General Manager
 - Other duties as set forth in the by-laws

Regulation/Oversight of CBITD

- Federal Transit Administration
- Maine Public Utilities Commission
- Maine Department of Transportation
- United States Coast Guard
- Department of Homeland Security

Board Strategic Planning

- As part of a long-range planning process undertaken by the CBITD Board of Directors between 2015 and 2016, the Board agreed to a number of goals and priorities, including:
 - Performing a schedule and **fleet analysis**
 - **Developing a vessel replacement schedule**
 - **Securing funding for vessel replacement**
- Advisory Committees and guidelines were created for schedule and vessel projects

FTA Required TAM

- CBITD maintains an FTA required Transit Asset Management Plan (TAM) to track the inventory of transit assets (including vessels), their condition, and costs associated with their maintenance, in order to assist the District in planning and budgeting for the asset replacement.
- The Casco Bay Lines TAM Plan identified:
 - Machigonne II is beyond useful life and needs to be replaced first
 - Maquoit is approaching the same status

New Peaks Ferry Time Line (To Date)

	<u>2015 & 2016</u>	<u>2017 & 2018</u>	<u>2019</u>	<u>2020</u>
Public Board Meetings	4 Strategic Planning Goal Setting	May 2018 Approval to proceed with new Peaks Ferry	May 2019 Approval for design up to 599 Passenger Capacity*	<i>Scheduled for March 26, 2020</i> Consideration to proceed to final design
Public VAC Meetings		May & Oct. 2018		Jan. & March (sch)
Public General Meetings		Aug. & Sept. 2017 May & June 2018	March	March
Marine Consultant		Start: July 2017	Final Report: March	
Naval Architect		Start: May 2018		PDR: Jan.

** Capacity limited to 499 outbound by policy. Design process, cost estimates & Stress test pro-forma reviewed.*

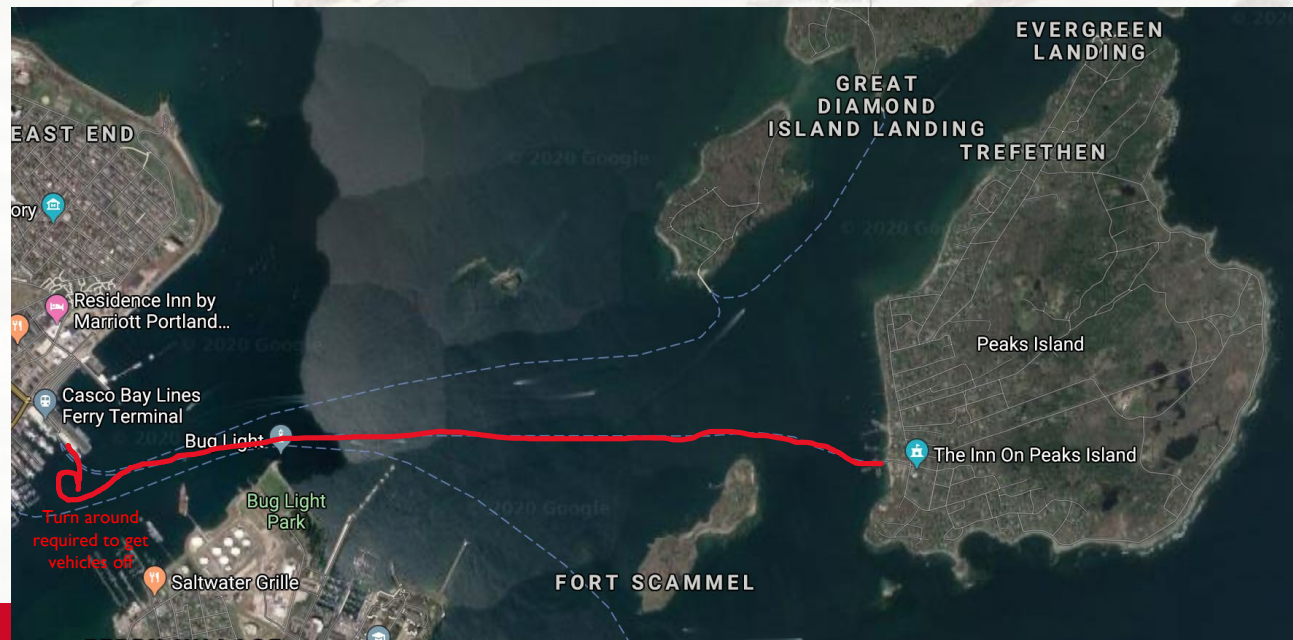
Peaks Island Service: Current



Machigonne II	Built: 1987
Capacity: 399 passengers	12 Vehicles
Length: 122 feet	Beam: 37 feet
Engines: 2 Caterpillar Diesel plus 2 diesel generators	Fuel: Ultra low sulfur/Bio Diesel 80/20 mix
Peaks annual ridership: 780K +/-	Vehicles: 41K +/-
Bi-annual maintenance: \$700K +/-	CO2 annual emissions: 800 metric tons

Portland to Peaks

- Distance: 2.2 NM
- Transit: 12 minutes
- Docking: 5 minutes
- Machigonne makes 12.5 round trips daily on average





New Peaks Island Vessel Preliminary Design Report Review

Progress to Date

- CBL & EBDG
 - Visited other ferry operators
 - Met with vendors
 - Reviewed capacity
 - Considered various layouts
 - Looked at different propulsion systems
 - Met with FTA, MaineDOT and our congressional delegation to discuss options and alternatives
- CBL Board set capacity limits
- EBDG developed a Draft Preliminary Design Report with recommended options

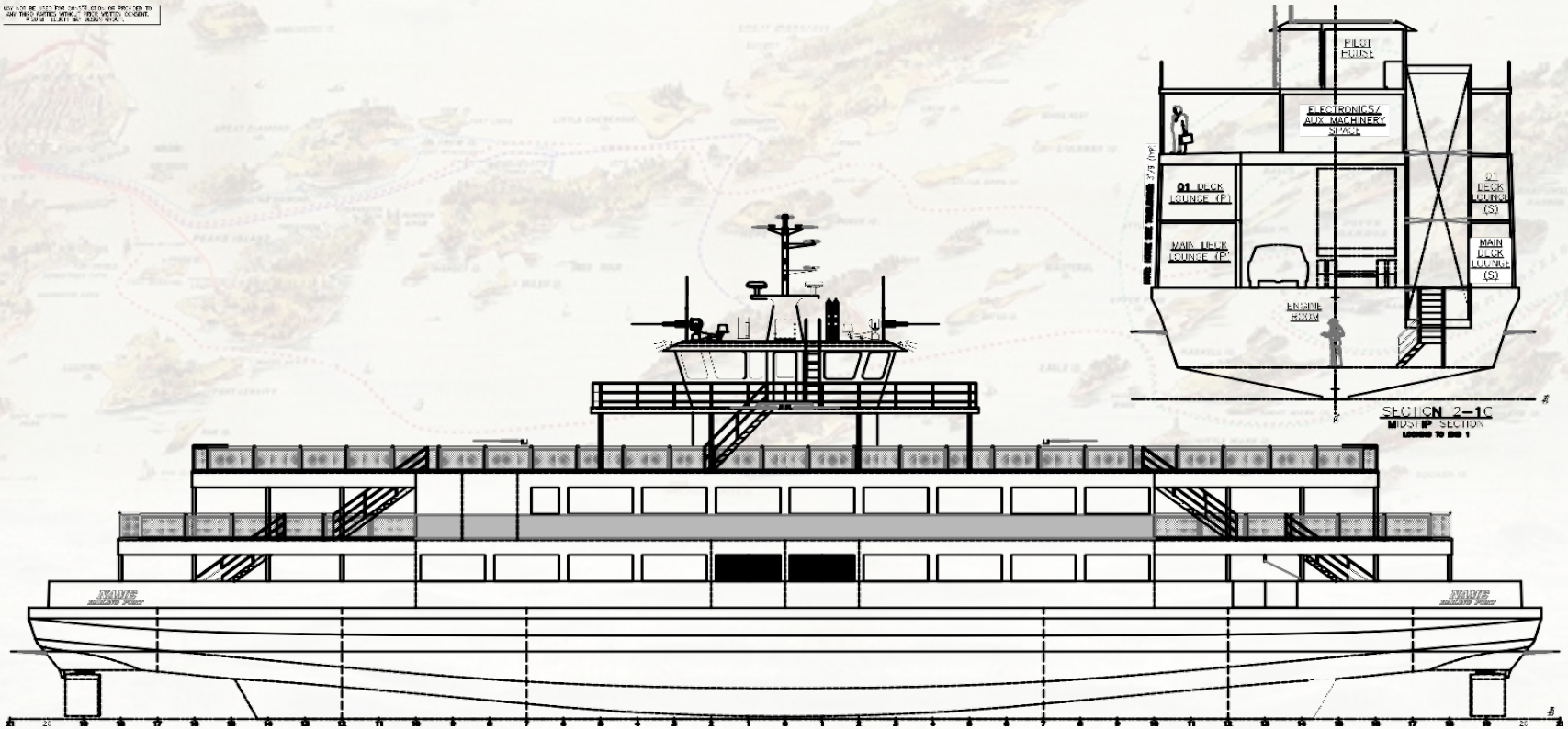
PDR Recommendations

- 164'x40' with a 9 foot draft (worst case)
- Subchapter K
- Double Ended
- Single Wheelhouse
- Diesel Electric Hybrid Propulsion
- Maximum: 599 passengers*/15 vehicles
- Fits Existing Pier Infrastructure
- Light Ship Weight – 467 LT
- Designated Spaces for Freight/Carts/Bikes/Etc.

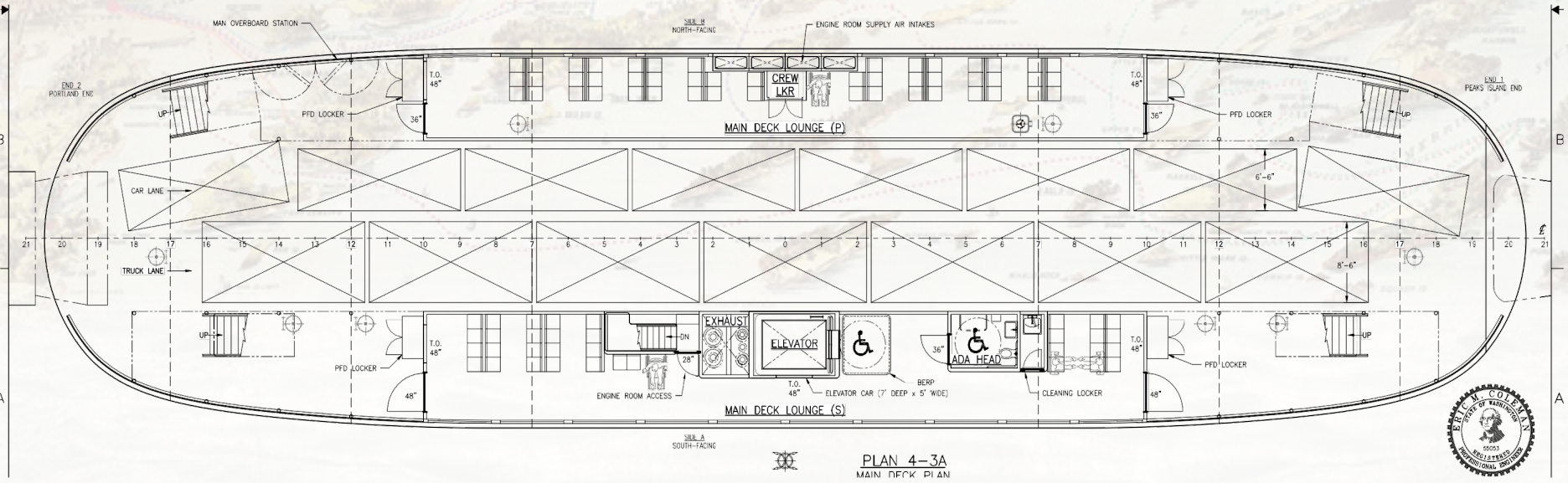
* Current Passenger Capacity Policy Approved by CBL Board:

- Portland to Peaks: 499
- Peaks to Portland: 599

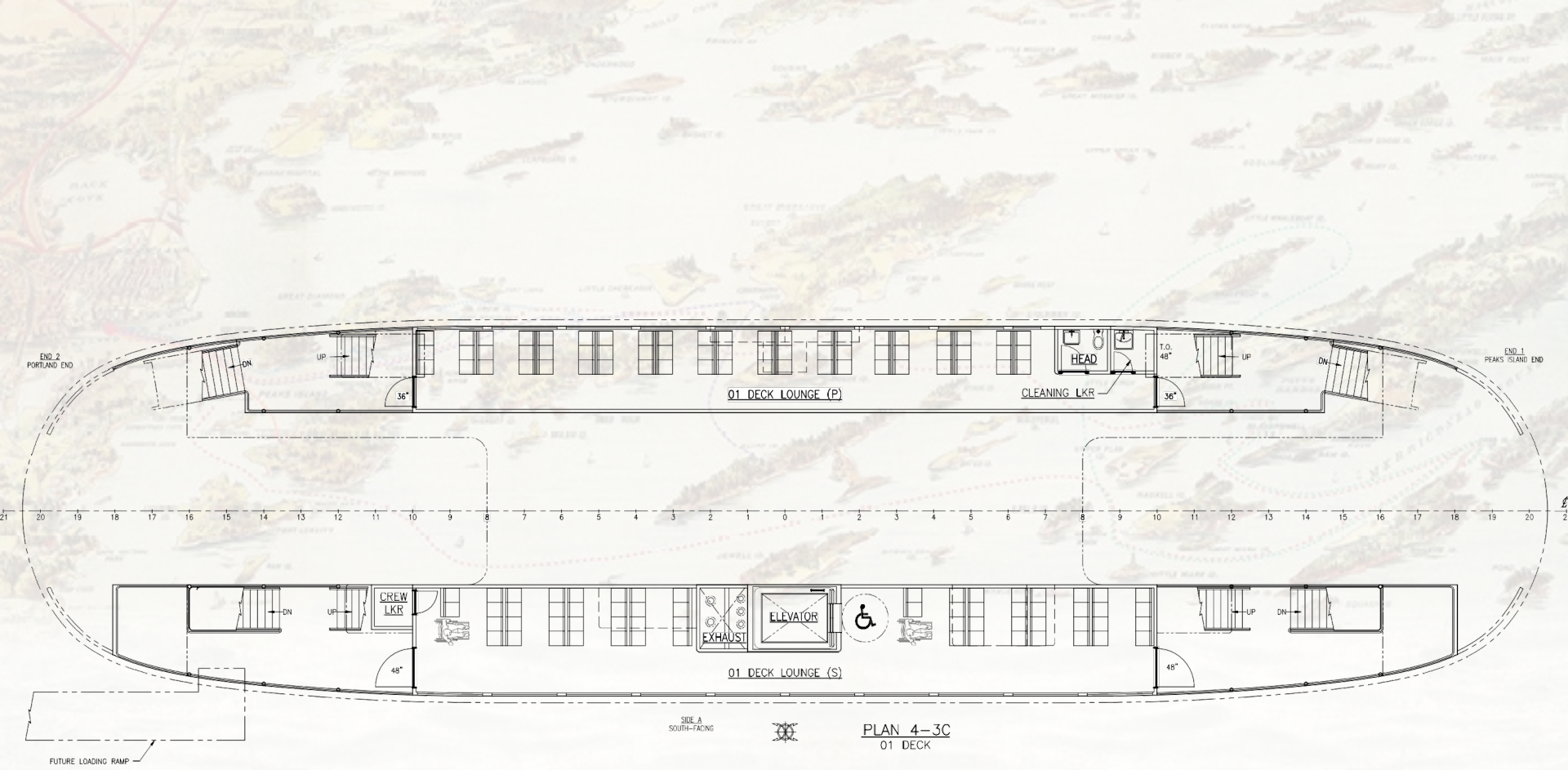
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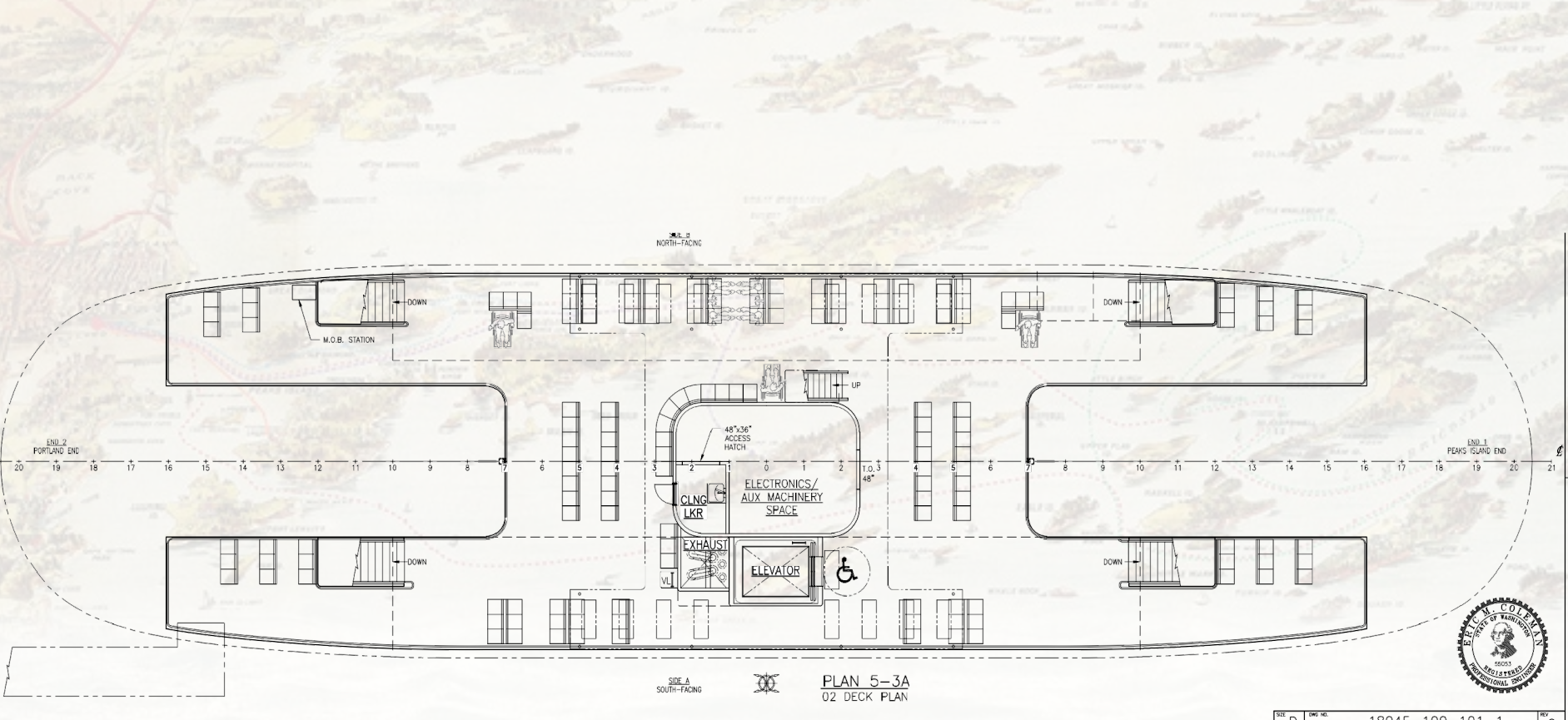
Proposed Profile



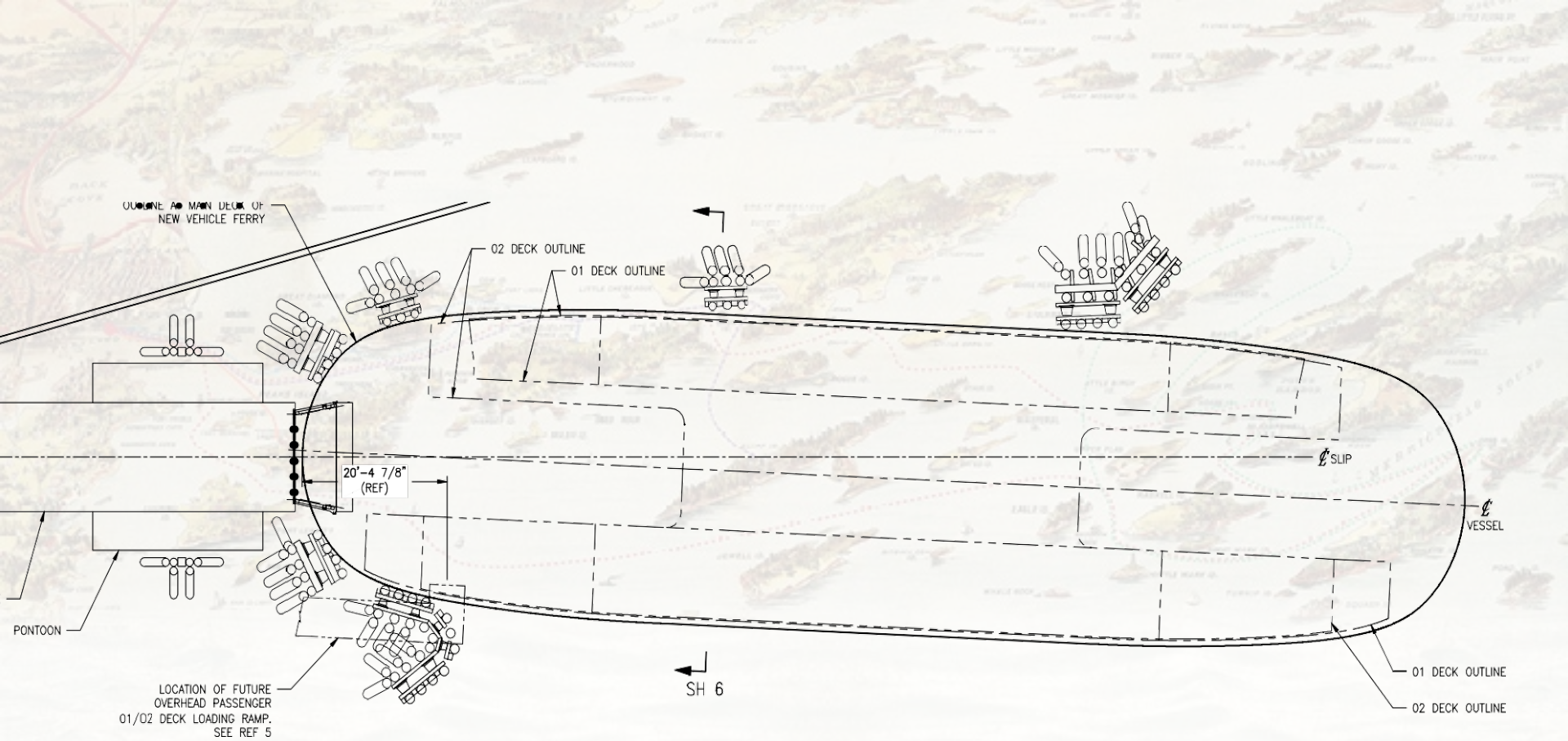
Proposed Main Deck



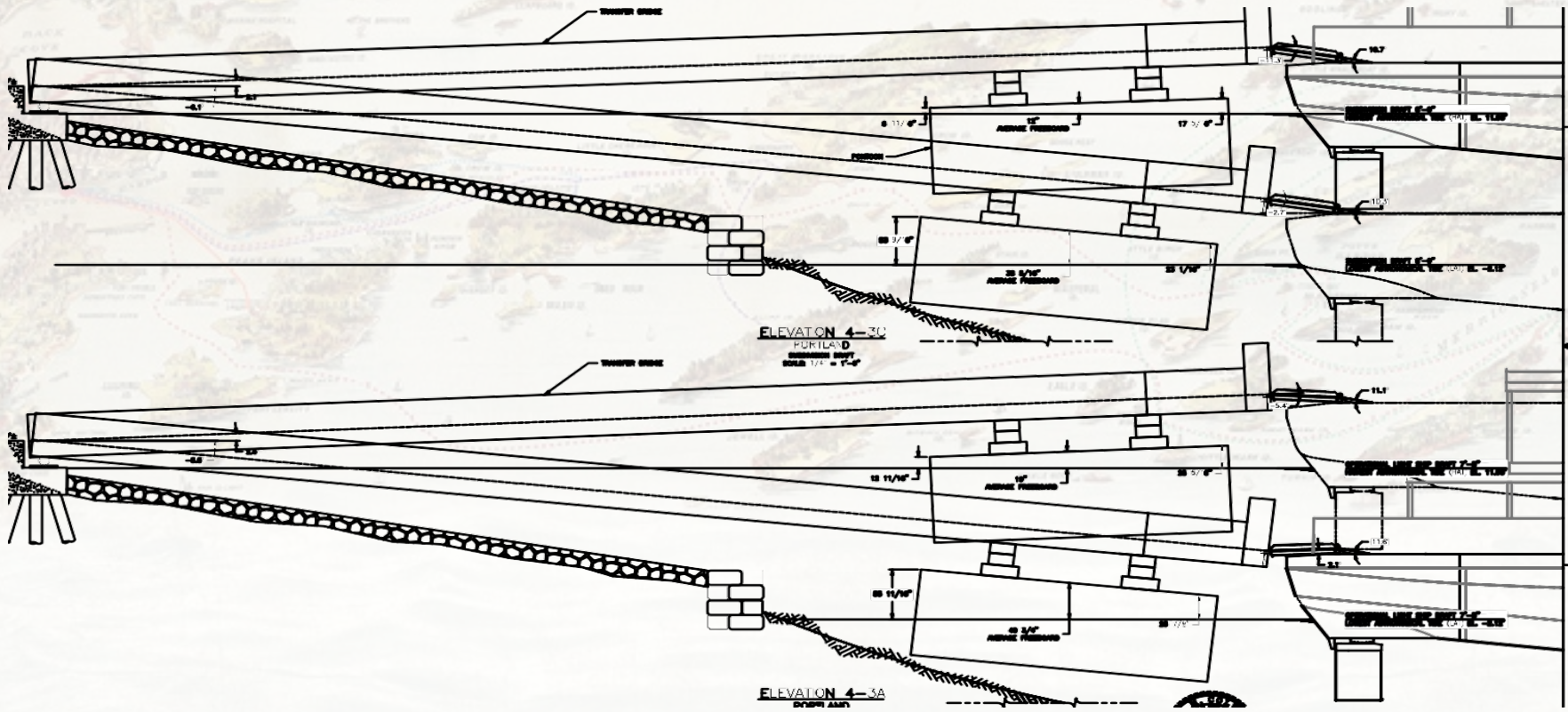
Proposed 01 Deck



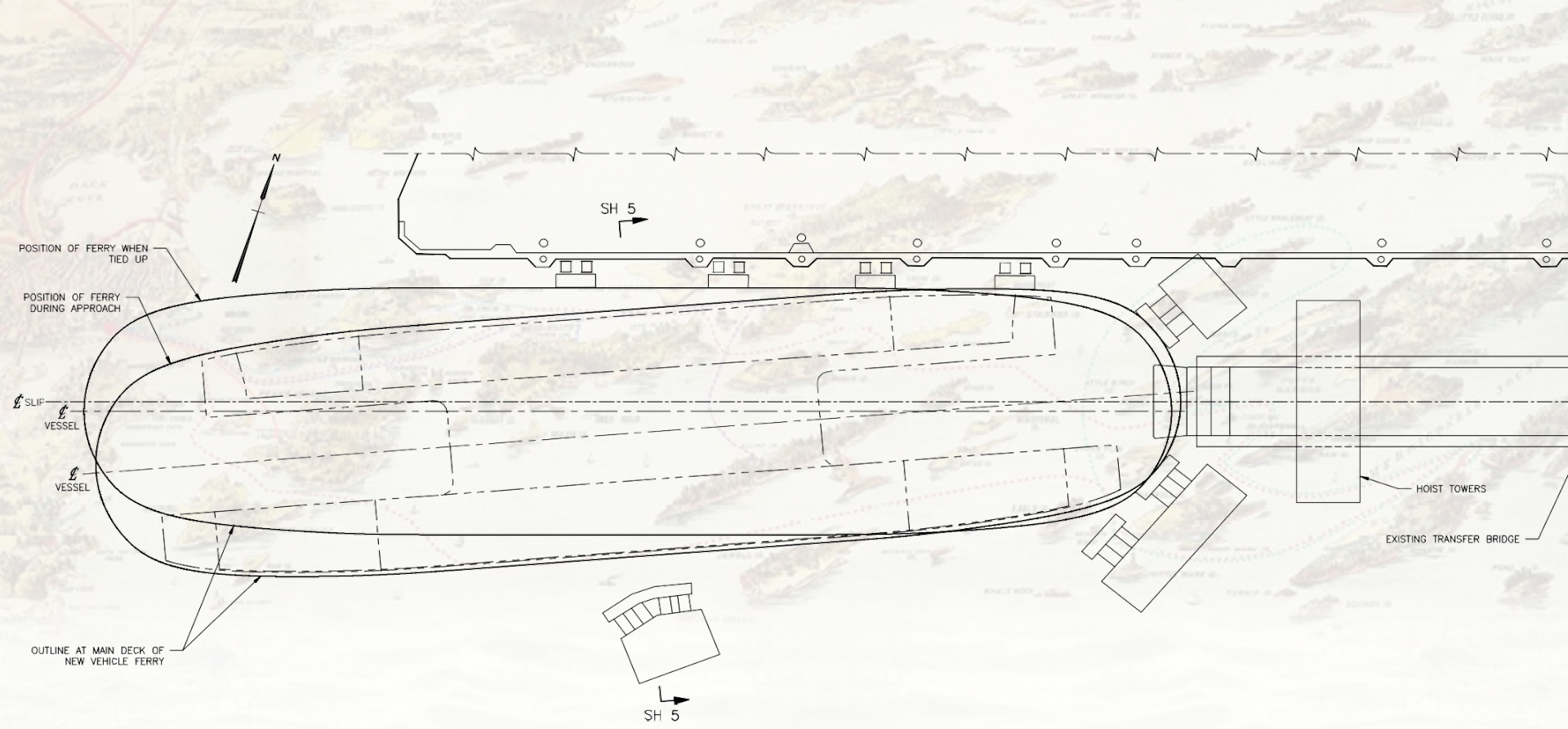
Proposed 02 Deck



Terminal Interface - Mainland



Transfer Bridge Interface - Mainland



PLAN 2-4A
 PEAKS ISLAND
 SCALE: 3/32" = 1'-0"

Terminal Interface – Peaks Island

New Vessel Side 1



New Vessel Side 2



Single vs Double Ended Ferry

- Speed of Ferry (estimated)
 - Single is about 12 knots with twin screws
 - Double is about 8.5 - 10 knots with single screw at either end
- Maneuvering Time
 - Single requires more at either side to turn ferry around or for backing out
 - Double minimizes maneuvering time, so can travel slower – straight in & out
- Fuel Consumption
 - Single consumes more per trip with two engines running near capacity
 - Double requires less since one runs near capacity & other at 30%
 - Both use same size engines

Propulsion Systems Considered

- **Diesel Mechanical** (Same as current with Tier 3 Engines)
- **Diesel Mechanical Hybrid**
- **Diesel Electric Hybrid with Energy Storage**

Propulsion Evaluation Criteria

6 Categories Considered:

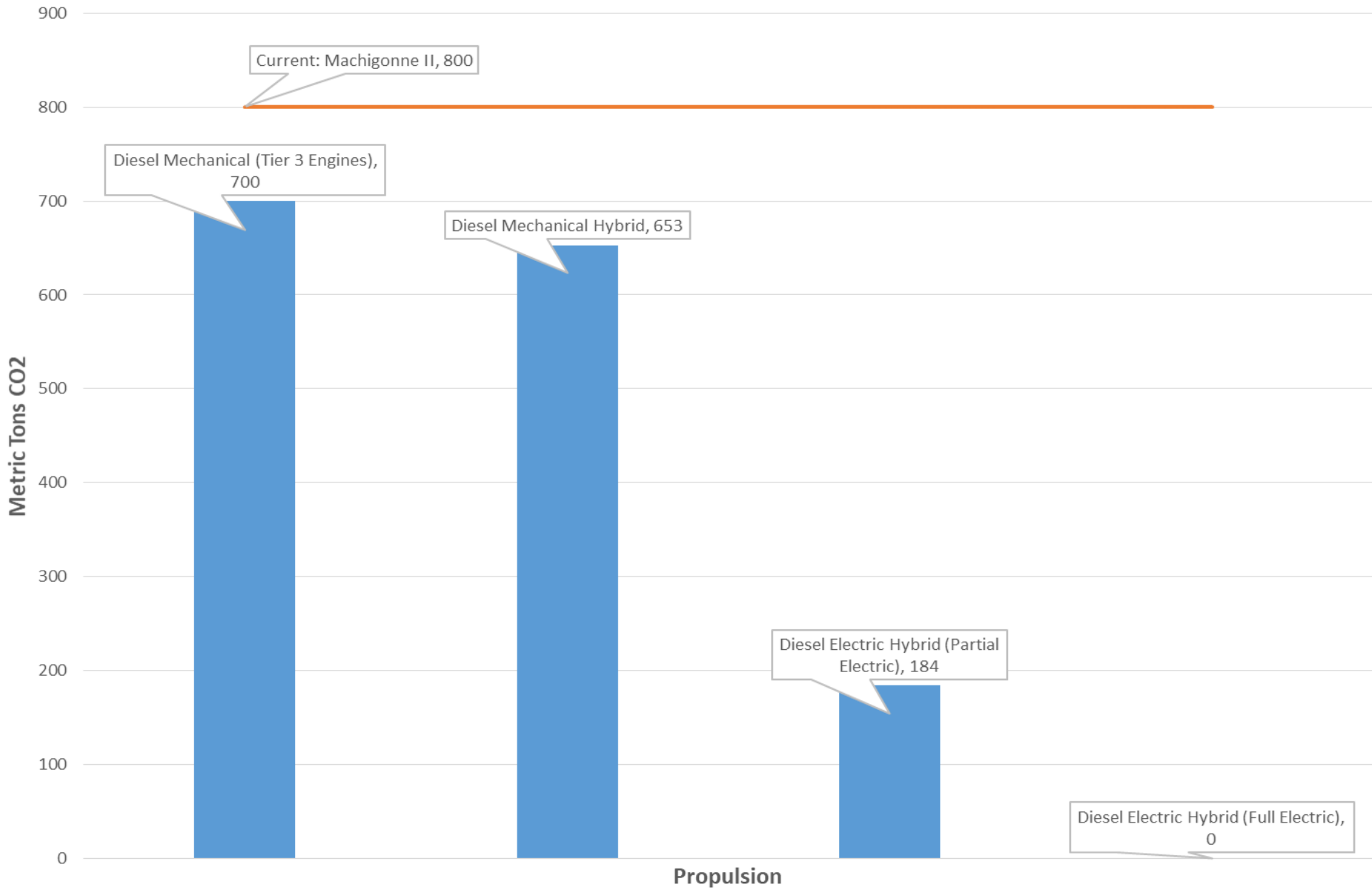
- **Capital Costs (10%)**
- **Operating Costs (20%)**
- **Serviceability (25%)**
- **Reliability (25%)**
- **CO2 Emissions (10%)**
- **Port Noise/Exhaust Generation (10%)**

Diesel Electric Hybrid Propulsion System

Different Sized Energy Storage Systems (ESS) Considered:

- **1,809 kWh Battery Bank**
 - Full electric operation with electric peak demand Rates
- **904 kWh Battery Bank**
 - Partial electric operation with electric peak demand Rates
 - or
 - Full electric operation without electric peak demand Rates
- **452 kWh Battery Bank**
 - Partial electric operation at all times

Propulsion System Annual Emissions



Cost Estimates

Propulsion	Vessel (est)	Shore Side (est)	30 year OP cost savings (est)
Diesel Mechanical	\$10,300,000	\$0	\$0
Diesel Mechanical Hybrid	\$11,980,000	\$0	\$500,000
Diesel Electric Hybrid (900 kWh ESS) Partial Electric	\$12,219,000	\$1,500,000 to \$2,000,000	\$800,000
Diesel Electric Hybrid (900 kWh ESS) Full Electric	\$12,219,000	\$1,500,000 to \$2,000,000	\$2,250,000
Diesel Electric Hybrid (1800 kWh ESS)	\$13,276,000	\$1,500,000 to \$2,000,000	\$900,000



Funding & Recent Events

Current Funding Sources

- Replacement vessel funding: \$11.2M
 - Design: \$1.2M
 - Construction: \$10.0M
 - Funding sources secured
 - FTA urban discretionary: \$6.00M
 - FTA urban formula: \$3.46M
 - MaineDOT: \$0.75M
 - City of Portland: \$0.59M
 - CBITD: \$0.40M

Recent Meetings

- Maine DOT
 - COO, Chief Engineer & Maine State Ferry Manager
- Congressional Representatives
 - **Senator Collins** & Appropriations Subcommittee Staff Director, Legislative Assistant
 - **Senator King** & Legislative Director, Legislative Assistant
 - **Congresswoman Pingree** & Staff
- FTA
 - Acting **Administrator** & Associate Administrator
- Other
 - PACTS & CTAA (Community Transportation Association of America)
 - Discussions with Avangrid & CMP regarding Peak Demand Charges
 - Meeting scheduled with Governors office

Purpose of Meetings

- Seeking support for the use of electric propulsion to power a replacement ferry being designed and built to:
 - Significantly reduce CO2 emissions
 - Improve passenger and neighbor experience with noise reduction and no diesel fumes
 - Reduce recurring operational expenses over the 30-year life of the ferry
- To accomplish this:
 - There is an immediate need of additional federal funding to partially electrify a new ferry with growth potential to fully electric
 - CBL is also investigating relief of electric peak demand rates

Feedback from Meetings

- All were very supportive of the Diesel Electric Hybrid option
- All encouraged us to apply for additional funding through the FFY2020 FTA Ferry Boat Discretionary Program
- All were supportive and interested in CBL pursuing electric peak demand rate solutions

Additional Funding Needed

Propulsion	Total Cap Cost (est)	Funding Shortfall (est)	Funding Shortfall Opportunities
Diesel Mechanical	\$10,300,000	\$300,000 (3%)	CBL Capital Reserve
Diesel Electric Hybrid (900 kWh ESS)	\$13,969,000	\$3,969,000	FTA 2020 Ferry Boat Discretionary Program And VW Settlement Funds

Recommendation

- Proceed to final design with 900kWh Hybrid Propulsion System & PDR recommendations
- Pursue FFY2020 FTA Ferry Boat Discretionary and VW settlement funds for additional funding
 - Expect award announcements in summer
- If additional funding is not available, CBL Board decision to:
 - Redesign for diesel mechanical (\$125,000) or
 - Pursue other funding options (Other Grants, Bond, Loan...)

Next Steps

- Collect public feedback
- Convene VAC for one more meeting to present all comments and look for consensus on preferred recommendations
- Present PDR to the Board along with final staff and VAC recommendations for Board consideration (March 26, 2020)
- If approved then proceed with:
 1. New vessel final design
 2. Board approval to proceed to construction
 3. Bid Vessel for construction
 4. Construction & Delivery
 5. Machigonne disposition consideration

A detailed map of Casco Bay, Maine, showing numerous islands and surrounding waters. The map is overlaid with various colored lines and dashed boundaries, likely representing different management zones or routes. The text "Public Comment" is prominently displayed in the center in a large, red, serif font.

Public Comment

Public Input Policy

Delivery of Comments to Board

- All feedback received on the new vessel (email, public meetings, survey, paper forms) will be provided to the Board of Directors for their consideration
- Public feedback is one of many factors the Board will weigh in their consideration of a new vessel design
- Don't assume any discussion with crew/shoreside staff will be included as part of the process

Public Comment Guidelines

- **Be recognized before speaking:**
 - Step up to microphone to be recognized
 - State your **name and affiliation**
- **Treat everyone with respect:**
 - Please refrain from clapping or verbally showing support or dissent from other's comments
- **Allow others to be heard:**
 - 3 minutes allowance
 - Limited to one time
- **Stay focused on the topic under discussion** – New Vessel PDR
- **Questions will be recorded and answers posted on website to the best extent possible**
- **Written feedback forms are also available**
- **Emails can be sent to FleetEvaluationProject@cascobaylines.com**

Next Steps

- Presentation and transcript will be made available on the website
- Presentation and transcript of this meeting will be shared with the Board in advance of their March 26th Board meeting along with all feedback on the new vessel received by March 13, 2020
- Answers to questions received at this meeting, paper feedback form or email will be posted on the website within a reasonable timeframe

Thank You!

