FRASER CROSSING
PROJECT CORP

Marine Users Working Group

Presented By: Fraser Crossing Partners and Transportation Investment Corporation

January 30, 2025

Welcome

- Review of November 28 Meeting Minutes
- Navigation Log
- Project Update
- Demolition Planning Update
- River Monitoring Update
- 4 Week Look-Ahead Schedule
- Roundtable Discussion
- Next Steps

Review of Meeting Minutes

November 28, 2024

Meeting Minutes – November 28, 2024

- FCP provided a Project update:
  - S1 cantilever construction ongoing – SM-06 near complete / SM-07 to begin shortly.
  - South approach girder and deck panel installation ongoing
  - North approach girder installation ongoing between Columbia St. and N1.
- FCP provided a river monitoring update:
  - Comparative bathymetry survey results from Sept to Nov, 2024 confirmed erosion near CN Pier 5.
  - Scour intervention required at CN Pier 5 to prevent further under cutting of the riprap apron, per request of CN Rail. Work will be completed within the 2024 least-risk fish window involved the placement of about 3,000 tons of class 250 riprap. ***This work is now complete.**
  - Illustrations/cross-sections of existing and future vessel draughts presented confirmed that existing and future marine use is not impacted
  - Confirmed that that the planned intervention does not result in significant change in modelled velocities and hence no impact to navigation.
- FCP provided a 4-week look-ahead:
  - CN Pier 5 scour intervention works to commence – activities to be communicated via NAVWARNs
  - SM-06 to take place concurrently with CN Pier 5 work / SM-07 to begin early Dec / SM-08 to begin mid-Dec

Navigation Log

Marine Occurrences as a Result of the Project

**No updates to report*

Project Update

Works in Progress

Project Update

S1 Tower and Cantilever Construction

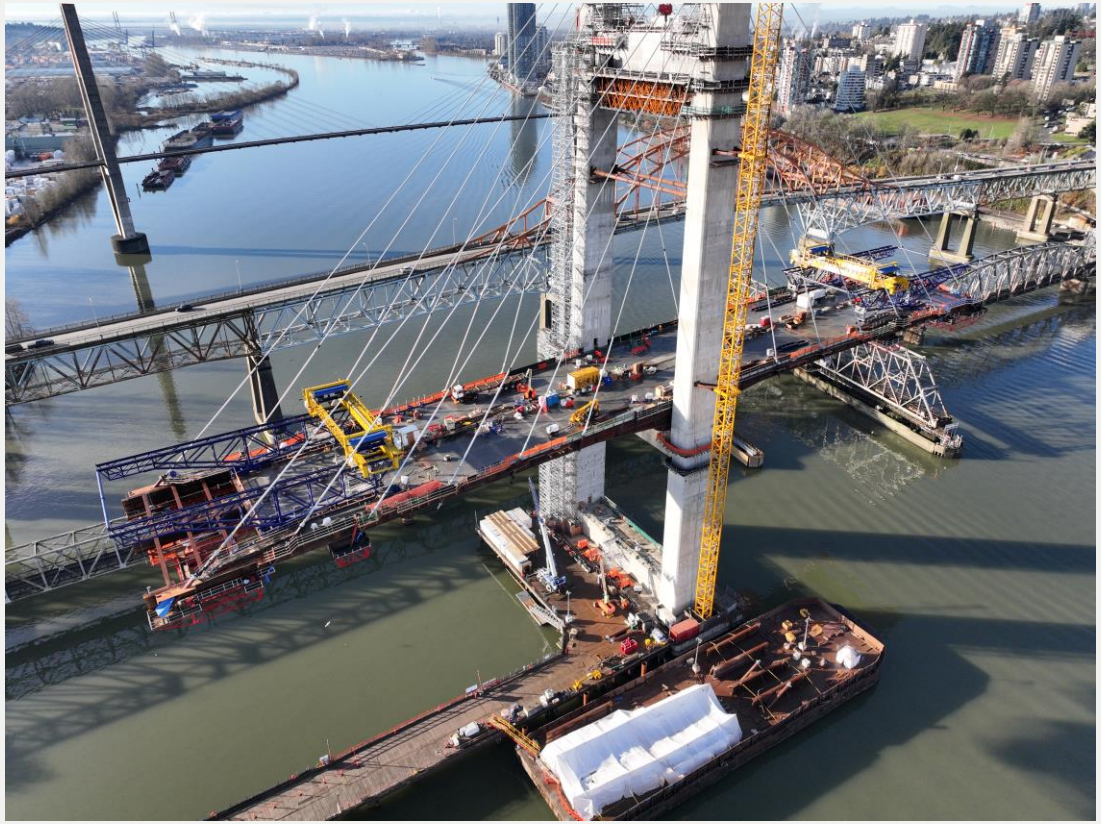


Photo 1: Pier S1, looking northwest

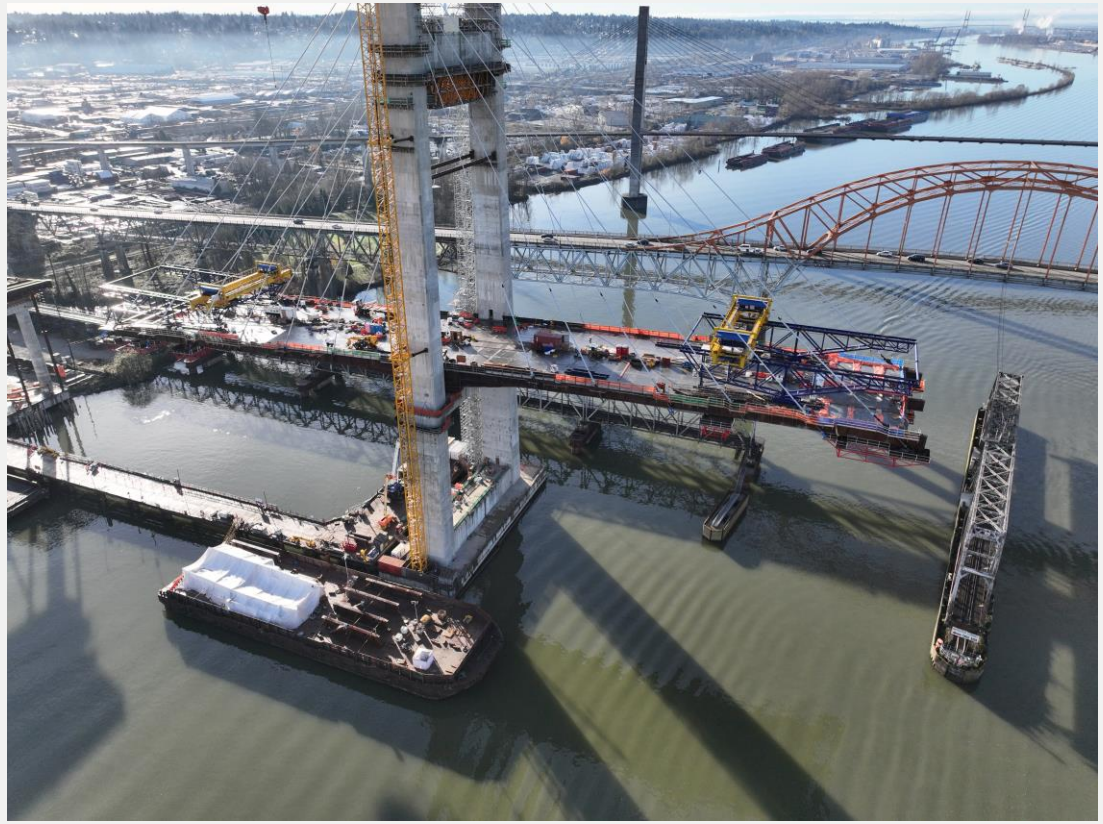


Photo 2: Pier S1, looking northeast

Project Update

South Approach Girder Installation

Photo 3: South Approach girder and deck installation

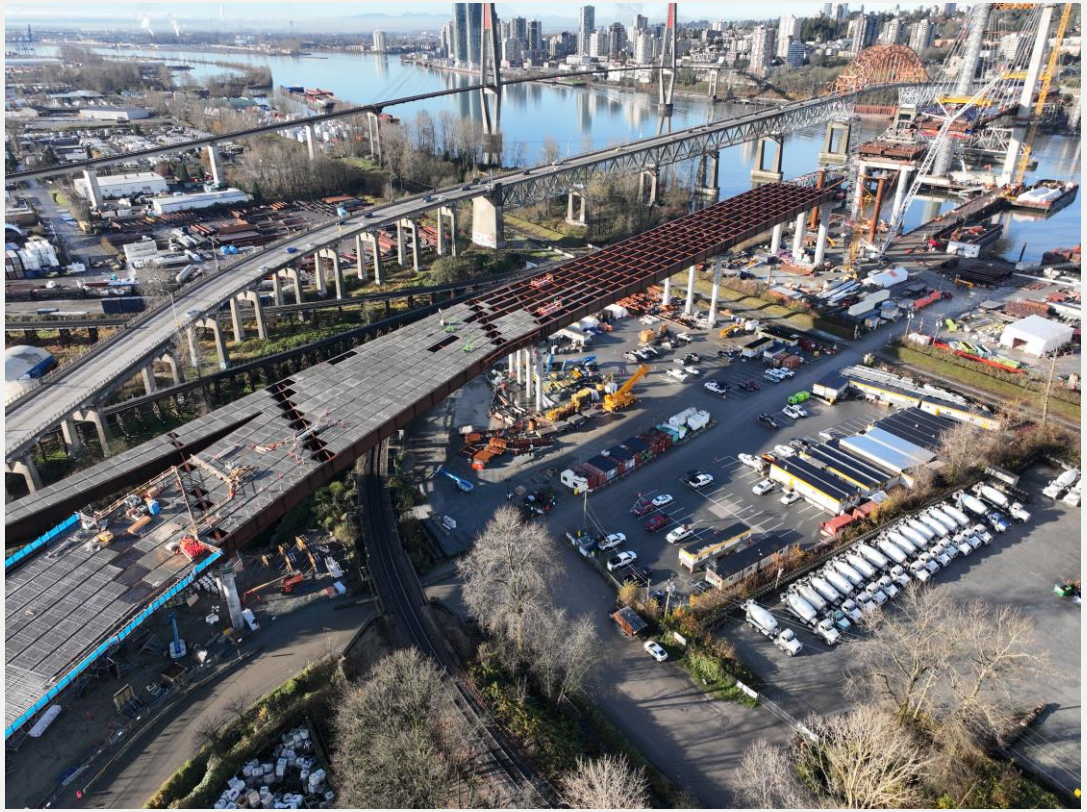


Photo 4: South Approach girder and deck installation

Project Update

N1 Tower and North Approach Girder Installation

Photo 5: Ongoing girder installation at N1 Tower

Photo 6: Ongoing girder installation for the North Approach

Project Update

CN Pier 5 Scour Intervention Complete

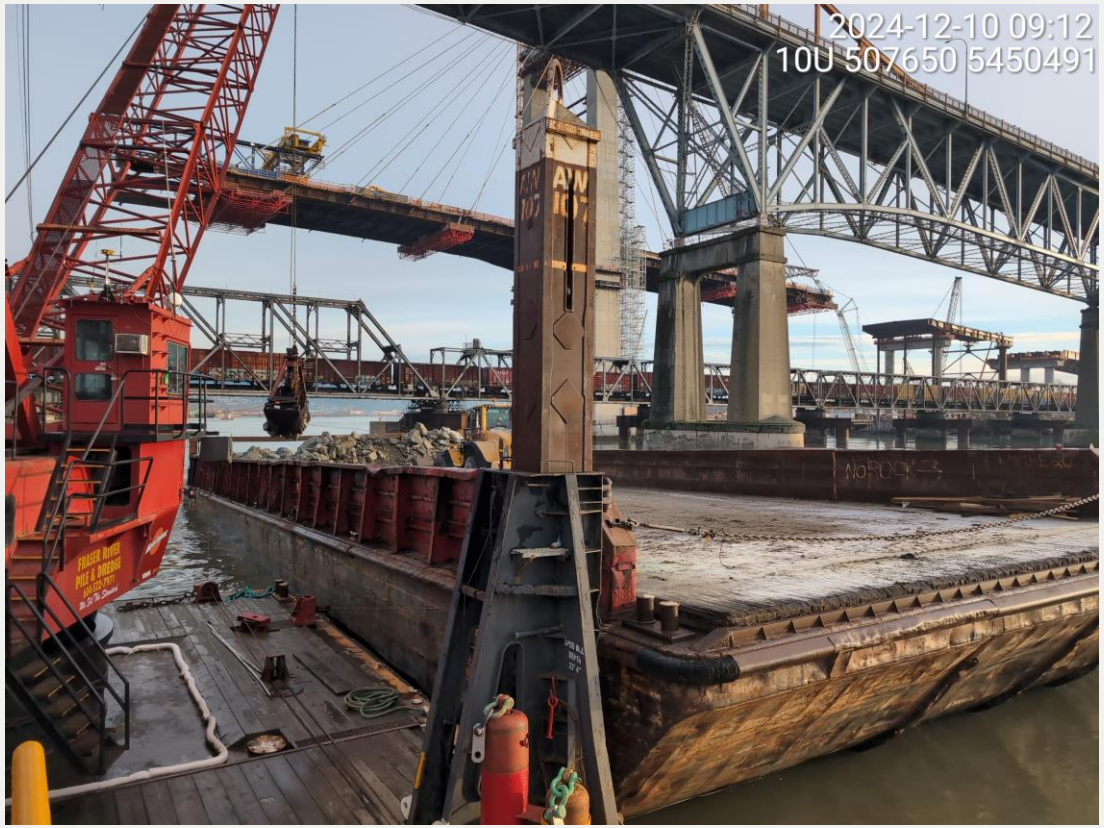
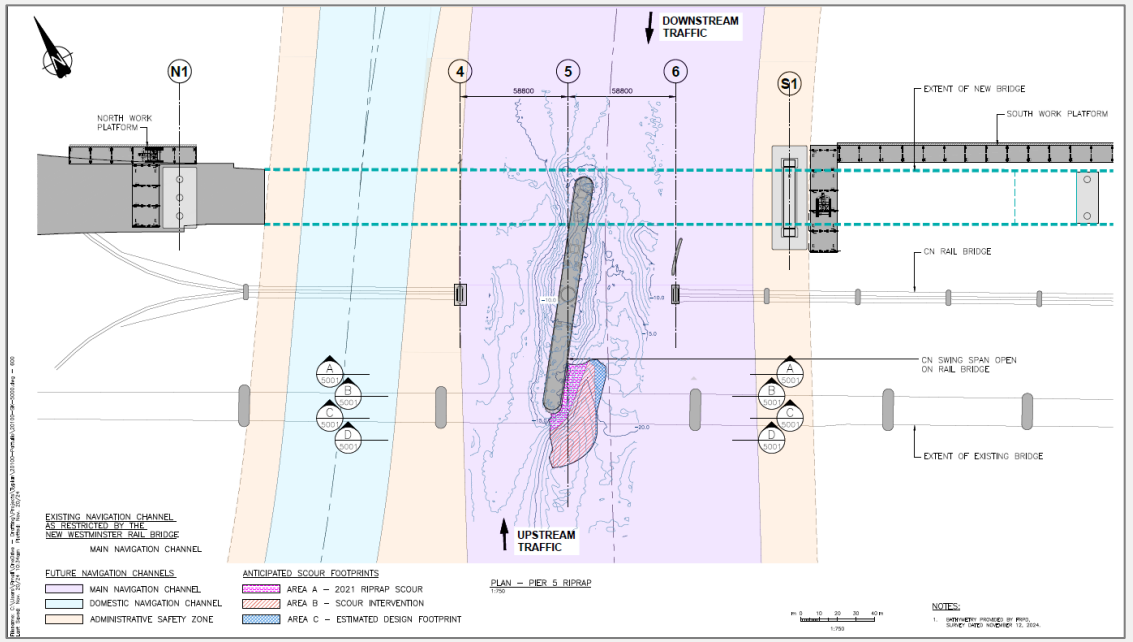


Photo 7: Rock placement at CN Pier 5



Demolition

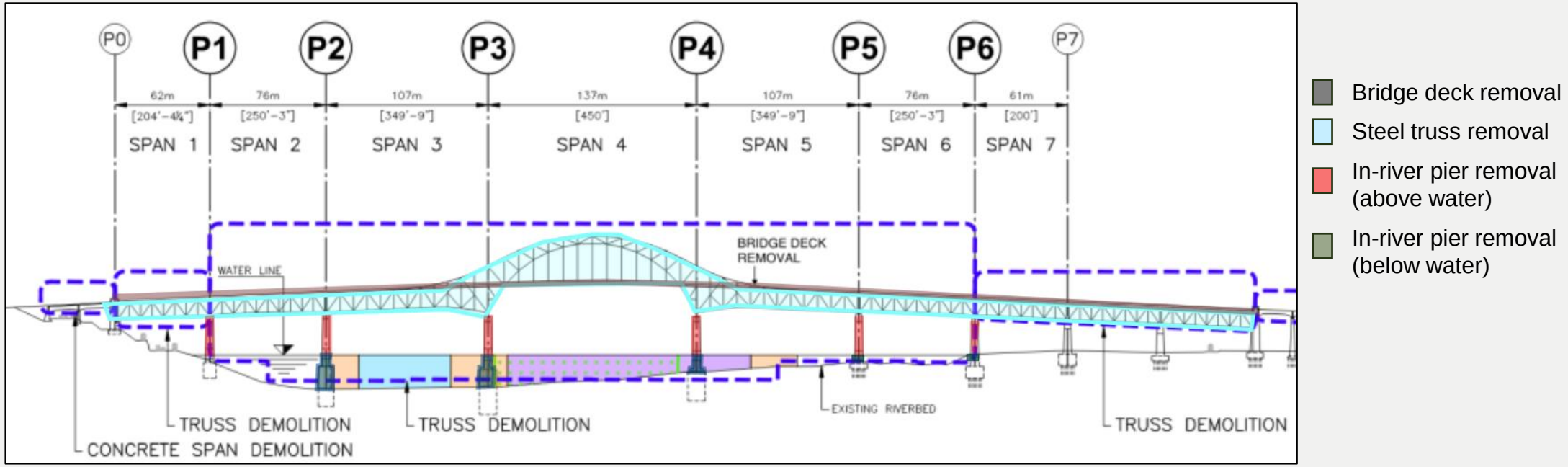
Demolition Planning Updates

Demolition Works

- Demolition consists of three main scopes of work, each having their own form of potential interference to navigation. These activities include:
    1) Bridge deck removal
    2) Steel truss removal
    3) In-river pier removal
- With progression of detailed design, FCCGP has been exploring methods to further limit interferences to navigation

Demolition Planning – Updates

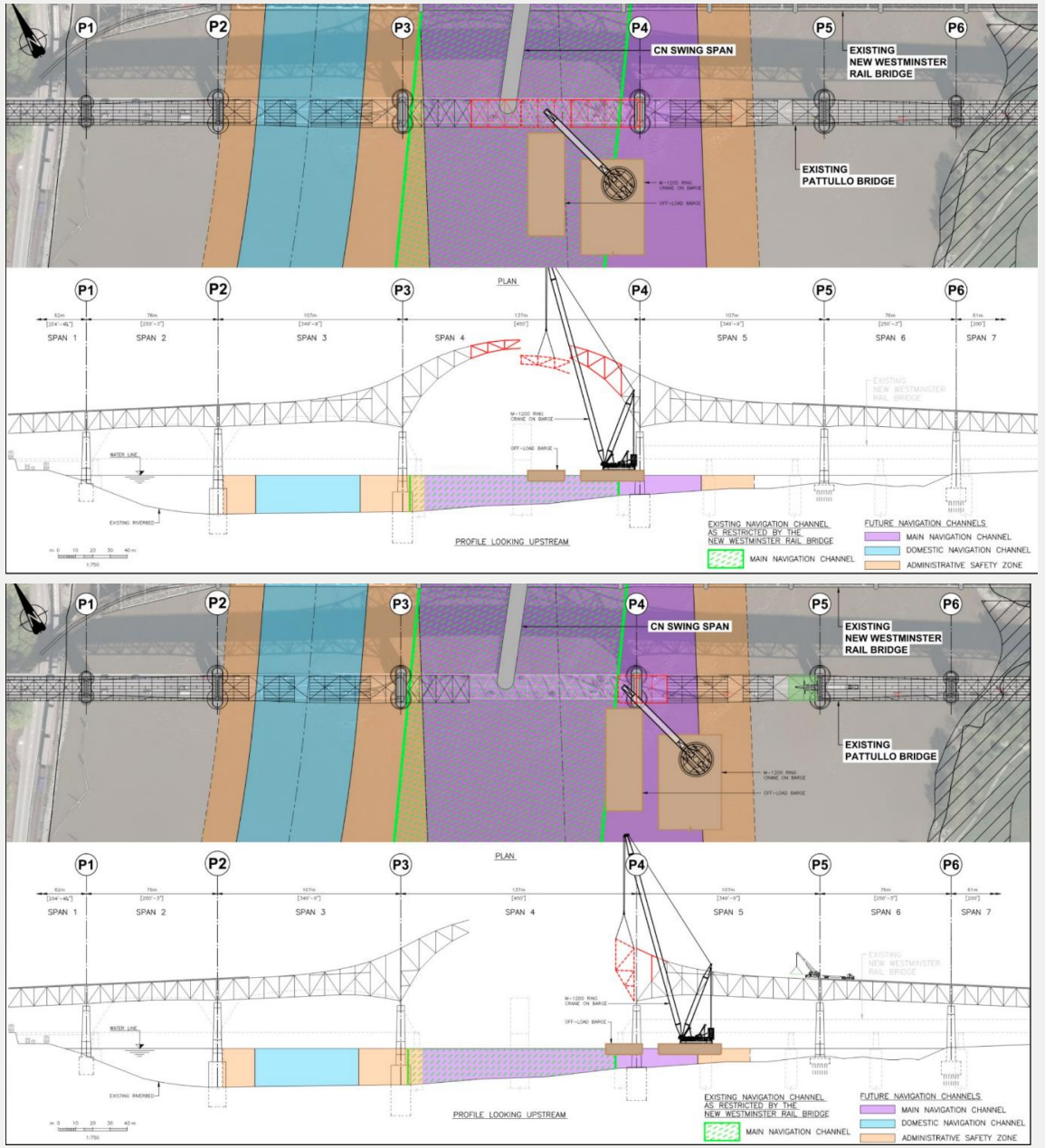
1. Bridge deck removal – methods remain the same (overhead removal)
2. Steel truss removal – *alternative approach being considered to further limit interferences to navigation*
3. In-river pier removal – challenges identified with wire saw cutting; exploring alternative methods



Main Span(s) – Steel Truss Removal

Original Plan:

- Use of a large in–water barge crane for removal of span 4 in multiple “picks” and loading onto off-load barge
- Would require barges positioned in the main navigation channel between Piers P3 and P4
- Restrictions to navigation evident in both Downstream/Upstream draws
- Estimated duration of works: 4 wks



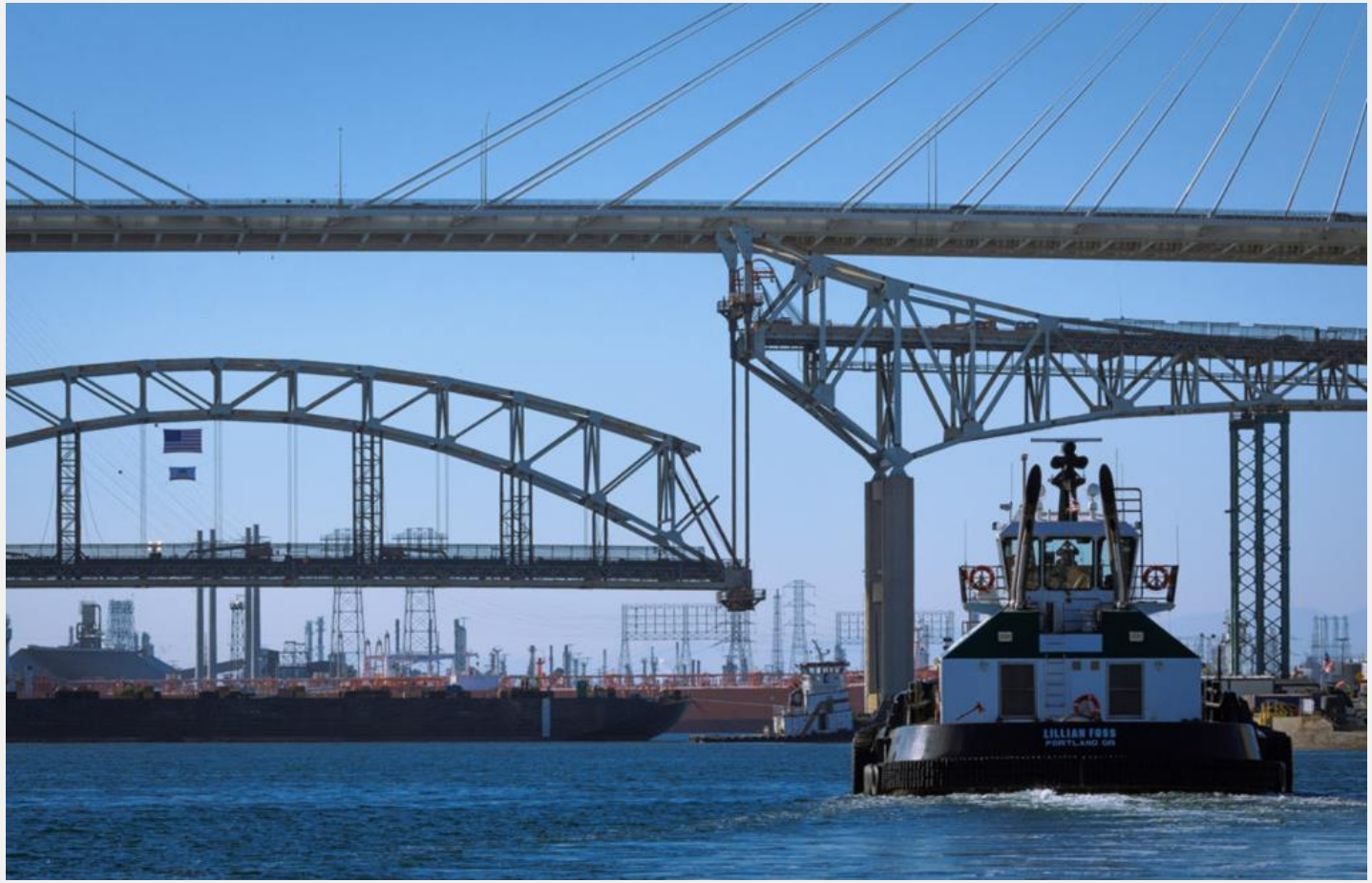
Main Span Truss Removal

Proposed Approach similar to Gerald Desmond Bridge Demolition In Los Angeles

- Gerald Desmond Bridge Demolition:
  - Involves construction of new bridge and removal of old bridge

Main Span Cut

Main Span Lowered onto Barge



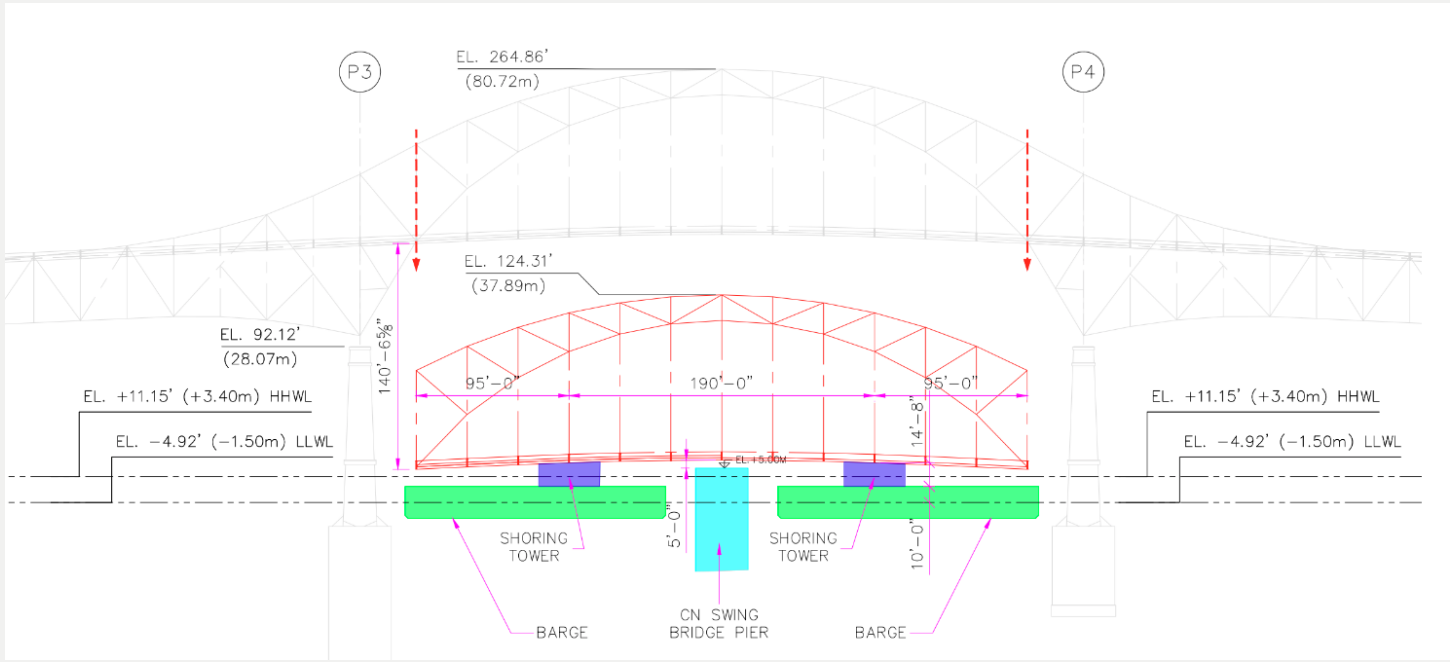
Key differences between the Projects:

- Gerald Desmond piers on land vs Pattullo piers in river
- PBRP requires CN Rail approval/coordination given proximity to New Westminster Rail Bridge and swing span

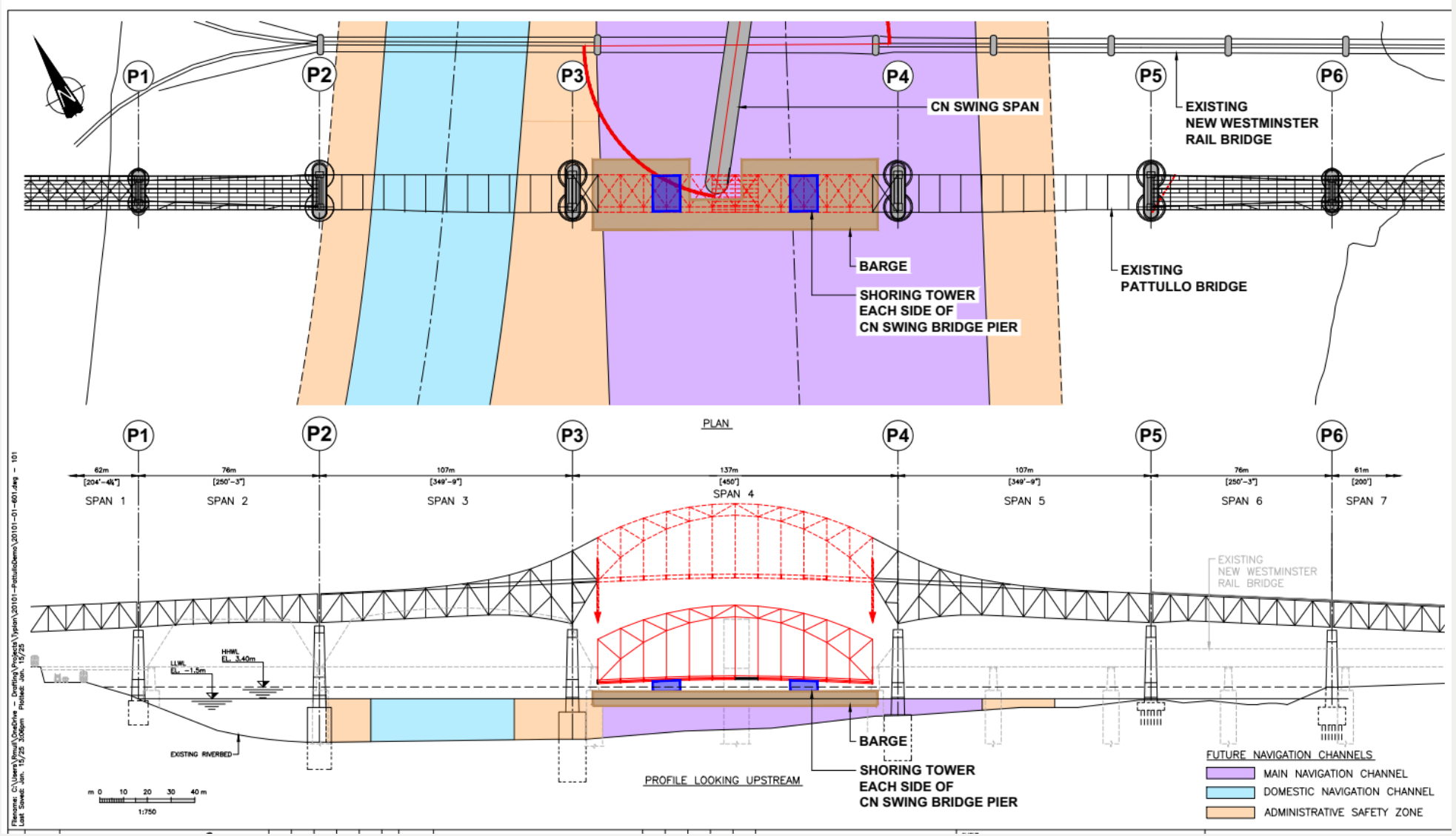
Main Span Truss Removal

Proposed Approach

1. Set up barge next to piers with shoring towers positioned on either side of a vertical member
2. Use strand jacks to lift up the span off the pier(s) bearings
3. Move barges with steel span away from piers
4. Lower steel span down onto barges
5. Send directly to recycling facility (e.g., Schnitzer Steel immediately upstream)

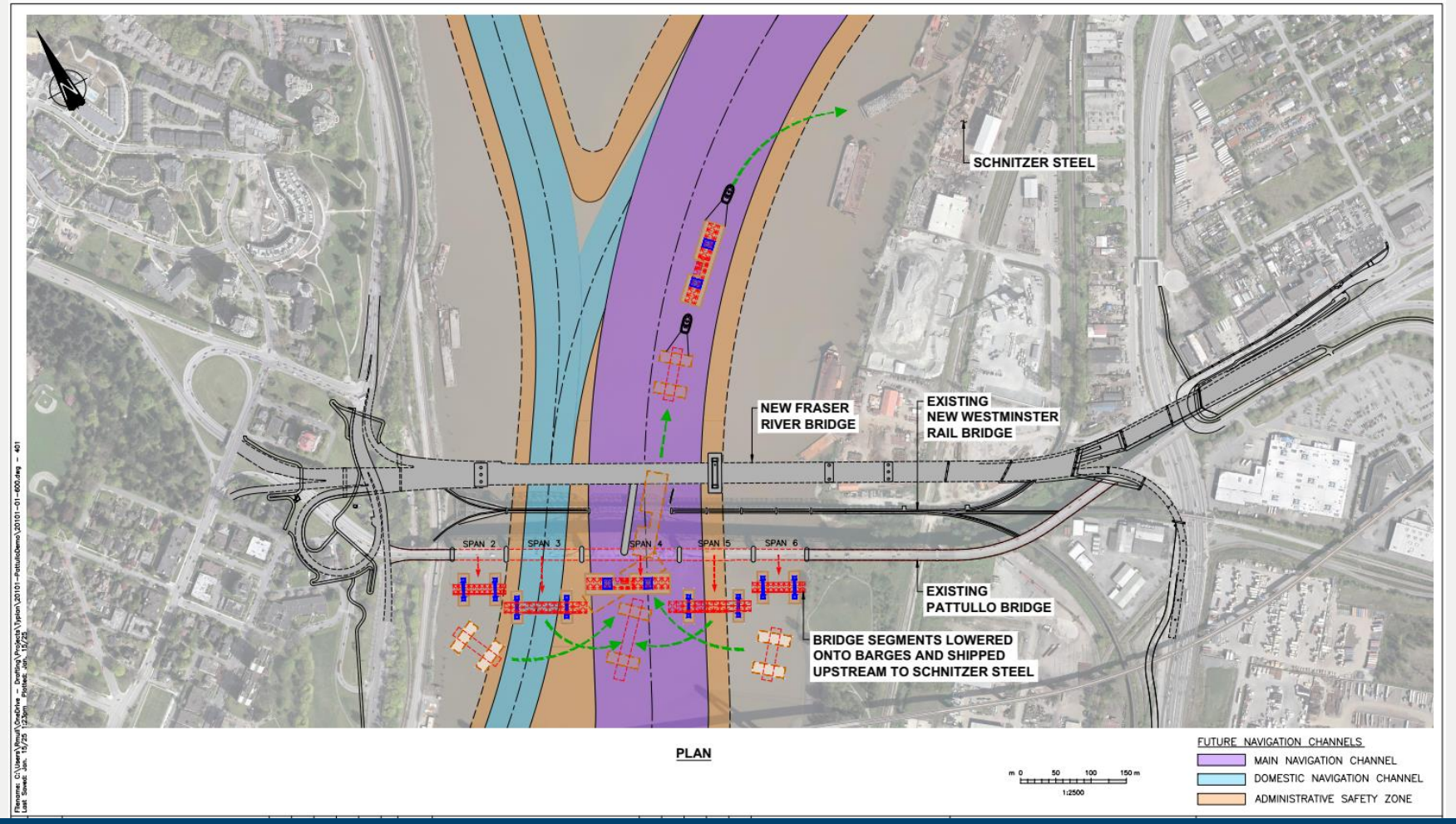


Pattullo Main Span – Span 4 Removal



Steel Truss Removal

Proposed Approach – Barge Transits



Similar approach being reviewed for other spans

Main Span Truss Removal – Key Navigation Benefits

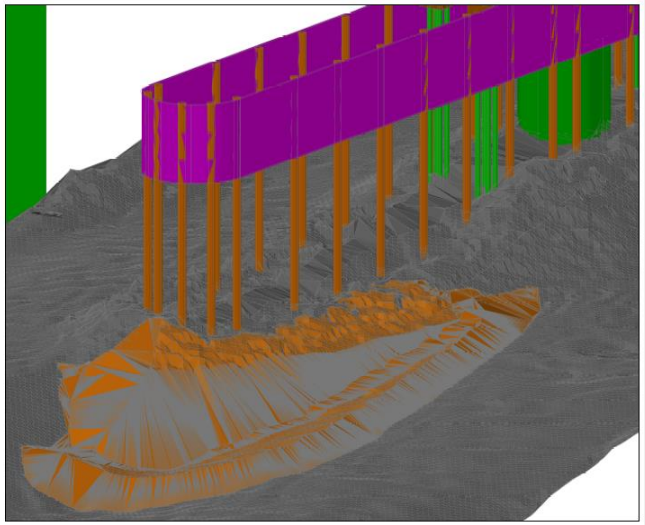
- Requires short term closure of navigation channel:
  - Worst case scenario: Complete within 36 hrs
  - Best case scenario: Complete within 12 - 24 hrs
  - Works could be scheduled over weekend (anticipated Jan/Feb 2026)
- Potential to coordinate/schedule works to support supply chain management needs (i.e., CMC)
- Reduces interferences to navigation (weekend closure vs restrictions to navigation over 4wks)

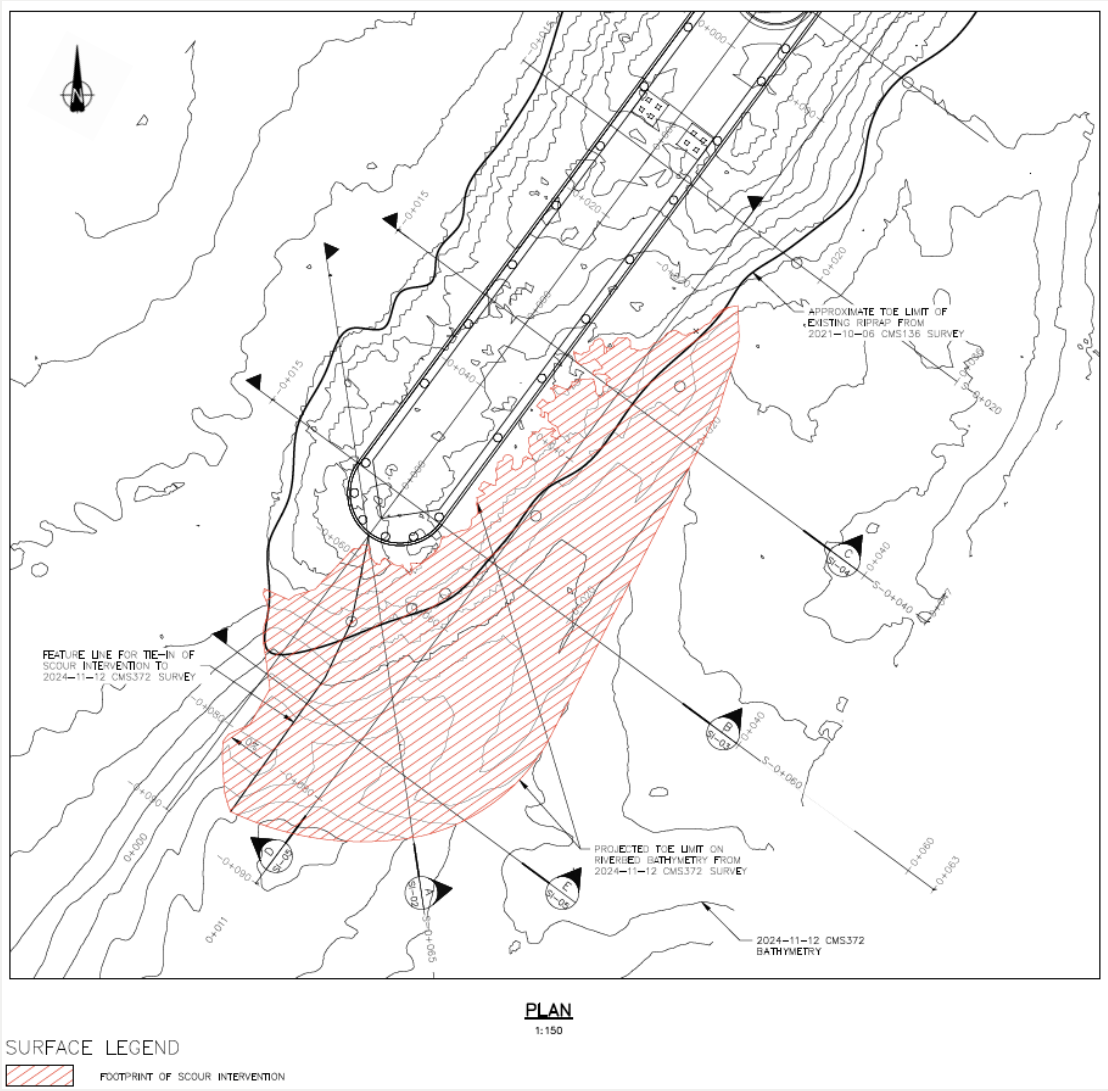
River Monitoring Update

Scour intervention and updated monitoring results

Scour Intervention at CN Pier 5

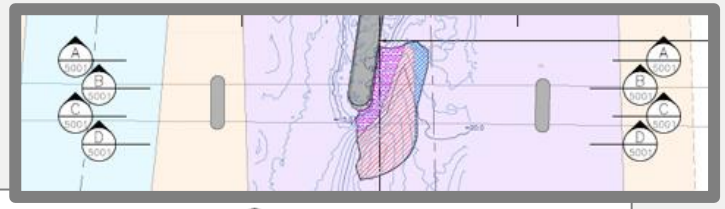
- Scouring SE of CN Pier 5, along with portion of riprap apron launching/displacement requires emergency intervention at the request of CN Rail.
- Involved placement of class 250 riprap (volume +/-1600 m^3) to shore the scour slope up to previous scour protection elevation.
- Design balanced protection of CN Pier 5, whilst avoiding adverse impacts on adjacent piers.
- Works completed in December 2024.
- FCCGP to provide final as-built drawings to meet VFPA requirements.

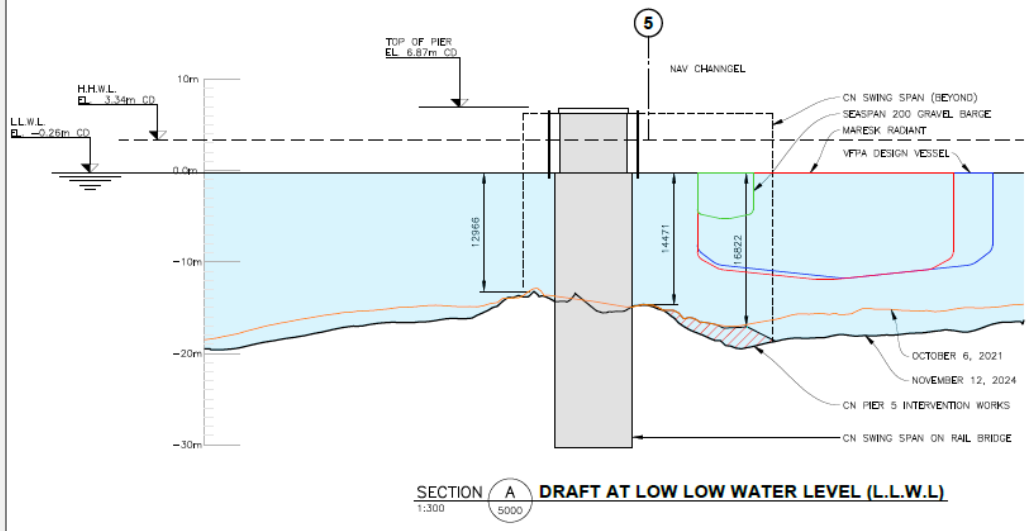




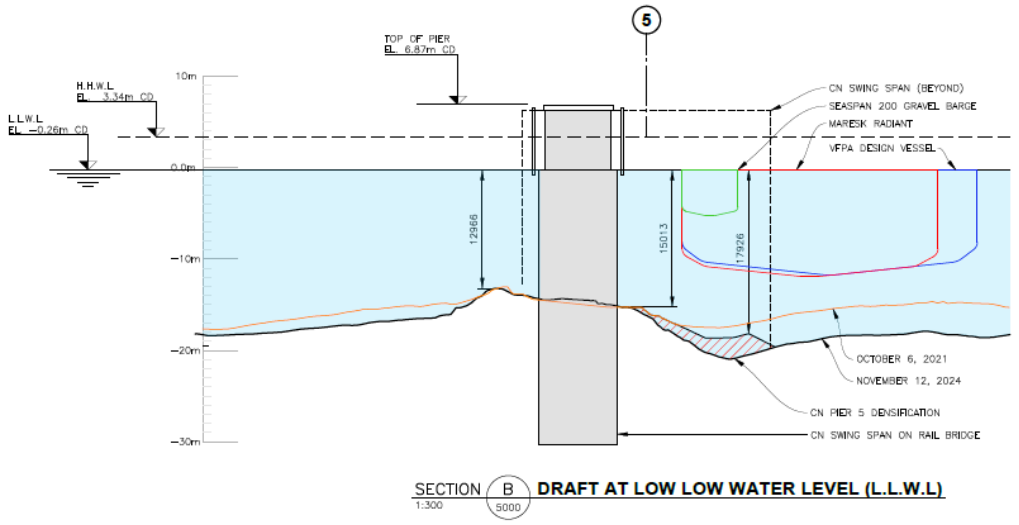
CN Pier 5 Intervention

Vessel Draughts

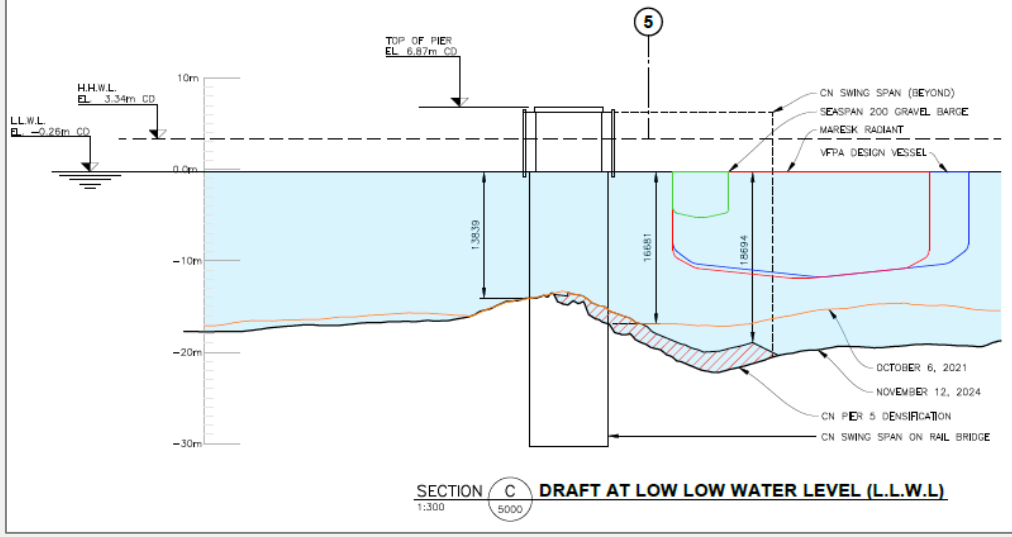




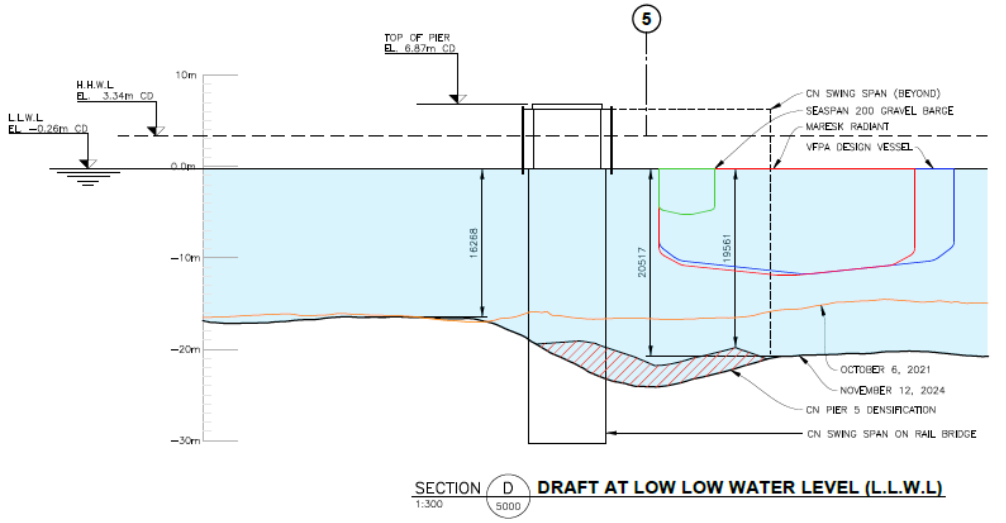
SECTION A 1:300 5000 **DRAFT AT LOW LOW WATER LEVEL (L.L.W.L)**



SECTION B 1:300 5000 **DRAFT AT LOW LOW WATER LEVEL (L.L.W.L)**



SECTION C 1:300 5000 **DRAFT AT LOW LOW WATER LEVEL (L.L.W.L)**



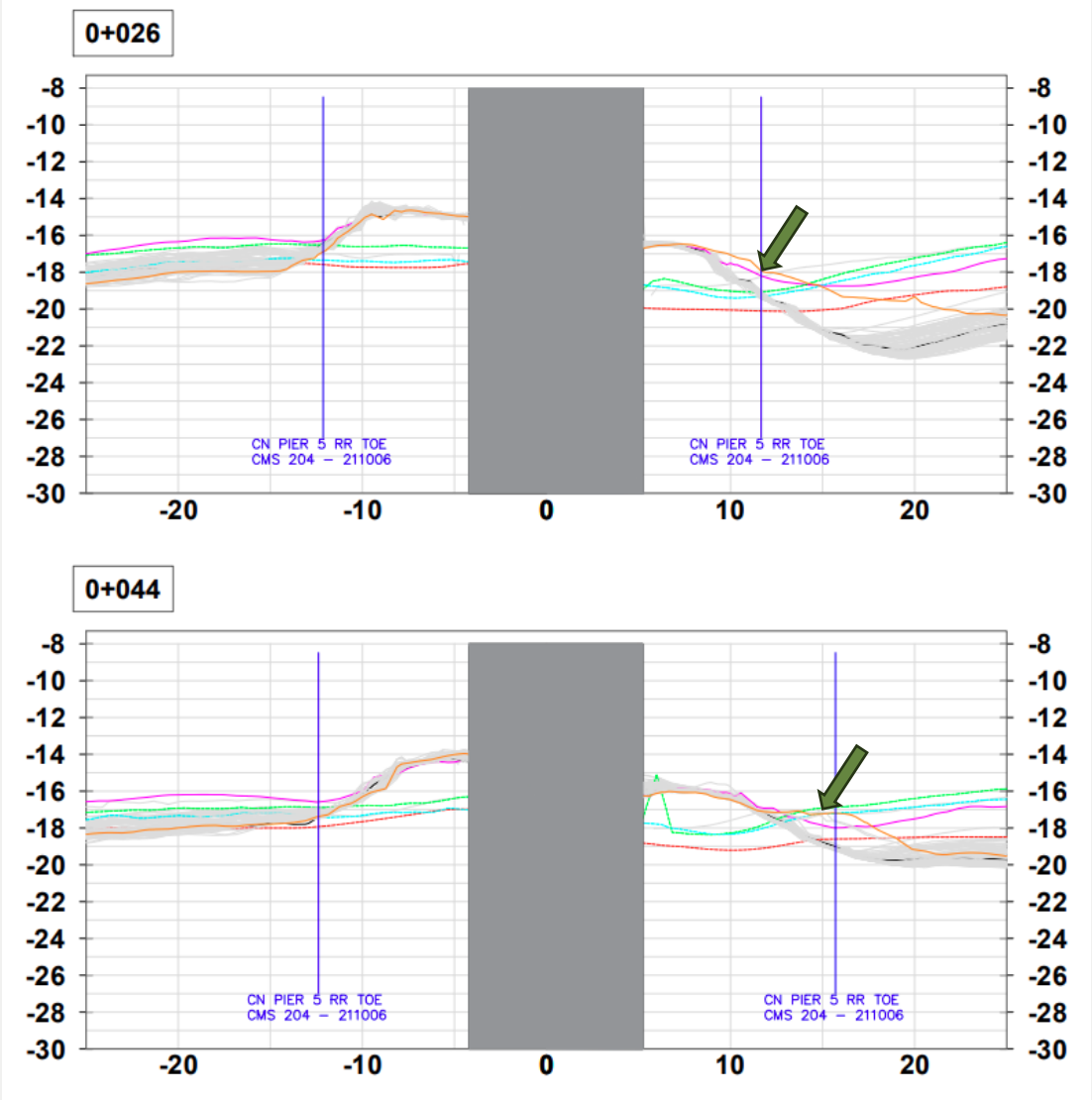
SECTION D 1:300 5000 **DRAFT AT LOW LOW WATER LEVEL (L.L.W.L)**

Bathymetry Results

December 23, 2024

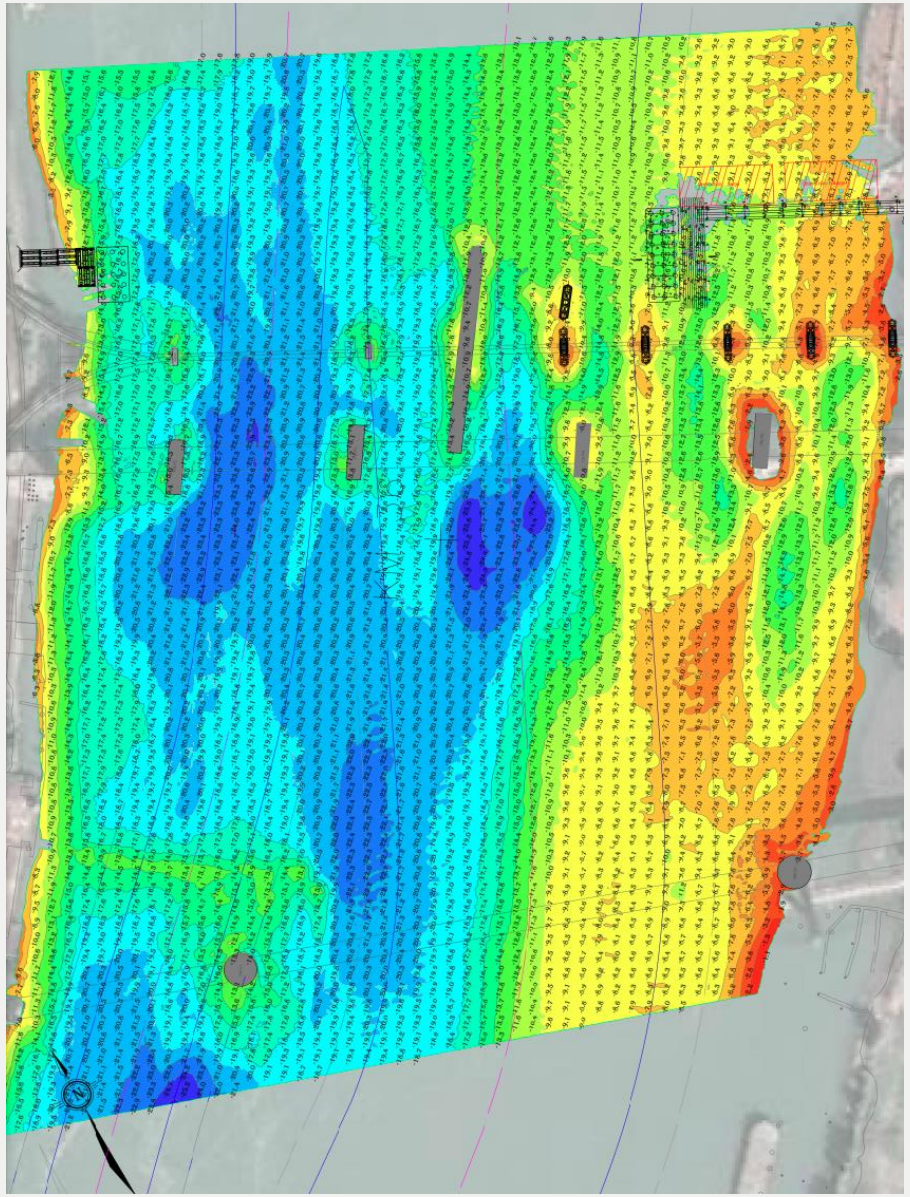
- Critical area survey results post CN 5 scour intervention works

Surface Legend		
Provincial Minimum	PA Min	
Historical Survey	20–12–10 Historical	
Pre–Construction	21–07–07 CMS136	
Rip Rap Install Complete	21–10–06 CMS204	
Pre–Freshet	23–04–26 LMS56	
Survey Period	23–05–03 to 24–12–16	
Latest Survey	24–12–23 CMS376	



Bathymetry Monitoring Survey Results –

January 13, 2025

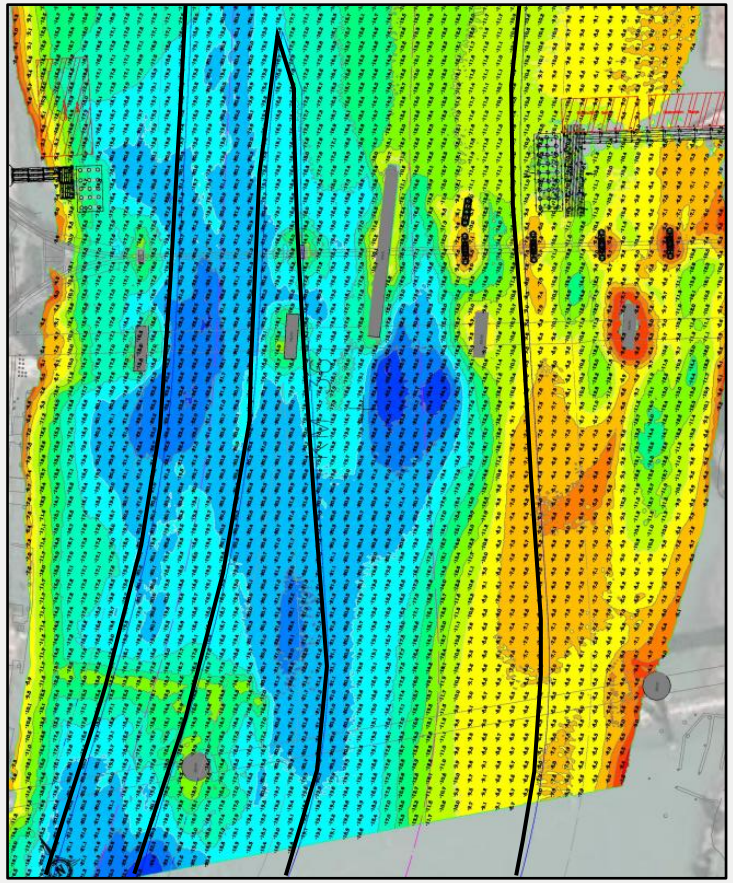


Elevations Table			
Number	Maximum Elevation	Minimum Elevation	Color
14	0.00	−2.00	
13	−2.00	−4.00	
12	−4.00	−6.00	
11	−6.00	−8.00	
10	−8.00	−10.00	
9	−10.00	−12.00	
8	−12.00	−14.00	
7	−14.00	−16.00	
6	−16.00	−18.00	
5	−18.00	−20.00	
4	−20.00	−22.00	
3	−22.00	−24.00	
2	−24.00	−26.00	
1	−26.00	−28.00	

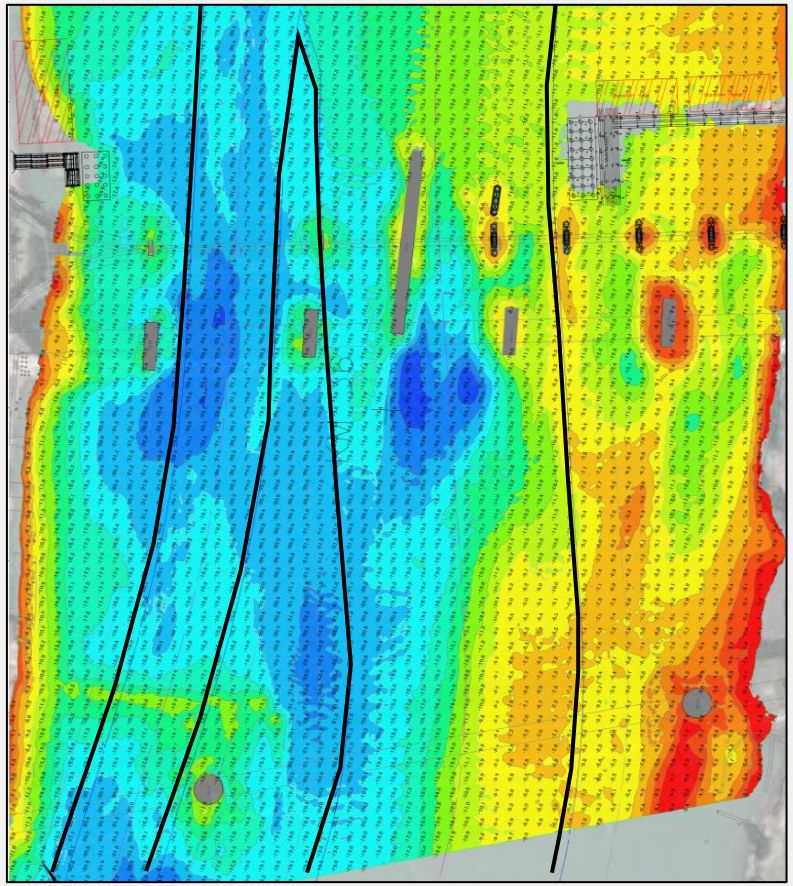
Bathymetry Results:

Comparison of Survey Results - Sep 2024 to Jan 2025

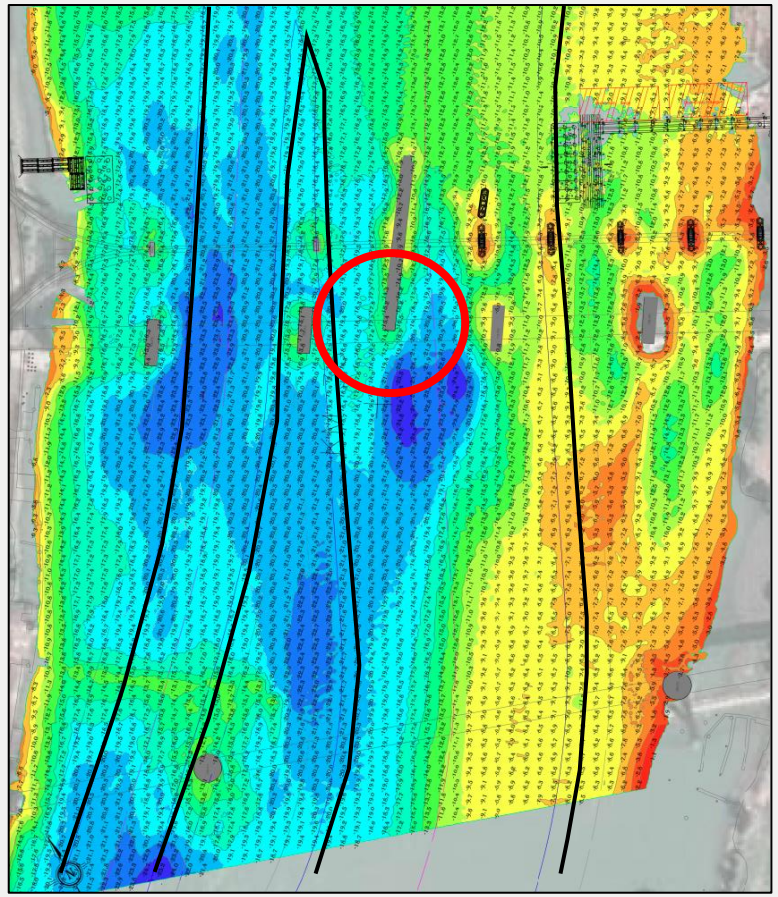
Elevations Table			
Number	Maximum Elevation	Minimum Elevation	Color
14	0.00	-2.00	
13	-2.00	-4.00	
12	-4.00	-6.00	
11	-6.00	-8.00	
10	-8.00	-10.00	
9	-10.00	-12.00	
8	-12.00	-14.00	
7	-14.00	-16.00	
6	-16.00	-18.00	
5	-18.00	-20.00	
4	-20.00	-22.00	
3	-22.00	-24.00	
2	-24.00	-26.00	
1	-26.00	-28.00	



September 23/24



November 18/24

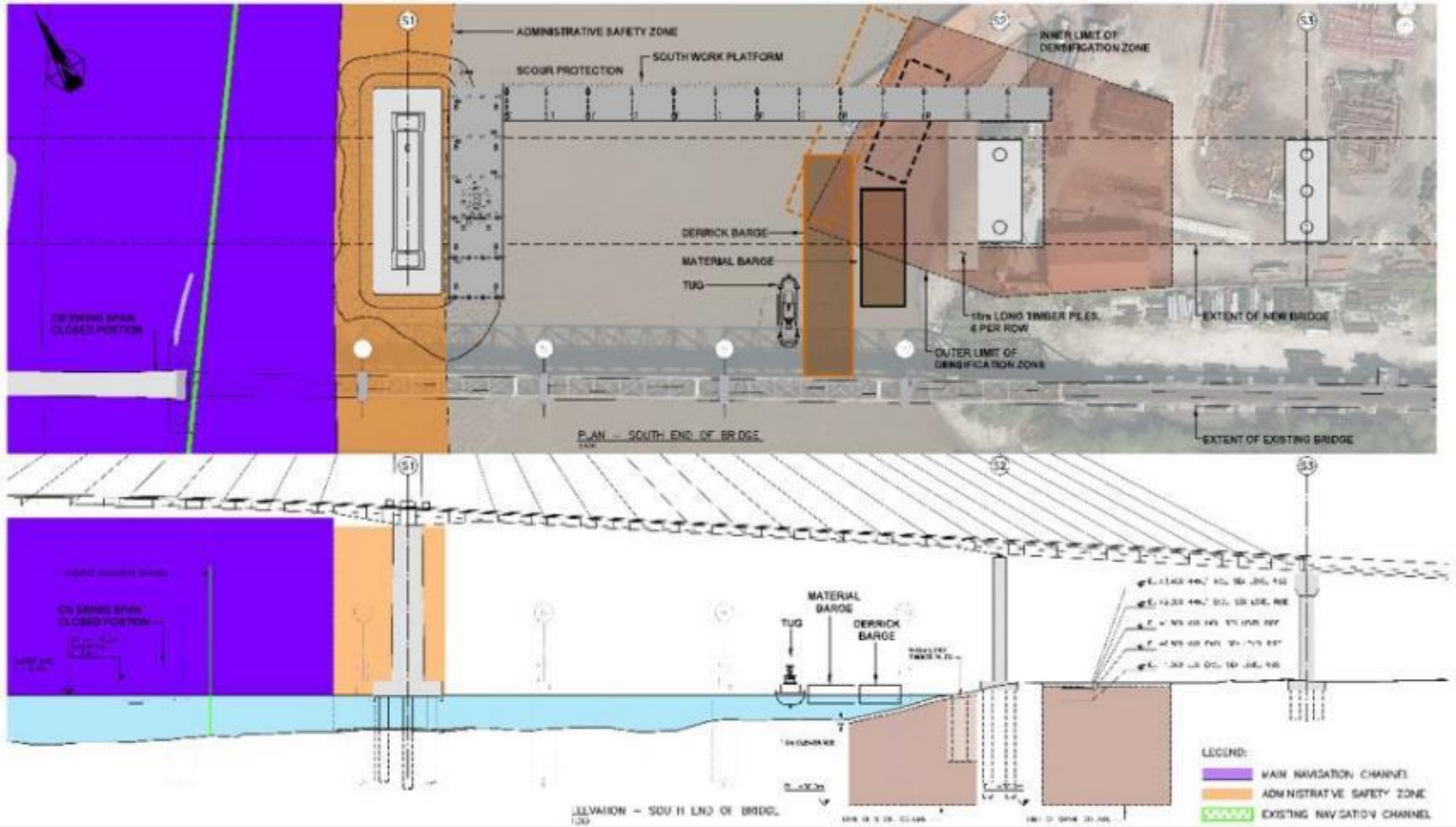


January 13/25 (post intervention)

4-Week Look-Ahead / Construction Staging

Construction Staging – South Bank

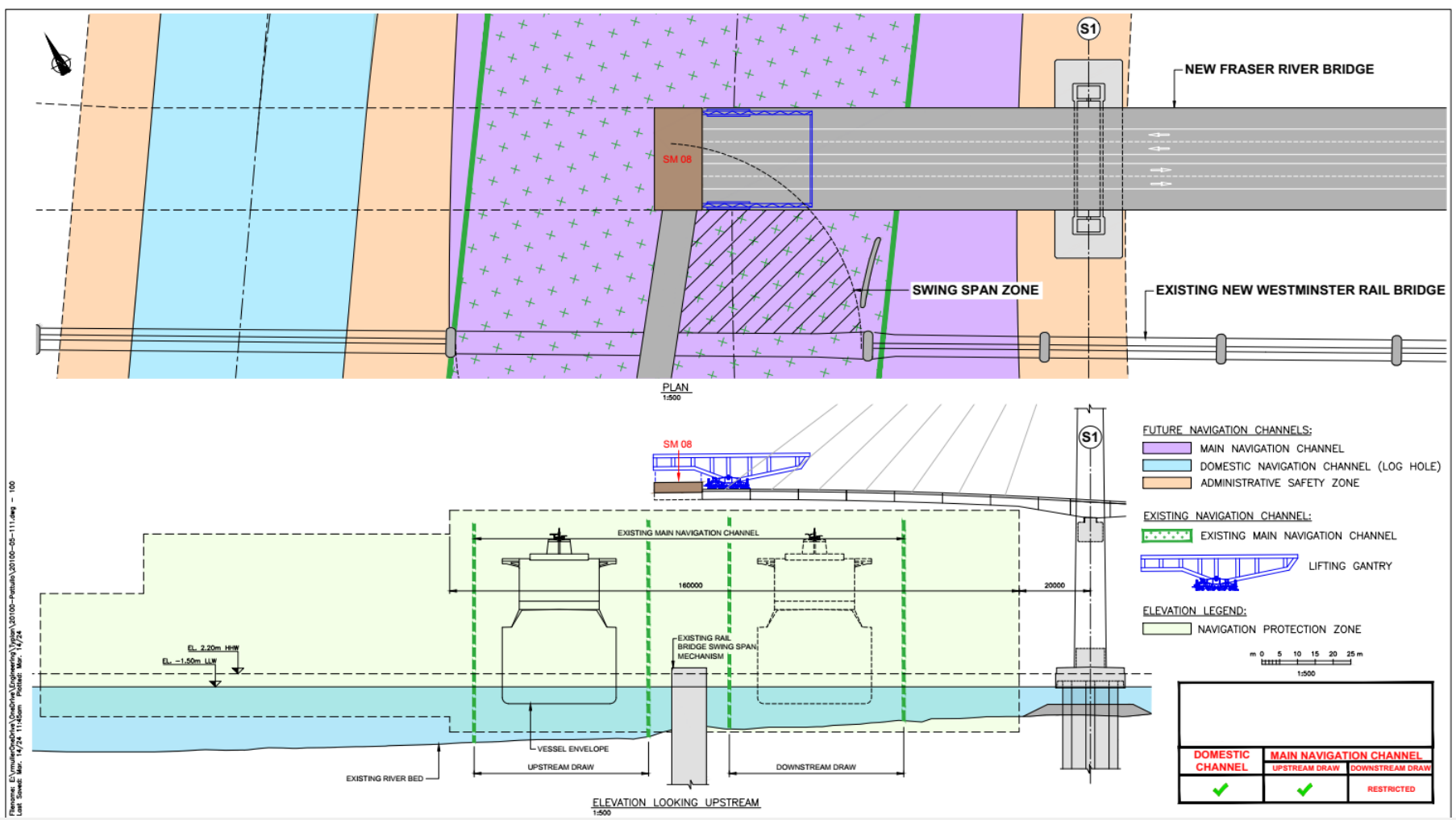
Pier S2 Soil Densification Works



- 4 cone penetration tests (CPT) to be within densification footprint
- Anticipated Start:
  - Jan 25
- Schedule:
  - ~1 week

Construction Staging – Cantilever Construction

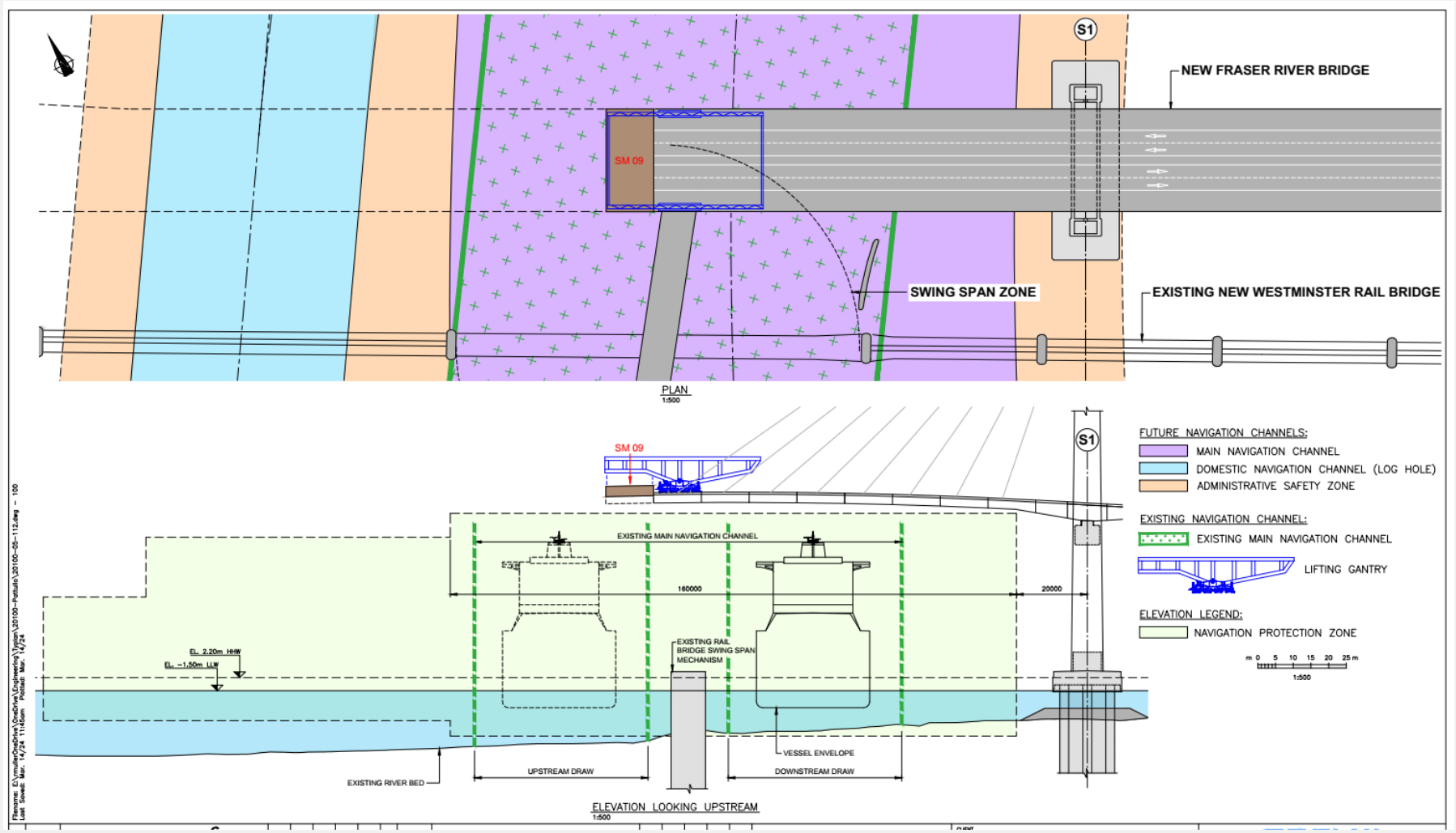
Segment SM-08



- Started Jan 13
- 2-3 week duration
- Restrictions in the downstream draw (approx. 11 hours, cumulative)

Construction Staging – Cantilever Construction

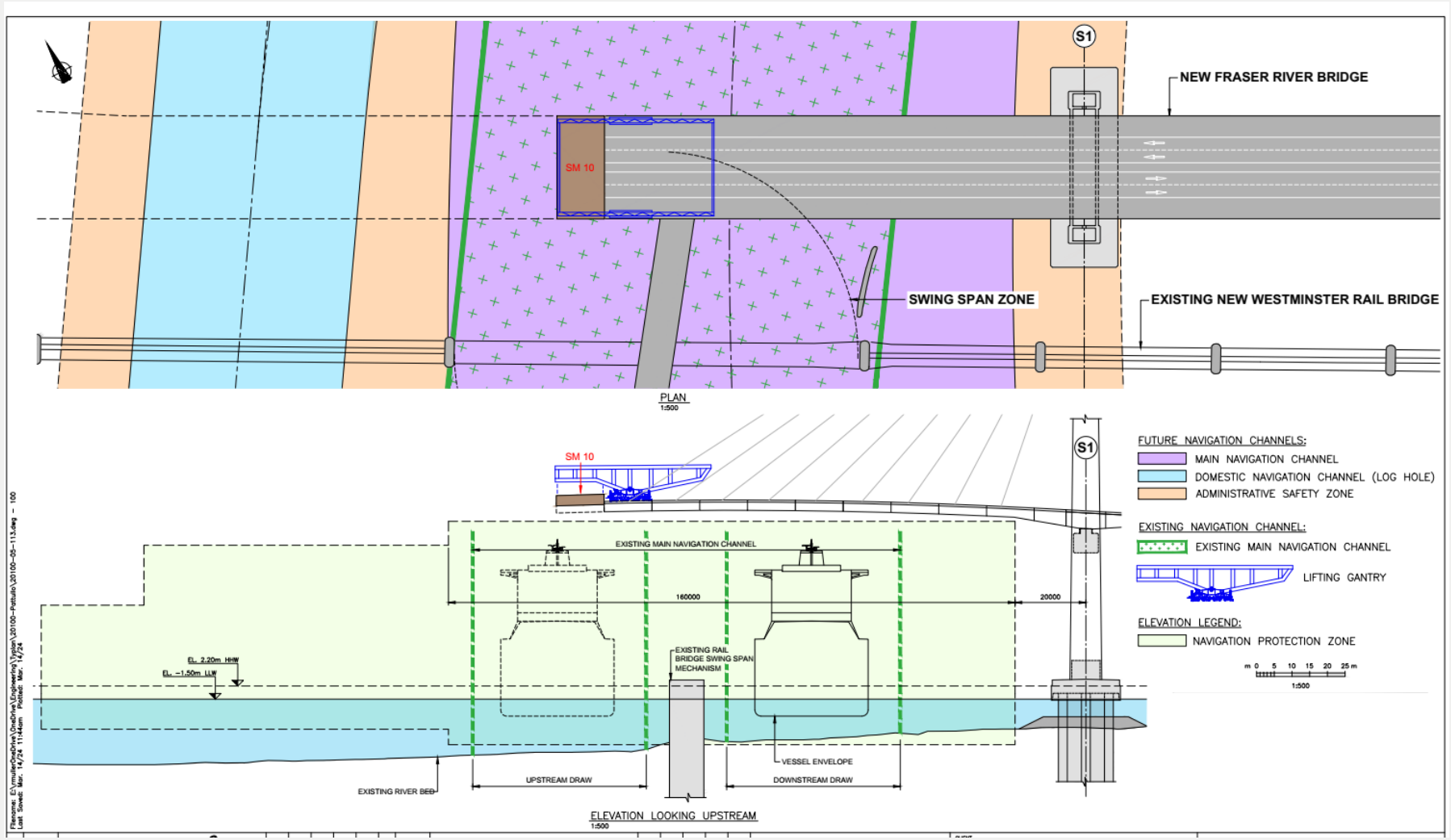
Segment SM-09



- Starting Jan 27
- 2-3 week duration
- Restrictions in the downstream draw (approx. 11 hours, cumulative)

Construction Staging – Cantilever Construction

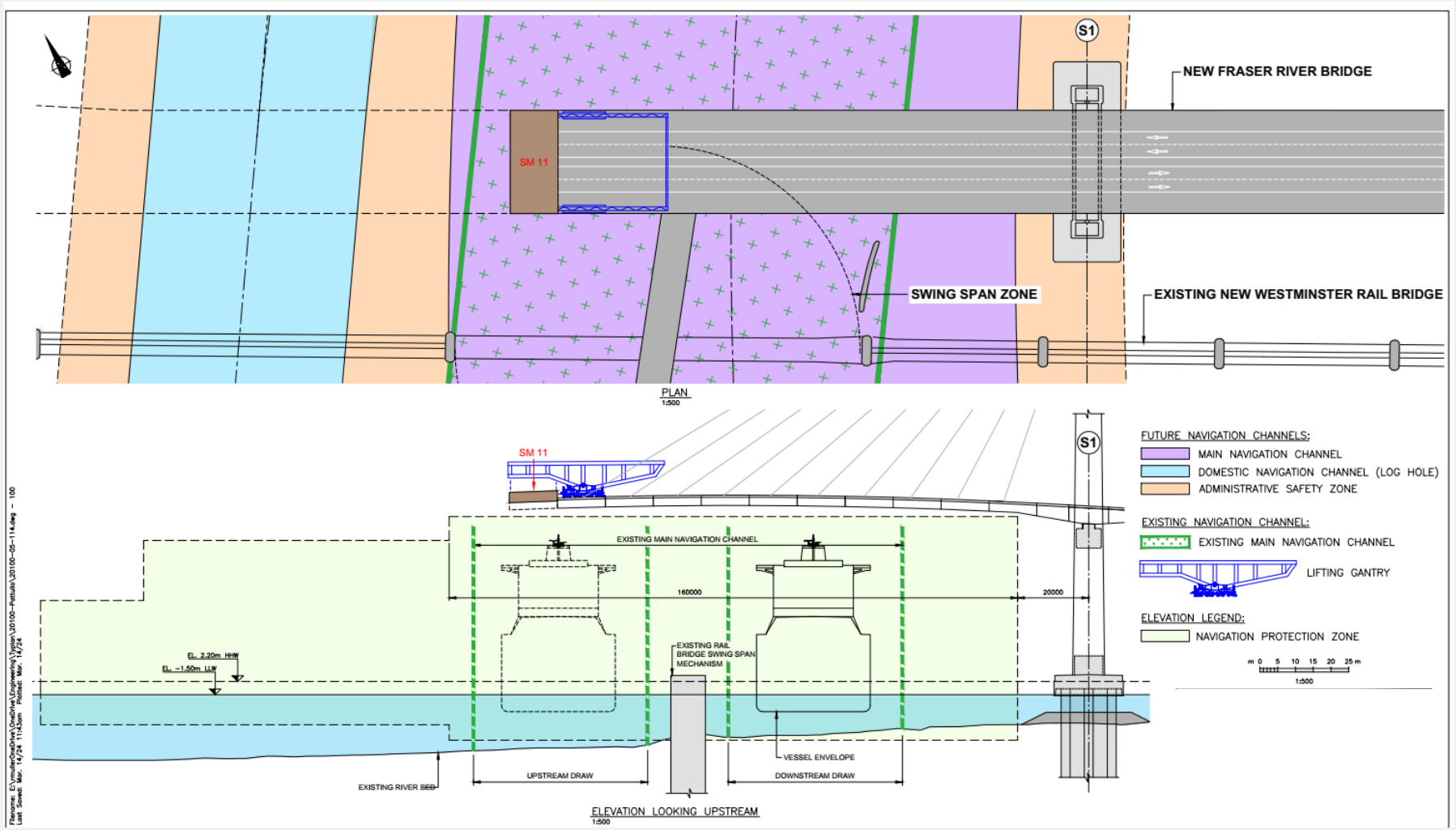
Segment SM-010



- Starting Feb 10
- 2-3 week duration
- Restrictions in the downstream draw (approx. 11 hours, cumulative)

Construction Staging – Cantilever Construction

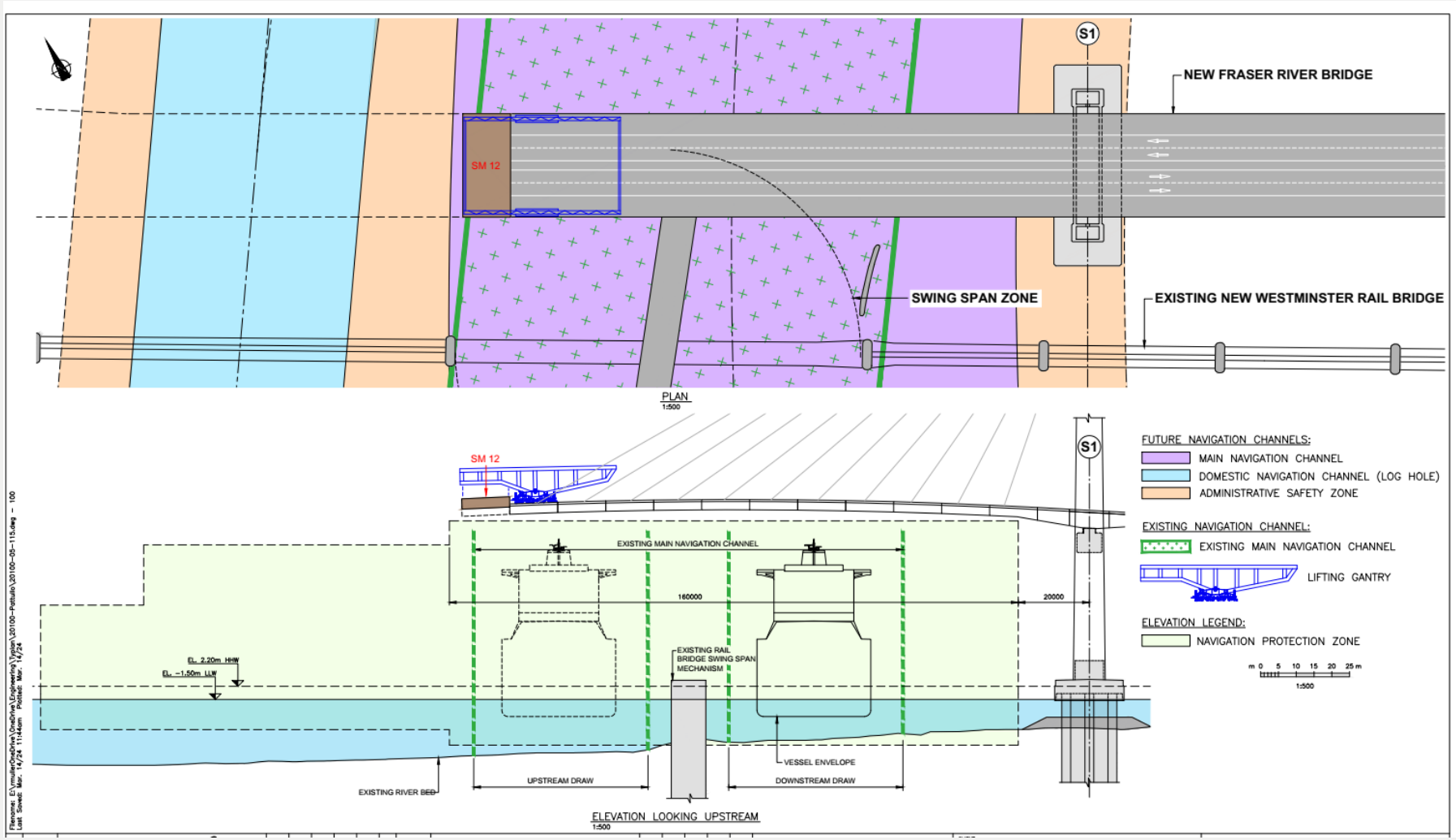
Segment SM-011



- Starting March
- 2-3 week duration
- Restrictions in the downstream draw (approx. 11 hours, cumulative)

Construction Staging – Cantilever Construction

Segment SM-012



- Starting March/April
- 2-3 week duration
- Restrictions in the downstream draw (approx. 11 hours, cumulative)

Next Steps

Ongoing NAVWARNs to be provided

Next Marine Users Working Group:

- February 27, 2025