

March 6-7, 2013

Mayor and Assembly

Briefings

Port of Anchorage Intermodal Expansion Project
Concept Design Study



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Briefing Outline

- Recap the Design Charrette
- Overview of the 3 Concept Plans using visual simulations
- Cost and Schedule Risk Assessment (CSRA)
- Selection Criteria and Recommended Option
- Attributes of the Recommended Option



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Design Charrette

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Charrette Goals for the POA

- Provide adequate facilities at POA to support local commerce and the National Strategic Military Transport
- Provide modern, safe and efficient facilities
- Expand and maintain existing port property
- Encourage natural resource exports and attract new business



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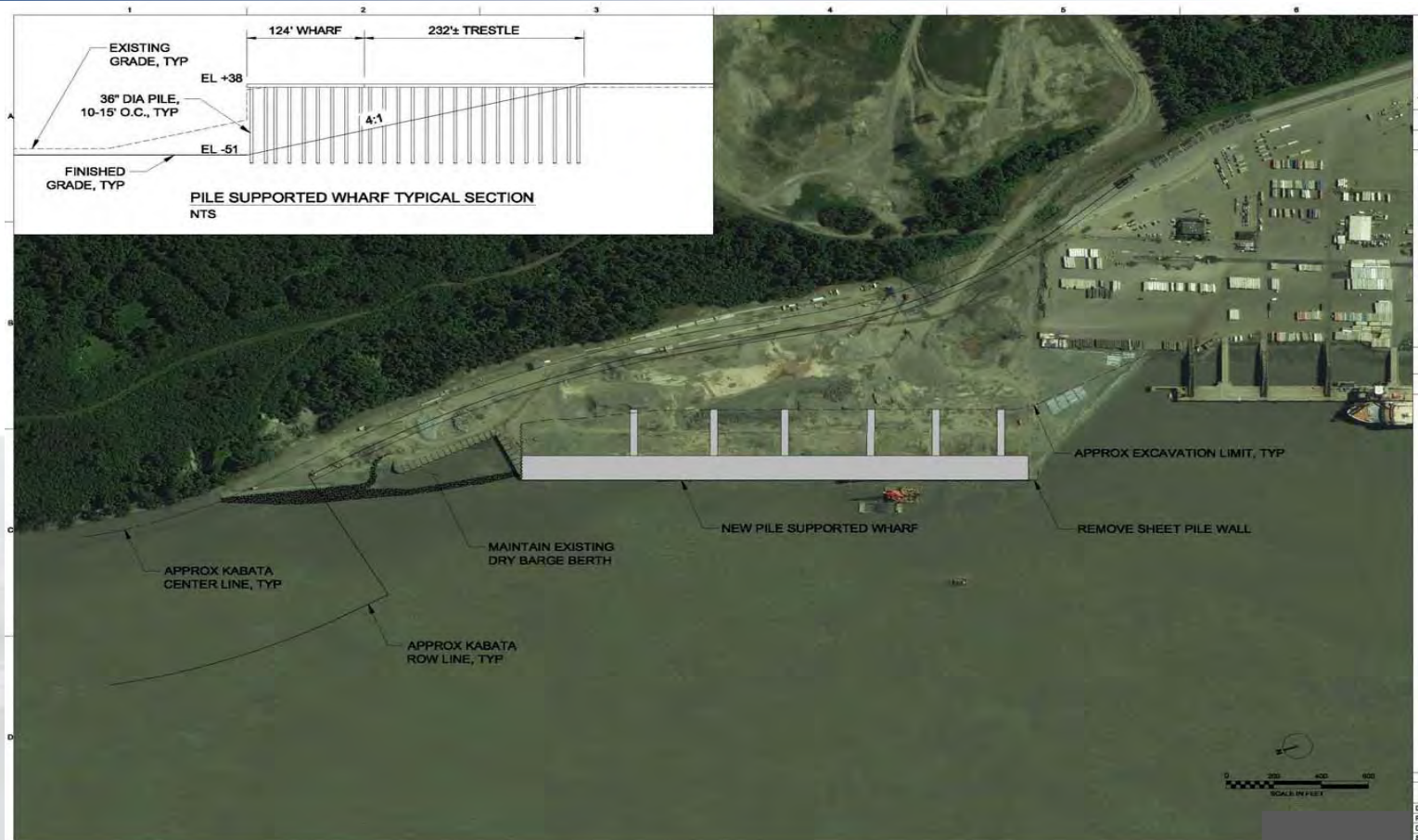
Organizations Represented

- US Maritime Administration (MARAD)
- Municipality of Anchorage (MOA)
- Port of Anchorage (POA)
- Totem Ocean Trailer Express (TOTE)
- Horizon Lines
- Cook Inlet Tug & Barge
- Southwest Alaska Pilots Association
- US Army Corps of Engineers Alaska District (USACE)

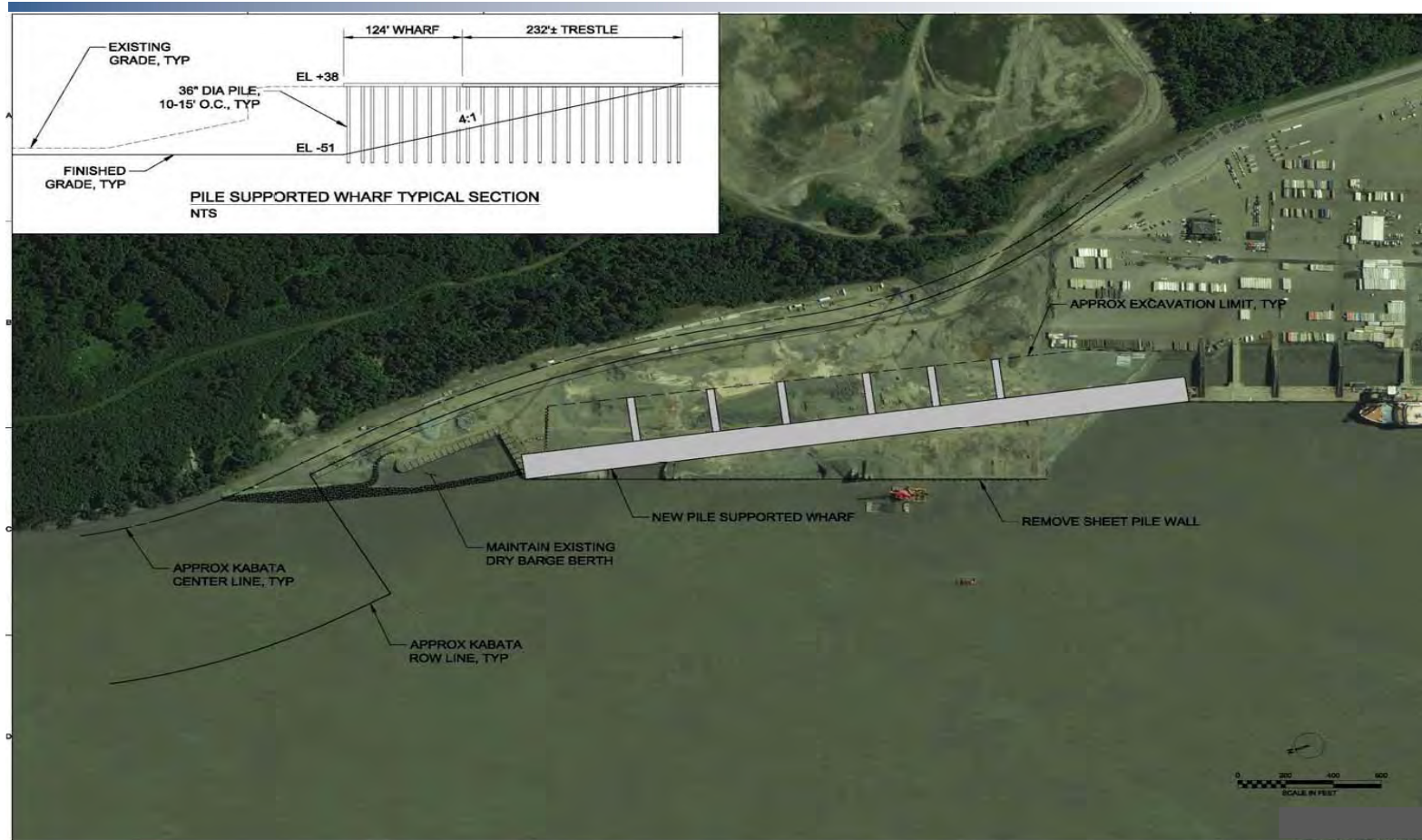


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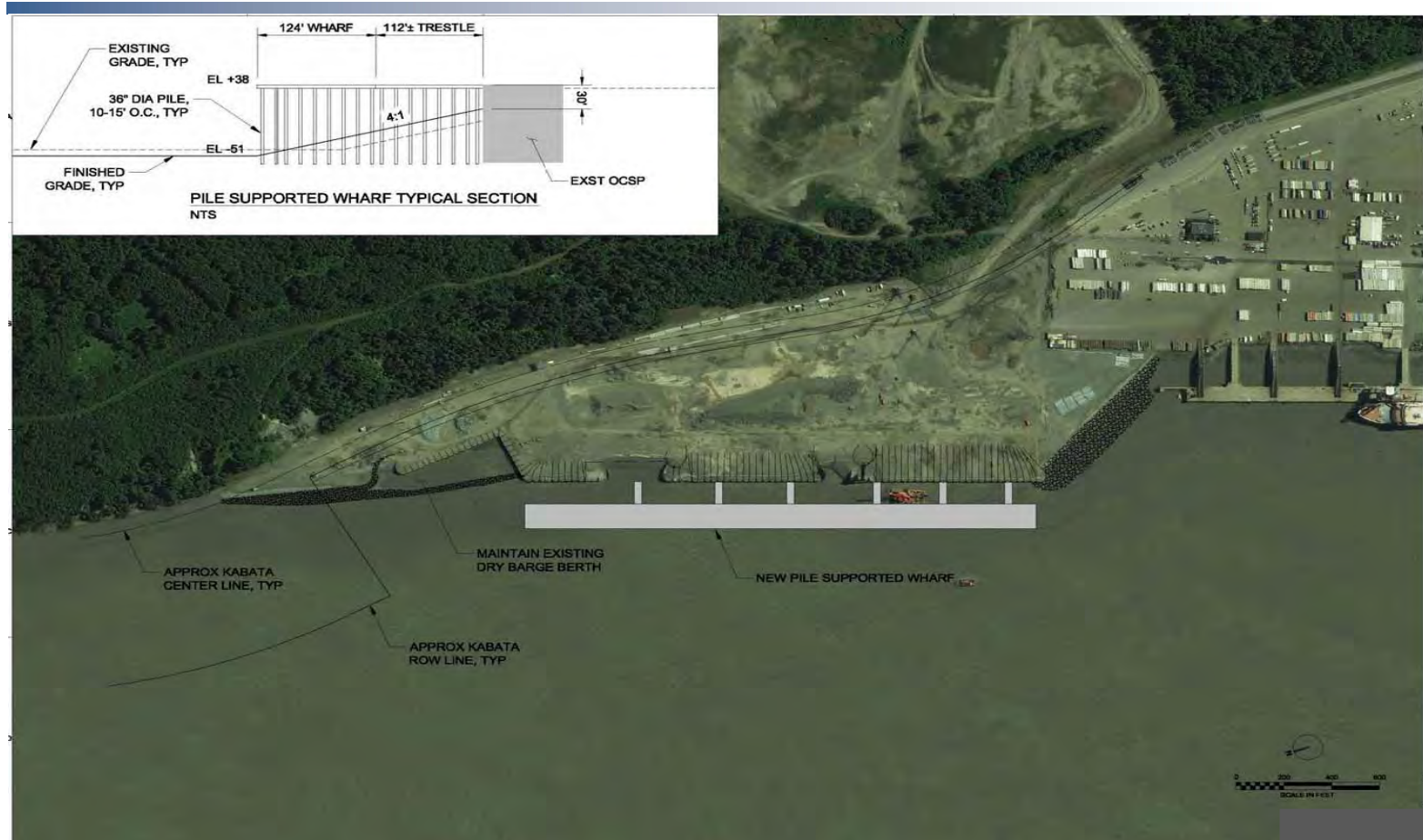
Option 1 – Charrette



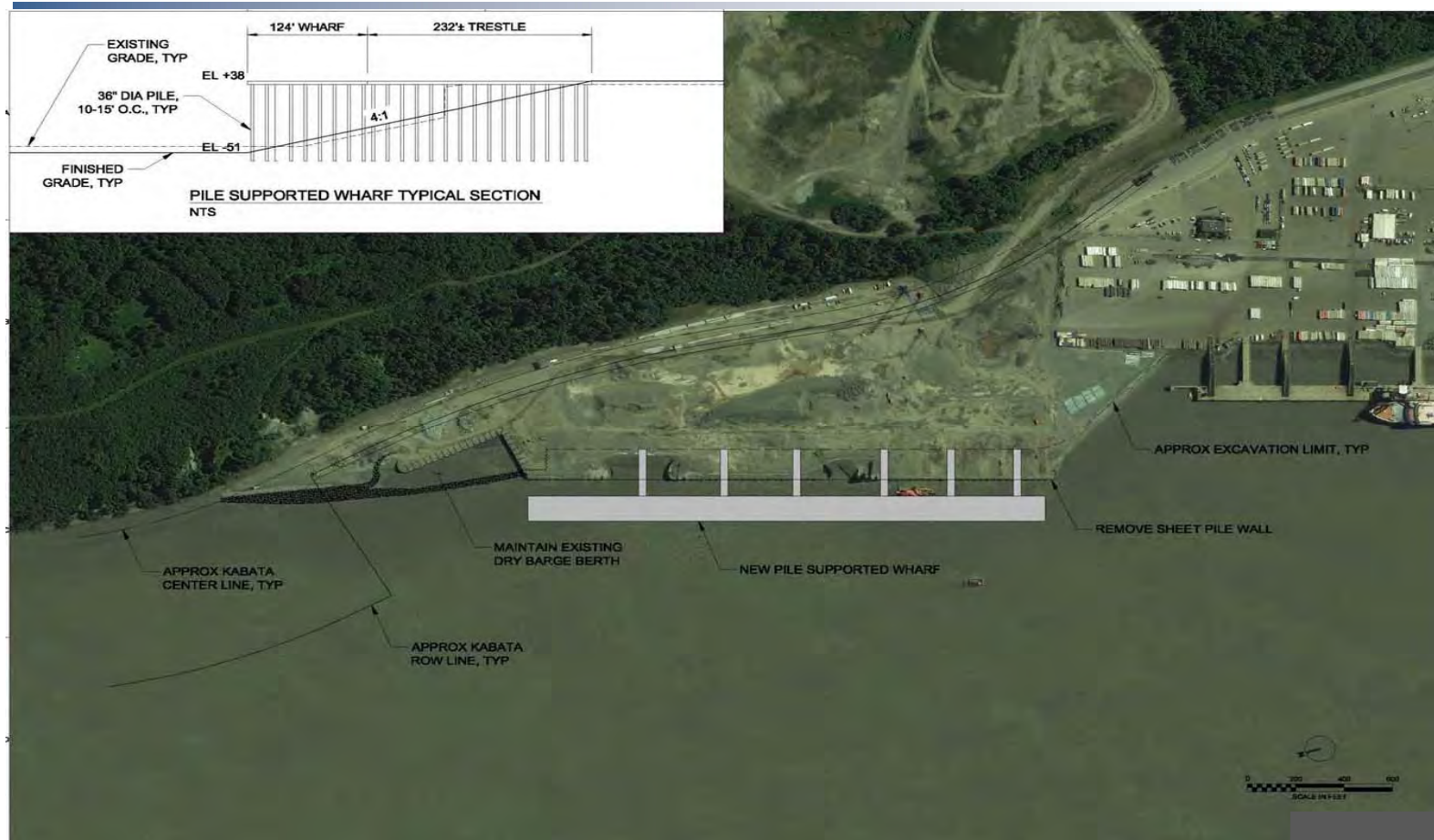
Option 2 – Charrette



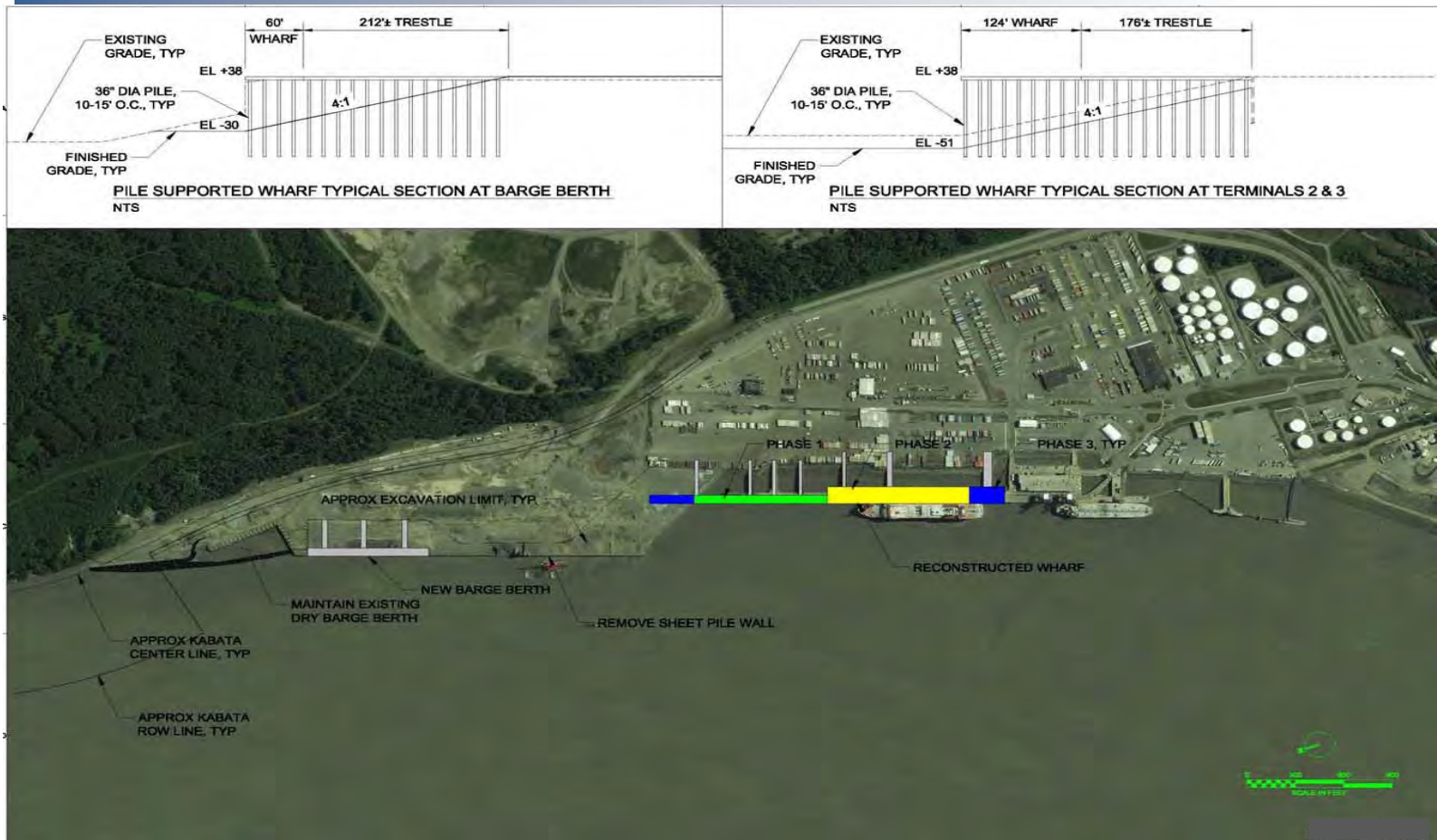
Option 3 – Charrette



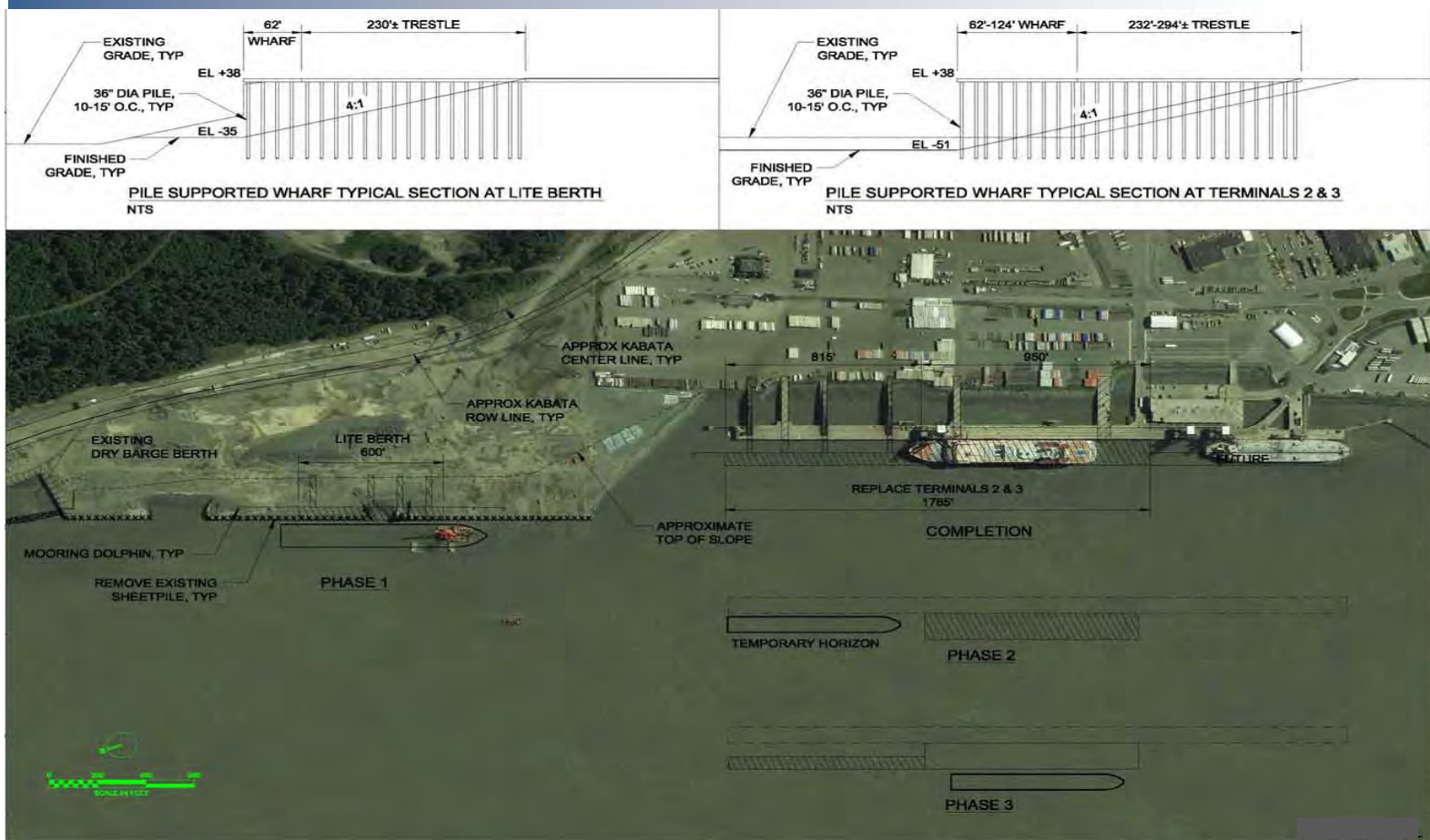
Option 4 – Charrette



Option 5– Charrette



Option 5-1 Hybrid - Charrette



Charrette Direction

- Option 1 should be carried forward
- Option 2 wasted too much backlands and should be dropped
- Options 3 and 4 were dropped for several reasons:
 - Pushing further offshore is outside the permit area
 - Pushing further offshore creates more challenges for vessel approach and mooring
 - Pushing further offshore exacerbates shoaling at Terminal 3
- Option 5 should be carried forward (popular with carriers)
- Option 5 – 1 Hybrid should be developed further



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Option 1 - Visualizations

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**15% Concept Plan
Option 1 - Existing**



**15% Concept Plan
Option 1 - Step 1**



15% Concept Plan
Option 1 - Step 2

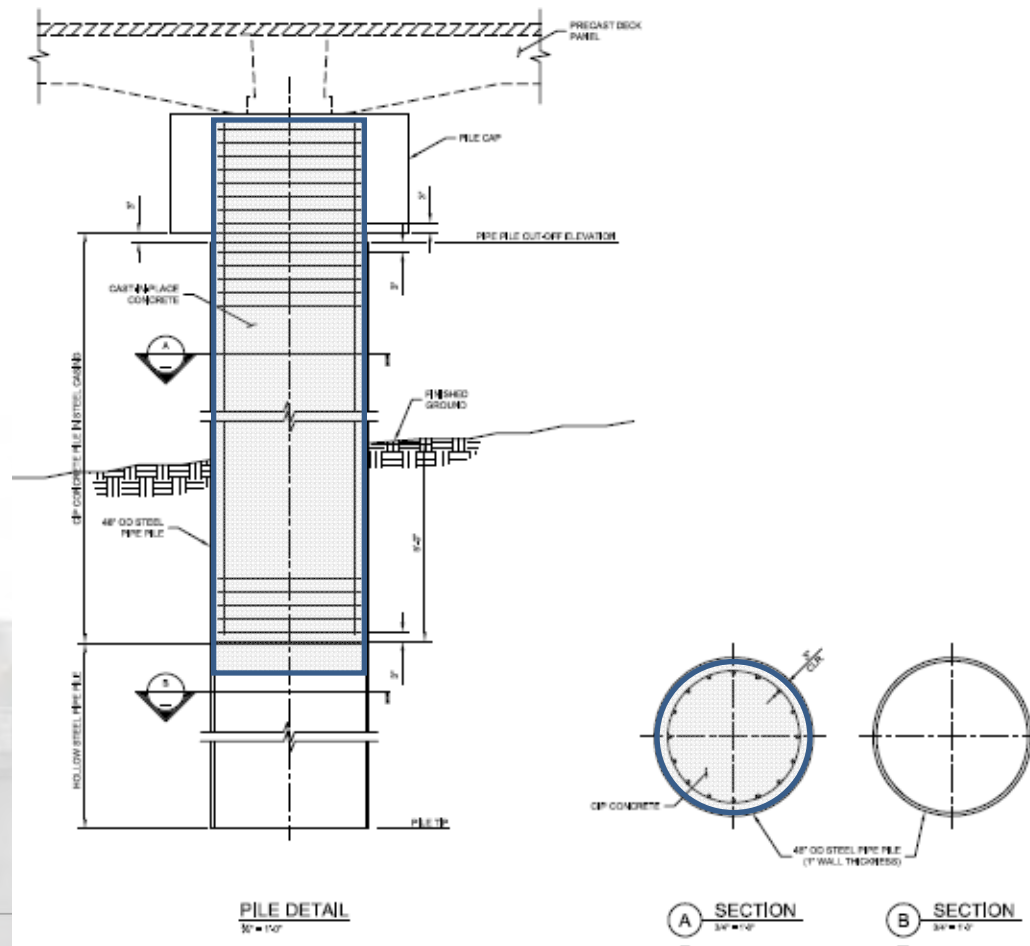


15% Concept Plan
Option 1 - Final



**15% Concept Plan
Option 1**

Hybrid Reinforced Concrete Piling



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Option 5 - Visualizations

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**15% Concept Plan
Option 5 - Existing**



15% Concept Plan
Option 5 - Step 1



15% Concept Plan
Option 5 - Step 2



15% Concept Plan
Option 5 - Step 3



**15% Concept Plan
Option 5 - Step 4**



15% Concept Plan
Option 5 - Step 5



**15% Concept Plan
Option 5 - Step 6**



**15% Concept Plan
Option 5 - Final**

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Option 5-1 Hybrid - Visualizations

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**15% Concept Plan
Option 5-1 Hybrid - Existing**



**15% Concept Plan
Option 5-1 Hybrid - Step 1**



**15% Concept Plan
Option 5-1 Hybrid - Step 2**



**15% Concept Plan
Option 5-1 Hybrid - Step 3**



**15% Concept Plan
Option 5-1 Hybrid - Step 4**



**15% Concept Plan
Option 5-1 Hybrid - Step 5**



**15% Concept Plan
Option 5-1 Hybrid - Step 6**



**15% Concept Plan
Option 5-1 Hybrid - Final**

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Cost and Schedule Risk

Assessment (CSRA)

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Cost and Schedule Risk Assessment

- Typical deterministic method estimates costs then adds contingency (e.g. 20%)
- Benefits of the CSRA
 - Identifies high risk items to cost and schedule
 - Provides leadership contingency information for scheduling and budgeting
 - Allows management of risks through a formal process throughout the design process.
 - Provides a proven structure for communicating project costs with stakeholders.



Cost Estimates

	60% Confidence	80% Confidence	100% Confidence
Option 1	\$363M	\$377M	\$447M
Option 5	\$618M	\$642M	\$763M
Option 5-1 Hybrid	\$582M	\$602M	\$735M

Notes:

- 1.All options assume construction start 2015, with construction midpoint 2017
- 2.All options use surplus sheet piling
- 3.All berths designed to MCE level earthquake





**15% Concept Plan
Option 1**



**15% Concept Plan
Option 5**



**15% Concept Plan
Option 5-1 Hybrid**

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Selection Criteria and Scoring

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Qualitative Scoring Factors

- The evaluation team consisted of members from the POA, MARAD, MOA, USACE, and CH2M HILL.
 - 1.0 Outstanding
 - 0.8 Excellent
 - 0.6 Good
 - 0.4 Fair
 - 0.2 Poor
 - 0.0 Unsatisfactory

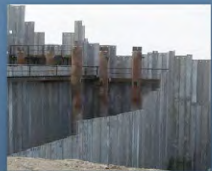


Selection Criteria and Recommended Option

#	Objective	Measure	Weight	Option 1	Option 5	Option 5-1 Hybrid			
				Score	Weighted Score	Score	Weighted Score	Score	Weighted Score
Opportunity for New Business									
1	Provides the opportunity to attract new business to the port with new berths	Length, width, depth, backlands of new berth(s)	0.20	0.4	0.08	0.8	0.16	1	0.2
Impact to Existing Customer's Costs									
2	Provide the least long term cost impacts to existing tenants	Operational cost of increased transit times, berthing and line handling	0.15	0.4	0.06	0.4	0.06	0.6	0.09
Expandability									
3	Can the alternative be expanded in future phases	Are there any restrictions created by the project that hinder expansion	0.10	0.2	0.02	0.4	0.04	0.6	0.06
Maintenance Dredging									
4	Minimize future maintenance dredging	Least amount of dredging / which alternative is located in the deepest water and fastest current	0.05	0.4	0.02	0.6	0.03	0.8	0.04
Life Cycle Cost									
5	Minimize life cycle costs	Lowest calculated life cycle cost	0.15	0.2	0.03	0.6	0.09	0.8	0.12
Investment Cost per linear foot of new berth									
6	Lowest investment cost per linear foot	Lowest investment cost per linear foot	0.20	0.6	0.12	0.4	0.08	0.8	0.16
Seismic Capacity									
7	Most berths built to current seismic codes	Number of berths built to current seismic codes	0.15	0.8	0.12	1	0.15	1	0.15
TOTAL WEIGHTED SCORE			1.00	0.45		0.61		0.82	

NOTES:

- Weights and scores are only guides to assist in the evaluation of alternatives; they do not mandate automatic selection of any particular alternative.
- At this time, none of the considered options offer a distinct advantage with respect to environmental considerations; therefore, this criteria has not been included.



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Recommended Option Attributes

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Option 5-1 Hybrid Attributes

- Has the lowest initial investment cost
 - Phase 1 \$327M (North End Hybrid Berth)
 - Phase 2 \$275M (Terminal 2 and 3)
 - Total \$602M
- Hybrid Berth serves both barge and deep draft customers
- Retains most backlands at North End (32 acres)
- Allows for expansion to the south in the future
- Less maintenance dredging anticipated
- Improved vessel approach



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15% Concept Plan
Option 5-1 Hybrid



**15% Concept Plan
Option 5-1 Hybrid**

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Questions

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