



WASHINGTON STATE FERRIES

Prime Contractor Webinar

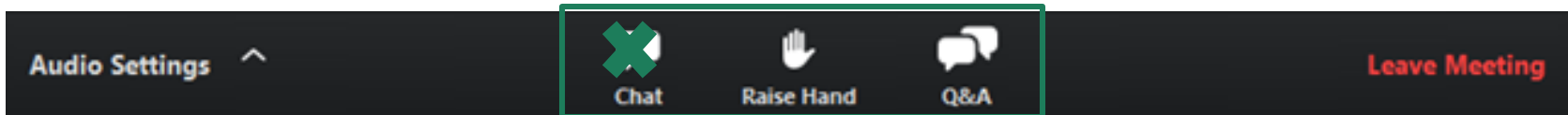
Hybrid-Electric 160-Auto Ferries Program

February 28, 2024, 9 – 11 AM PST



Zoom logistics

- Meeting will be recorded and shared
- Attendees will remain in listen-only mode
- The “chat” feature is disabled
- Enter questions anytime in the Q&A – WSF facilitators will read questions aloud during Q&A period
 - Questions remain anonymous, answers will be shared publicly



If you have a question,
type it in the Q&A box!

Agenda

Time (PST)	Topic	Speaker
15 minutes	Welcome <ul style="list-style-type: none">• Zoom Logistics & Webinar Documentation• Agenda Review• Project Team Introductions	Scott Burns, PRR Matt von Ruden, WSF
10 minutes	Program Overview <ul style="list-style-type: none">• WSF Electrification Program Overview• Vessel Charging System (VCS) Request For Information (RFI)	Matt von Ruden, WSF
25 minutes	Invitation For Bid (IFB) Overview <ul style="list-style-type: none">• Prequalification Process and Timeline• Bid Form Overview	Tim McGuigan, WSF
20 minutes	Functional Design Overview <ul style="list-style-type: none">• Key Vessel Characteristics• Role of Propulsion System Integrator	Chad Rous, WSF Eric Coleman, EBDG Nicholas Bannon, EBDG Drew Orvieto, ABB
10 minutes	Request for Information (RFI) Status <ul style="list-style-type: none">• RFI Overview• Content, Comments, Responses	Chad Rous, WSF
40 minutes	Questions and Answers	Suanne Pelley, WSF and All

Project Team Introductions



Matt von Ruden
System Electrification
Program Administrator
Washington State Ferries



Mark Steele
Vessel Project Engineer
Washington State Ferries



Tim McGuigan
Contract & Legal Services
Manager
Washington State Ferries



Chad Rous
Vessel Electrification
Program Manager
Washington State Ferries



Eric Coleman
Project Manager
Elliott Bay Design Group



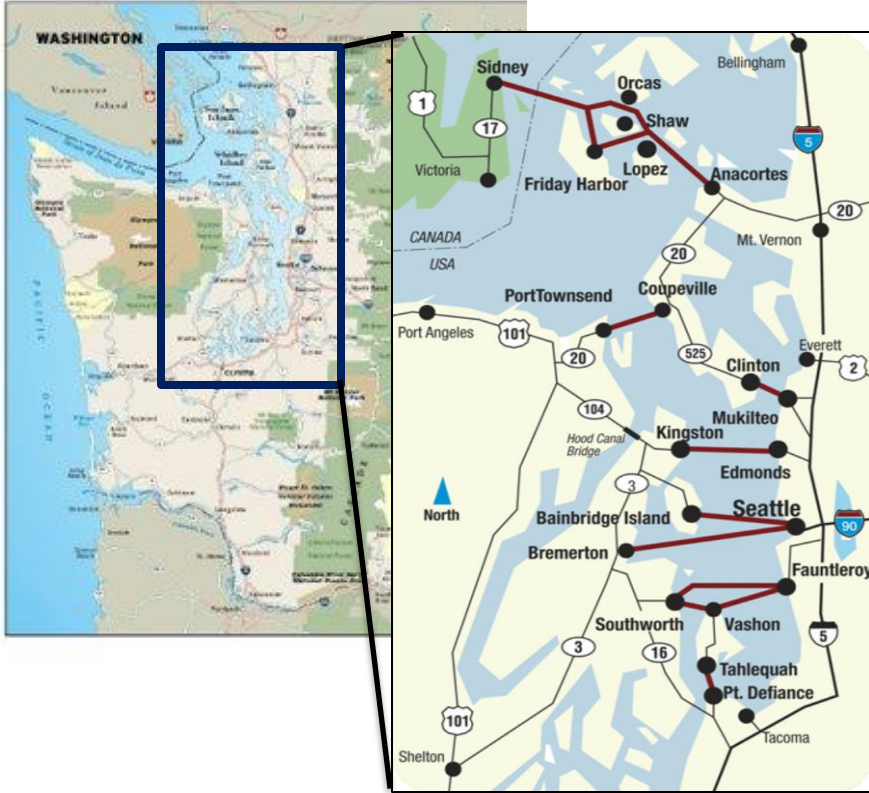
Nicholas Bannon
Project Engineer
Elliott Bay Design Group



Drew Orvieto
Project Manager
ABB

WSF Electrification Program Overview

Washington State Ferry System



Largest ferry system in the United States



21 auto-passenger ferries



10 routes serving 19 terminals



18.2 million riders in 2023



8.9 million vehicles in 2023

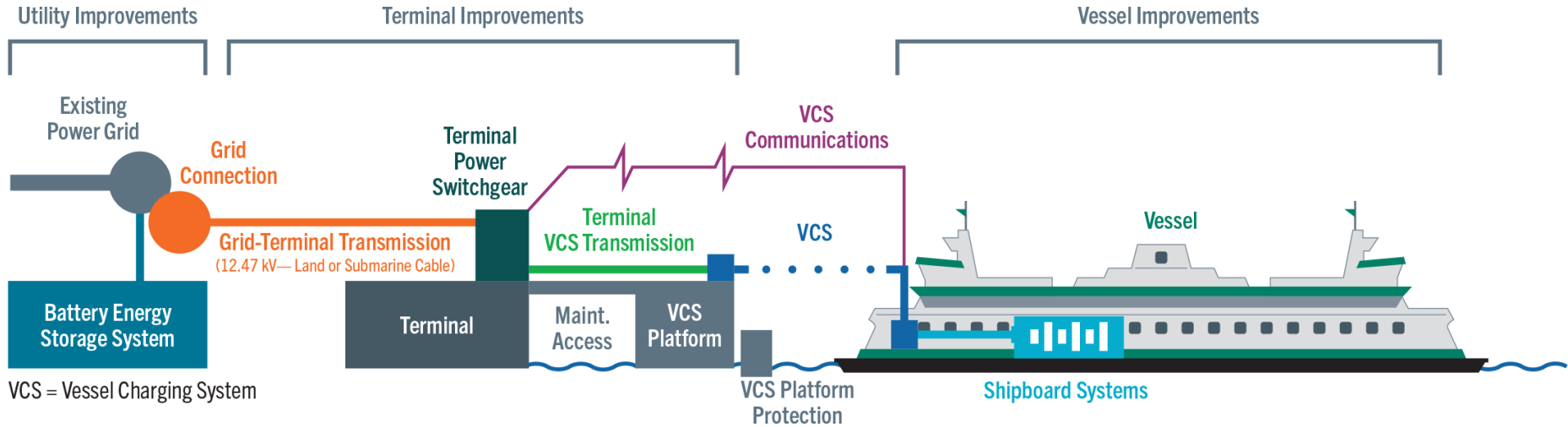


375 sailings per day



1,800 employees

Electrification System Components



WSF System Electrification Program



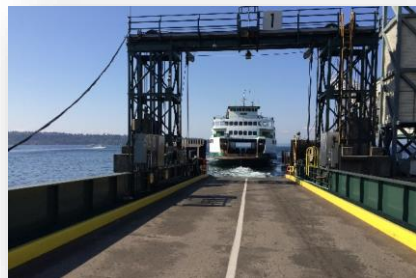
Convert **6** existing vessels

- Three Jumbo Mark II vessels in 2024 – 2026
- Three Kwa-di-Tabil class vessels by 2030



Build **16** new vessels

- 5 new hybrid-electric 160-auto vessels by 2030
- 4 new hybrid-electric 124-auto vessels in 2027 – 2030
- 7 additional new hybrid-electric 160-auto vessels in 2031 – 2037



Electrify **16** terminals

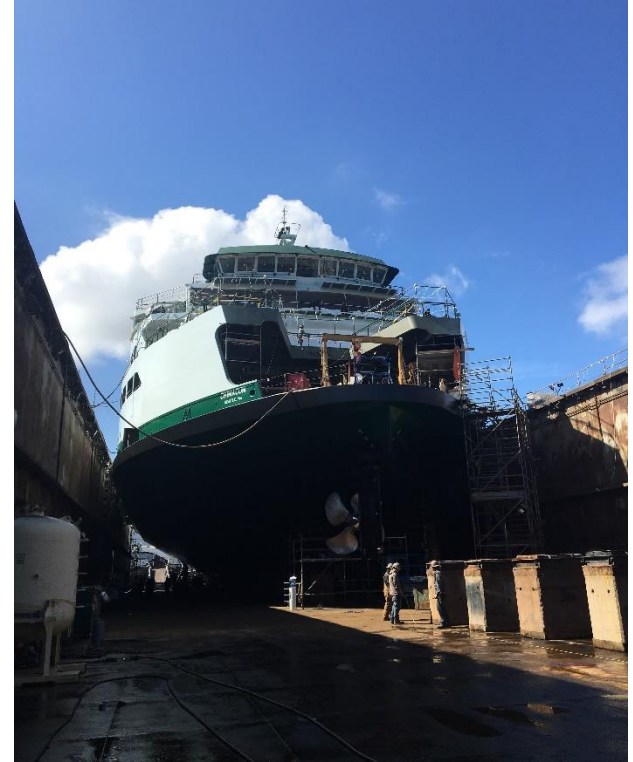
Ferry Procurement Background

- **April 2019:** Legislature authorized extension of Design-Build Contract to build Hybrid-Electric 144-Auto vessels*
- **May 2022:** WSF and contractor unable to agree to terms or price
- **July 2022:** WSF issued Request for Information (RFI) reflecting intent for new Design-Build procurement
- **May 2023:** Legislature passed EHB1846, allowing for increased flexibility in procurement to expedite vessel construction
- **Dec 2023:** WSF issued new RFI for nationwide design-bid-build approach

*Hybrid-Electric Olympic Class (HEOC) vessels have been reclassified as Hybrid-Electric 160-Auto Ferries

HB 1846: Accelerated Procurement

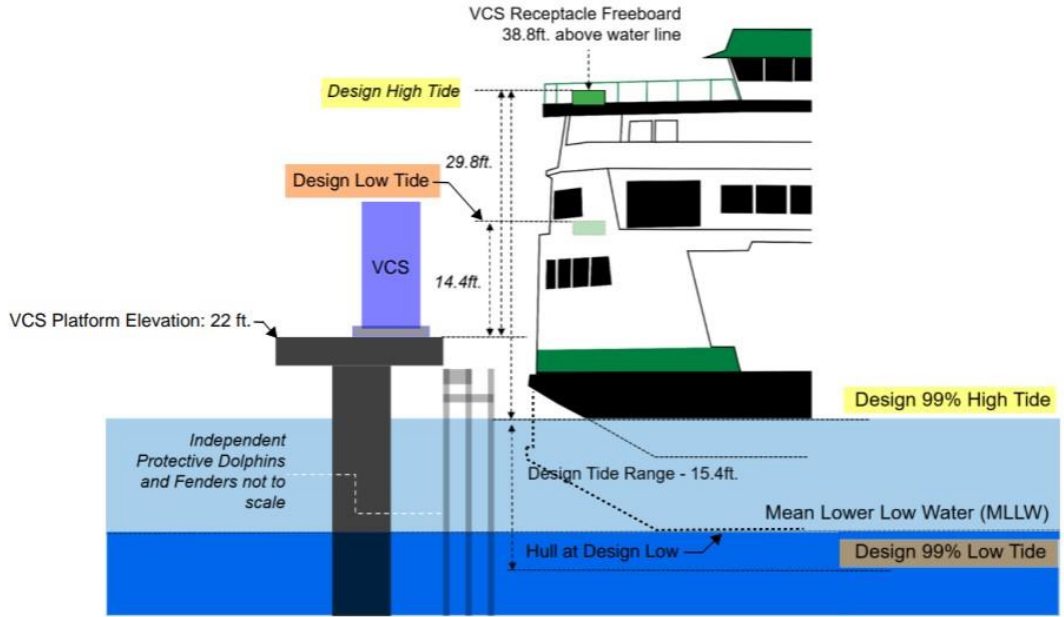
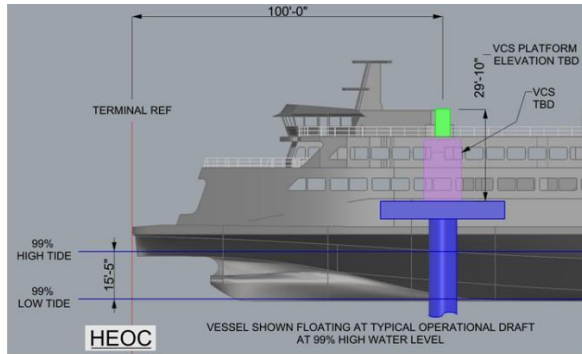
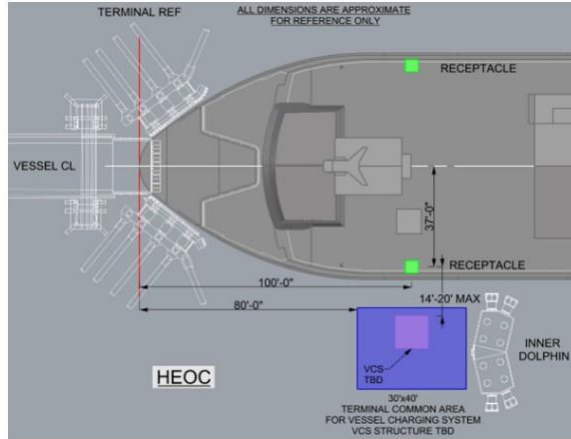
- Allows for design build or **design-bid-build** delivery approach
- Leverages previous shipbuilder's design but puts WSF in control
- Fixed price bids will expedite contract award timeline
- One- or two-contract approach allows for accelerated construction and delivery
- Allows nation-wide competition, with 13% bid credit for work performed in WA



Interested Parties

- WSF maintains an interested parties list with both prime and sub-contractors
- We provide regular updates and procurement notifications to all interested parties
- We also provide the interested parties list to each firm, with each company self-selecting whether they want to be publicly listed

Vessel Charging System Selection



Note: Elevations reference MLLW as datum

Drawings from Vessel Charging System RFI, Feb. 7, 2024

Invitation for Bids (IFB) Overview

IFB Process Overview

Key steps

- National advertisement
- Issue IFB package
- Standard Prequalification
- Special Prequalification
- Contract bonding
- Q&A, Addenda and Notices
- Bid Submittal
- Contract(s) award

*Delivery date

Estimated Vessel Delivery Dates

Contract 1

- Vessel 1 - February 2028
- Vessel 2 - January 2029
- Option vessels via contract change order*

Contract 2 (if awarded)

- Vessel 1 - February 2028
- Vessel 2 - January 2029
- Option vessels via contract change order

IFB Tentative Schedule

Issue IFB package	May 30, 2024
Standard & Special Prequalification Information due	June 20, 2024
Shipyard Site Visit	June 21 - July 12, 2024
Issue Prequalification Letters	July 17, 2024
Bid Due Date	August 29, 2024
Bid Evaluations	August 30 - September 12, 2024
Contract Award Recommendation	September 18, 2024
Contract Award	September 20, 2024
Signed Contract and Contract Security Due	October 10, 2024
Commence Contract	October 16, 2024

IFB Prequalification Process

Volume I of the IFB will include information on the following, among other requirements:

1. Standard Prequalification

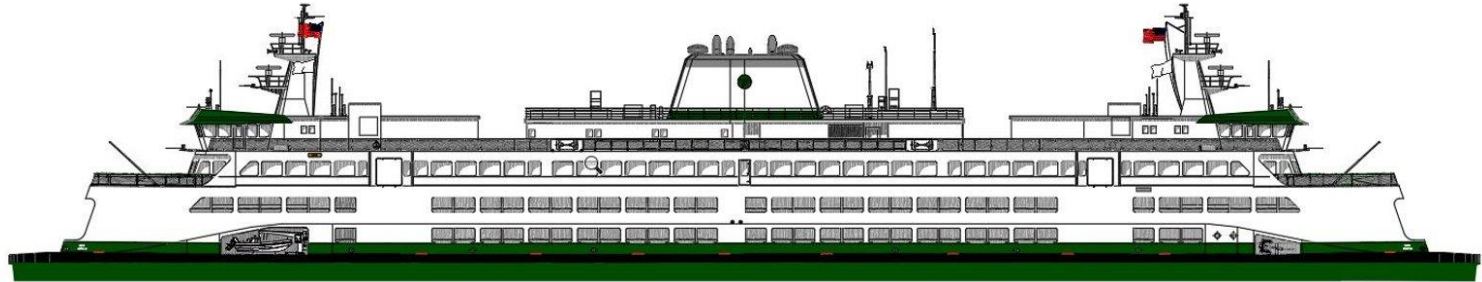
- Questionnaire and financial forms

2. Special Prequalification

- IFB package requirements regarding capacity, experience, resources and site visits
- Preliminary build strategy and intent for work performed in Washington
- Shipyard Site Visits by WSF

Bid Form Overview

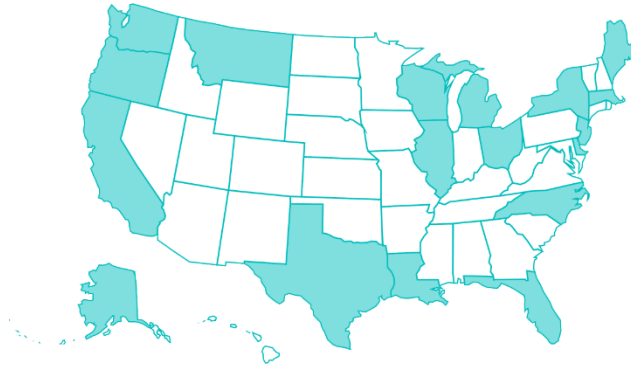
Functional Design Overview



EBDG Intro

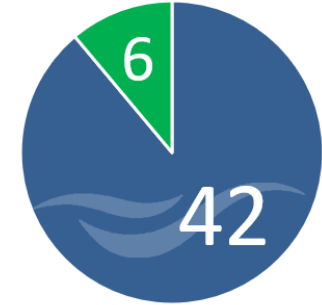
EBDG has designed more ferries than any other firm in the US

In addition to the Washington State Ferries Olympic Class Hybrid Electric design, EBDG has supported public agencies across the US including but not limited to the following recent projects:



EBDG-Designed Ferries across the US

EBDG-Designed Ferries for Public Agencies



■ Battery-Electric Hybrid



Casco Bay Lines
164' Hybrid Electric



The Trust for Governor's Island
190' Hybrid-Electric



Texas Department of Transportation
161' Hybrid-Electric



Whatcom County
184' Hybrid-Electric

Hybrid-Electric 160-Auto Ferries

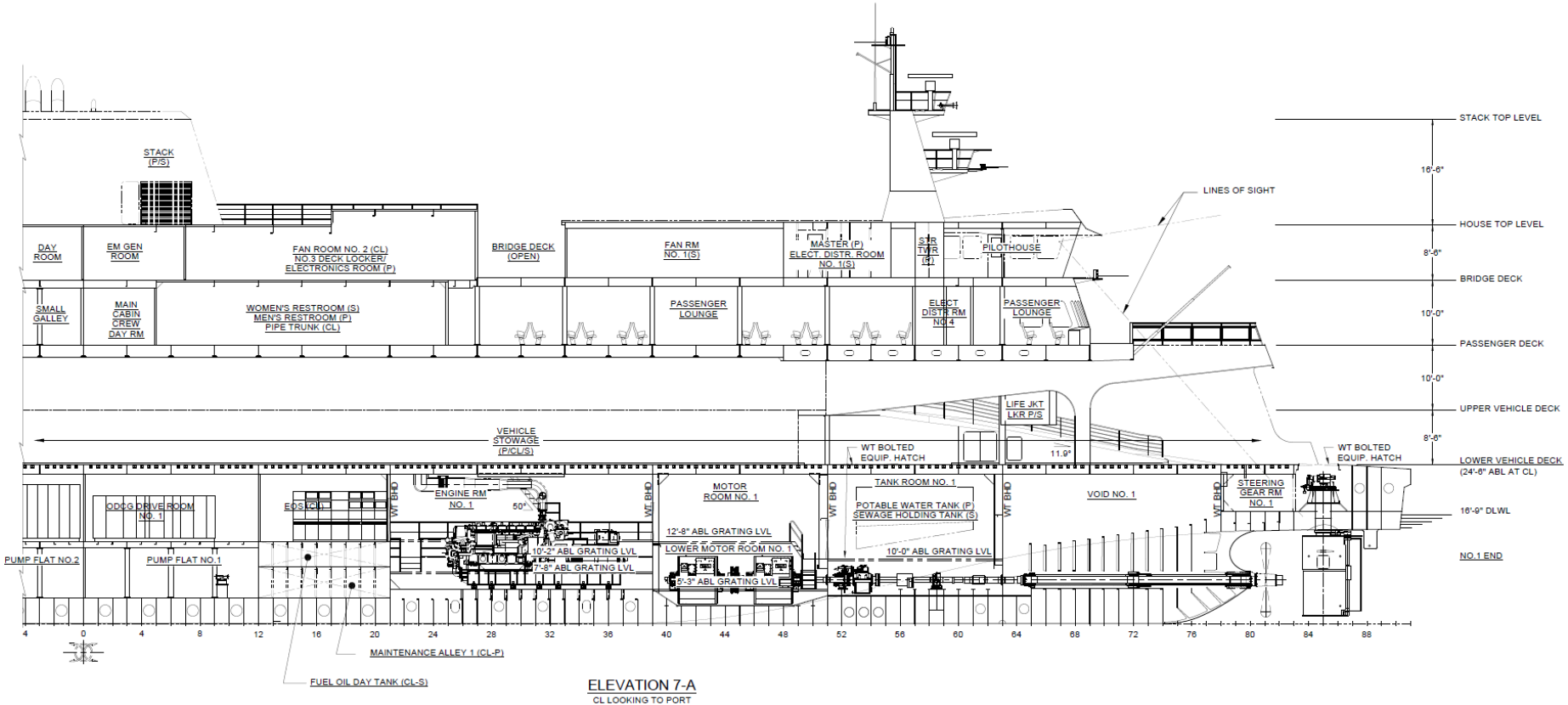
- USCG Subchapter H
 - Lakes, bays and sounds
 - Structure designed to ABS Marine Vessel Rules (not ABS classed)
- Hybrid vessels can operate on most system routes, with or without shore charging

Vessel Characteristics:

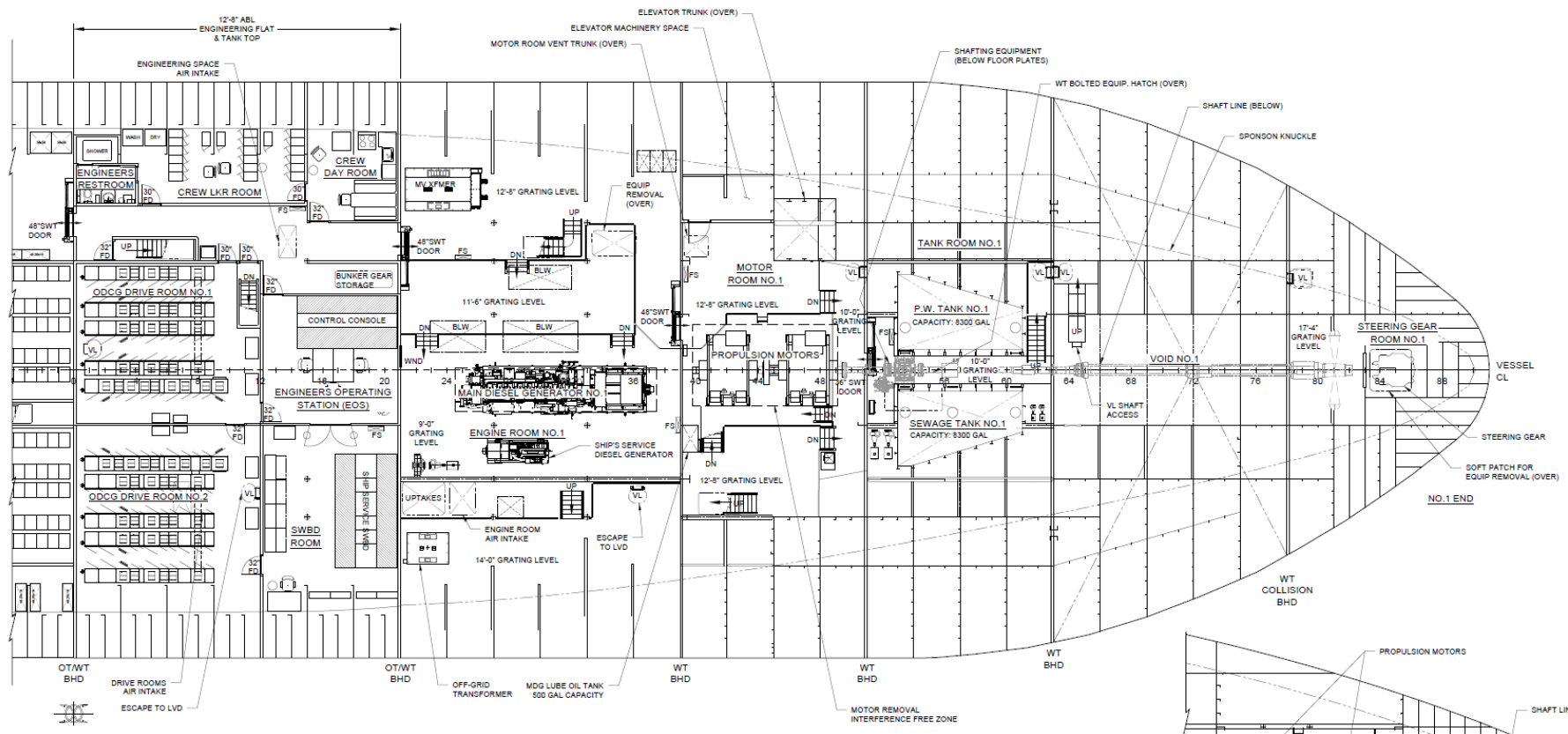
- Length Overall – 409'-6"
- Maximum Beam – 83'-2"
- Depth – 24'-6" (to main deck @ centerline)
- 160-auto, 1500 passenger capacity
- Subdivision Draft – 17'-6"
- Lightship weight - ~4,200 LT
- Steel weight - ~2,640 LT
- Cable weight - ~75 LT (approx. 9.5 miles of cable)
- ☐ Required speed (Diesel only) – 14.5 knots
- ☐ Required speed (ESS Only) – 16 knots
- ☐ Required speed (Hybrid Mode) – 17 knots

- Functional Design package intended for USCG review prior to Bid award.

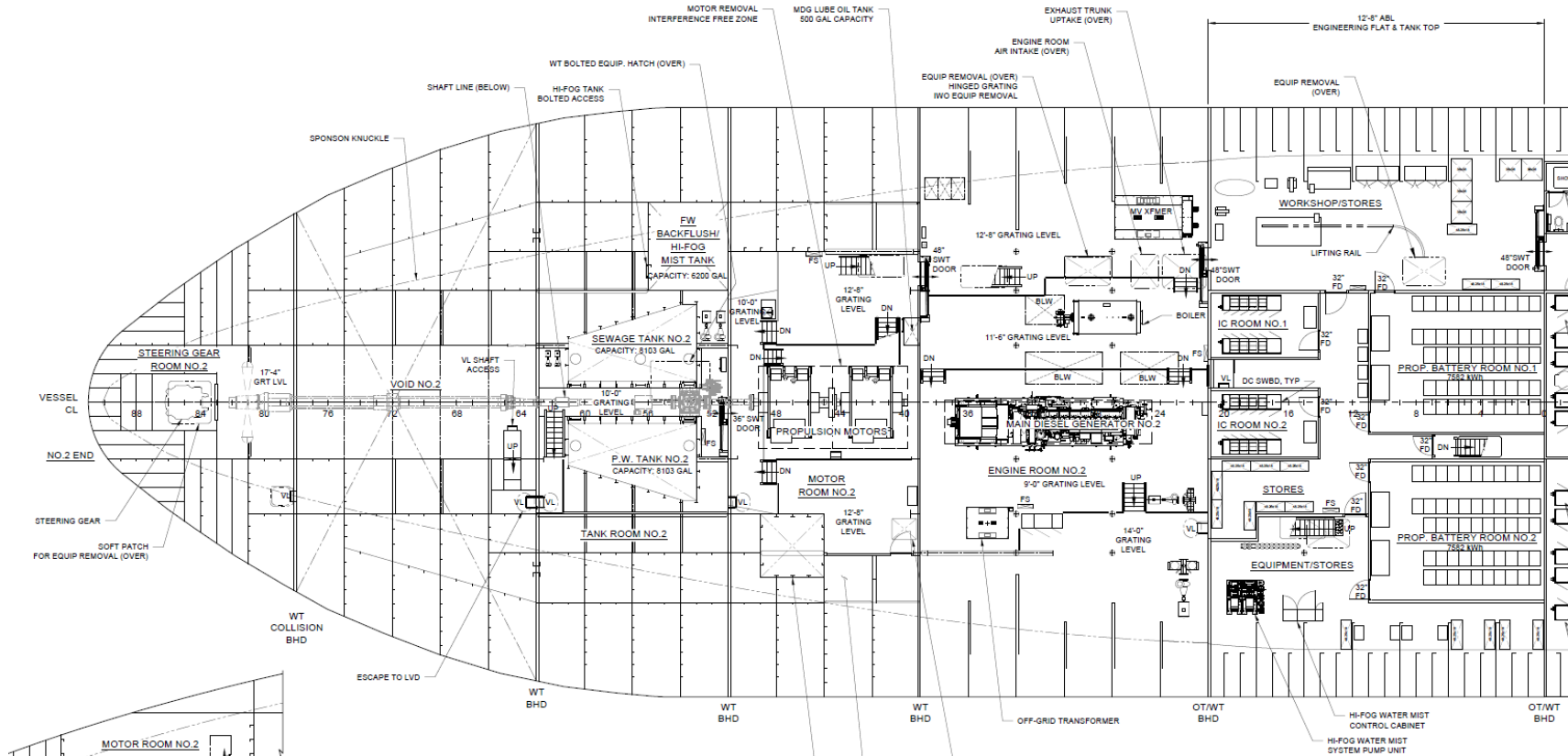
Propulsion Arrangements



Hold Arrangements - 1



Hold Arrangements - 2



Vessel Midship Section

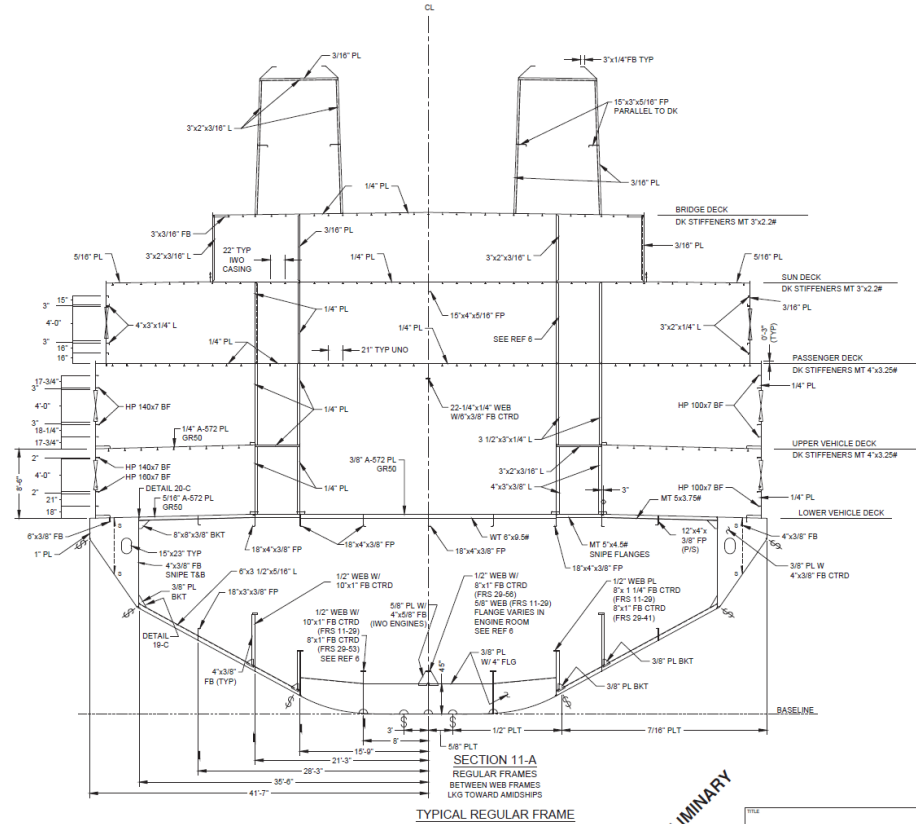
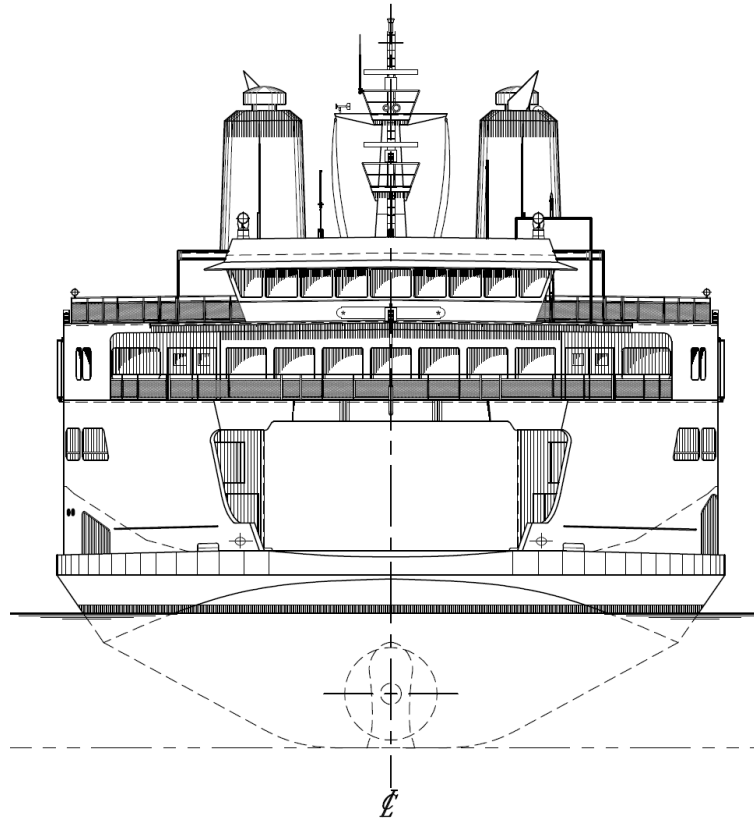


ABB: Propulsion Single Source Vendor (PSSV)

- Global hybrid/electric technology provider and systems integrator
 - Completed more than 70 projects with more than 120 MWh of energy storage
- Utility-to-Propeller solutions + local execution and support
- Extensive portfolio of ferry decarbonization projects



Propulsion Single Source Vendor (PSSV)

ABB, Inc. has been selected by WSF as the PSSV. The role of ABB is to:

- Work collaboratively with WSF and GEC in preparation for release of the Shipyard IFB.
- Engage with the successful Shipyard(s) to ensure that all information and support is made available in support of the program.
- Detailed Engineering Support
- Supply of propulsion Owner-Furnished Equipment (OFE)
- Act as a representative for the Owner for witnessing Acceptance Testing events, where requested.
- Provide oversight and technical assistance as an Owner's Technical Representative in the Shipyard Construction efforts.

Propulsion Characteristics

- ❑ 2x Main Diesel Generators
 - GE 8L250, 2,500 kW, Tier 4
- ❑ Onboard DC grid
- ❑ Appx. 15 MWh Energy Storage
 - Li-Ion Water Cooled Batteries
- ❑ 4x Permanent Magnet Propulsion Motors
 - 5,220 kW per vessel end
- ❑ Shaft lines and 5-blade fixed pitch propellers
- ❑ Steering and rudder systems

Request for Information

Request for Information (RFI)

General

- 12/6/23: WSF posted and advertised the Hybrid Electric Vessel's RFI
 - Posted at: [WSDOT - Ferries - Business With WSF](#) under "Requests for Information"
 - Advertised: Seattle Daily Journal of Commerce
- 1/5/24: Responses and general questions received
 - 8 parties responded (4 potential primes)
 - 46 questions received
- 2/16/24: WSF posted a consolidated list of responses from interested parties and WSF answers to industry questions

Note: Response deadline extended through 3/15/24

Topics of Interest

- **13% Bid Credit**
 - Define Constructed in WA
 - Required Bid Documentation
 - Enforcement Protocol
- **Transport to the Puget Sound**
 - Carried on a Ship or Barge
- **Apprenticeship**
 - WA Apprenticeship Utilization for Work Performed in WA
 - The Applicable State's Apprenticeship Program for Work Performed Outside WA
- **Water Pollution**
 - Work Performed in WA, Subject to WA State Law
 - Work Performed Outside WA, Subject to the Applicable State Law
- **Small Business Enterprise**
 - Work Performed in WA ,Subject to WA Enforceable Goal Program
 - Work Performed Outside of WA, Comparable Aspirational Goal
- **Warranty**
 - Warranty Work Required to be Completed in the Puget Sound

Topics of Interest (Continued)

- **Fixed Price**
 - Fixed Price for at Least 2 Vessels
 - Considering Fixed Price for the 3rd Optional Vessel
- **2 Contracts**
 - Proceed with a 2-Contracting Approach
- **PSSV Roles & Responsibilities**
 - Provide a Role & Responsibility Matrix in the IFB
- **Bonding**
 - Complete a State's Exposure Loss Analysis
- **Capacity**
 - Technical and Financial Evaluation During the Prequalification Phase
- **Delivery Schedule**
 - WSF is Evaluating the Provided Vessel Delivery Information to aid in Setting the IFB Schedule

Consolidated RFI Responses

A consolidated list of industry responses with questions and answers is provided on WSF's Contract website.

Contracting webpage: <https://www.wsdot.com/Ferries/Business/contracts>

Go to "Contracts Search" and select "Requests for Information (RFI)" as the category

Questions and Answers



Matt von Ruden
System Electrification
Program Administrator
Washington State Ferries



Mark Steele
Vessel Project Engineer
Washington State
Ferries



Tim McGuigan
Contract & Legal
Services Manager
Washington State Ferries



Suanne Pelley
Major Project
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Project Manager
ABB

Questions?
[@wsdot.wa.gov](https://www.wsdot.wa.gov/WSFElectrification)