



Summary of Water Quality Monitoring during the 2025-26 Portland Harbor Dredging/CAD Disposal Project

Review: Jan-Mar 2025 CAD construction & initial berth dredging/disposal



Water quality concerns driving the need for setting criteria & monitoring

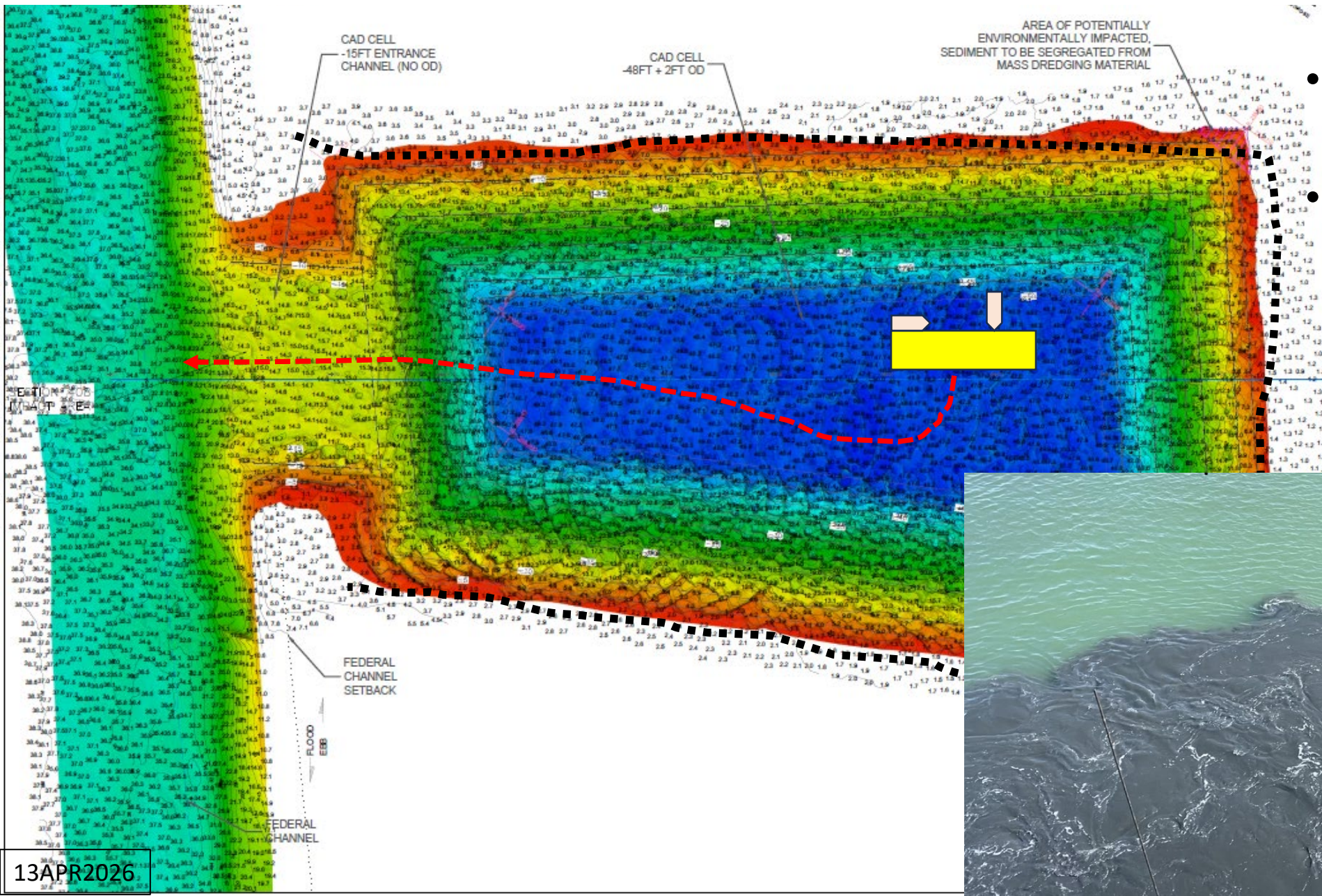


Potential dredging impacts

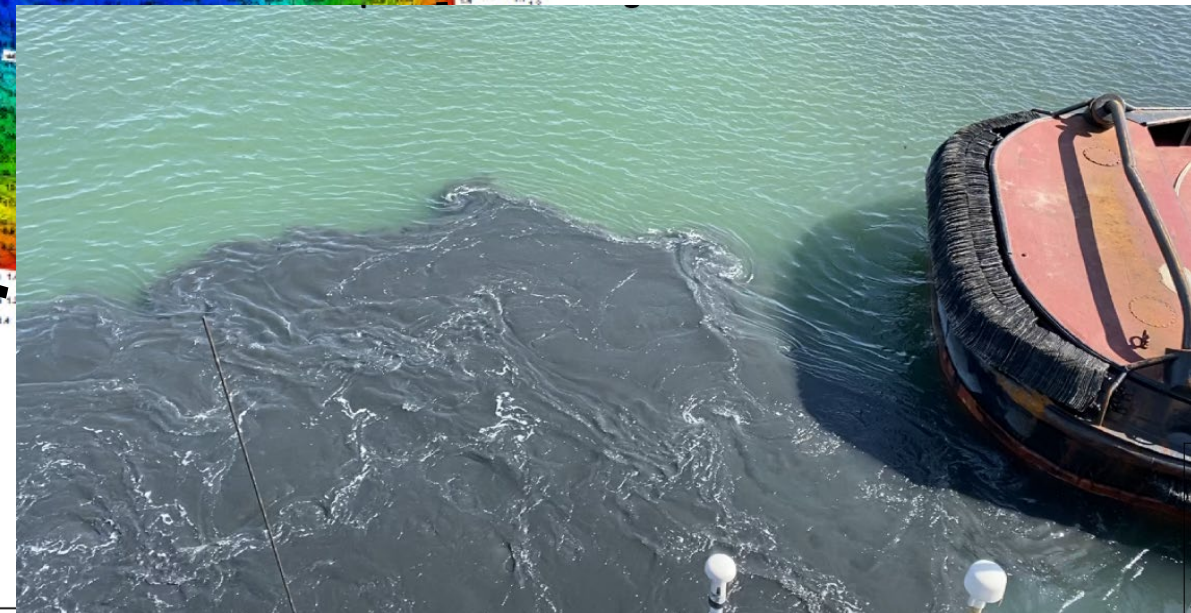
- Debris handling
- Overfilling/bucket speed of retrieval
- Placement of material in the scow



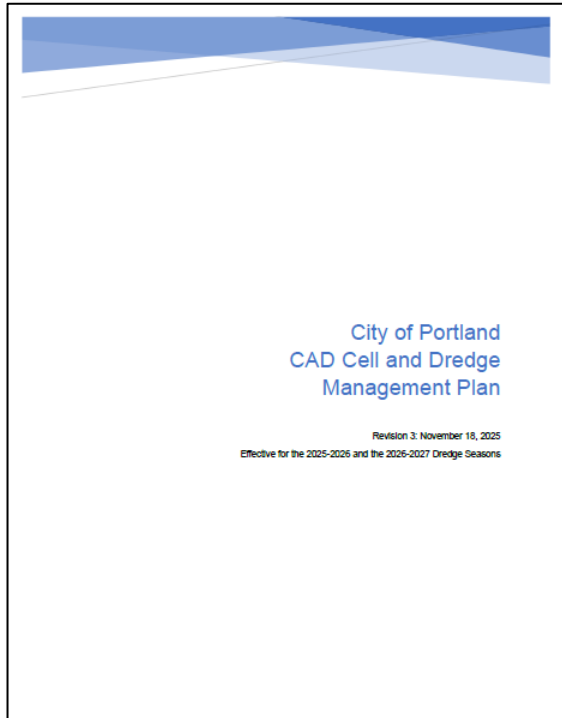
Water quality concerns driving the need for setting criteria & monitoring



- Location of the CAD in a productive tidal flat
- Need for maneuvering the scow in the tight quarters of the CAD post disposal



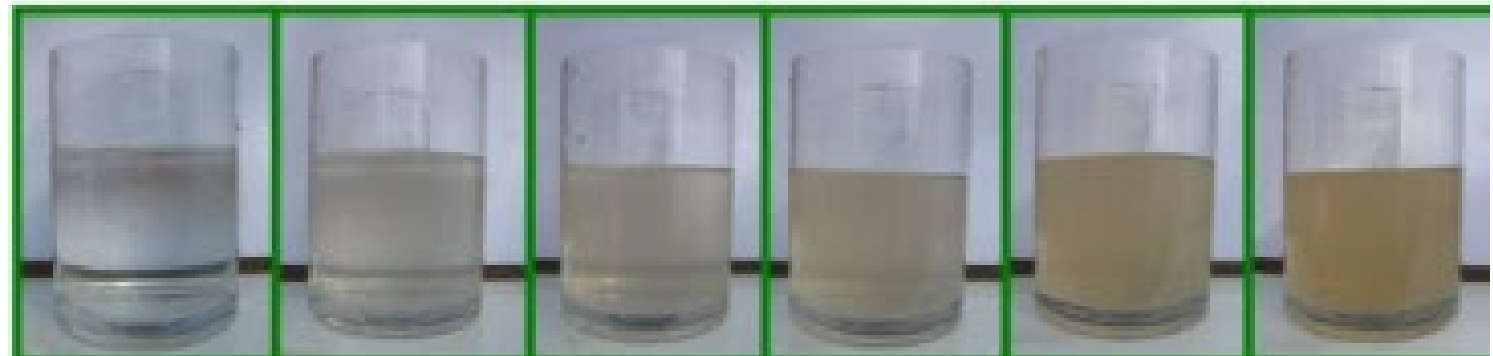
Management plan set water quality turbidity criterion for dredging and disposal and installation of a boom/partial depth silt curtain around three sides of the CAD



Turbidity Criterion Approach

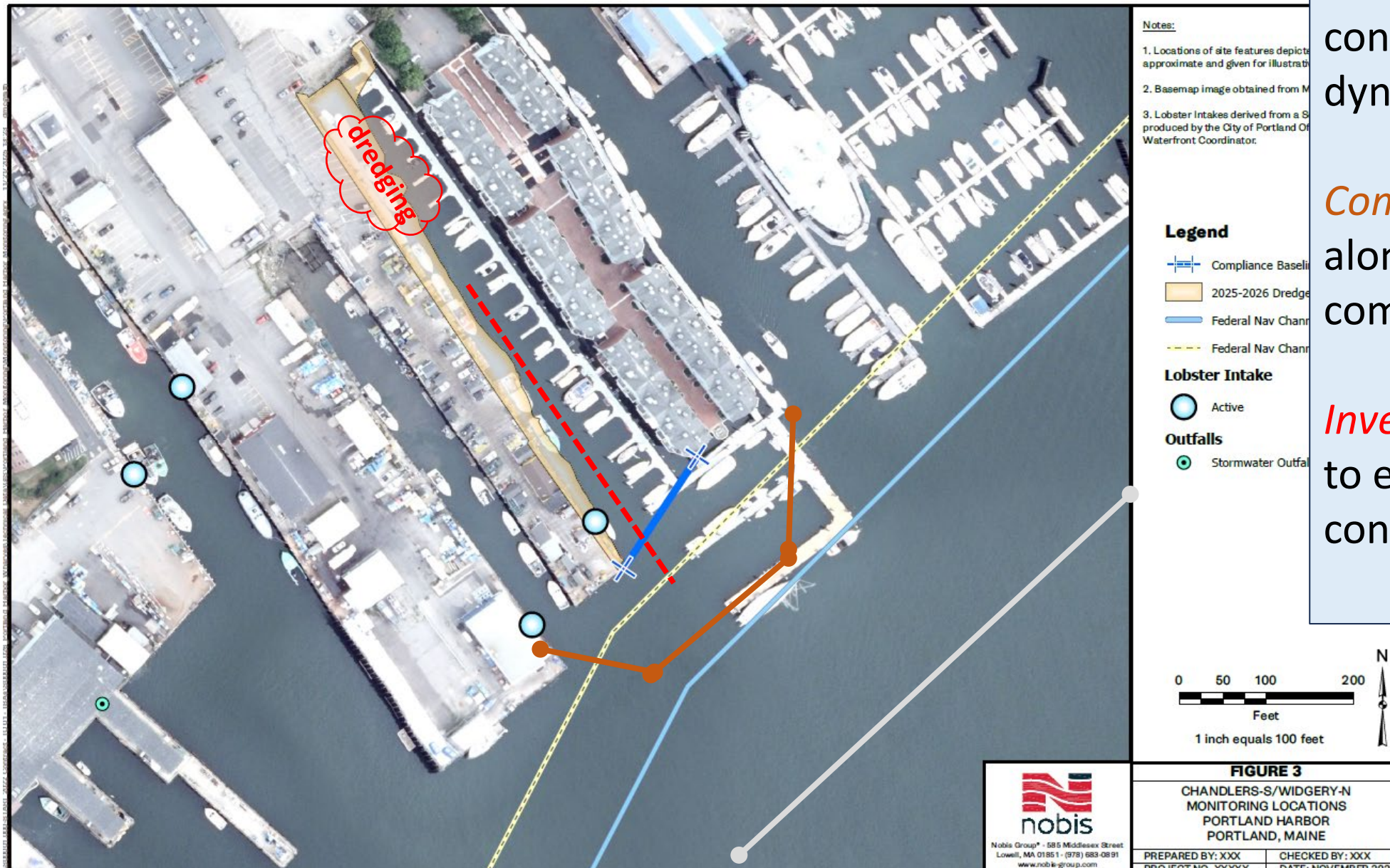
A turbidity criterion of 20 Nephelometric Turbidity Units (NTU) above background outside of the prescribed mixing zone is established for both dredging and disposal operations. For dredging operations, the mixing zone includes the entire semi-enclosed berth area being dredged (between wharfs/piers) and extends 200 feet outward from the mouth of the berth area. For dredge areas exposed to the harbor (outside of the finger piers), the mixing zone extends 200 feet outward from the boundary of the dredging footprint. For CAD operations, the mixing zone includes the entire CAD footprint and entrance channel and extends outward 100 feet from this boundary.

- Turbidity criterion set at 20 NTU above background harbor conditions measured outside the dredge area mixing zone



- Daily monitoring by TRC (contract specs) and Stantec (environmental)
- Periodic turbidity monitoring by EPA

Example dredging monitoring transects



Background monitoring to identify harbor conditions (can be dynamic)

Compliance monitoring along the defined compliance transects

Investigative monitoring to evaluate worst case conditions

Example CAD monitoring transects

- *Background* monitoring to identify harbor conditions (can be dynamic)
- *Compliance* monitoring along the defined compliance transects
- *Investigative* monitoring to evaluate worst case conditions



Excavator berth dredging



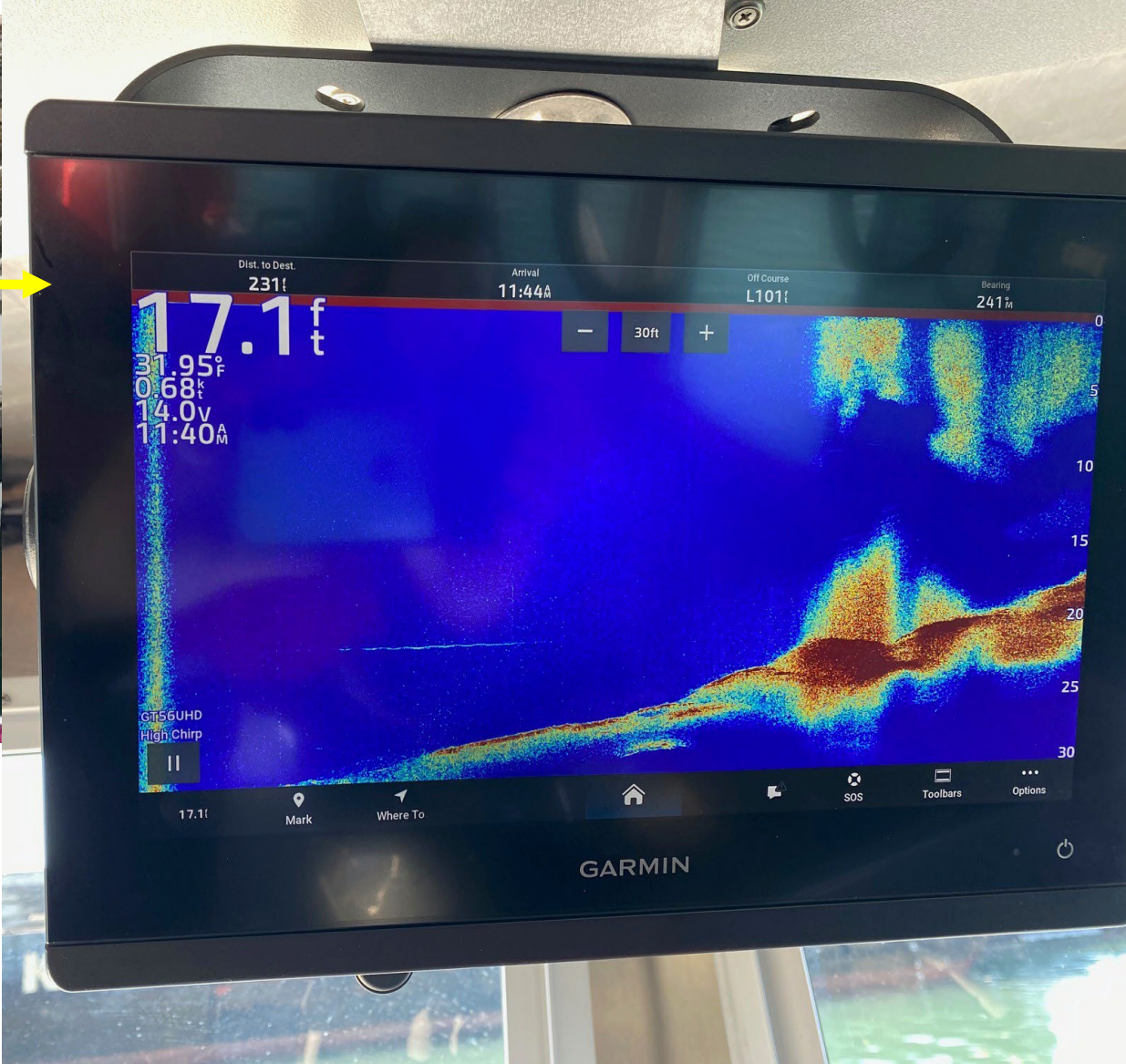
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Crane berth dredging



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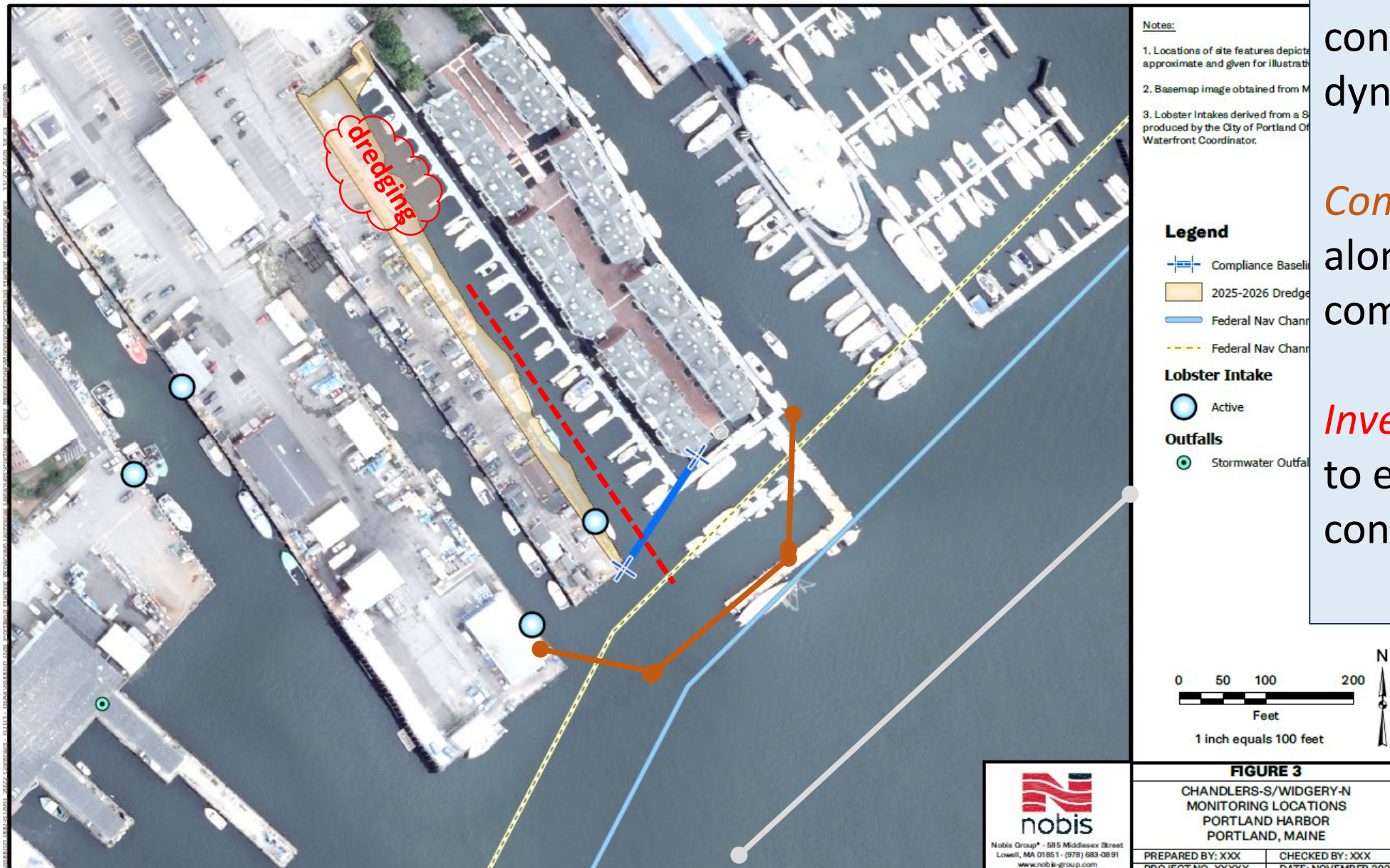
Harbormaster provided vessel support for monitoring



EPA real time turbidity monitoring and sampling for lab analysis



Example dredging monitoring transects



Background monitoring to identify harbor conditions (can be dynamic)

Compliance monitoring along the defined compliance transects

Investigative monitoring to evaluate worst case conditions

Disposal with scow docked at fixed platform within the CAD cell limited required maneuvering



Disposal with scow docked at fixed platform within the CAD cell limited required maneuvering

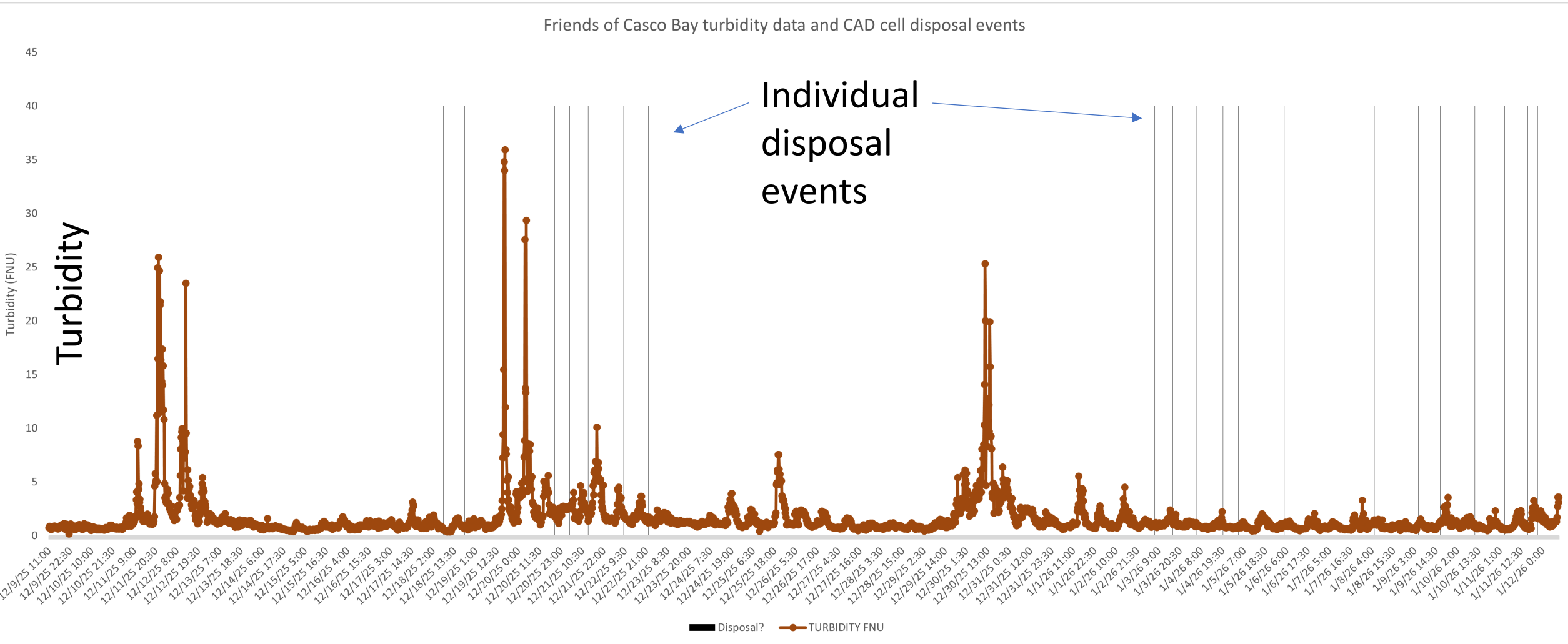


Example CAD monitoring transects

- *Background* monitoring to identify harbor conditions (can be dynamic)
- *Compliance* monitoring along the defined compliance transects
- *Investigative* monitoring to evaluate worst case conditions



Recording turbidity measurements by Friends of Casco Bay at USCG



Date/time

Takeaway points from monitoring 2025-26 dredging/disposal

- No exceedances of turbidity criterion (not even close)
- Size of equipment and operating practices limited release of suspended solids during dredging
- Spudded platform within the CAD cell limited disturbance of material disposed into the CAD cell
- Debris management procedures (floating and oversized) were successful
- Boom/silt curtain was not critical to debris management and limiting suspended solids transport during this phase of CAD filling