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# Special Considerations For Handling Large Tankers

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Marine Superintendent, LNG Fleet  
Chevron Asia Pacific Shipping Pte Ltd

Hong Kong, June 2019

# Chevron Shipping Company



we are the center of expertise for the corporation's worldwide shipping & marine operations



# What we do



# What we do





# What we do



# What we do



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# What we do





# What we do





# LNG vessels



# LNG vessels





# LNG vessels



# LNG vessels





# LNG vessels



# LNG vessels





# LNG berthing



# LNG berthing





# LNG unberthing





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# Operations in the western region

El Segundo marine terminal



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# Operations in the western region

El Segundo marine terminal  
Richmond Long Wharf



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## Operations in the western region

El Segundo marine terminal  
Richmond Long Wharf  
Pacific Area Lightering





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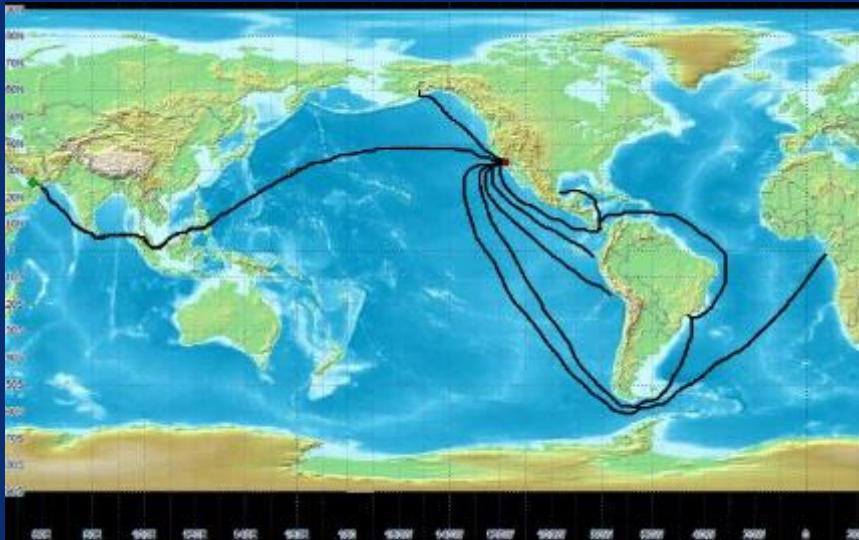
## El Segundo refinery, California

The marine terminal is a key part of the El Segundo refinery

The refinery receives approximately 70% of its crude feed stock from the marine terminal



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# El Segundo refinery, California

How crude oil gets to El Segundo

# El Segundo marine terminal



# El Segundo marine terminal

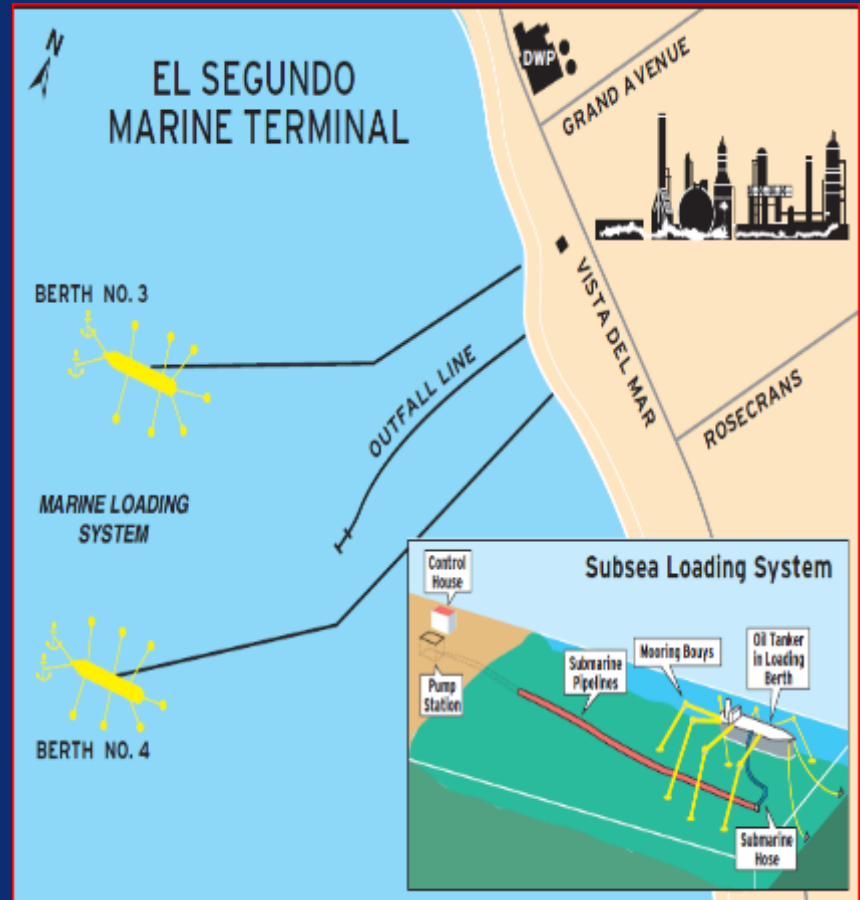
- Two berths located 1 mile offshore
- Close proximity to key recreational beaches and boating (high-visibility)
- Stringent local air-quality regulations
- Conventional 7 buoy mooring system
- Importing crude oil to support 280,000 BPD refinery production
- Importing and exporting fuel oils, gas oils, and clean products to support El Segundo and Richmond refinery operations
- Vessels range in size from 40,000 – 211,000 DWT



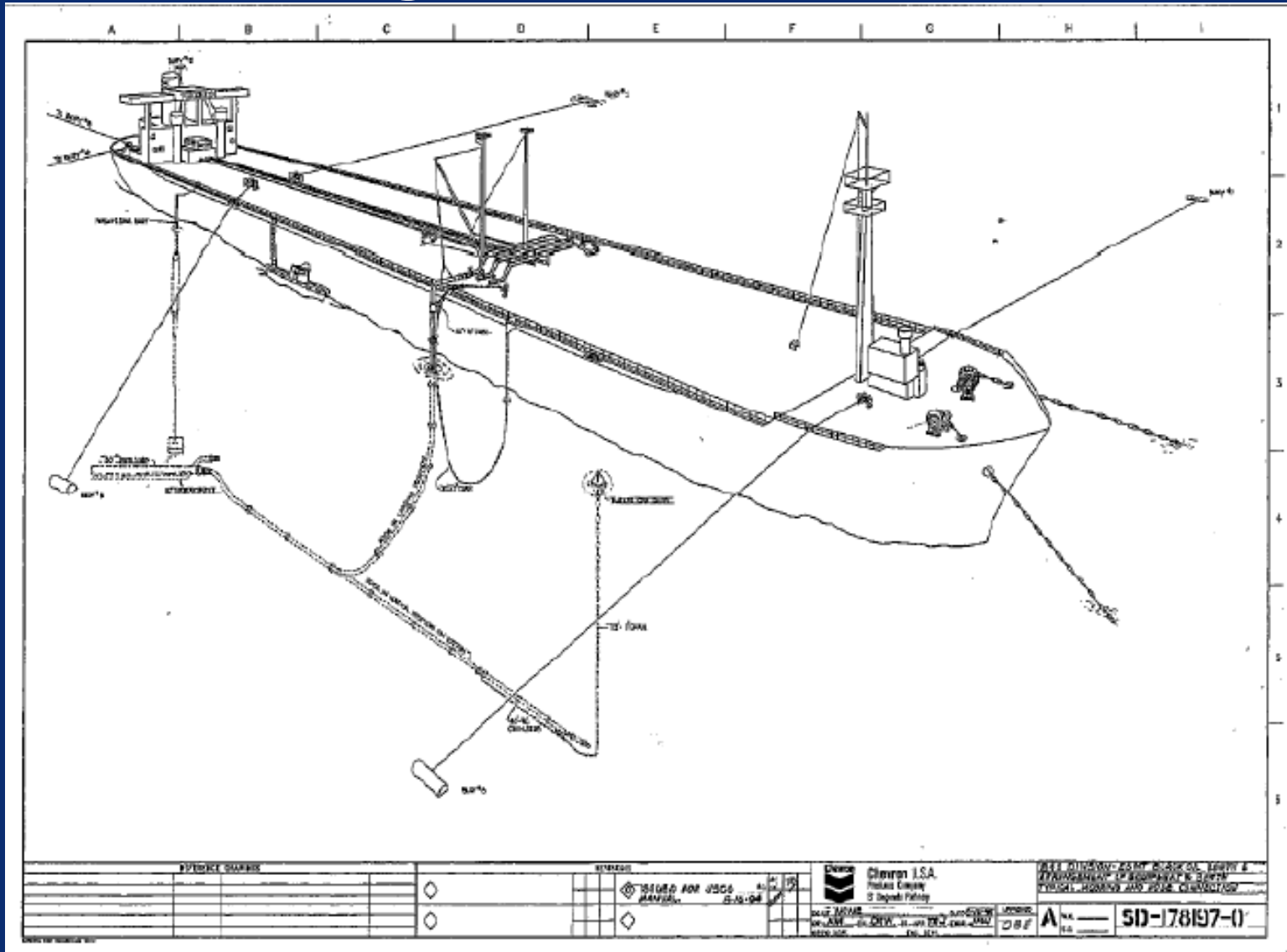


# El Segundo marine terminal

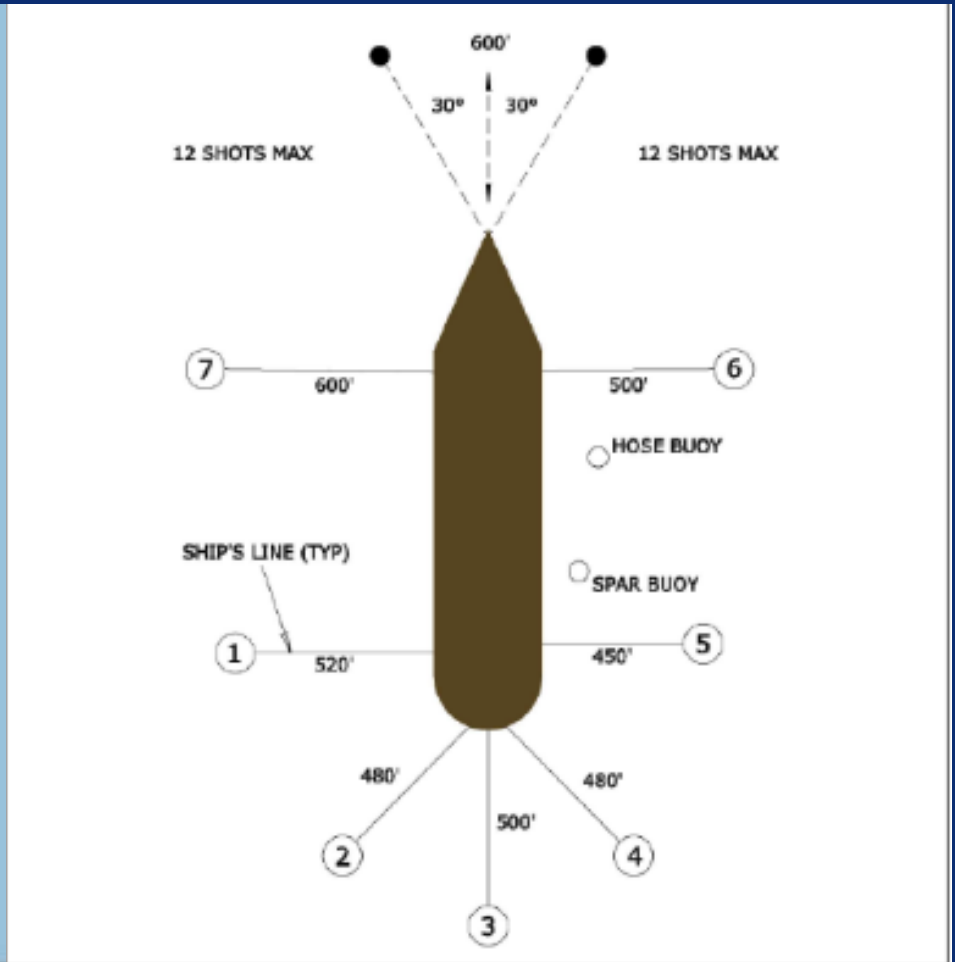
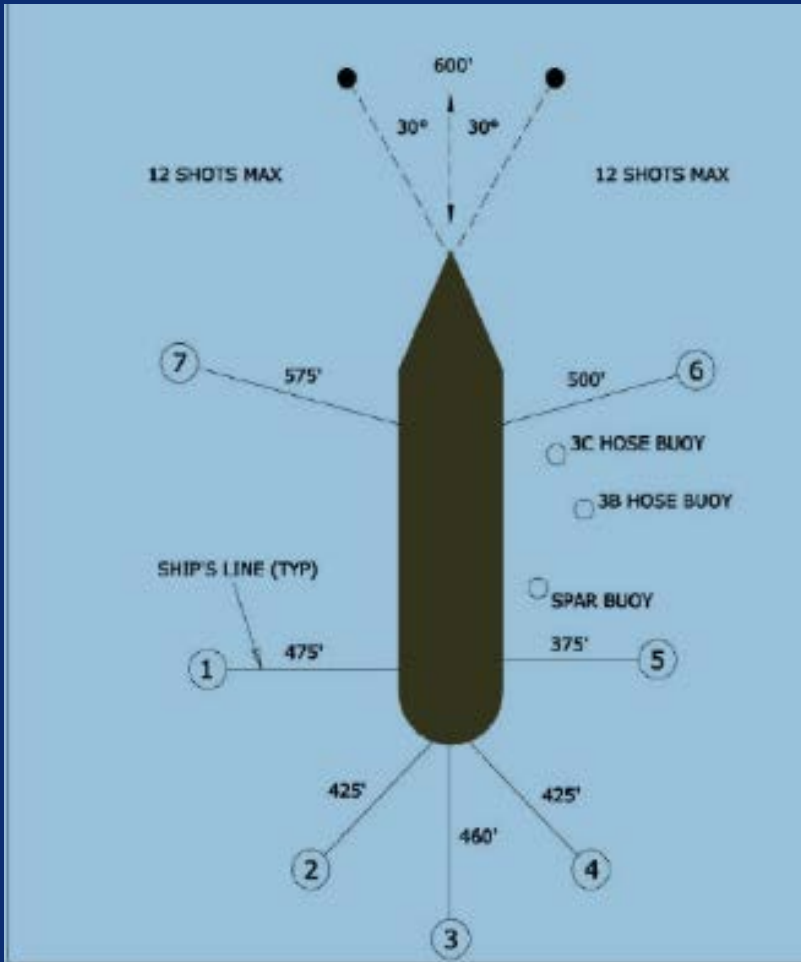
- 30 hours average vessel turnaround time
- Alliance partnerships with Foss and GAC for tug, launch and agent services
- U.S. Coast Guard designated Safety Zone
- Mooring Masters hold Federal pilotage endorsement.



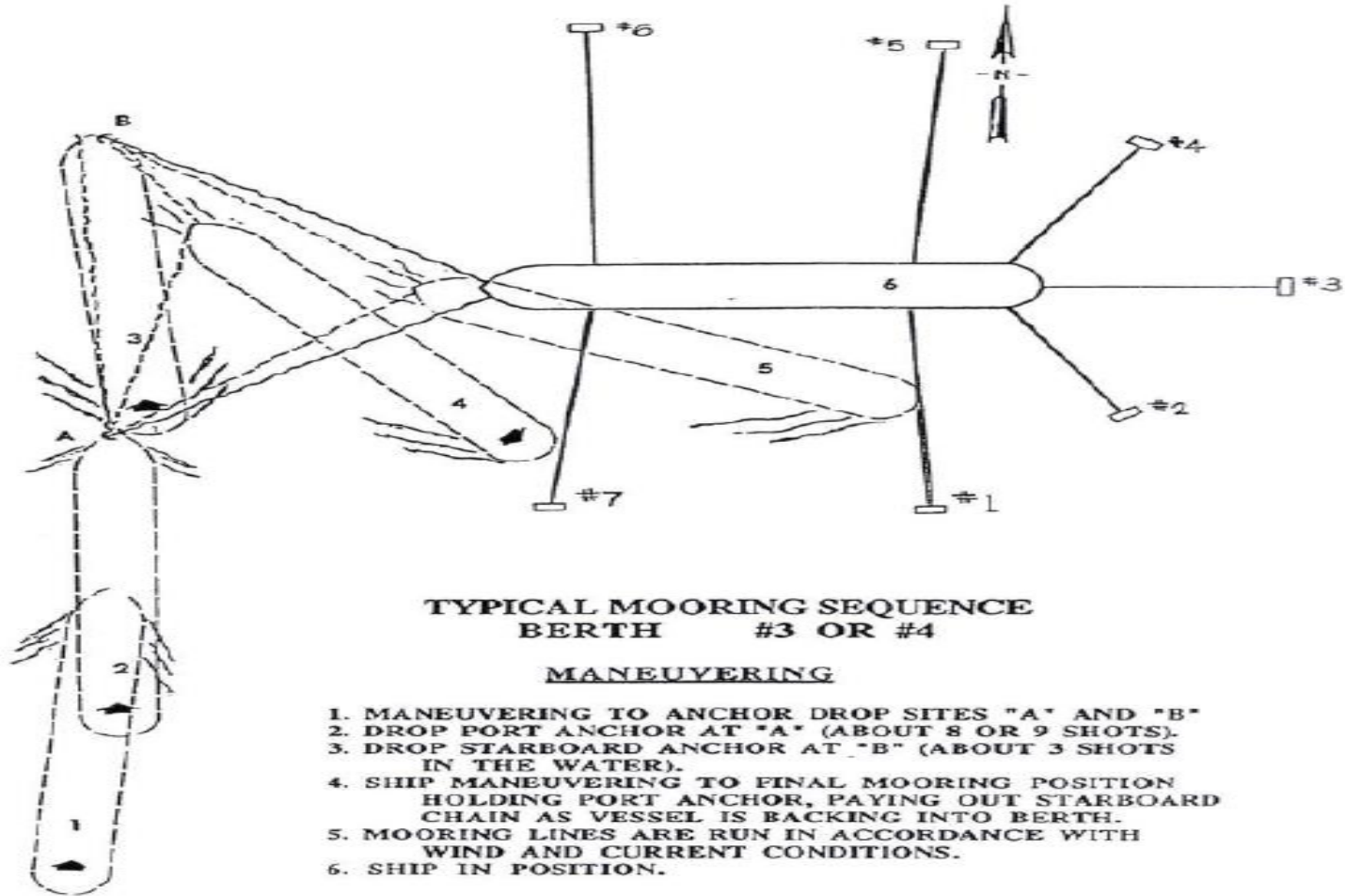
# El Segundo marine terminal



# El Segundo marine terminal



# El Segundo marine terminal





# El Segundo support vessels



Foss Tug Boat: Brynn Foss  
Length = 100 feet  
Horsepower = 4,700  
Bollard Pull = 55 tons



Foss Line Boat: Caribe Alliance  
Length = 64 feet  
Horsepower 850

# Ship to ship operations (STS)



# Ship to ship operations (STS)





# Ship to ship operations (STS)

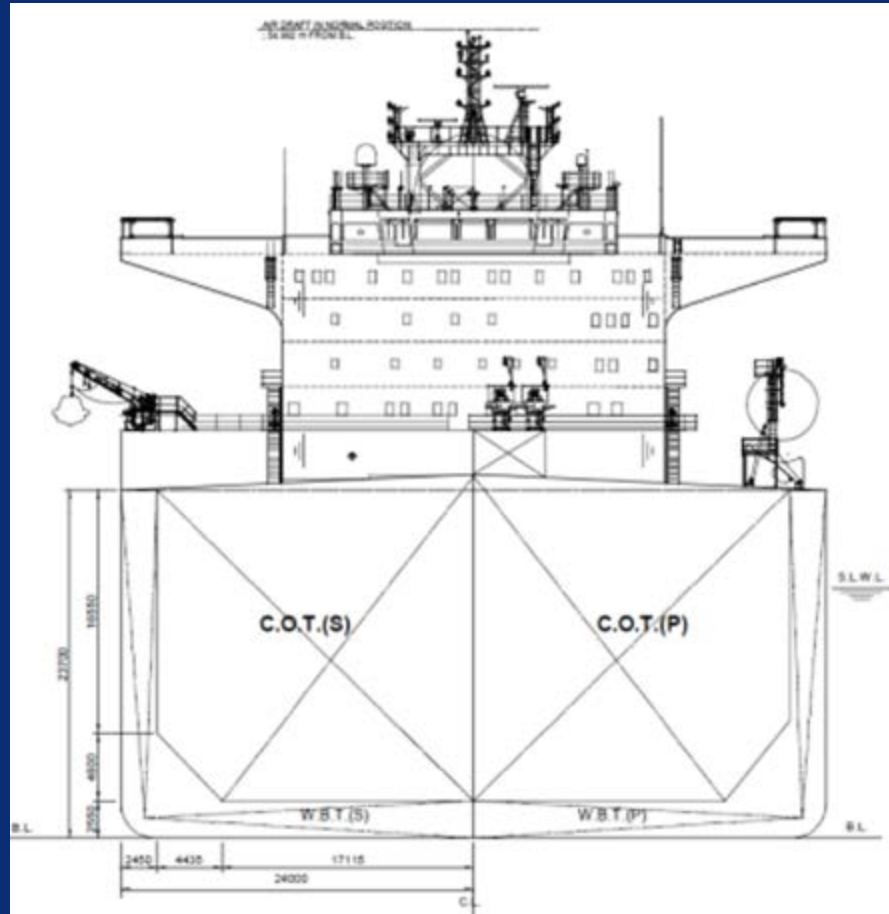




# Pacific Area Lightering ships

## Design features

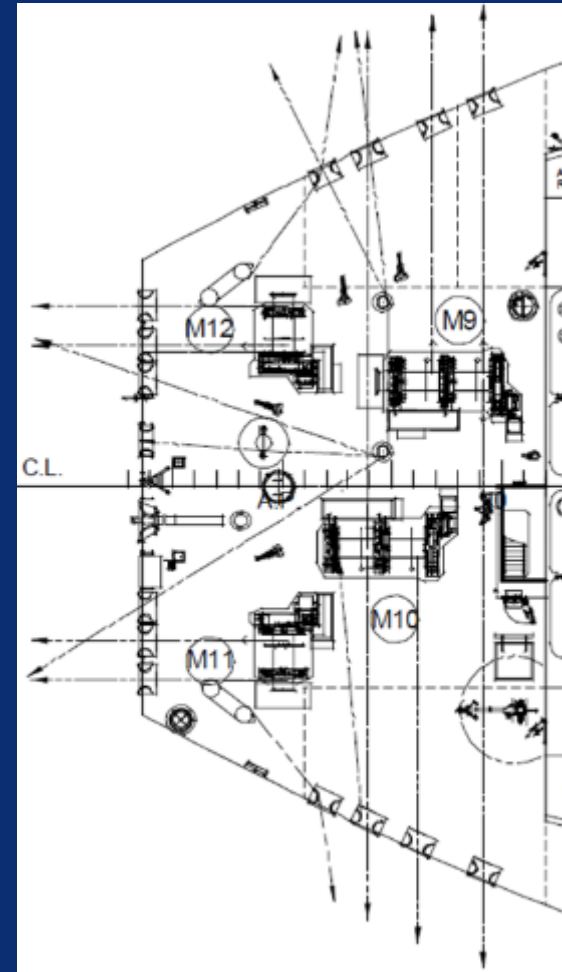
- Double Hull Construction
- Controllable Pitch Propeller
- Dual Bow Thrusters
- 4.5 m Fenders with Davits
- High Modulus Mooring Lines
- Mooring Line Load Sensors
- Quick Release Hooks
- PAL Personnel Transfer Crane



# Pacific Area Lightering ships

## Design features

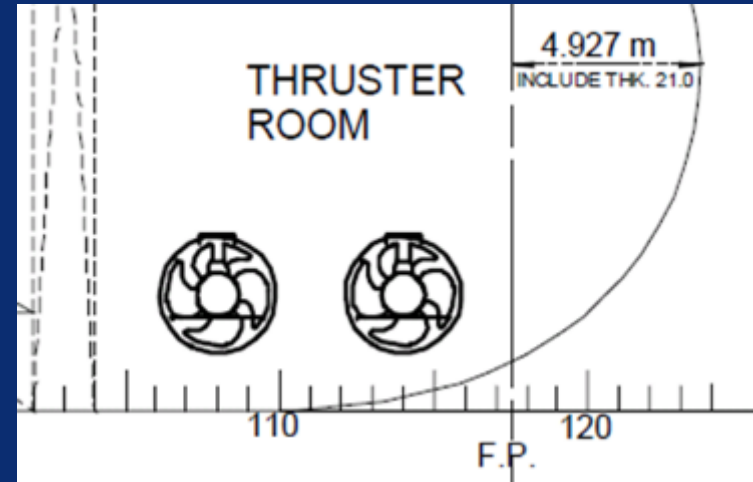
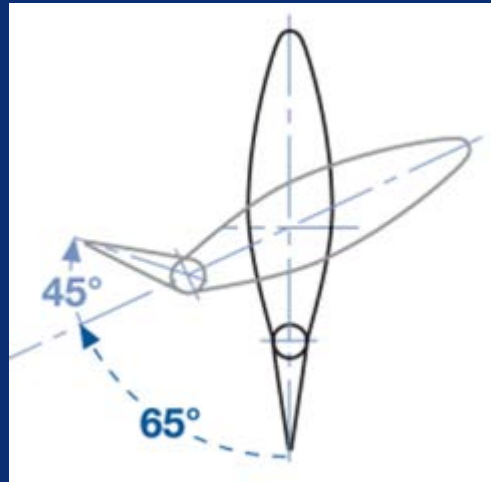
- Controllable Pitch Propeller
- High Lift Rudder
- Dual Bow Thrusters (6000 HP Total)



# Pacific Area Lightering ships

## Design features

- Additional Mooring Winches
- High Strength Mooring Lines
- Quick Release Hooks
- Large Radius Closed Chocks



# Ship to ship operations (STS)





# Ship to ship operations (STS)



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