



WETA

Operator: **Kolumbus (Norway)**

Electrical System Integrator: **Wartsila**

Passengers: **150**

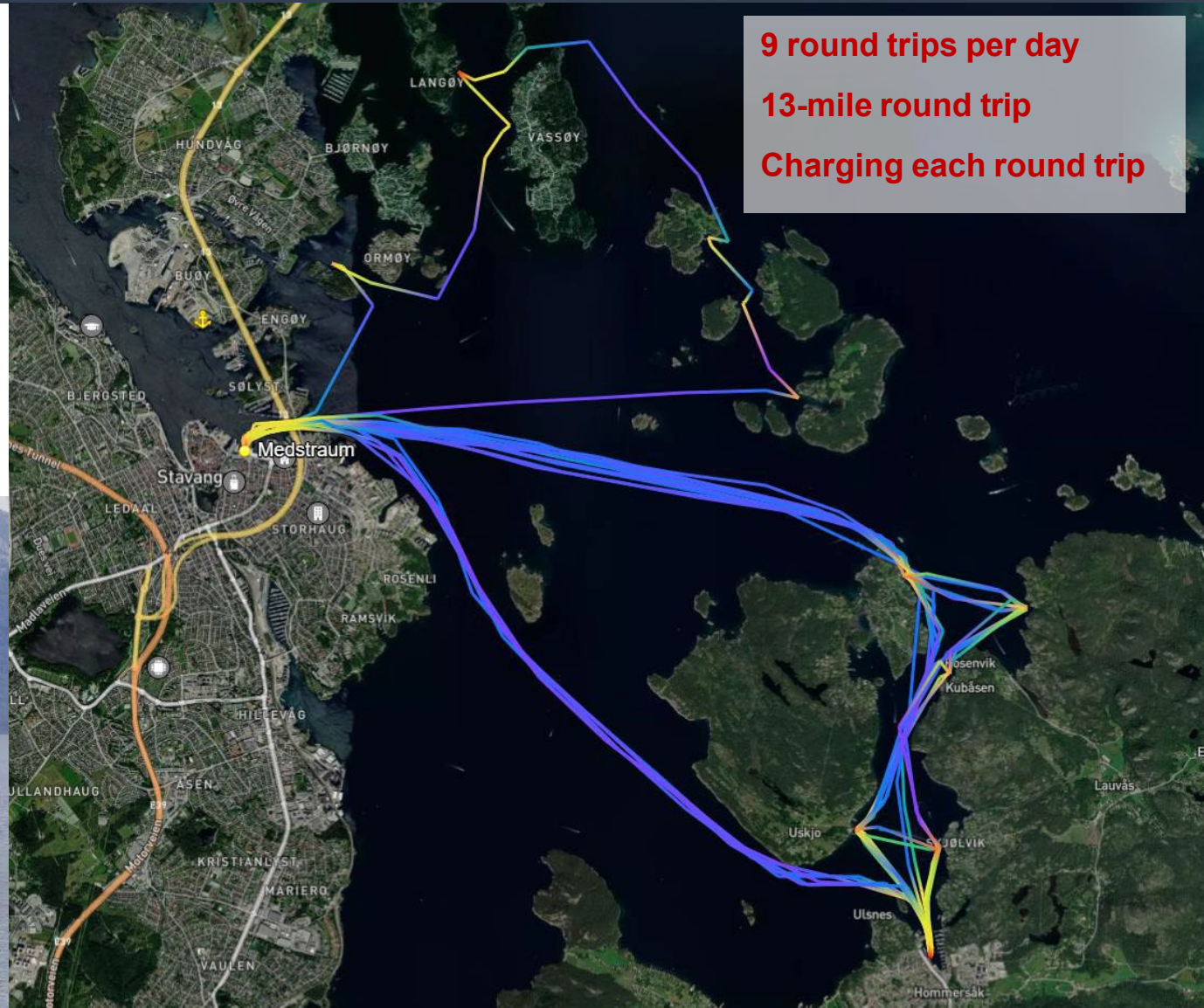
Service Speed: **27 kts**

Charge Power: **2.3MW**

Charge Technology: **Manual DC Fast Charging**

Modular Approach to Electrical System

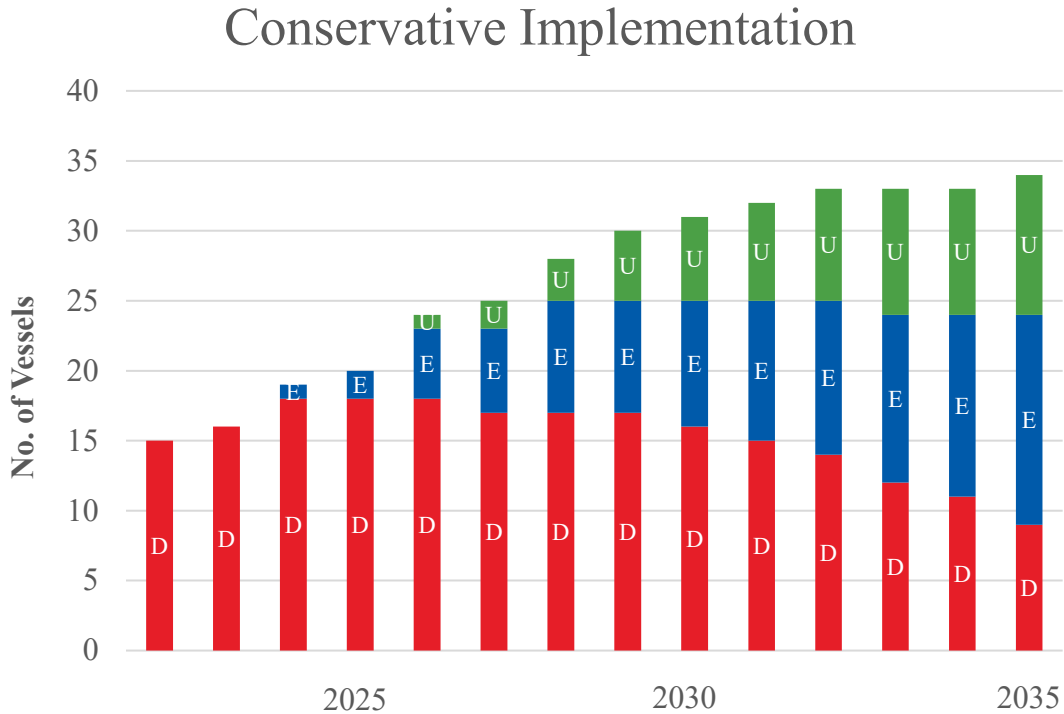
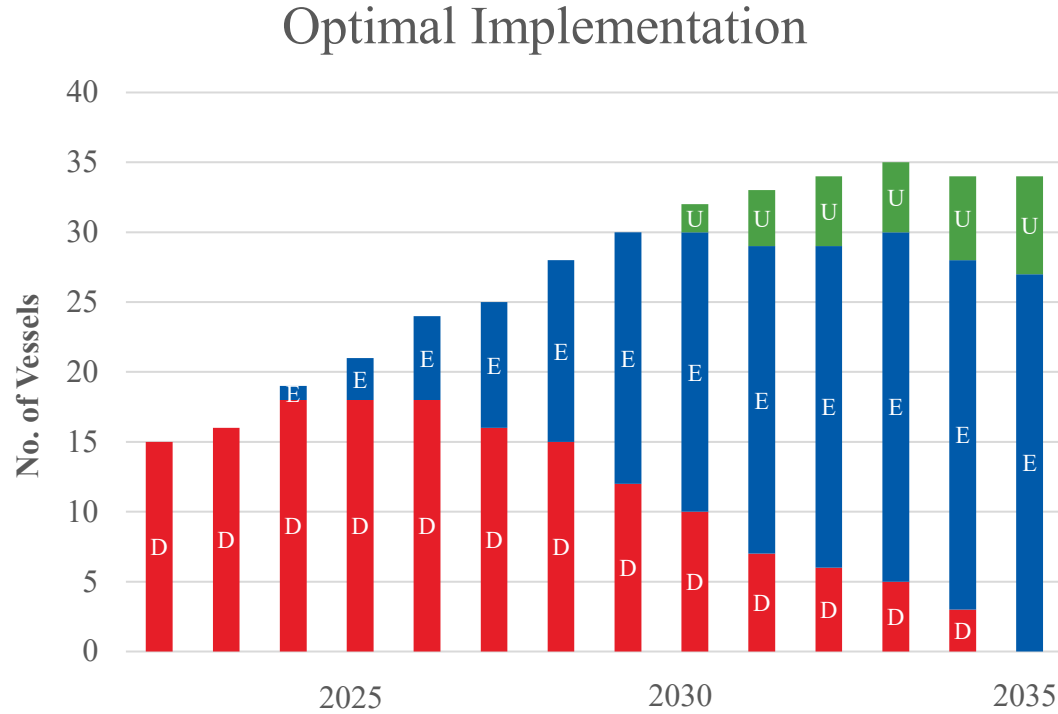
Entered Service in 2022



**9 round trips per day**  
**13-mile round trip**  
**Charging each round trip**

# Fleet Electrification Schedule

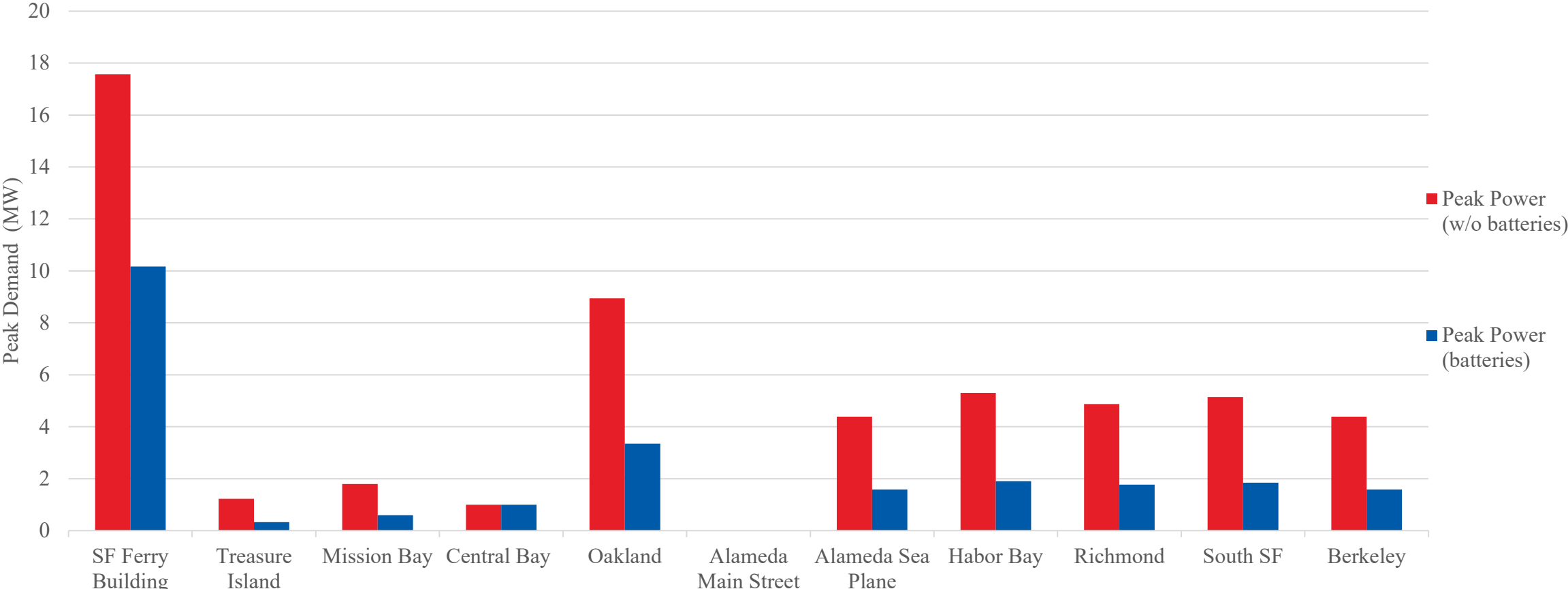
Optimal Timeline Used as Basis for Analysis



■ Diesel Vessel     
 ■ Battery Electric Vessel     
 ■ TBD (Future Technology, Alternative Fuel, Hydrogen)

# Terminal Demand & Capacities

Predicted ZEV Electrical Peak Demand & Batteries at Each Terminal vs. Grid Capacities



# WETA Long Term Electrification

“Transition ferry operations on San Francisco Bay to zero-emission vessels”

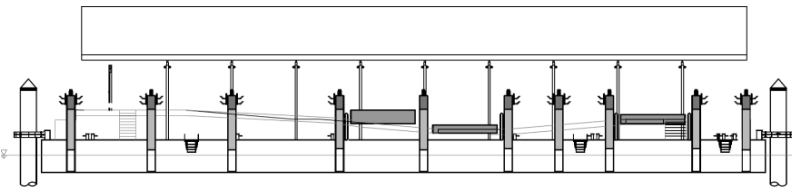
**Phases 1-3 will require:**



**6 x NEW & Converted Large Vessels**



**10 x NEW & Converted Medium Vessels**



**12 x NEW & Converted Charging Floats**

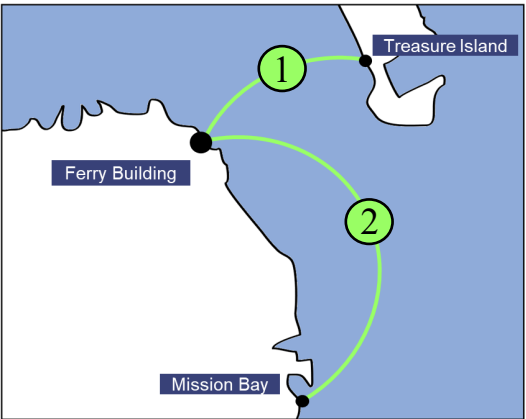


**5 x NEW Small Vessels**



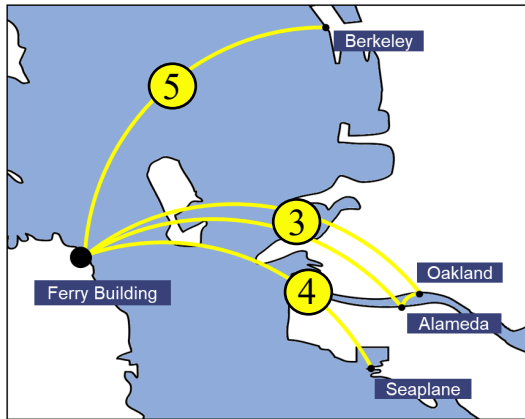
# Vessel Feasibility

Phase 1 – Inner Central Bay



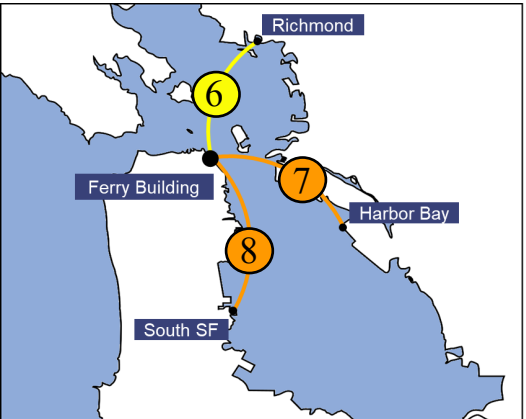
- ① Treasure Island
- ② Mission Bay

Phase 2 – Central Bay



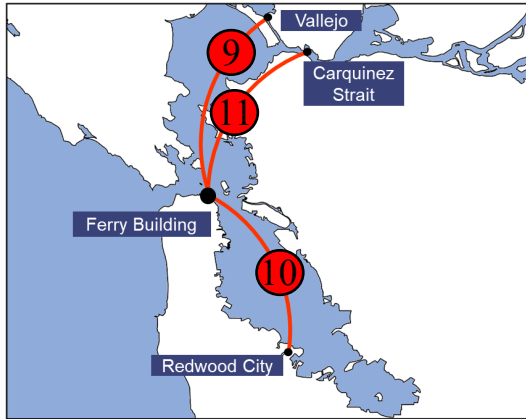
- ③ Oakland/Alameda
- ④ Seaplane
- ⑤ Berkeley

Phase 3 – Long Run Central Bay

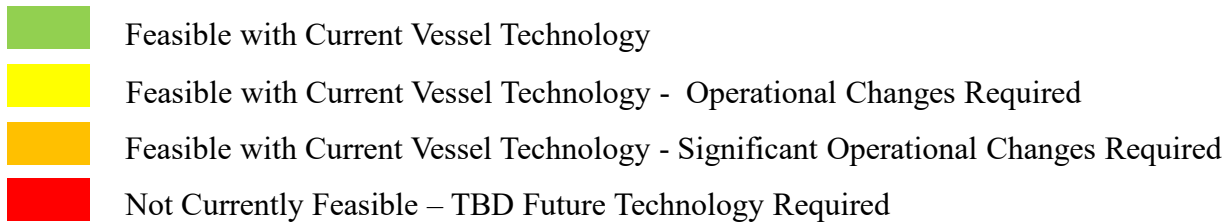


- ⑥ Richmond
- ⑦ Harbor Bay
- ⑧ South SF

Phase 4 – Long Runs



- ⑨ Vallejo
- ⑩ Redwood City
- ⑪ Carquinez



# Initial Phase 1&2 Projects



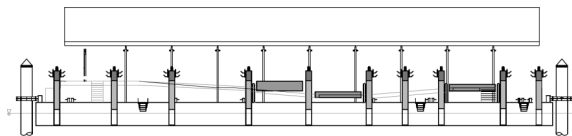
## 2 x NEW Large Vessels

Target Services: Alameda Seaplane and Oakland



## 3 x NEW Small Vessels

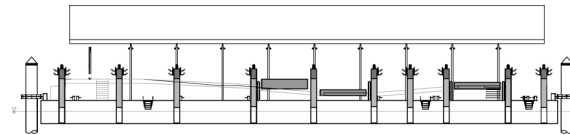
Target Services: Treasure Island & Mission Bay



## 1 x NEW Universal Charging Float

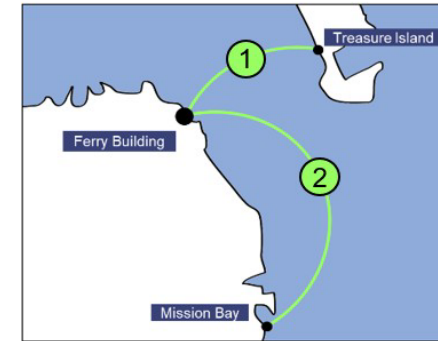
First downtown charging float

Designed to be future standard float configuration



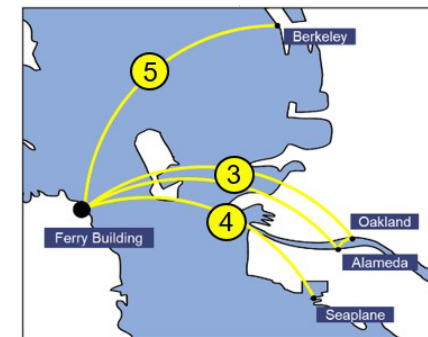
## 1 x CONVERTED Treasure Island Charging Float

### Phase 1 - Inner Central Bay



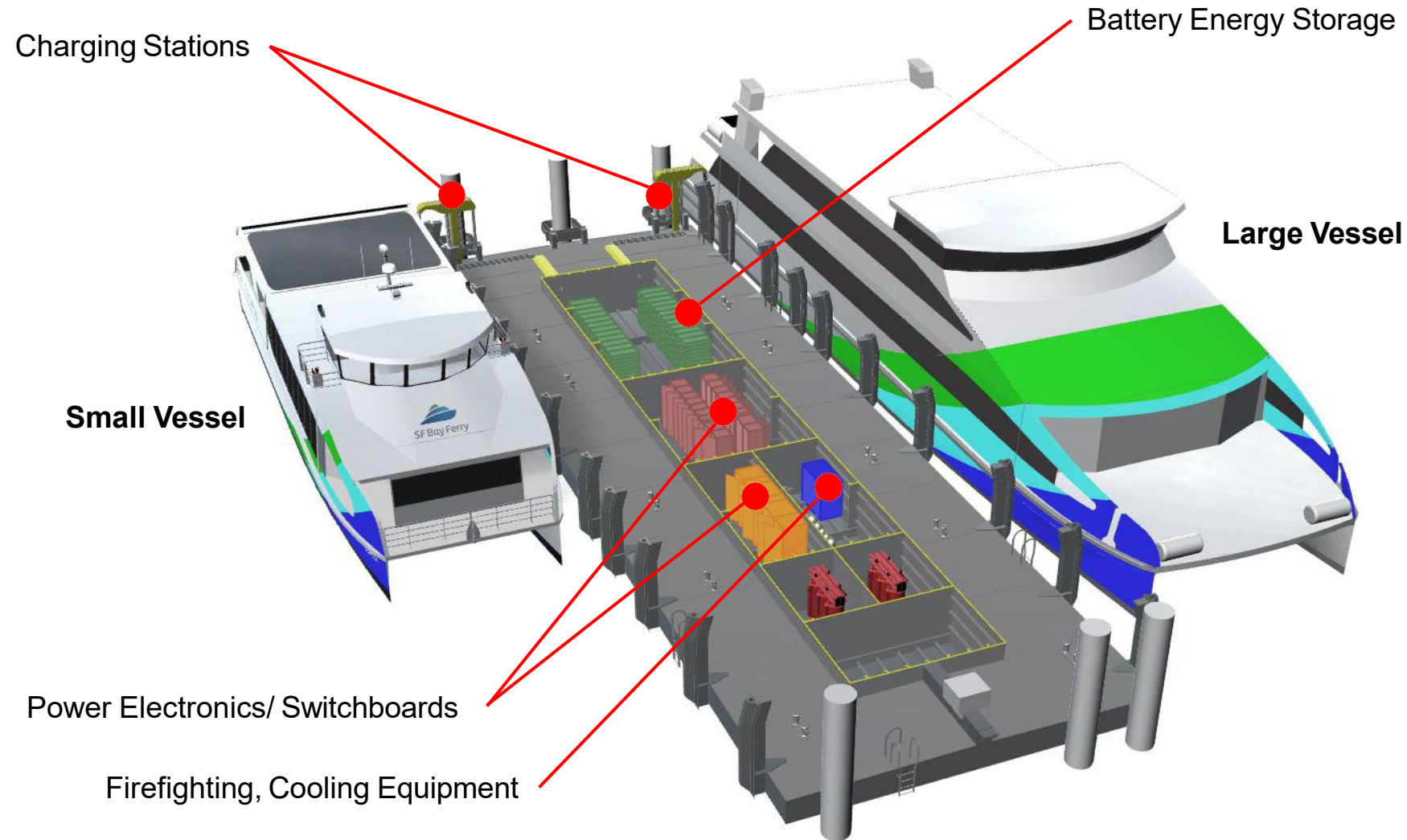
- 1 Treasure Island
- 2 Mission Bay

### Phase 2 - Central Bay



- 3 Oakland/Alameda
- 4 Seaplane
- 5 Berkeley

# Universal Charging Float





# Opportunity for Operating Cost Savings

Terminal electricity consumption was converted to equivalent diesel fuel use in the table below.

<b>Terminal</b>	<b>Consumption</b>	<b>Diesel Fuel Use Abated</b>	<b>Equivalent Cost of Fuel: Worst Case Electricity Tariffs</b>	<b>Equivalent Cost of Fuel: 30% Demand Charge Reduction with BESS</b>
	<i>(GWh/yr)</i>	<i>(Thousands of Gallons)</i>	<i>(\$/gal Equivalent)</i>	<i>(\$/gal Equivalent)</i>
<b>S.F. Downtown</b>	27.6	1840	5.54	4.29
<b>Treasure Island</b>	3.1	210	4.25	3.43
<b>Oakland</b>	8.7	580	7.76	6.26
<b>Alameda Seaplane</b>	7.1	470	3.42	2.99

# Current Construction Phase Timelines

<b>Small Vessel Construction Project (3 Vessels)</b>	
Q1 2024	Issue Construction RFP
Q2 2024	Begin Construction
Q3 2025	Vessel 1 Target Completion

<b>Large Vessel Construction Project (2 Vessels)</b>	
Q1 2024	Issue Construction RFP
Q2 2024	Begin Construction
Q3 2026	Vessel 1 Target Completion

<b>Universal Charging Float Construction Project</b>	
Q1 2024	Issue Construction RFP
Q2 2024	Begin Construction
Q1 2025	Universal Charging Float Target Completion

<b>Treasure Island Charging Construction Project</b>	
Q2 2024	Issue Construction RFP
Q3 2024	Begin Construction
Q3 2025	Treasure Island Charging Float Target Completion

Thank you