

Rota West Harbor Master Plan (CPA-RS-001-15)

Commonwealth Ports Authority Commonwealth of the Northern Mariana Islands ATOSSCOM 2018

August 1, 2018



Welcome & Introductions

- CNMI government and CPA representatives and other distinguished guests
- Moffatt & Nichol – port planning and engineering consultant to CPA
- Pacific Engineering Group & Services – civil engineering and local coordination



Rota West Harbor Master Plan

Meeting Agenda

- Welcome and introductions
- Public & Stakeholder Comments
- Scope of Master Plan
- Condition report
- Findings
- Master Plan recommendations
- Construction cost and phasing plan



Photo By: Micronesian Environmental Services

Rota West Harbor Master Plan

Rota West Harbor Master Plan Public & Stakeholder Comments

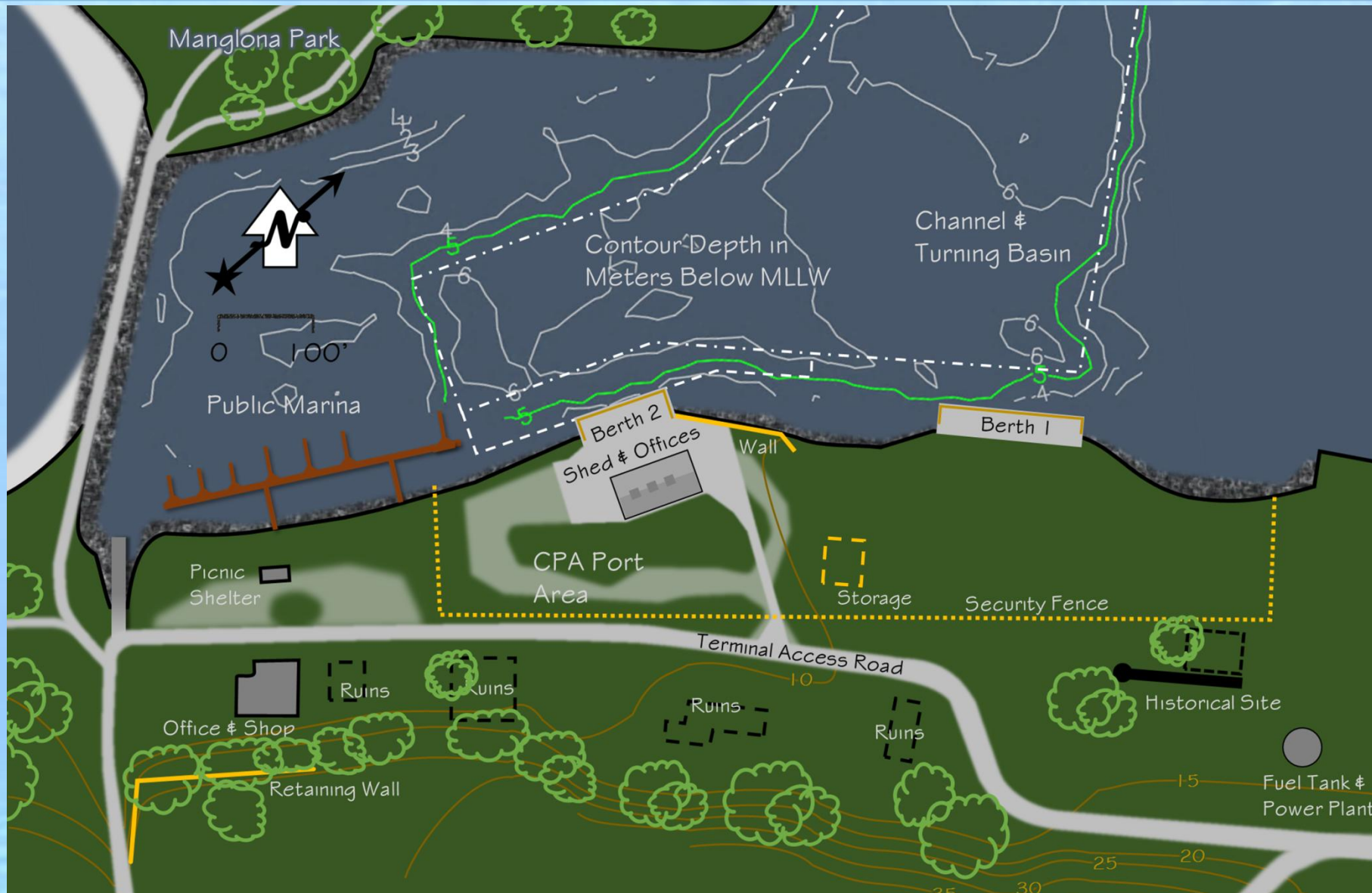
- Reliable & safe cargo delivery
- Channel & breakwater improvements
- Limitations of existing crane
- Unregulated/Uncontrolled offloading of cargo at small boat marina
- Facilitating safe offloading of cargo from light vessels
- Maintaining public access to harbor



Rota West Harbor Master Plan Scope

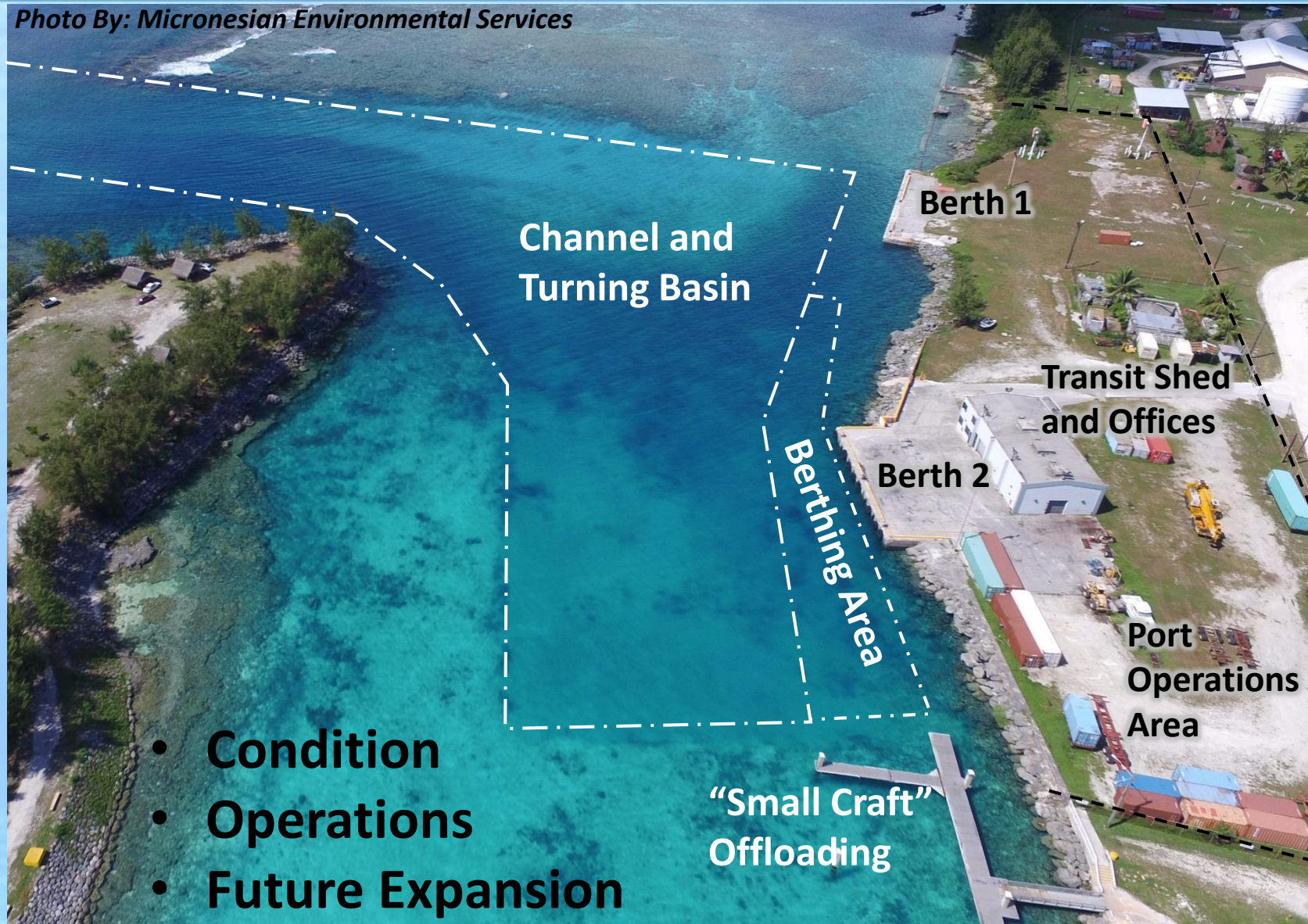
- Define the issues
- Document the physical conditions
- Forecast the need
- Develop solutions
- Devise an implementation plan
- Consider the costs
- Present the plan





Rota West Harbor General Site Plan

Photo By: Micronesian Environmental Services



- Condition
- Operations
- Future Expansion



Rota Commercial Harbor

► **Berth 1:** Quay wall corrosion, loss of backfill, missing fenders, damaged cap beam, debris and shoaling



► **Berth 2:** Quay wall corrosion, loss of backfill missing fenders

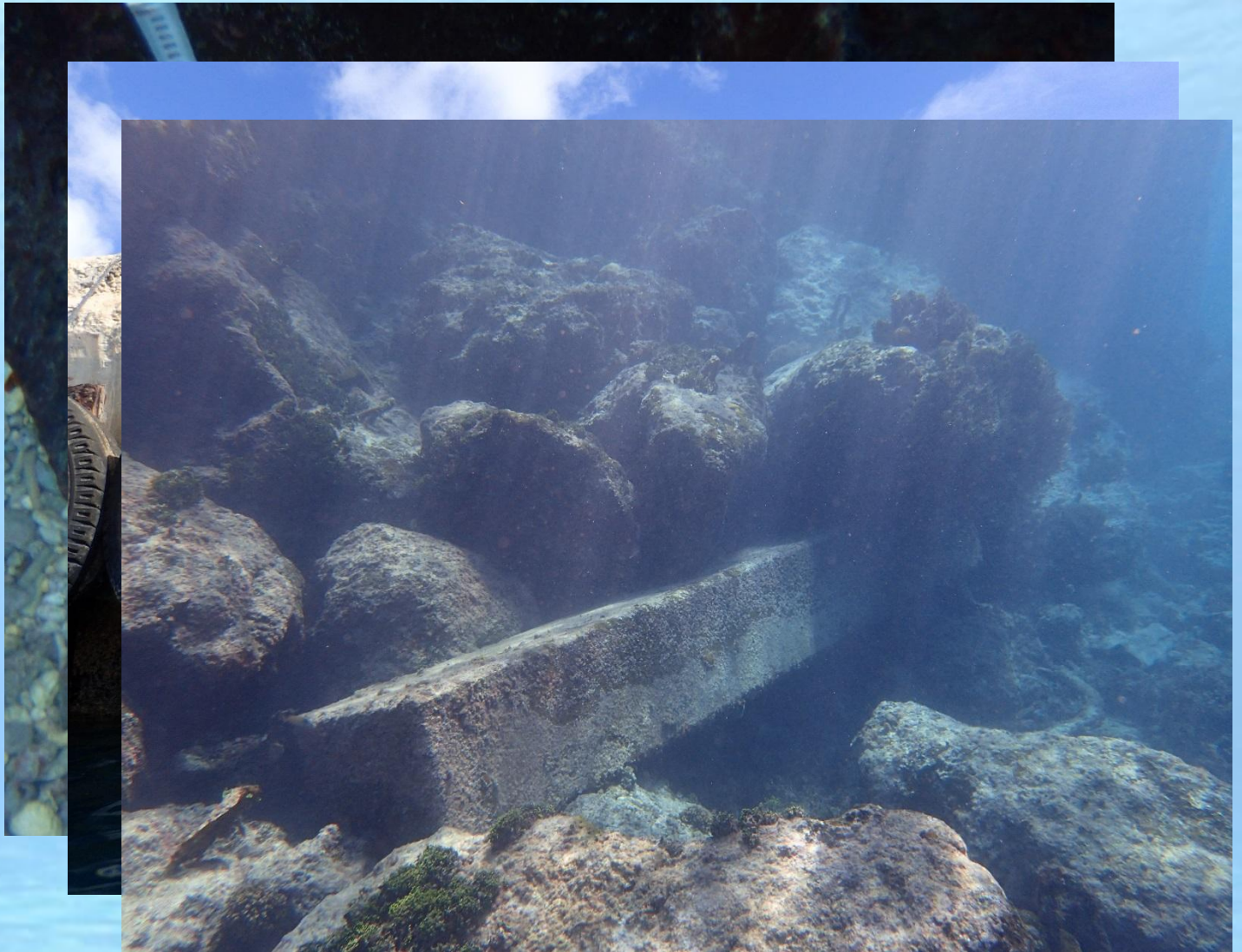


Photos By: Moffatt & Nichol, October 2016



Rota West Harbor Berth Condition

- Sheet pile corrosion & loss of backfill
- Missing fenders & eroded cap-beam
- Debris and shoaling



Photos By: Moffatt & Nichol, October 2016



Rota West Harbor Berth 1 Condition

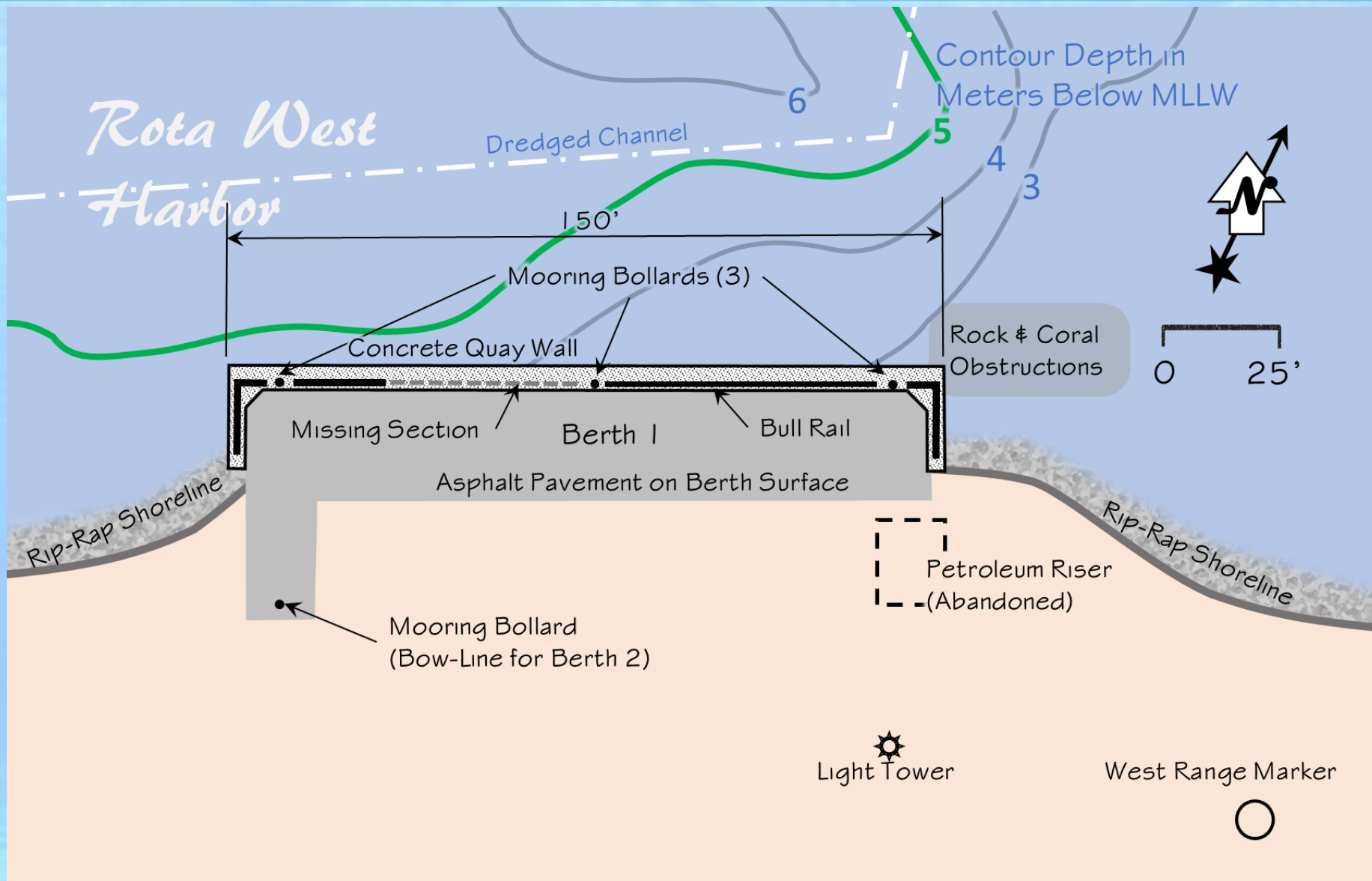
- Quay wall corrosion
- Loss of backfill
- Lack of Fendering



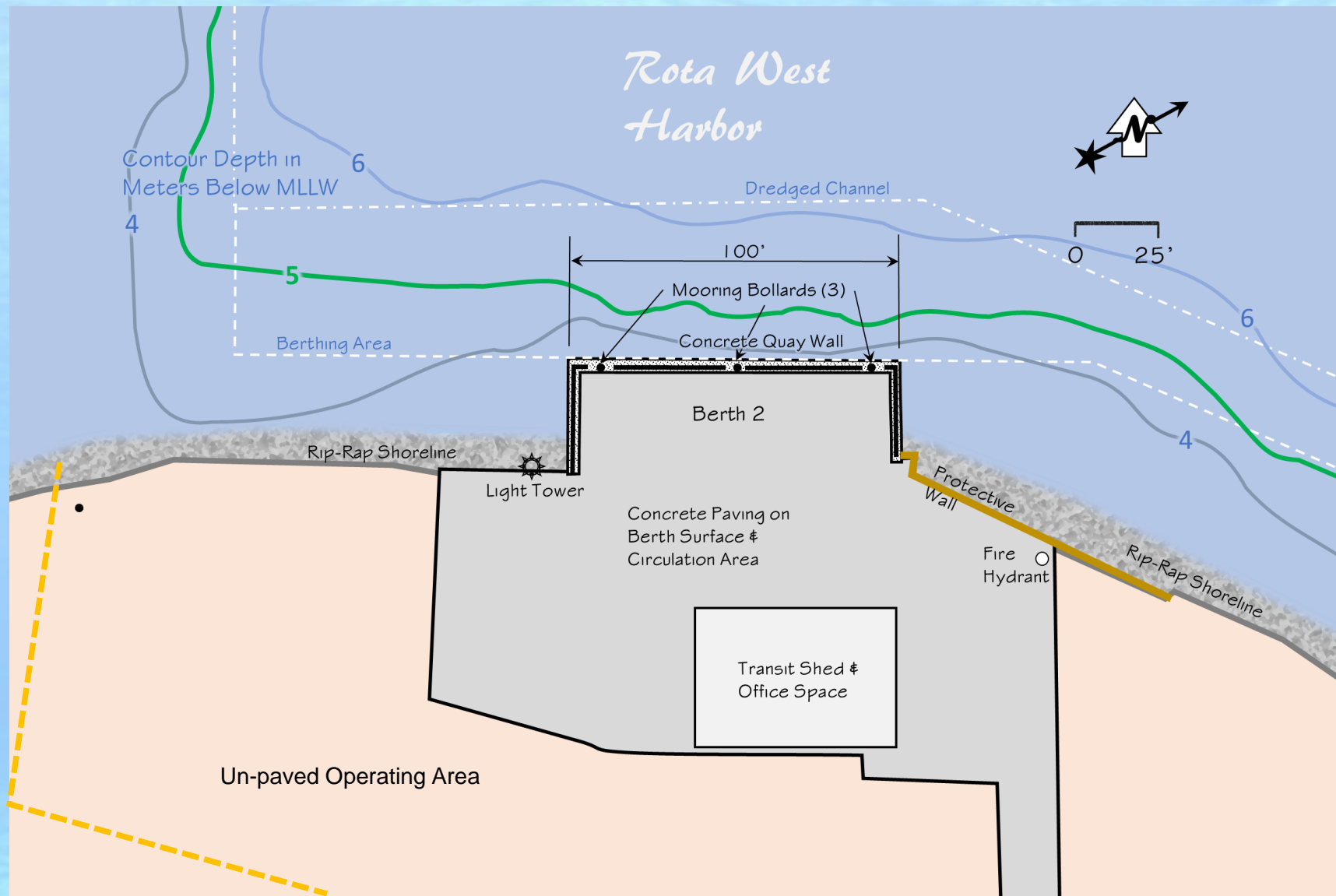
Photos By: Moffatt & Nichol, October 2016



Rota West Harbor Berth 2 Condition

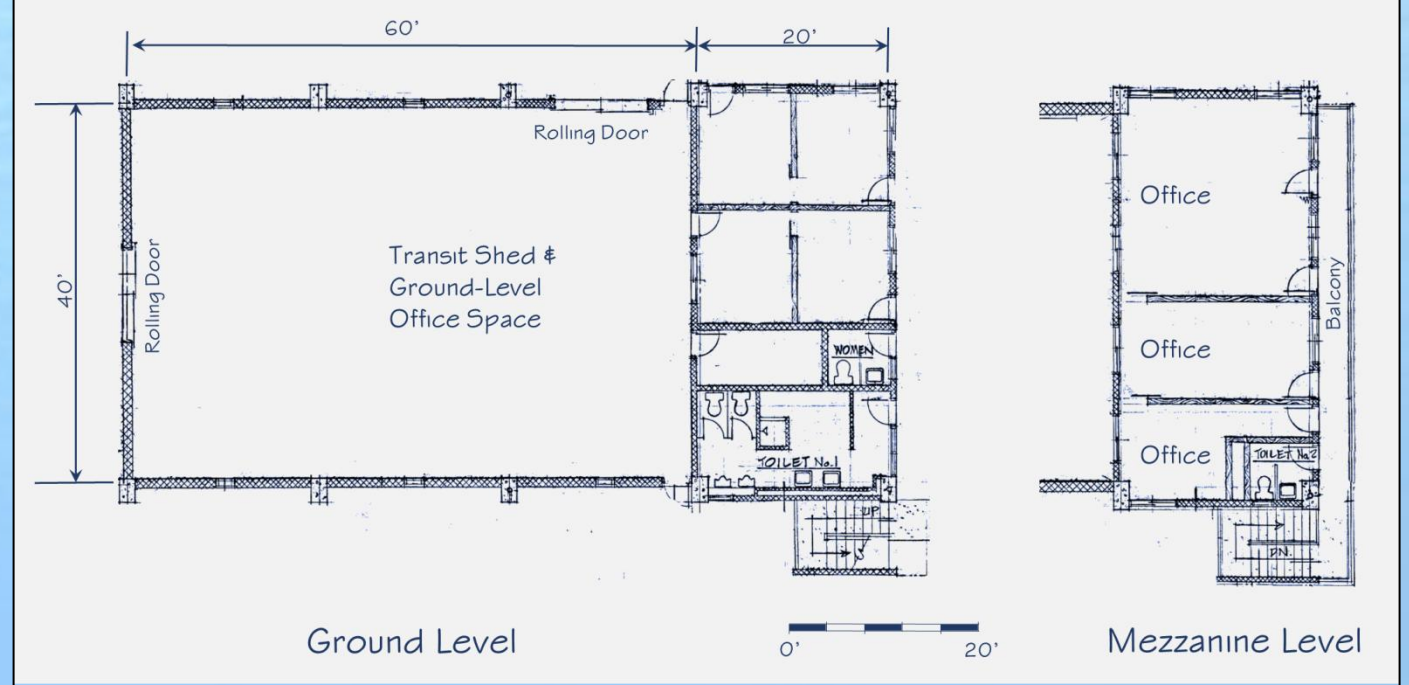
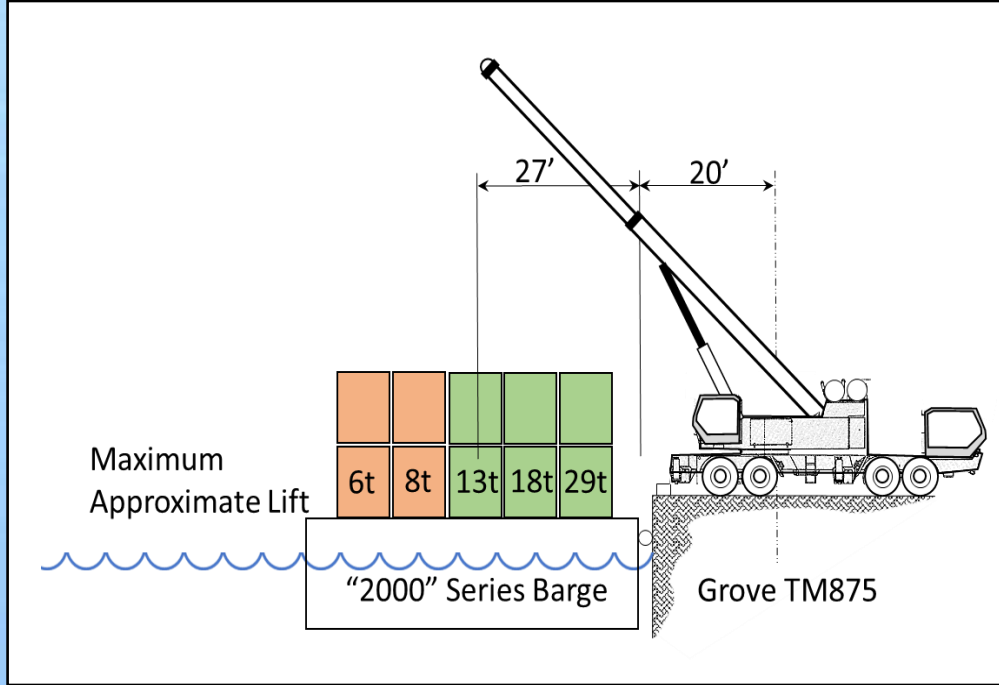


Rota West Harbor Berth 1 Operation

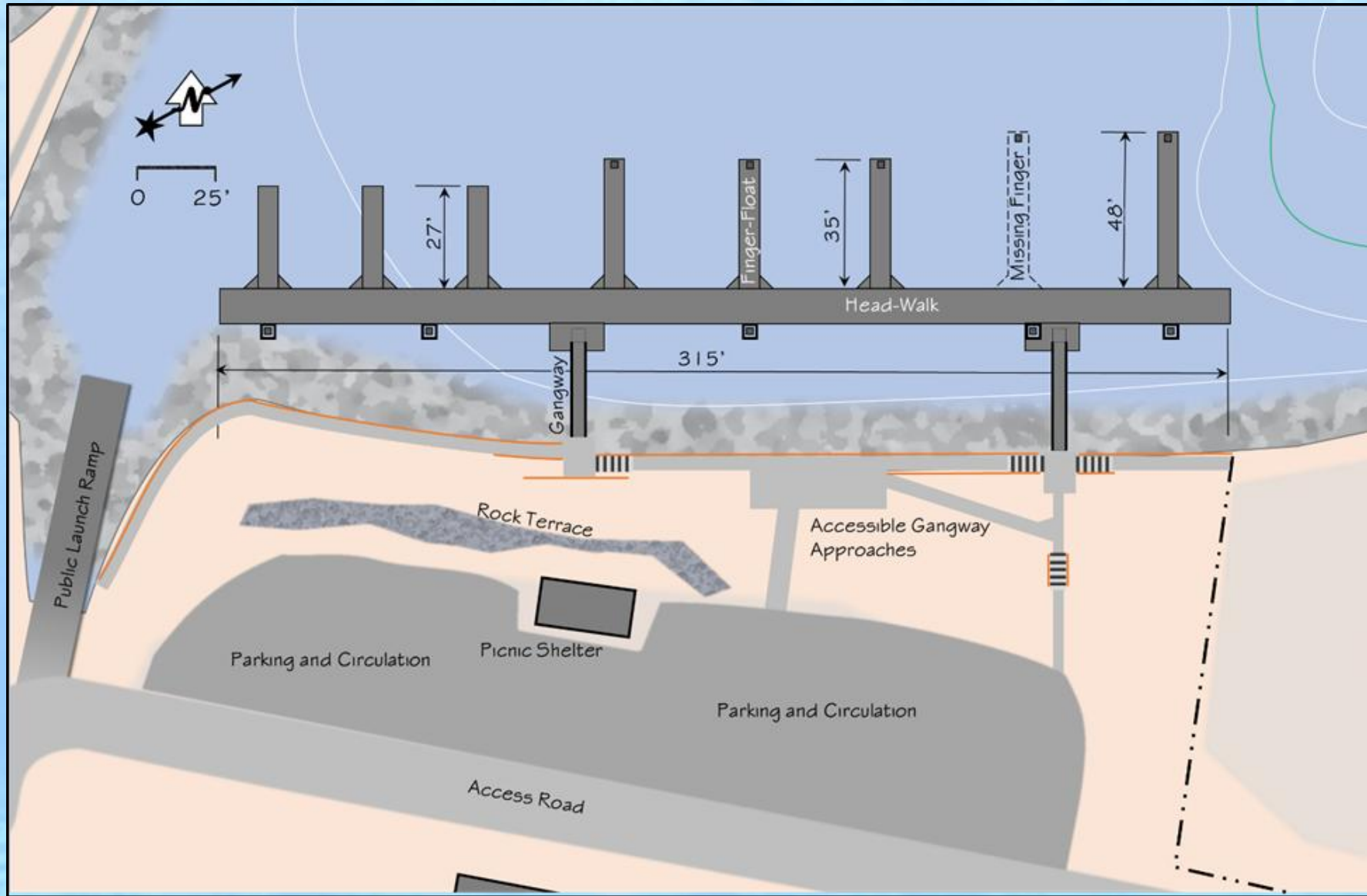


Rota West Harbor Berth 2 Operation



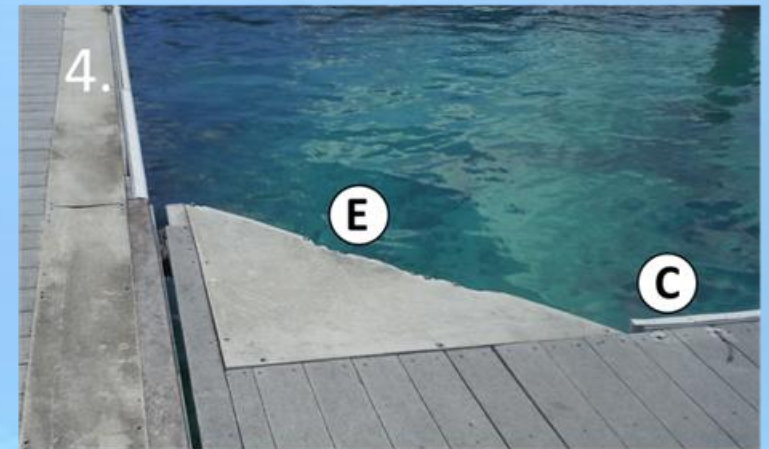
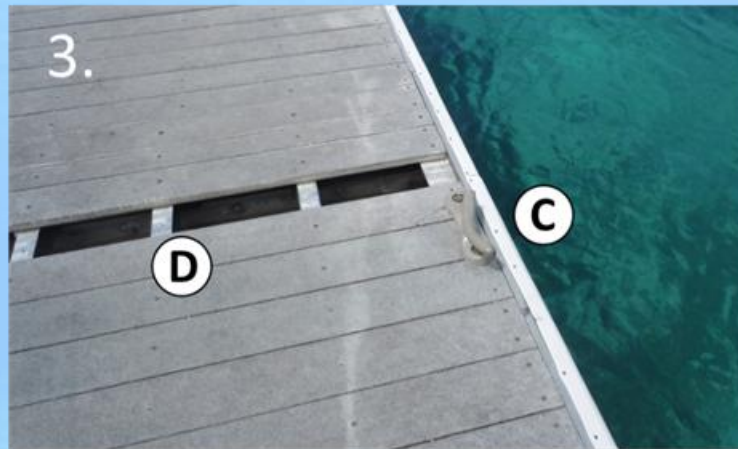
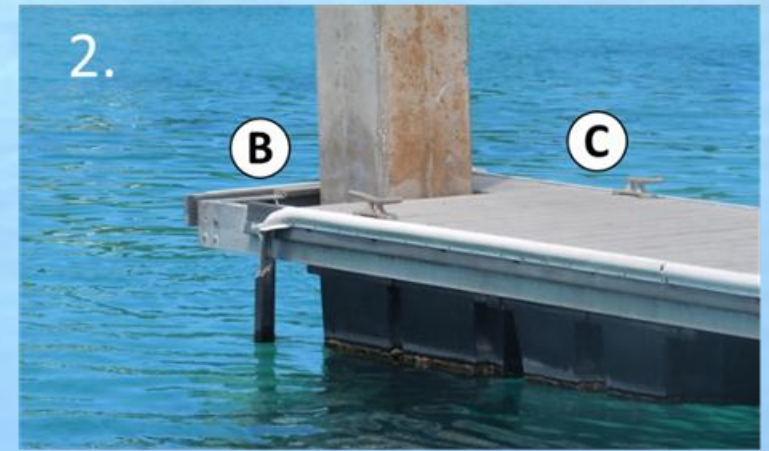
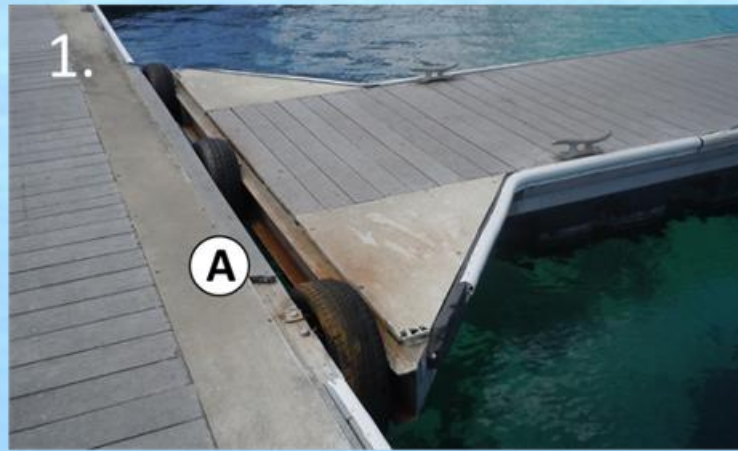


Berth 2 Operation



Rota West Harbor Public Facilities

- A. Separated Finger-Float Connection
- B. Broken Pile Guide
- C. Damaged Fenders
- D. Missing Deck Boards
- E. Damaged Wing Gusset



Photos By: Moffatt & Nichol, October 2016



Rota West Harbor Public Facilities Condition



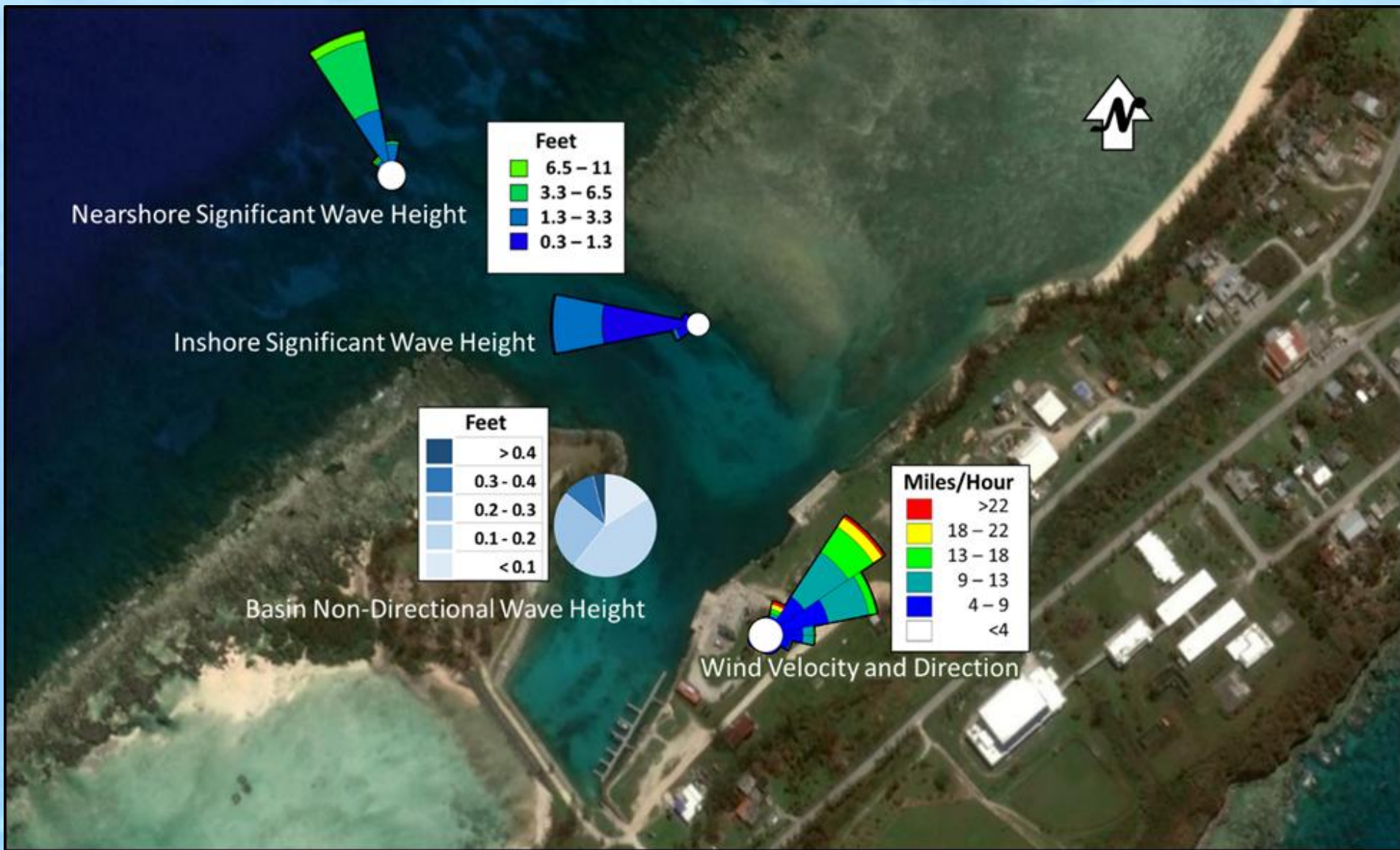
Tug Chamorro



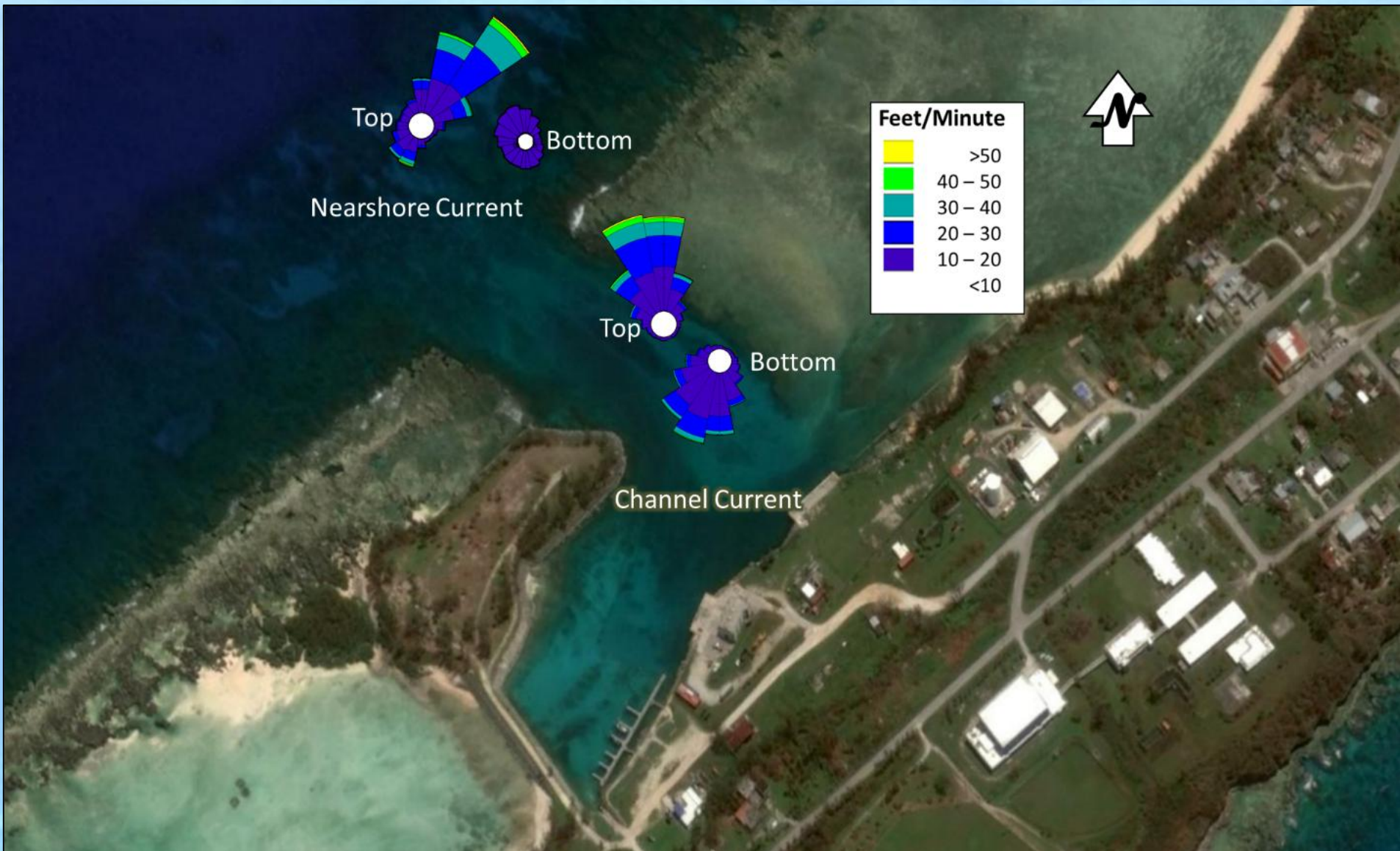
Barge "2000"



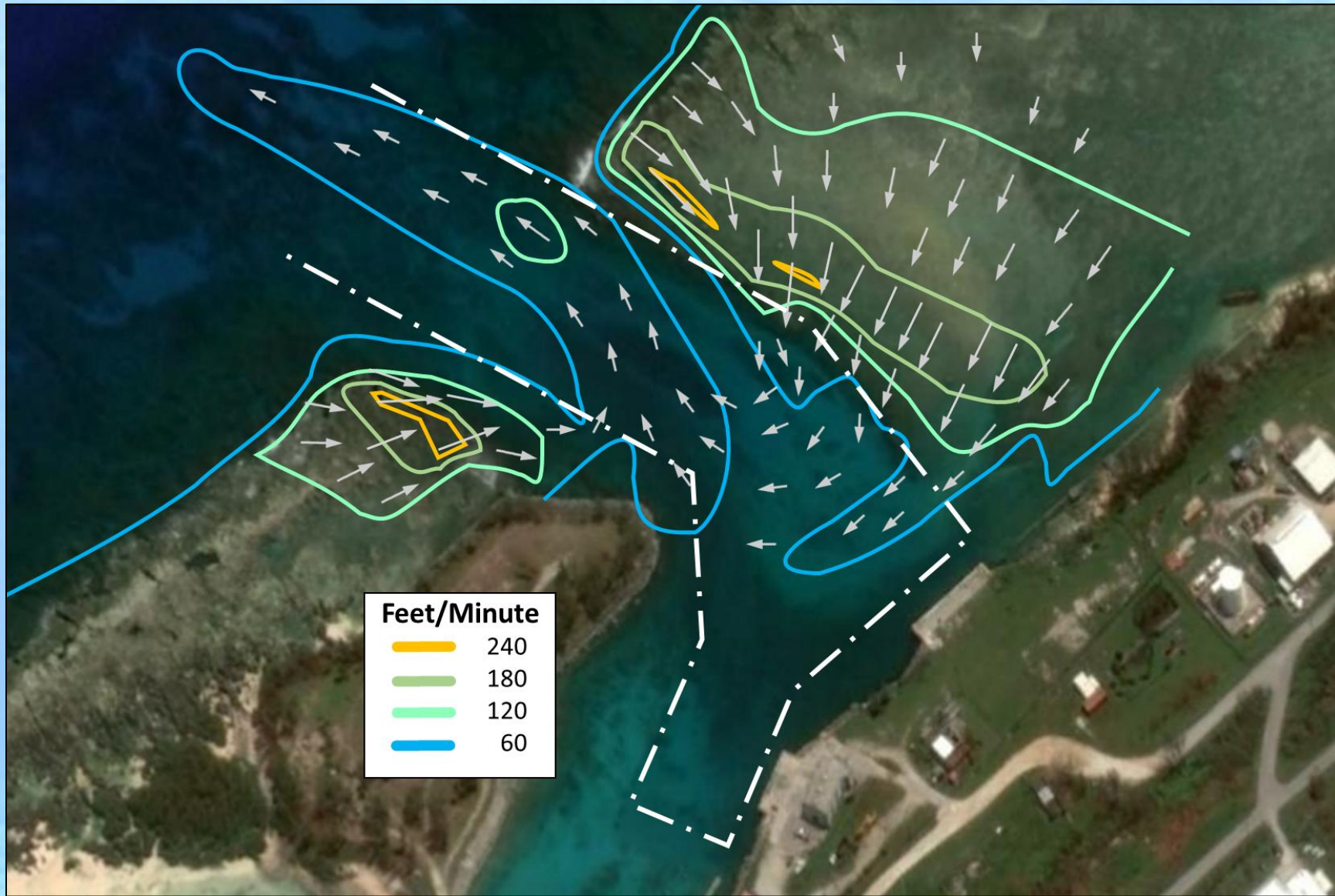
Rota West Harbor Design Vessels



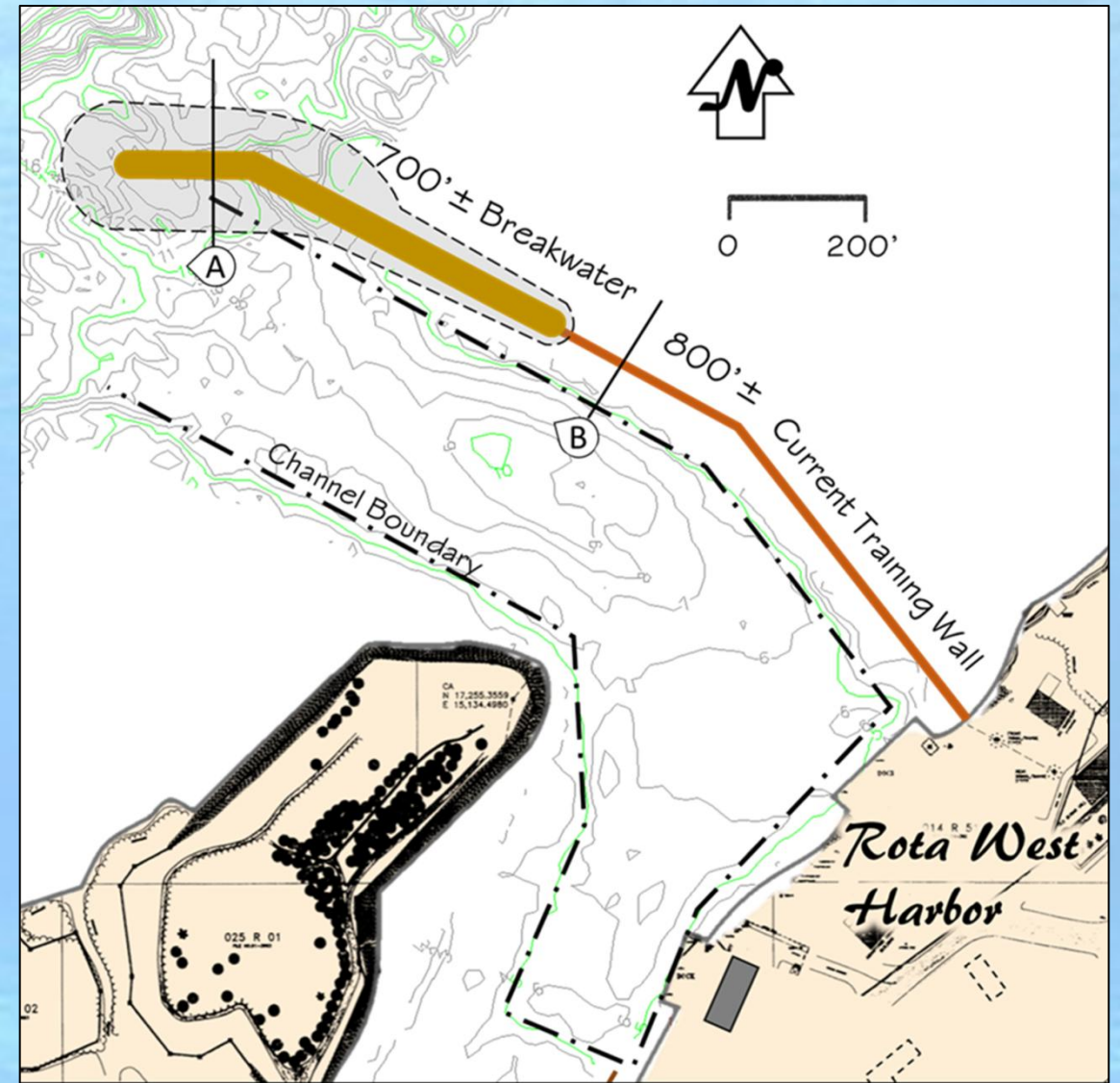
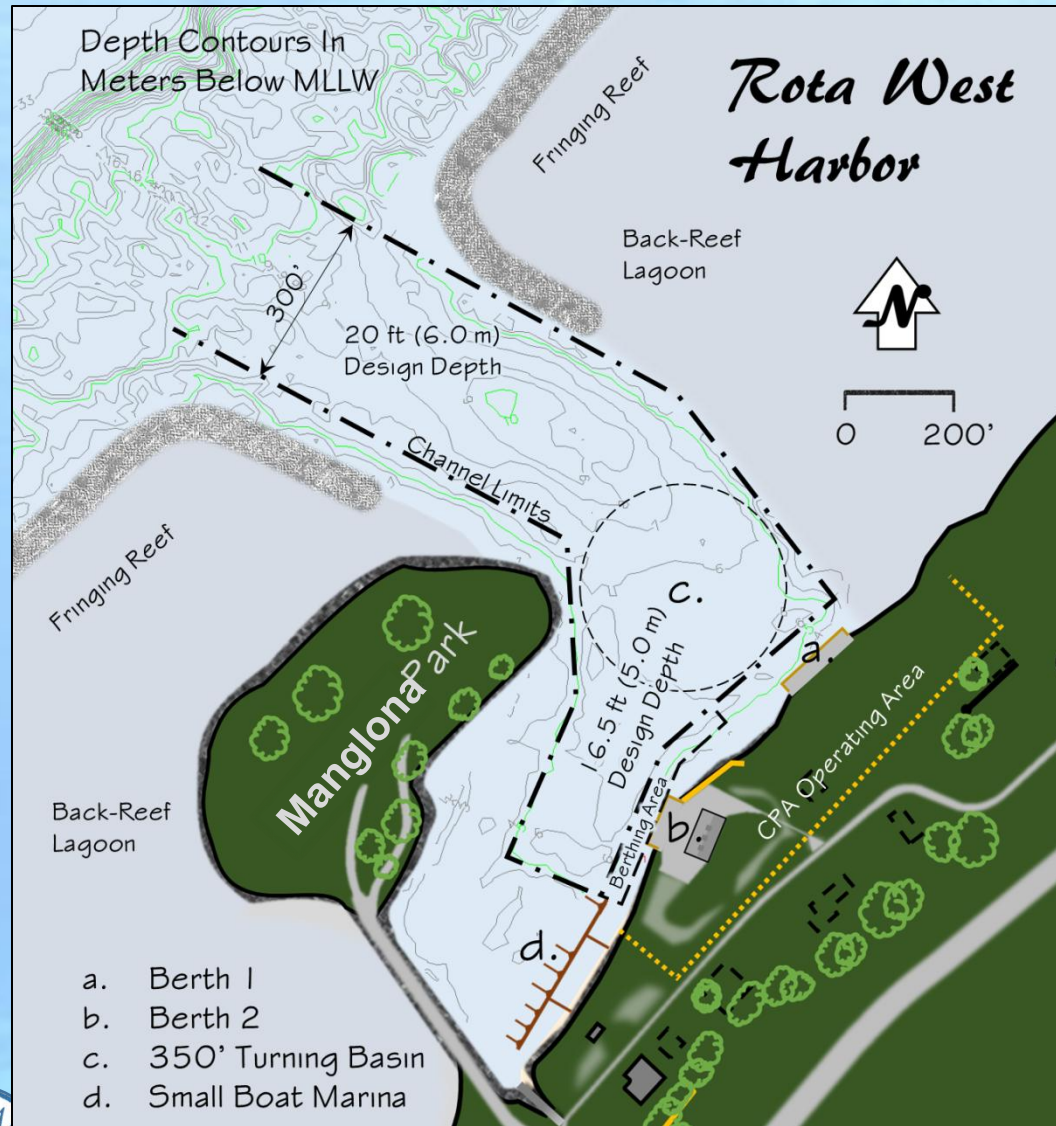
Rota West Harbor Metocean Conditions



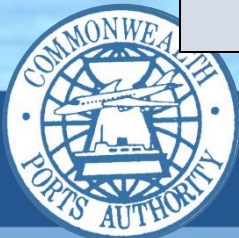
Rota West Harbor Current Measurement

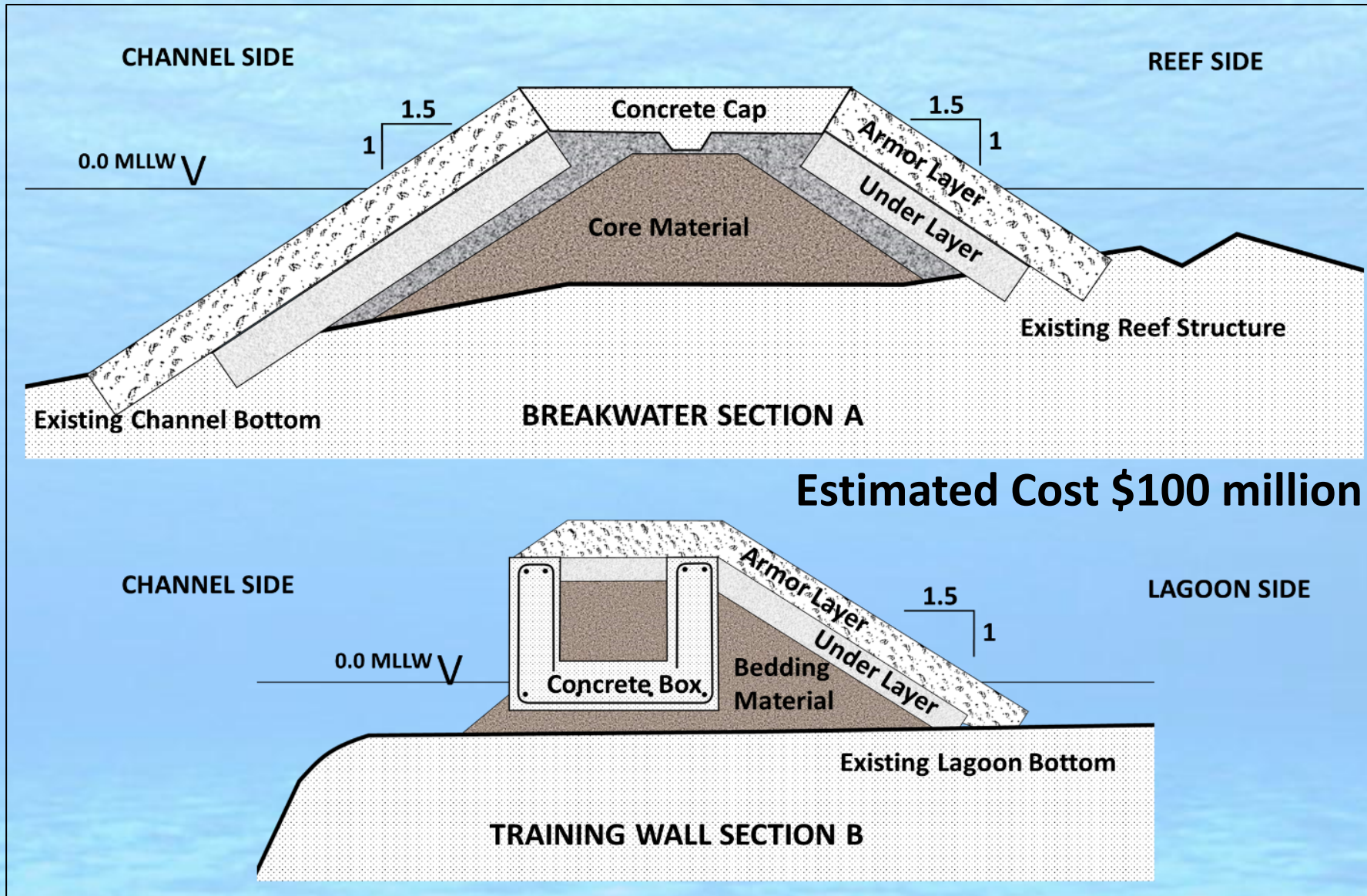


Rota West Harbor Surface Currents



Rota West Harbor Channel and Breakwater

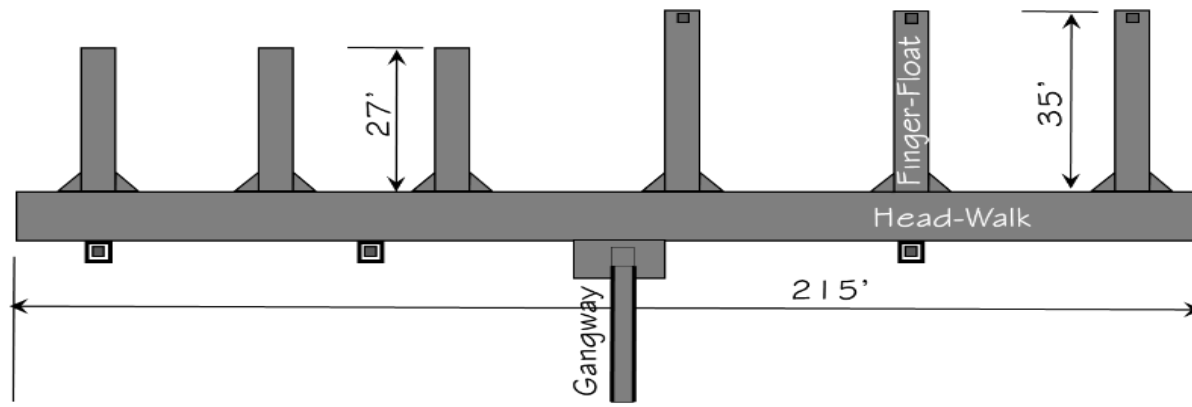




Proposed Breakwater and Training Wall

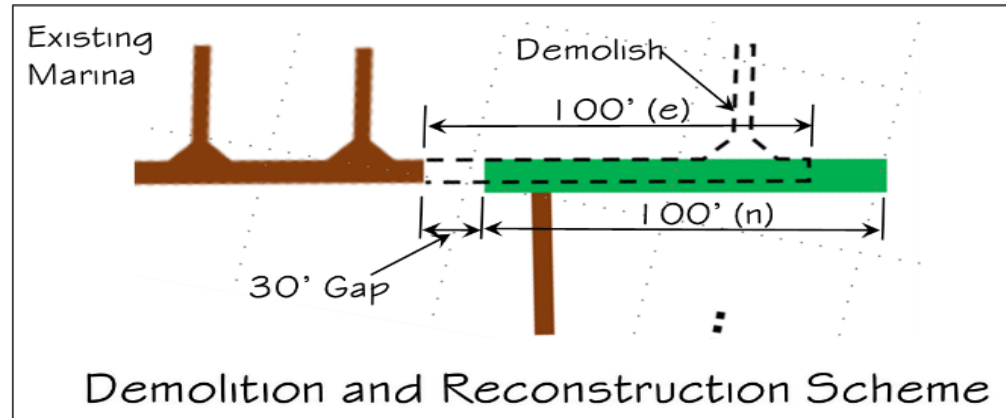
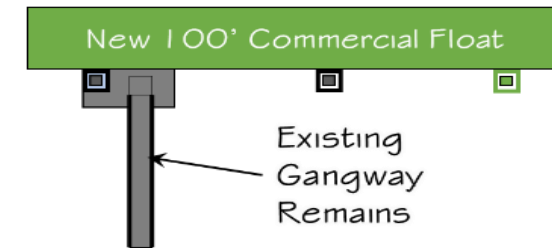


Rota West Harbor Master Plan Full Build-Out



Reconfigured Public Marina

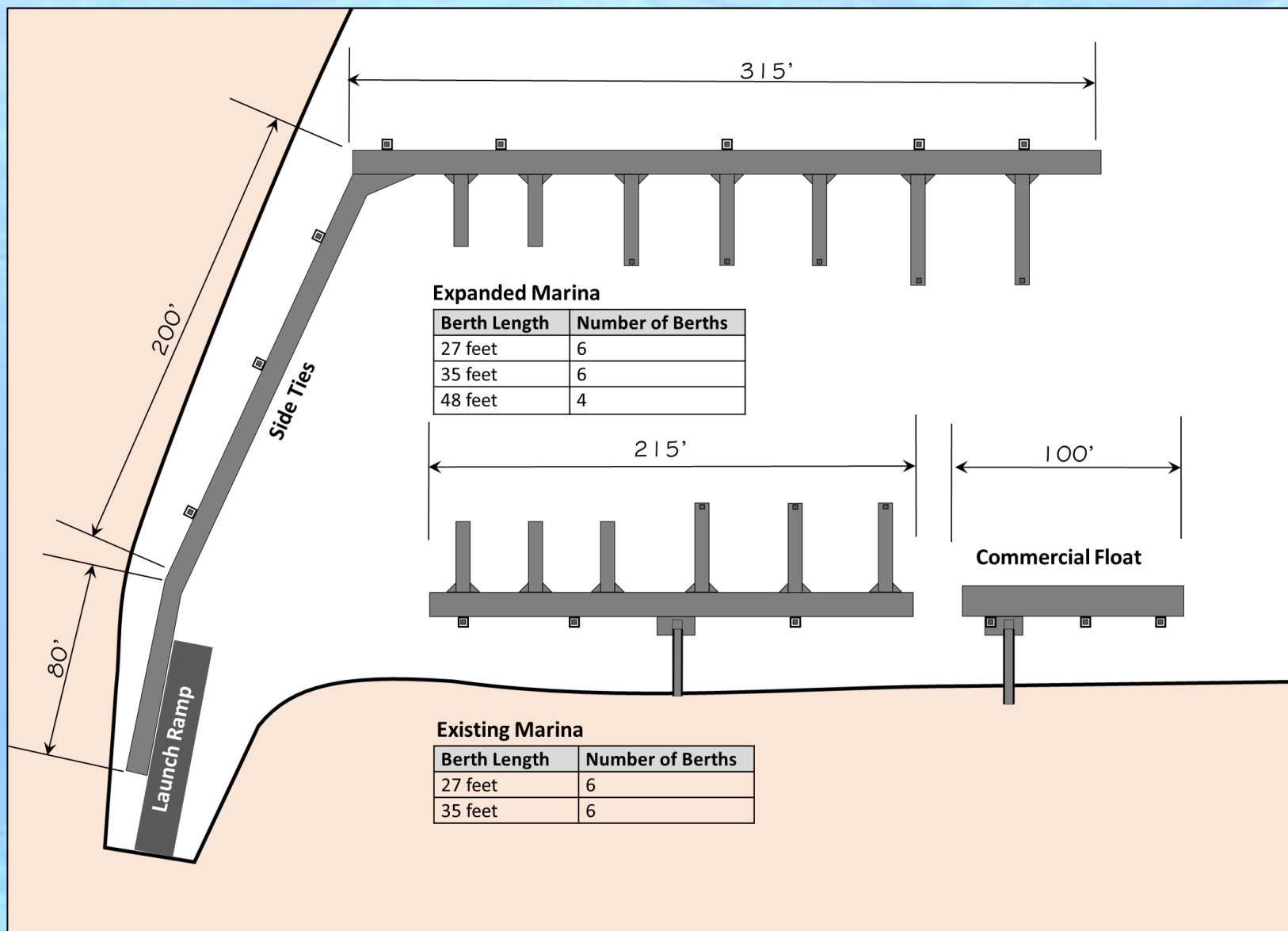
Berth Length	Number of Berths
27 feet	6
35 feet	6



Rota West Harbor Master Plan Small Craft Float



moffatt & nichol



Rota West Harbor Master Plan Small Craft Float



moffatt & nichol

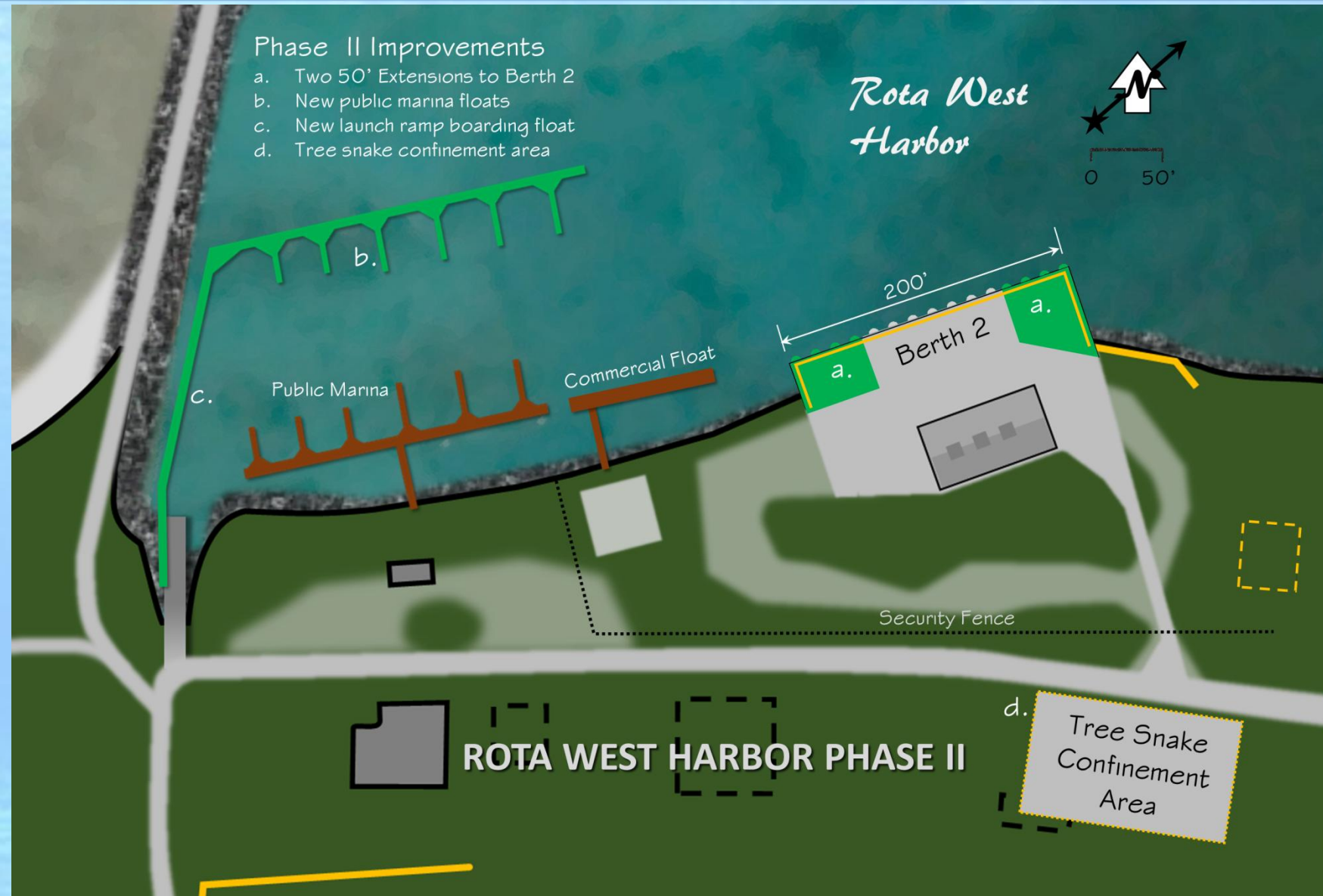
- Berth 2 upgrades
- Second crane
- New commercial float
- Storage improvements
- Misc. repairs

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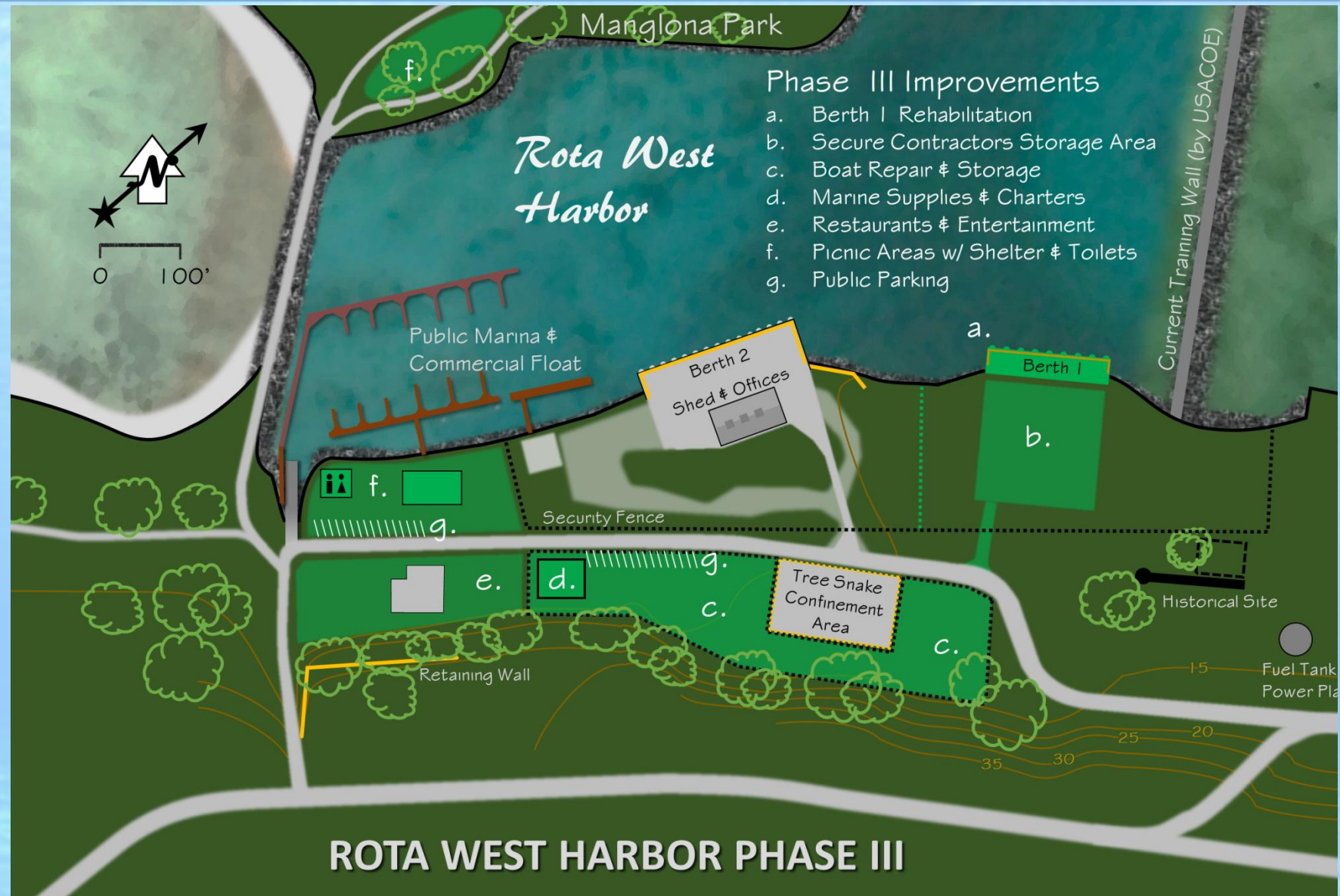
Phase II Cost: \$3.9 million

- Berth 2 upgrades
- Marina and boarding float
- Breakwater Cost Share: \$25 million (est.)



Phase III Cost: \$3.4 million

- Berth 1 upgrades



Rota West Harbor Master Plan Phase 3 moffatt & nichol



Rota West Harbor Master Plan