



Enabling Port Expansion through Beneficial Use of Contaminated Sediment – A Case Study from Mosjøen, Norway



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This is the story of how a
cleanup project evolved into a
port expansion project

Introduction

- Beneficial use of sediment is a common goal, but often challenging to implement
 - Economics
 - Conflicting environmental regulations and policies
- Most promising opportunities
 - Smaller sites and synergistic projects
 - Engaged stakeholders with clear vision of future site use
- Technical solutions
 - Long-term containment and stability
 - O&M considerations

Mosjøen, Norway

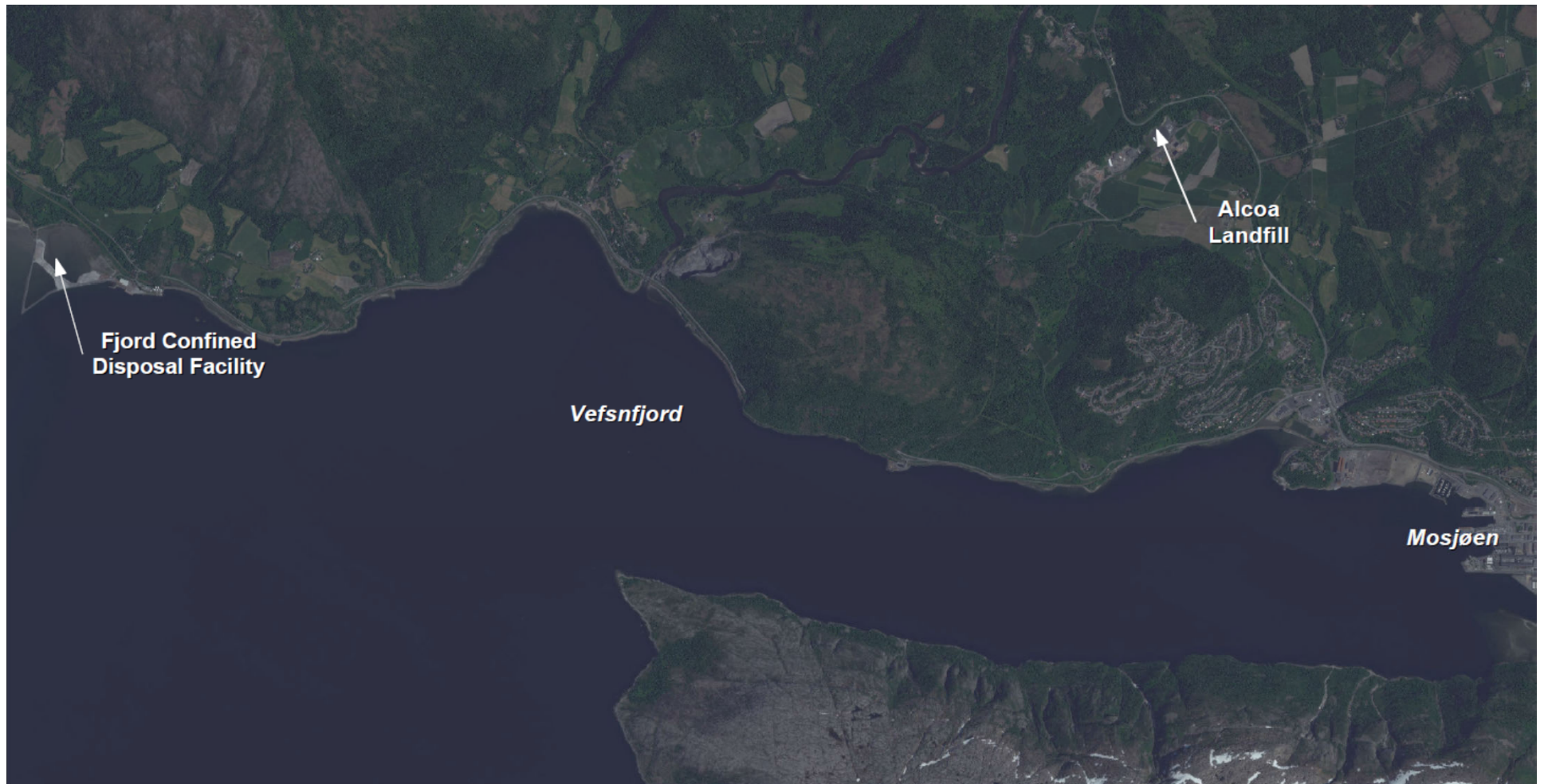


Case Study Overview

- Two operating harbors – both crucial to plant operations and local economy
- Cleanup required dredging ~35,000 cy – capping not feasible
- Solution: synergistic alternatives to expand port and dispose of sediment



Disposal Area Options – Away from Harbor



Disposal Area Options – Within Harbor

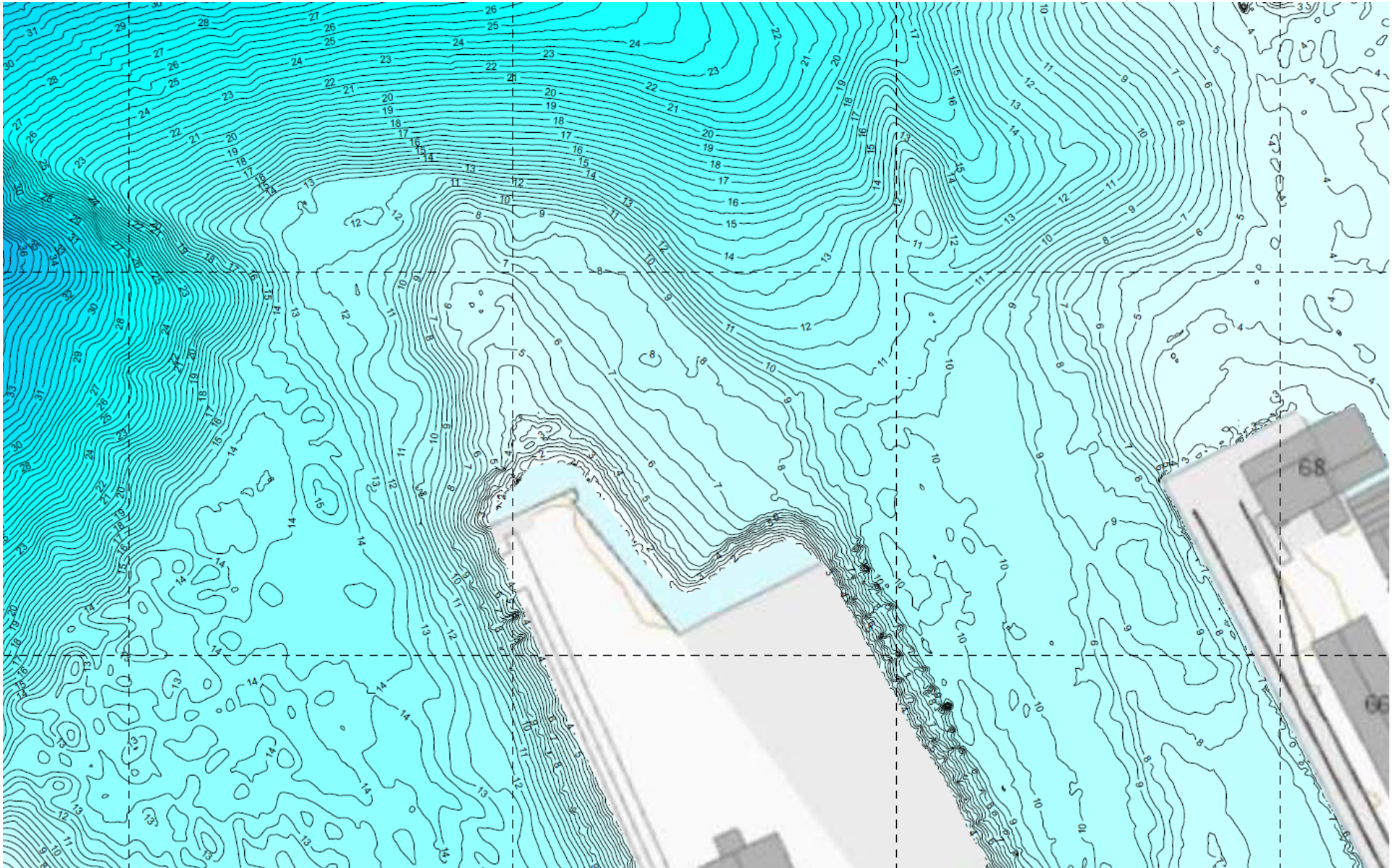


Engaging the Local Port

- Stakeholder benefits and business case



CDF Siting Challenges



CDF Containment Technology

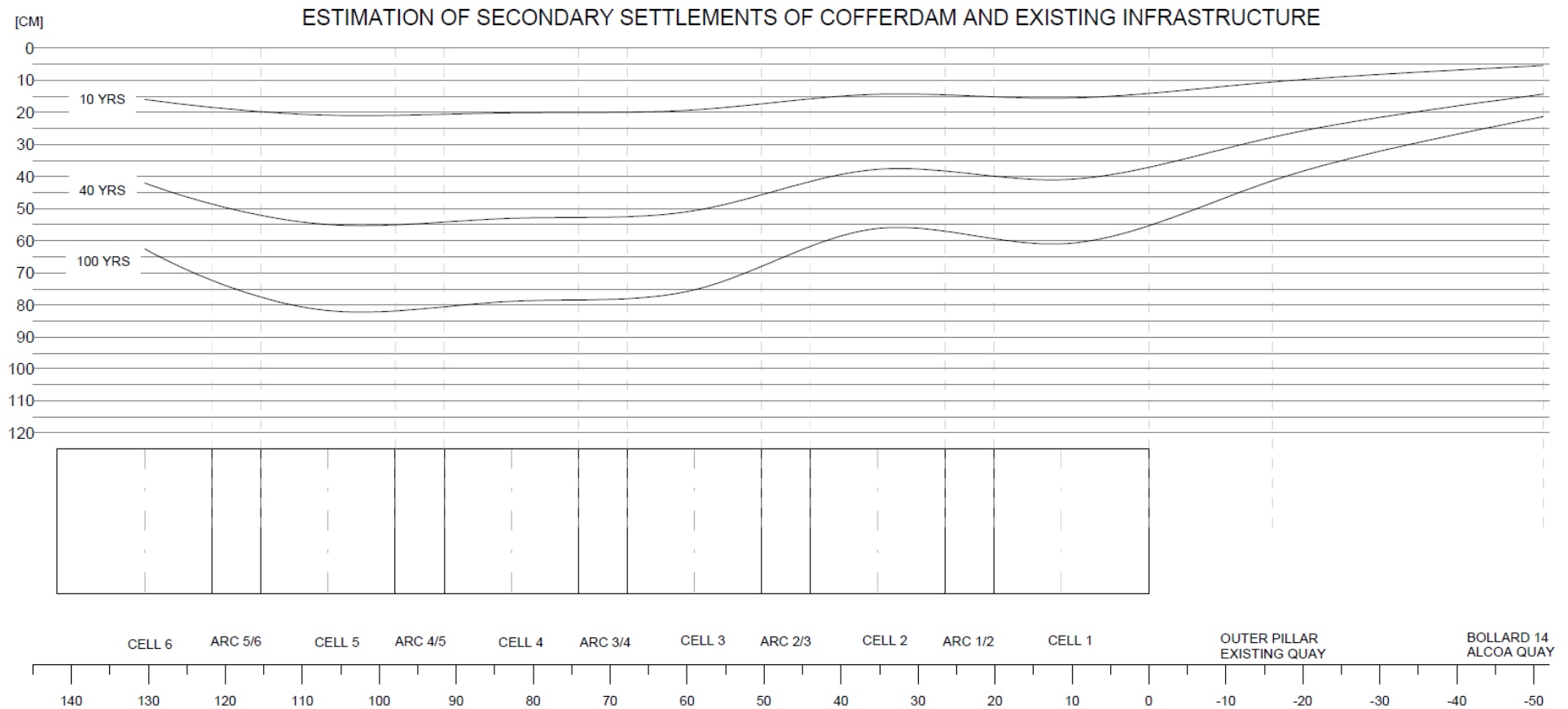


Design Considerations

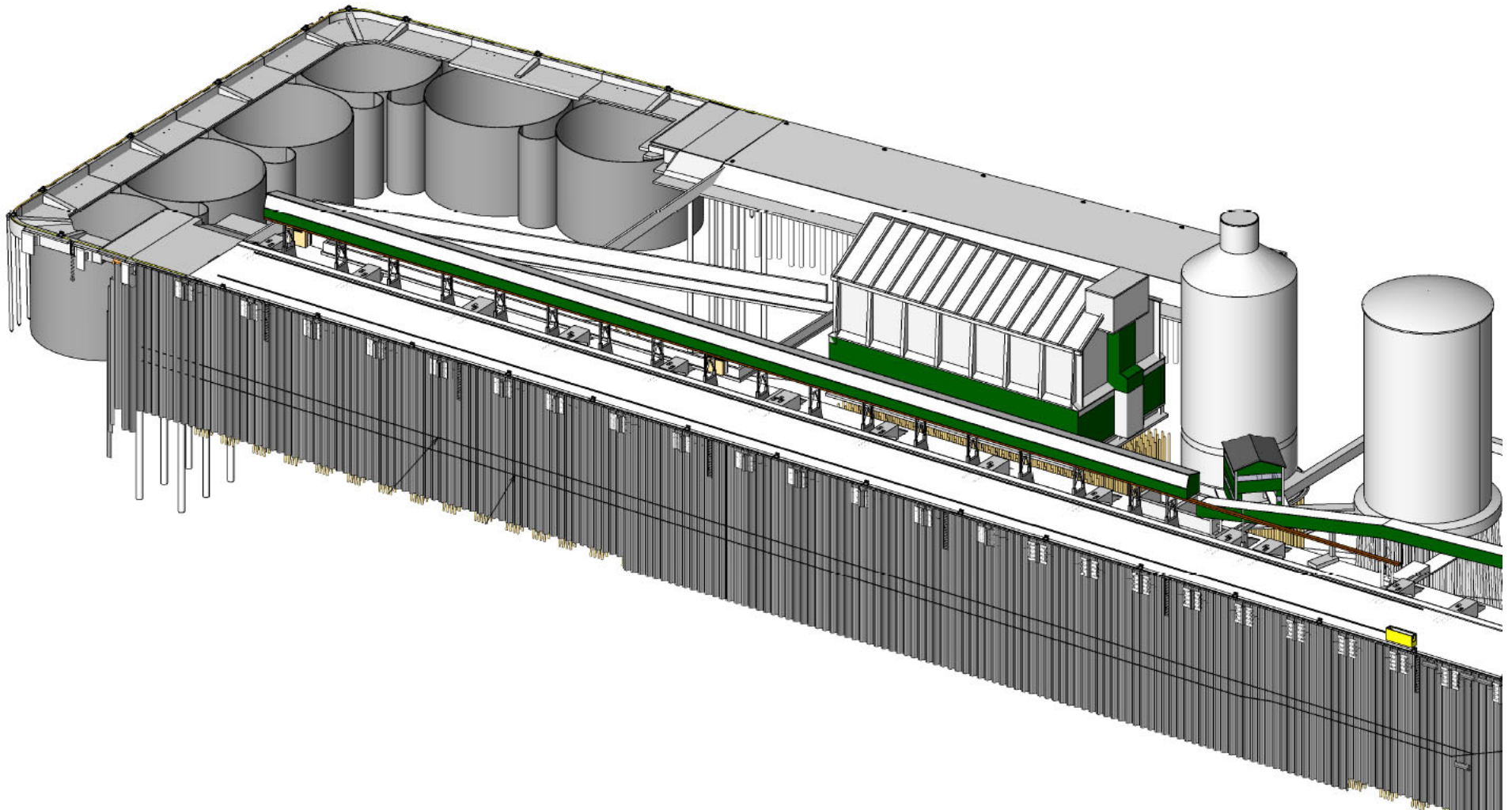
- Contingency space for 'redredging' and bulking
- Settlement of the dredged material and structures
- Long-term containment of contaminants



CDF and Existing Structure Settlement



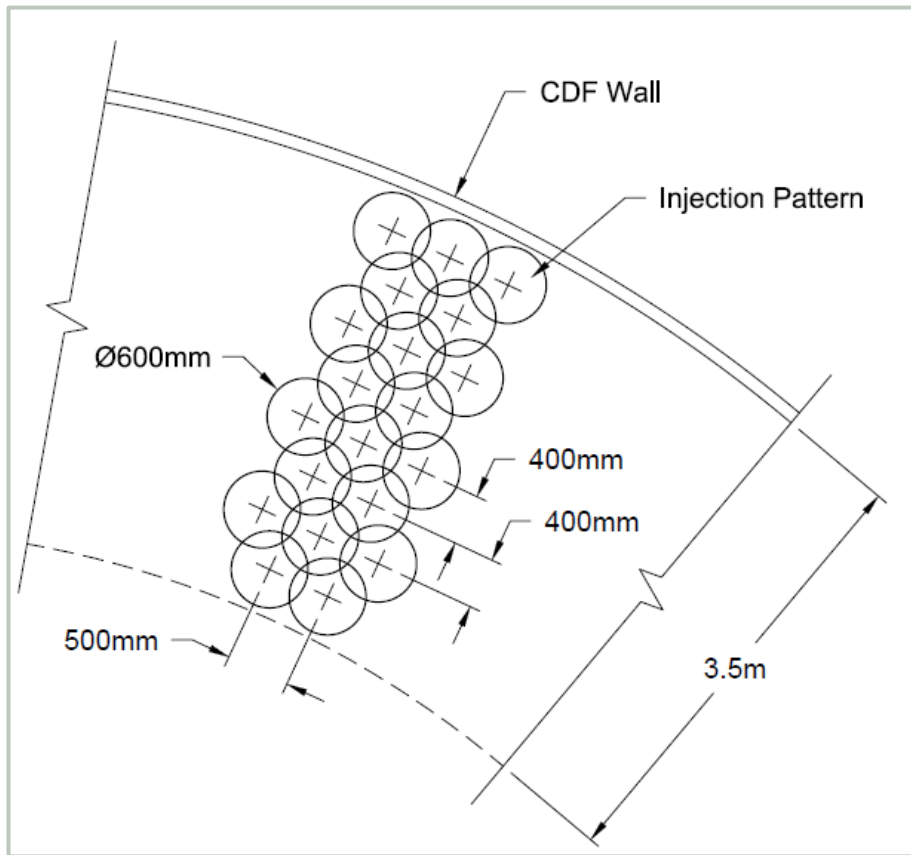
CDF Layout



Building the CDF



Stabilization Approach



Final Cover – Perimeter Deck



Final Cover – Perimeter Deck



Final Cover – GCL



Final Cover – Superstructure



New Port Expansion



Lessons Learned

- Think beyond the 'contaminated sediments' project
- Engage all stakeholders for input, but also with wide lens to identify synergies
- Integrate development goals into the cleanup action plan as early as possible



Questions

