

NCG CSTAG Presentation: Newtown Creek East Branch Early Action FFS

July 12, 2023



East Branch Early Action – Overview

- In November 2021, USEPA Region 2 proposed an Early Action (EA) in an upstream reach of Newtown Creek – the NCG agreed to complete an FFS for the East Branch EA
- The East Branch EA will accelerate cleanup on the creek while gaining information that could inform the FS for the creek as a whole
- The East Branch EA creates an opportunity to demonstrate that a dredge-and-cap remedy can accelerate cleanup while fully meeting all CERCLA criteria and can be a model approach for the rest of the creek
- The NCG is evaluating five active remedial alternatives in the FFS, and based on the extensive data available for East Branch and the sound scientific and technical analyses completed during the FFS process, the NCG believes that the most appropriate remedy for the EA is Alternative EB-B
 - Dredge a sufficient amount of sediment to allow placement of an armored/reactive cap entirely at (or below) 0 foot MLLW

Basis for the Early Action

- The NCG agrees with the basis for the EA included in the *East Branch Early Action Overview* prepared by USEPA Region 2
 - It would expedite the overall site response
 - It would result in immediate risk reduction and contaminant mass removal in a portion of the Study Area
 - It would provide an opportunity to gain direct remedial experience in the creek and inform future efforts
 - Lessons learned, including PDI, RD/RA, and post-remedy monitoring, would also help inform future efforts in other portions of the creek
- In addition, the NCG believes that an EA in East Branch can set the stage for potential habitat restoration projects and other community benefit projects in this portion of the creek

Consistency with the Framework Memorandum

- The NCG agrees that the East Branch EA is generally consistent with USEPA Region 2's draft final Framework Memorandum
 - The EA will effectively address the six OU1 COCs and utilize the risk-based PRGs for these COCs
 - The EA will address sources from sediment **within** the Study Area
 - The EA will not address **ongoing external sources** of contamination to East Branch; these ongoing sources represent site-specific background for the creek
 - Post-remedy monitoring will determine whether additional source control measures are needed either through federal Superfund or State of New York enforcement authorities
- The Framework Memorandum does not sufficiently differentiate between two important post-remedy issues: remedy performance and background conditions. Post-remedy monitoring needs to differentiate between these two items
 - The PRPs will be responsible for the sediment remedy and the performance of that remedy: creating a clean surface on top of a protective cap that prevents migration of contaminants from below the sediment surface
 - The PRPs should not be responsible for remediating post-remedy deposits from ongoing or new external inputs on that clean surface

Details on Approach for East Branch Early Action FFS

Alternative	Alternative Summary
Alternative EB-A	No action
Alternative EB-B	Dredge to allow placement of an armored/reactive cap entirely at (or below) 0 feet MLLW
Alternative EB-C	Dredge and place an equivalent thickness armored/reactive cap to maintain the existing water depth
Alternative EB-D	Dredge and place an equivalent thickness armored/reactive cap to maintain the existing water depth; in select areas, remove soft sediments to native material to optimize the remedy
Alternative EB-E	Dredge the federally authorized navigation channel to a depth necessary to accommodate a cap below the current authorized depth plus a buffer or to native material, whichever is shallower; areas dredged to native material would include clean backfill, if necessary; dredge and/or cap outside of the navigation channel
Alternative EB-F	Dredge all soft sediments and backfill, if necessary; place sand or armored reactive caps over areas with high groundwater dissolved phase contaminant concentrations and/or high rates of advection in native material

Summary of Remedial Alternatives

Preliminary Quantities – Subject to Change

Alternative	Description	Quantities					
		Dredge Volume ¹ (cubic yards)	Dredge and Backfill Area (acres)	Cap-Only Area (acres)	Dredge and Amended Cap Area (acres)	ISS Area ² (acres)	Shoreline Stabilization ³
EB-A	No Action	0	0	0	0	0	0%
EB-B	Dredge to -3 Feet MLLW to Allow Placement of a 3-Foot-Thick Cap Below 0 Foot MLLW	32,300	0	7.7	2.7	0.8	36%
EB-C	Dredge 3 Feet and Place 3-Foot-Thick Cap	92,200	0	0	10.8	0.4	76%
EB-D	Dredge 3 Feet and Place 3-Foot-Thick Cap with Localized Dredge All	96,800	0.5	0	10.3	0.4	76%
EB-E	Dredge All Within Navigation Channel, Cap Outside	233,800	3.4	0.6	6.6	0.6	84%
EB-F	Dredge All	254,600	4.4	0	6.7	0.1	88%

Notes:

1. Dredge volume is for sediment removal only (i.e., does not include debris). Volumes include overdredge allowance and constructability considerations specific to each alternative, as discussed in FFS Appendix F.
2. ISS area includes dredging to remove swell caused by ISS and placement of a post-ISS amended cap to control potential diffusive flux, subject to treatability testing. Additional details provided in FFS Section 5.3.5.
3. Percent of East Branch shoreline that would require stabilization to implement the remedy via dredge offsets w/amended capping; slot dredging; ISS; or bulkhead stabilization, replacement, or new installation.

Remedial Alternatives Analysis

- The five active alternatives perform similarly in terms of overall protection of human health and the environment and long-term effectiveness and permanence
- The five alternatives would reduce toxicity, mobility, or volume through treatment over the entire footprint of East Branch, with Alternative EB-B providing the most in situ treatment
- Alternative EB-B would perform best with respect to short-term impacts and implementability; other alternatives that involve significant amounts of shoreline/bulkhead improvements to facilitate remediation are expected to significantly extend the remedial design and implementation phases, thereby frustrating USEPA's primary motivation for the EA
- The NCP deems a remedy cost-effective if its costs are proportional to its overall effectiveness (40 CFR 300.430[f][1][ii][D]); Alternative EB-B would be completed sooner and provide the most in situ treatment (i.e., amended capping and ISS) while providing overall protection of human health and the environment and long-term effectiveness; on this basis, it is the most cost-effective alternative

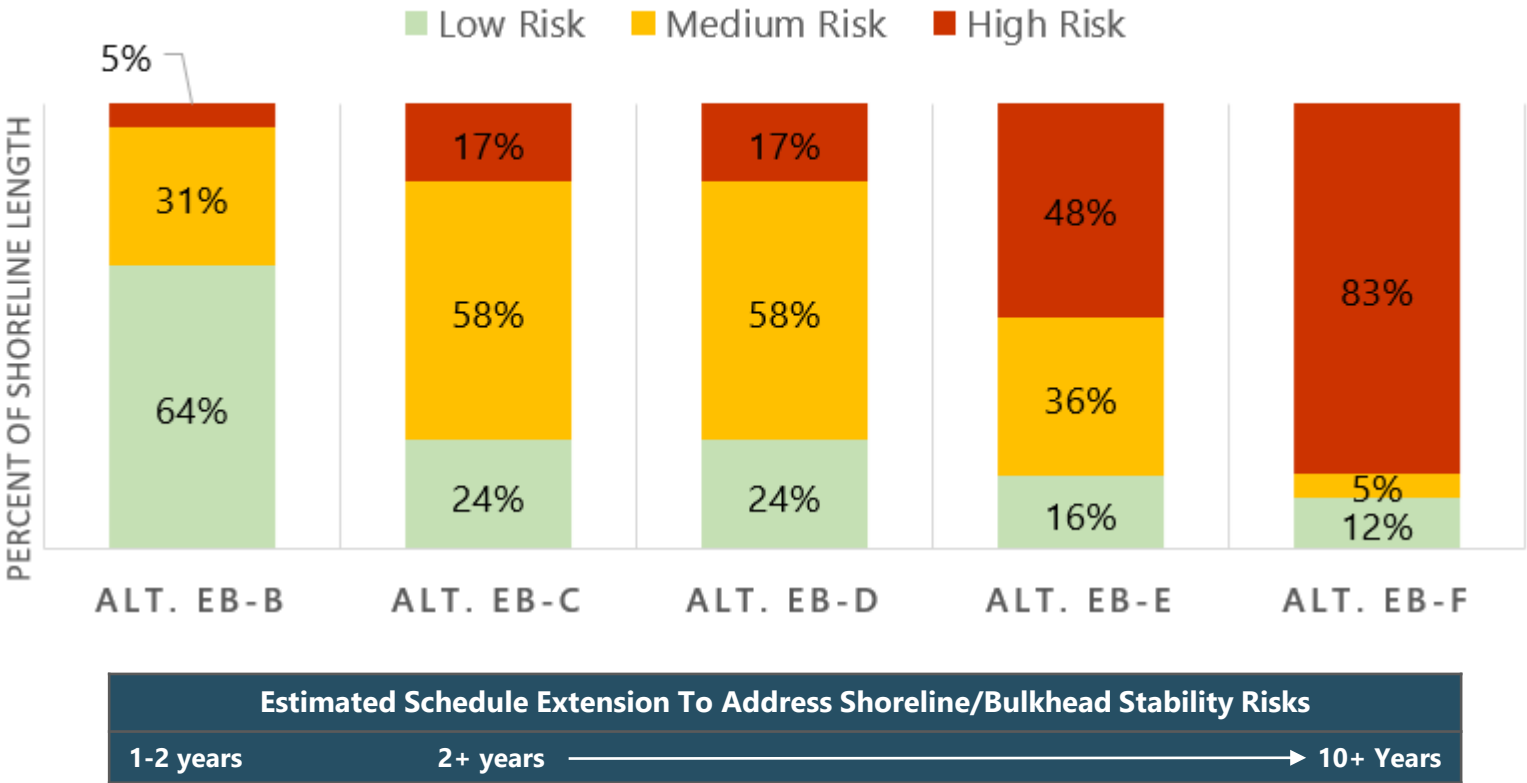
Alternative EB-B: Dredge to Allow Cap Placement Below 0 Foot MLLW



Remedial Alternatives Analysis: Additional Benefits of Alternative EB-B

- Alternative EB-B would be constructed faster than the other active alternatives
 - Alternative EB-B: 12 months (2 years)
 - Alternatives EB-C: 21 months (3 years)
 - Alternative EB-D: 21 months (3 years)
 - Alternative EB-E: 37 months (6 years)
 - Alternative EB-F: 46 months (7 years)
- Shoreline/bulkhead stability work is estimated to add 1 to 2 years to Alternative EB-B and up to 10 years or more for Alternative EB-F
- Alternative EB-B minimizes short-term impacts to the community (e.g., less truck traffic)
- Alternative EB-B sets the stage sooner and better positions East Branch for significant post-remedy restoration projects and other community benefit projects

Summary of Shoreline/Bulkhead Stability Evaluation Results



Risk Category	Mitigation Approach	Schedule Impact ^a
Low	No Stabilization Needed	None
Medium	Slot Dredging	Minimal
	Dredge Offset with Capping	1-2 years
	ISS	1-2 years
	Bulkhead Stabilization	4-6 years
High	Bulkhead Replacement	4-6 years
	Bulkhead Installation	

Notes:

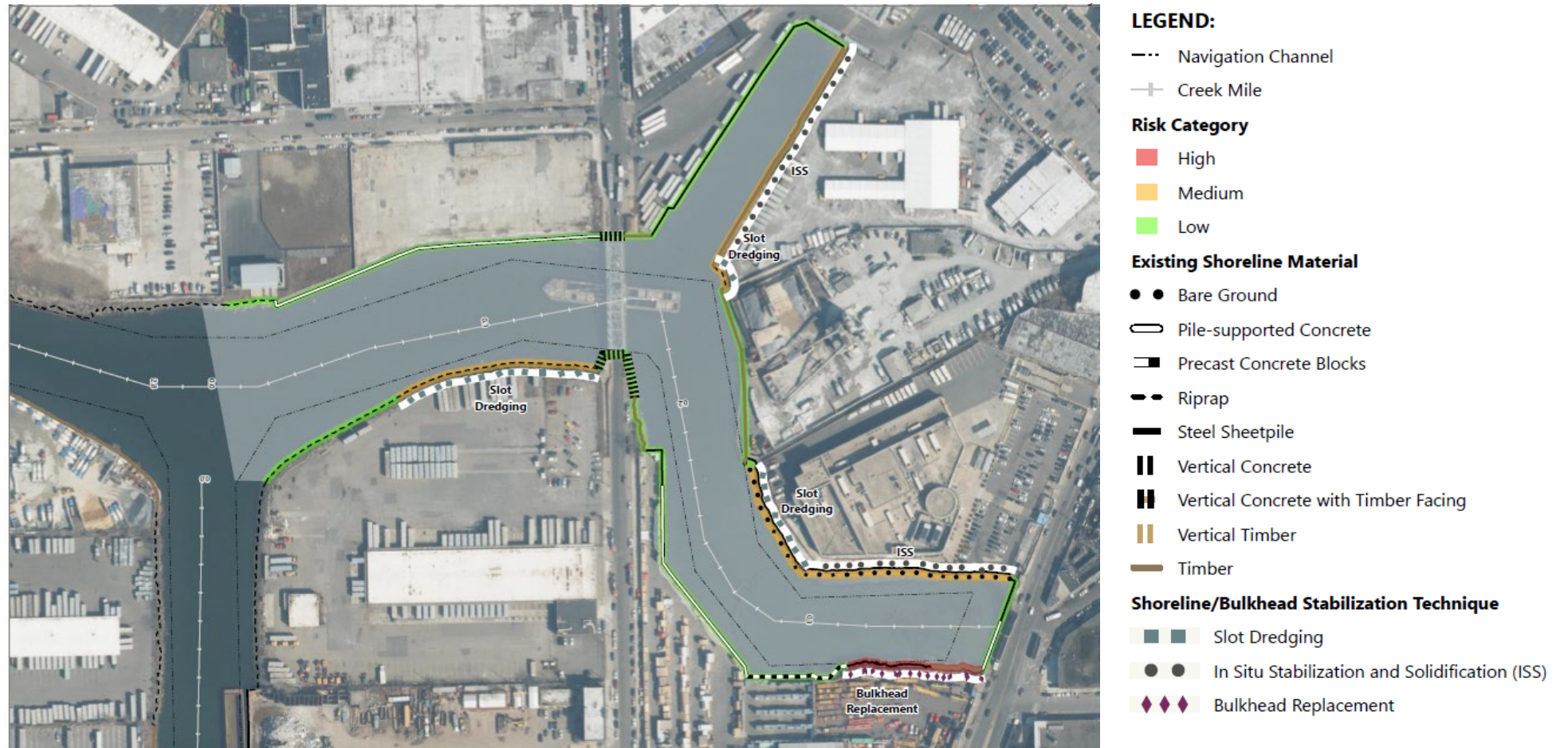
a. Schedule impacts represent preliminary estimates of duration to perform property owner negotiations, site investigations, design, and construction of shoreline mitigation approach prior to implementation of remedial action. Durations represent time for each property/location, but one or more properties could be addressed concurrently.

- High risk of instability
- Medium risk of instability
- Low risk of instability

Preliminary Results – Subject to Change

Alternative EB-B: Shoreline/Bulkhead Stability Analyses

Preliminary Results – Subject to Change



Summary

- The NCG has worked collaboratively with USEPA Region 2 since late 2021 to complete an FFS for an EA in East Branch; a draft FFS will be submitted to USEPA in late July
- The NCG has communicated with other stakeholders throughout the FFS process
- The recommended Alternative EB-B is consistent with the basis of the EA described in the *East Branch Early Action Overview*, meets the CERCLA criteria, and is the most cost-effective alternative to implement in East Branch



What questions
do you have?