



# Arrival of Post-Panamax Ship-to-Shore Cranes

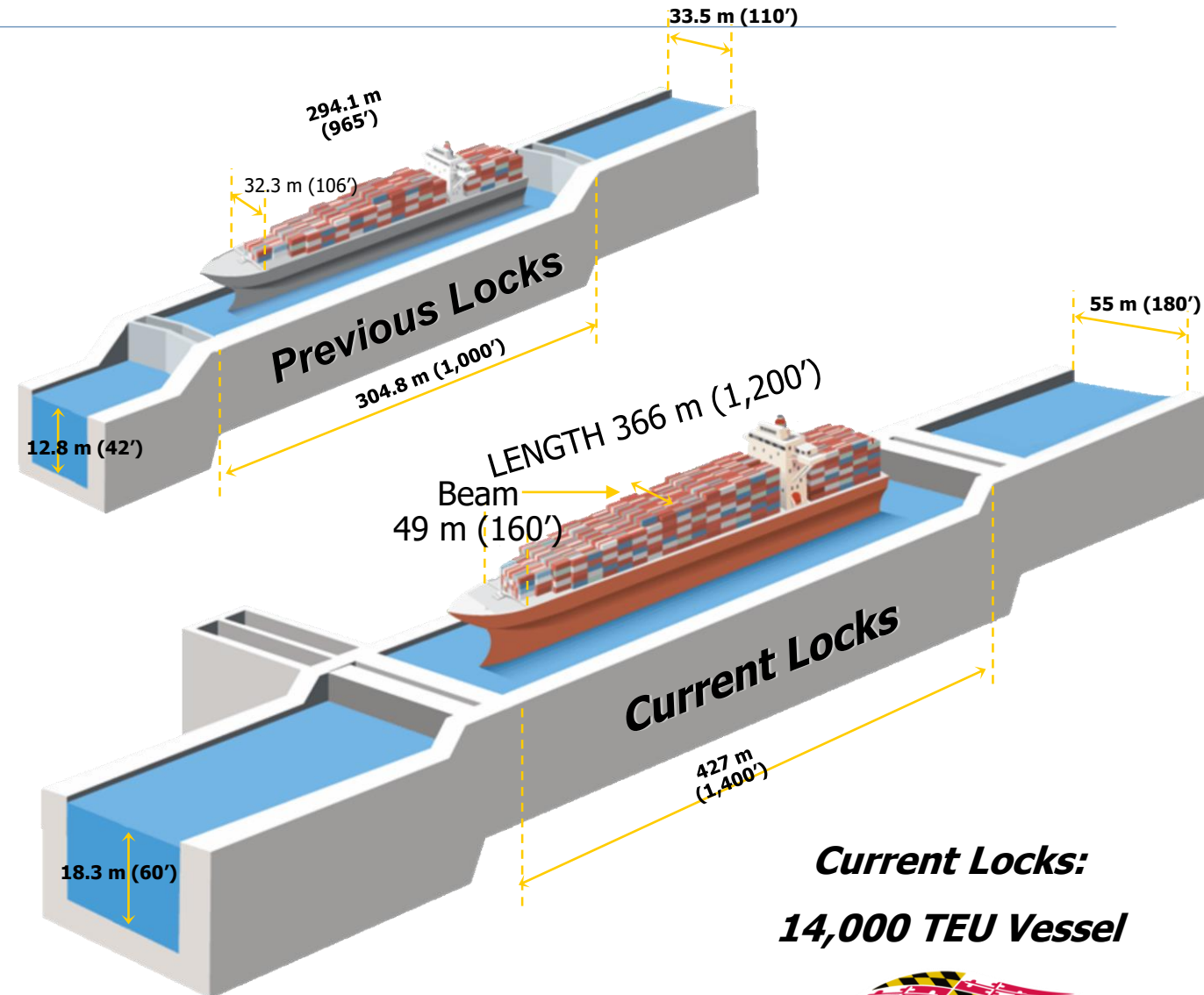


September 30, 2021

# Terminal Development

## The Panama Canal Expansion

- 2007 expansion began
- 2016 expansion completed
- Completed expansion enables 14K TEU vessels to US East Coast
- Marine Terminal Operators had to prepare wharf structures and procure larger Ship-to-Shore Cranes



# Terminal Development

## Staying Ahead of Panama Canal Expansion

### Berth Four Investment

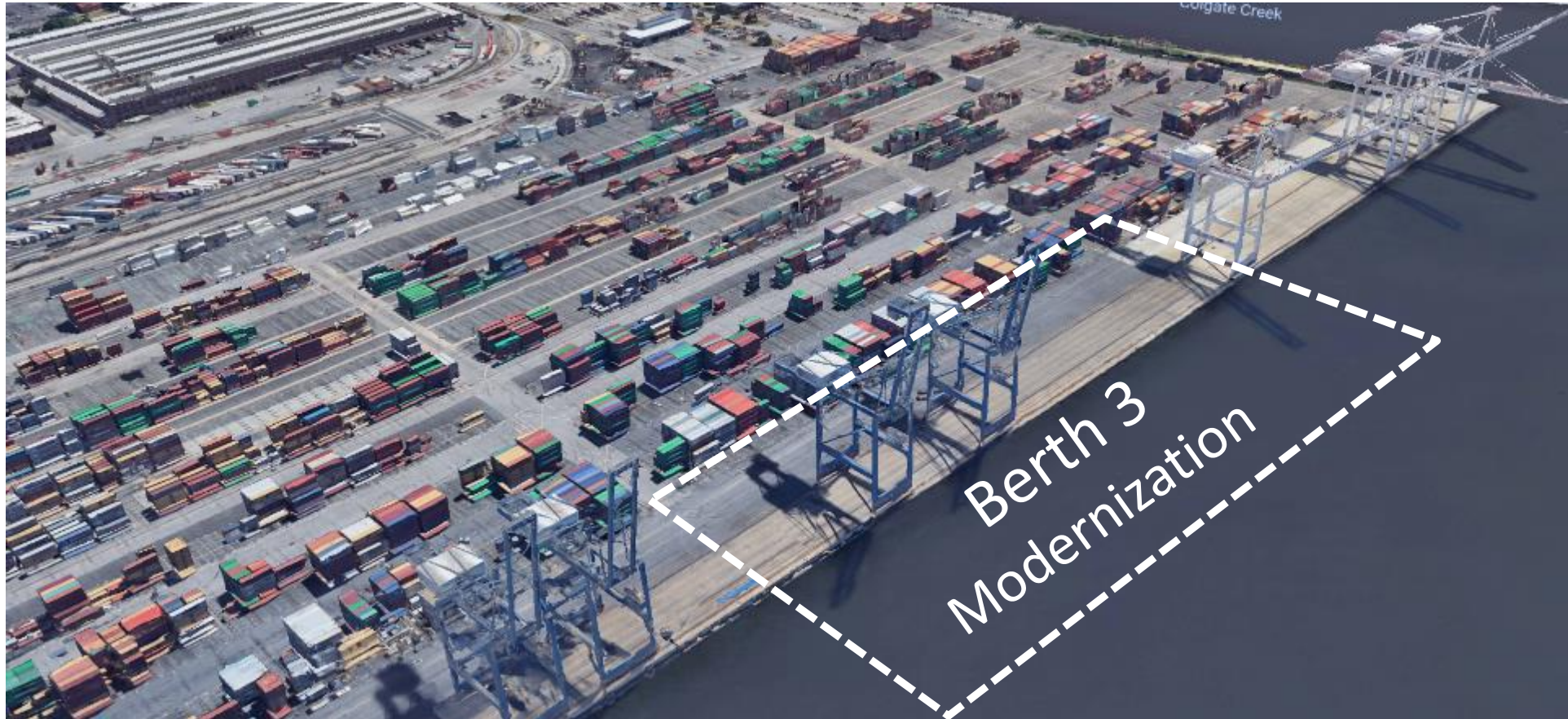
- \$105M to provided a 14K TEU Vessel Berth
- Channel & Berth dredging to -50'
- Wharf structure was constructed
- Four new Ship-to-Shore Cranes
  - Capable of 22 row across
  - Spreader height of 42 meters
- Completed in 2013 – successfully in operation with heavy utilization





# Terminal Development

## Wharf & Ship-to-Shore Operations





# Terminal Development

## High Berth Four Utilization & Larger Vessels

### Berth Three Investment

- \$116M Project will provide Seagirt with a second 14K TEU Vessel ready berth
- Planning began in 2018
- Planning & construction includes:
  - -50 Berth & Channel Dredging
  - Toe wall
  - Pile & Beam Maintenance
  - Wharf Strengthening
  - Mooring & Berthing Hardware
  - Medium voltage program – Energizing new STS Cranes
- Berth Three construction is underway



# Terminal Development

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## Berth Three - Phase 1 → Crane Transition

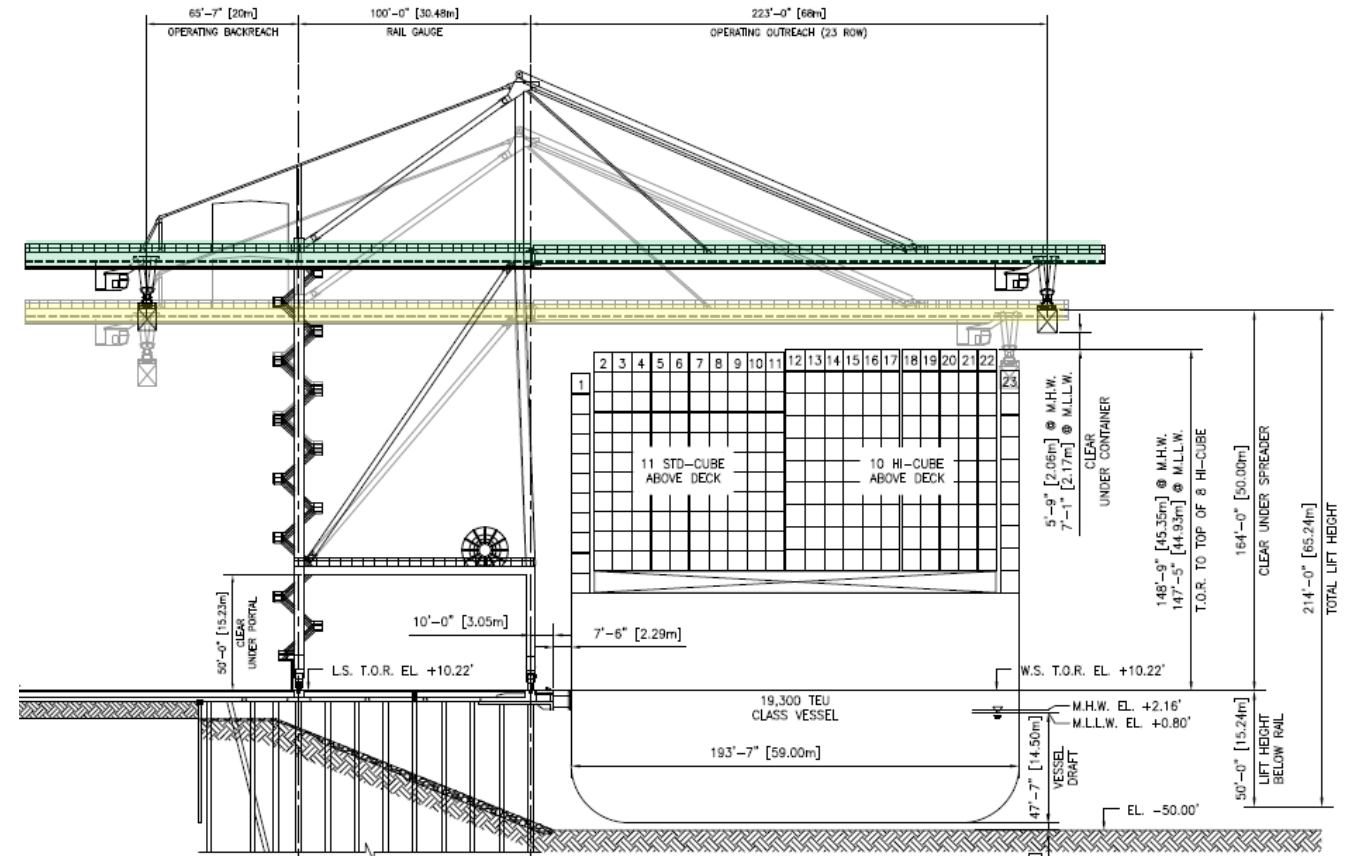
- 2012 Berth Four Cranes have transitioned to Berth Three
- PAC purchased four new STS Cranes for Berth Four
- Cranes arrived September 9th
- Crane off-load was completed September 20<sup>th</sup>
- ZPMC USA is erecting the cranes now
- Cranes will be energized in late November
- Commissioning will be in late January 2022



# Terminal Development

## New Ship-to-Shore Cranes

- Capable of 23 row across
- Spreader height of 50 meters (~25 feet taller)
- Scalable capabilities – Larger vessels

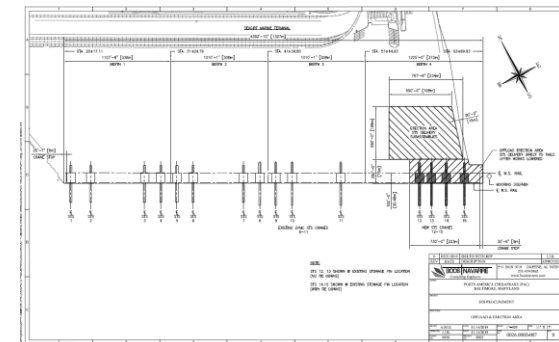
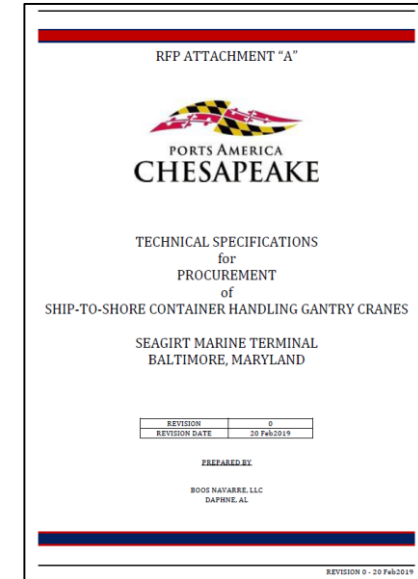




# Terminal Development

## New STS Crane Purchase

- November 2018, PAC signed an agreement with Boos Navarre
- Created Specifications in early 2019 & issued a RFP in February 2019
- Clarification Meetings
- PAC selected ZPMC and executed an agreement in October 2019

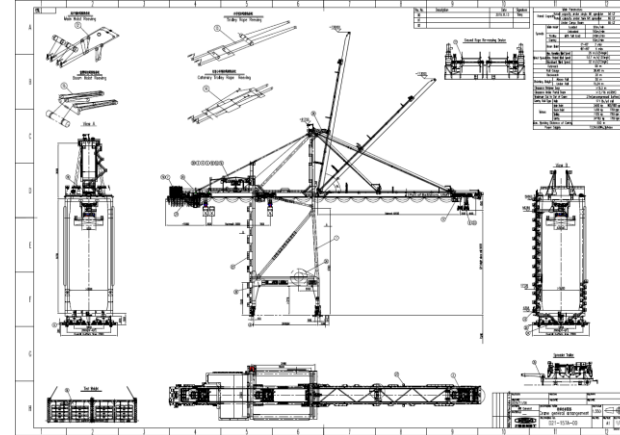




# Terminal Development

## Design & Fabrication

- Restricted travel → Remote design review
- Focus on quality using third-party inspection agency
- April 2020, fabrication begins
- October 2020, Cranes erected at ZPMC



Description: Portal beam #1 is in 4-side fit-up process

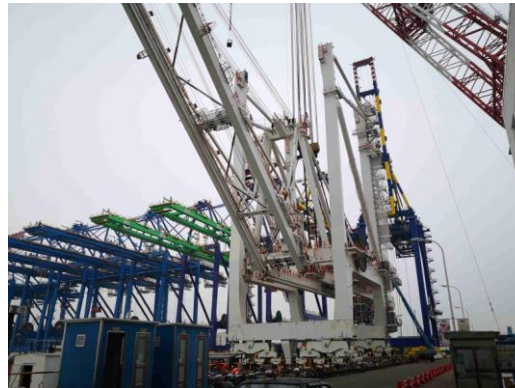


# Terminal Development

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## Commissioning & Loading

- Full Crane operations are tested before being lowered
- Crane booms are raised to 80° and loaded on the Zhen Hua 24
- Zhen Hua 24 departs in Mid-June for the sixty day transit



# Terminal Development

## Zhen Hua 24 Route & Arrival

- Coordination of arrival
- Zhen Hua 24 arrives in Annapolis on September 4<sup>th</sup>
- Cranes booms are lowered to 20°
- Zhen Hua 24 departs Annapolis on September 9<sup>th</sup> for Seagirt

Marine Terminal Berth Four

