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Environmental Monitoring







United States
Environmental Protection
Agency

Code of
Federal
Regulations





CALIFORNIA
WATER BOARDS
State Water Resources Control Board

STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

California Ocean Plan
Santa Ana RWQCB Basin Plan




NPDES Permit
OC San Ocean Monitoring and Reporting Program

Core Compliance Monitoring
Regional Monitoring
Strategic Process Studies




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Ocean Monitoring Program



OC San must demonstrate:

- Safe to swim → Water quality monitoring

- Healthy ecosystem → Sediment and animal community monitoring

- Safe to eat fish → Fish health and tissue bioaccumulation monitoring


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Ocean Monitoring Program



- 185 square miles
- 167 sampling stations
- 103 – 110 sea days per year
- Travel nearly 3,000 miles per year

Ocean Team



M/V Nerissa



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Ocean Monitoring Program

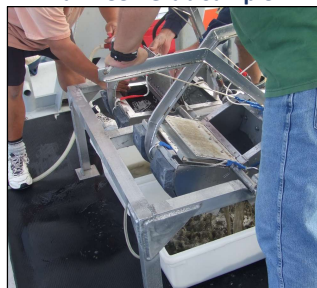


CTD Rosette



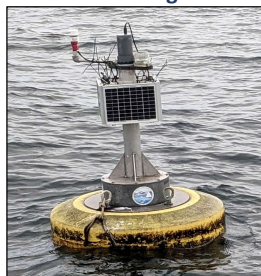
Water quality

Van Veen Grab Sampler



Sediment quality

Mooring



Oxygen and pH

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Ocean Monitoring Program



TRBM/ADCP



Profiling ocean current

Trawls



Benthic community

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Ocean Monitoring Program



Rig Fishing



Fish health



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Motor Vessel (M/V) Nerissa



- ✘ Will not meet CA Air Resources Board (CARB) regulations in 2026
- ✘ Overhaul will compromise hull integrity and is not cost-effective
- ✘ Unable to support expanding regulatory requirements

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Replacement Vessel



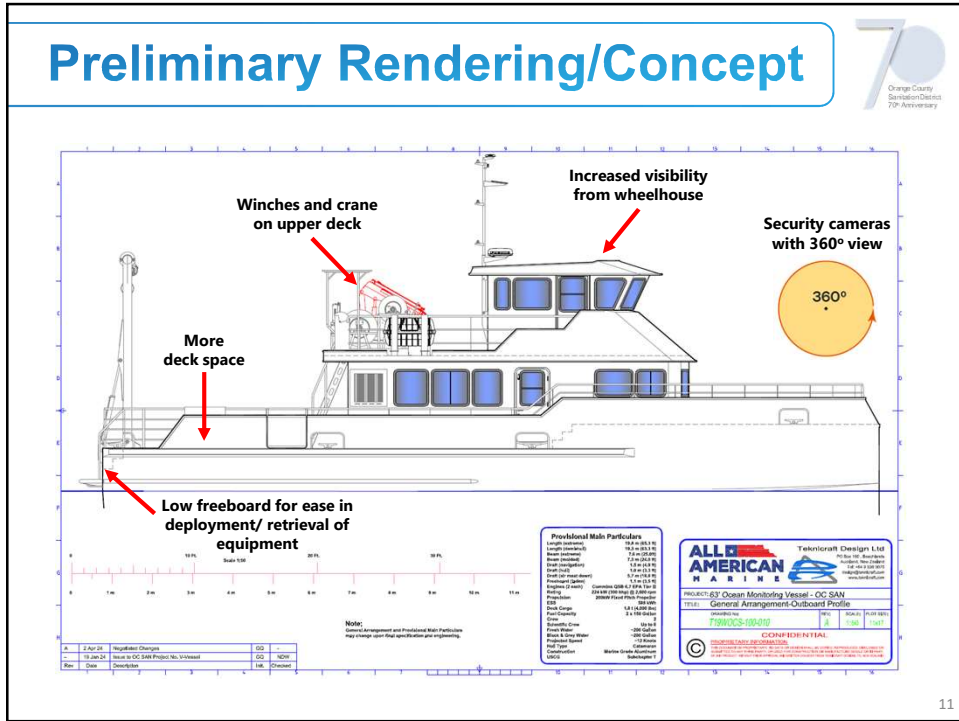
Similar Vessel: University of Hawaii Research Vessel



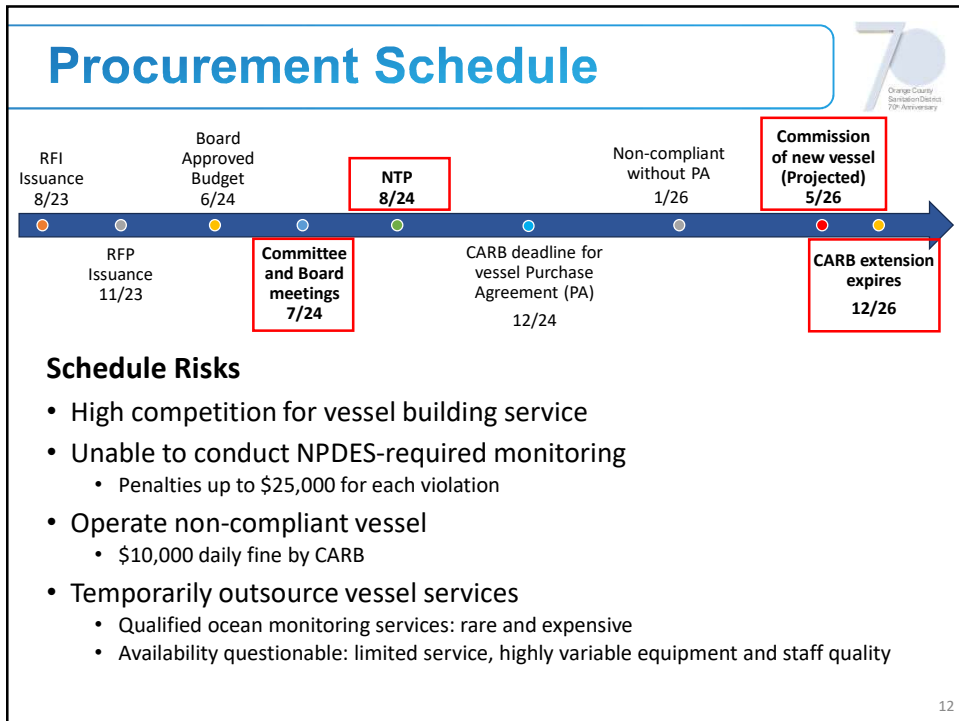
- ✔ CARB-compliant
- ✔ 65 feet long
- ✔ 25 feet wide
- ✔ Aluminum
- ✔ Catamaran design
- ✔ Plug-in hybrid system
- ✔ 30 years of estimated useful life

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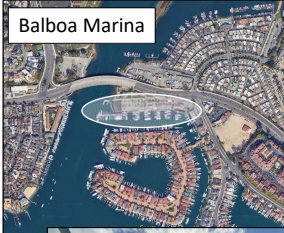






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End Tie for Replacement Vessel

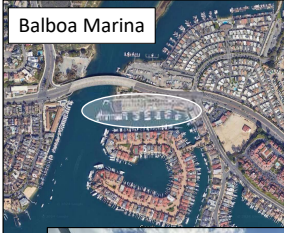






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Retiring M/V Nerissa

CARB Restrictions:
“Cannot sell, purchase, offer for sale, lease, rent, import, or otherwise acquire a new or in-use diesel engine intended to operate in California.”

Options

- Donate
- Auction
- Surrendered Vessel Program
- Salvage for parts



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Recommendation



Recommend to the Board of Directors to:

1. Approve an Agreement to Design and Build an Ocean Monitoring Vessel to All American Marine, Inc. (AAM) for the purchase of a 65-foot (overall length) aluminum catamaran design ocean monitoring vessel with a plug-in hybrid propulsion system for a total amount not to exceed \$9,206,149; and
2. Approve a contingency of \$920,615 (10%).

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Orange County Sanitation District
70th Anniversary

Questions?

1954 - 2024

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