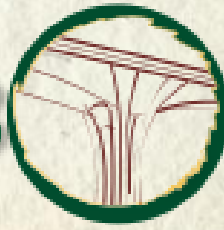


I-91 BRATTLEBORO BRIDGE



A BRIDGE TO NATURE

ABCD Susquehanna Chapter
2015 Technical Conference
Harrisburg, PA
September 3, 2015



PCL+FIGG TEAM

Project Location



Gateway to Vermont



Design-Build Project Partners

Owner



Vermont Agency of Transportation

Design-Builder

PCL+FIGG TEAM



Project Delivery

Design-Build Contract

Allowed Structure Types:

Steel Box Girders

Reinforced Concrete Box Girders

Post-tensioned Concrete Box Girders

Best Value Selection

50% Price + 50% Technical Score



Project Delivery

Team Rank	Technical Score	Price Proposal	Best Value Score
1	71.33	\$59,490,000	81.05
2	61.88	\$54,000,000	80.94
3	61.99	\$82,812,233	63.60

Project Components

Bridge 9



Braffleboro Bridge



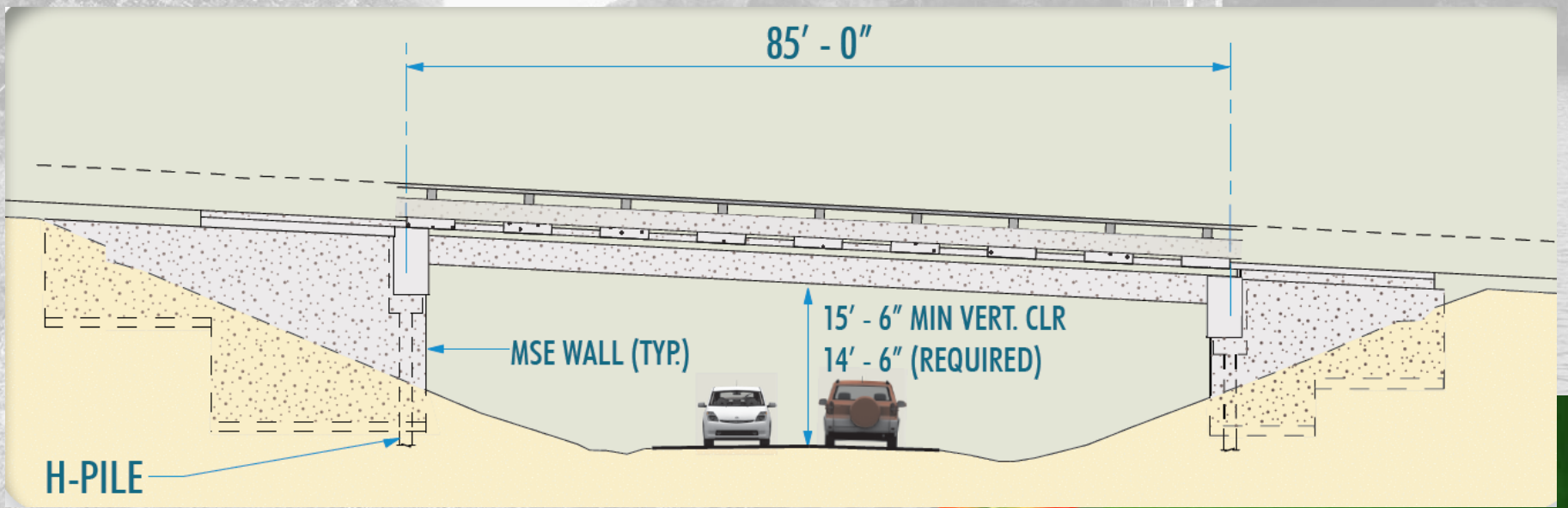
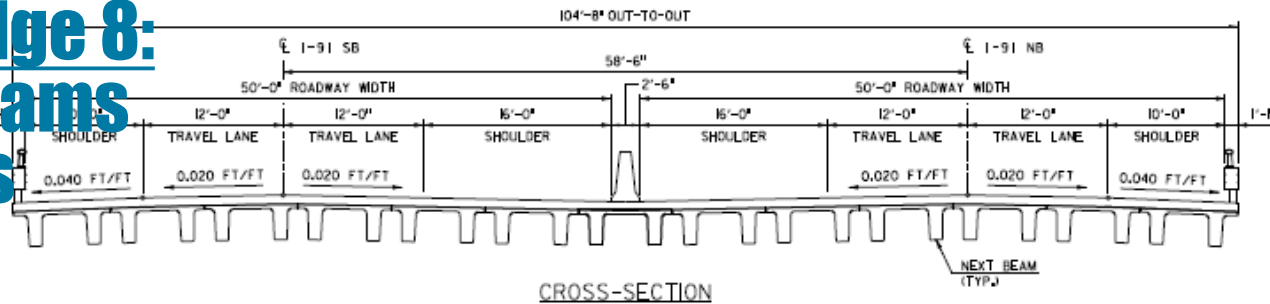
Bridge 8

Bridge 8 Replacement

**Demolish Bridge 8:
Twin 3-Span Steel Girder Overpass**



**Construct New Bridge 8:
Single 85' NEXT Beams
Integral Abutments**



Rendering of Bridge Over Dummerston Road



Eco-Stain with Local Earthen Color and Open Railing
(Span is 85' long and replaces a 3 span structure)




PCL+FIGG TEAM

Bridge 8



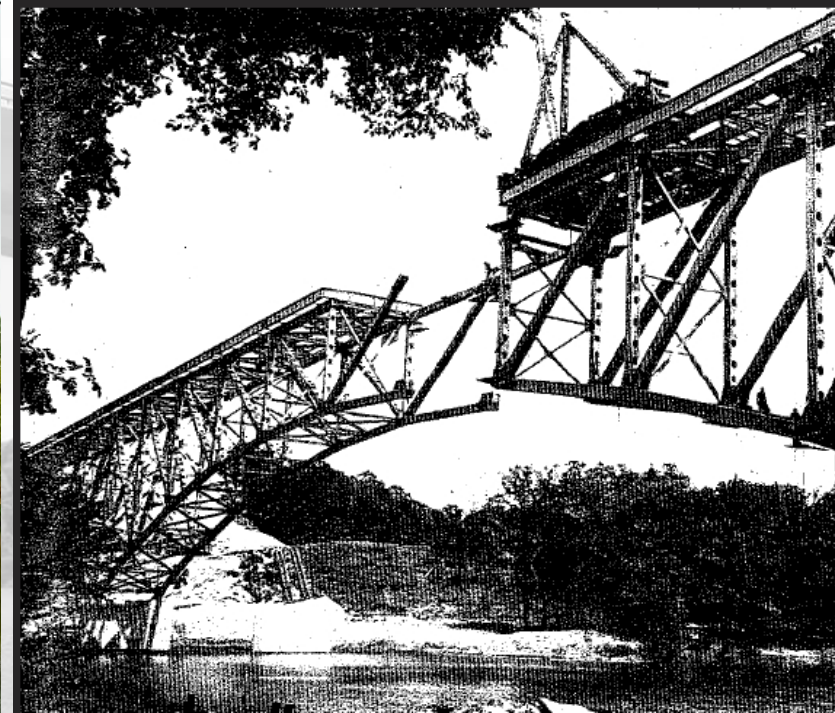
Bridge 9 – Demolish and Reconstruct

An aerial photograph of a bridge spanning a wide river. The bridge is a steel truss structure. The surrounding landscape is lush and green, with some buildings visible on the left bank. The sky is overcast with soft, grey clouds. A road runs along the right bank of the river.

Demolish Bridge 9:
Twin Steel Truss Bridges (1000' Long)

Construct New Bridge 9:
Single Concrete Segmental Bridge (1036' Long)

Existing Bridge 9 (1958)



Existing Bridge 9 (1958)



Existing Bridge 9 (1958)



NB Demolished



Northbound Bridge Demolition



October 2013 – May 2014

Top down demolition

Concrete deck removed first



Northbound Bridge Demolition

Bridge separated and worked back from center





Original I-91 Bridge over the West River
Viewed from Route 30 (Span Length 440')



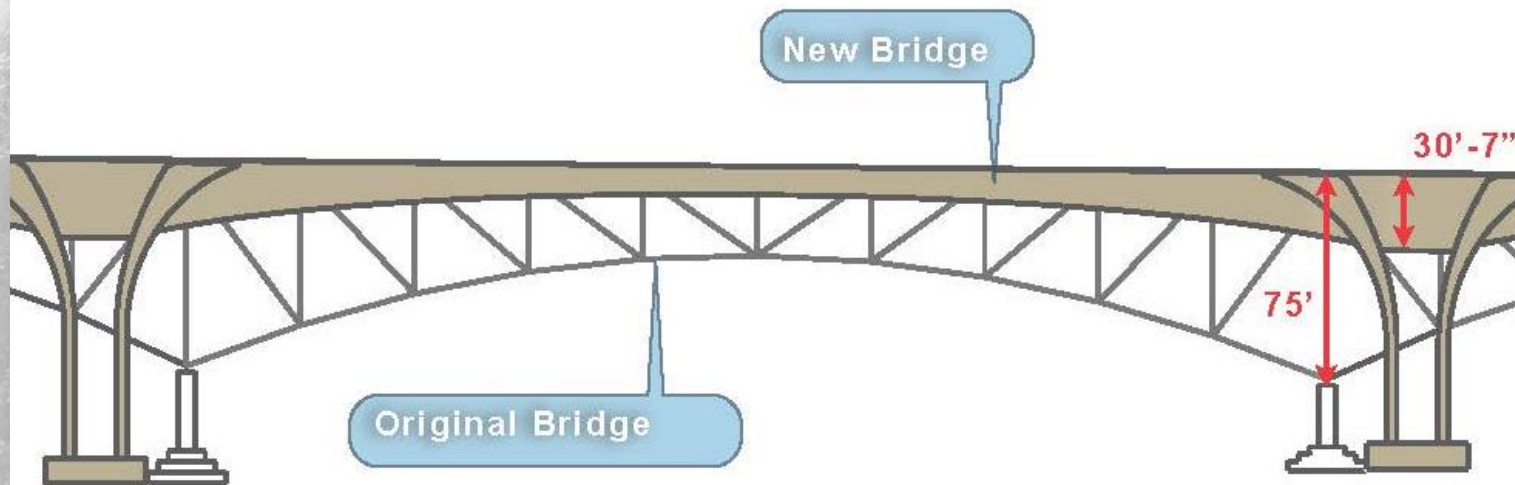


Rendering of New I-91 Bridge over the West River
Viewed from Route 30 (Span length 510')



New Bridge Creates Greater Openness

New Bridge Creates 70' Longer Span Over River

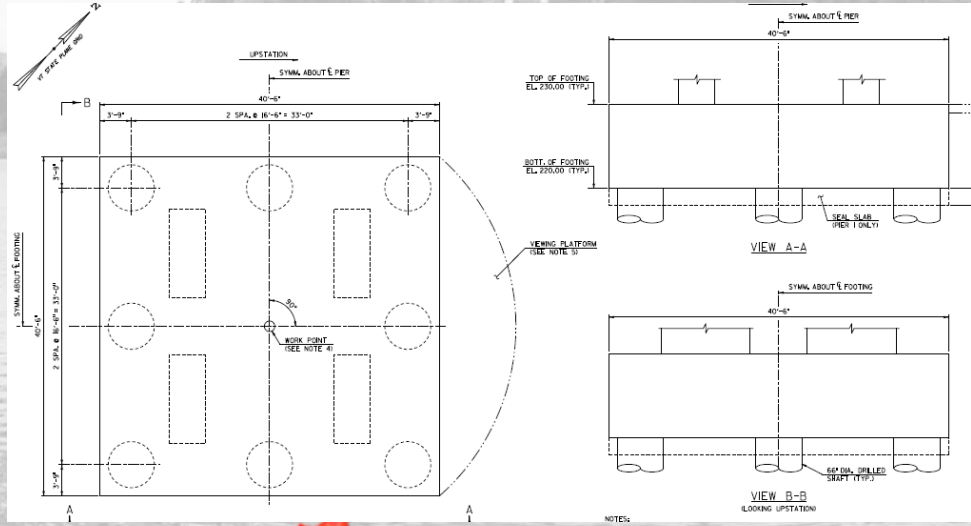
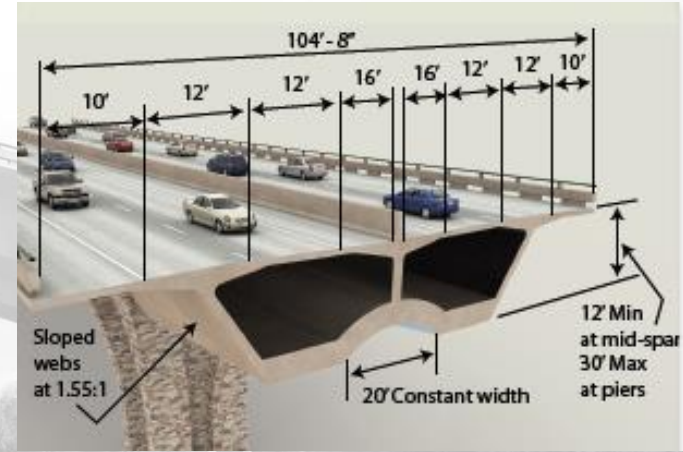


Main span dimensional comparisons: proposed overlaid onto existing bridge

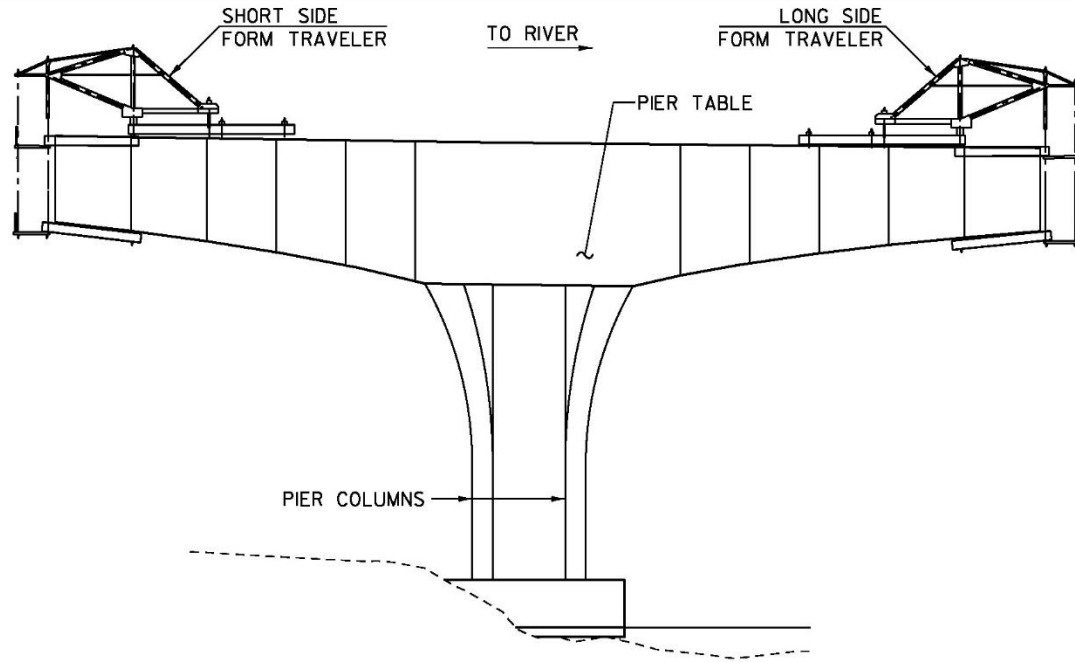


PCL+FIGG TEAM

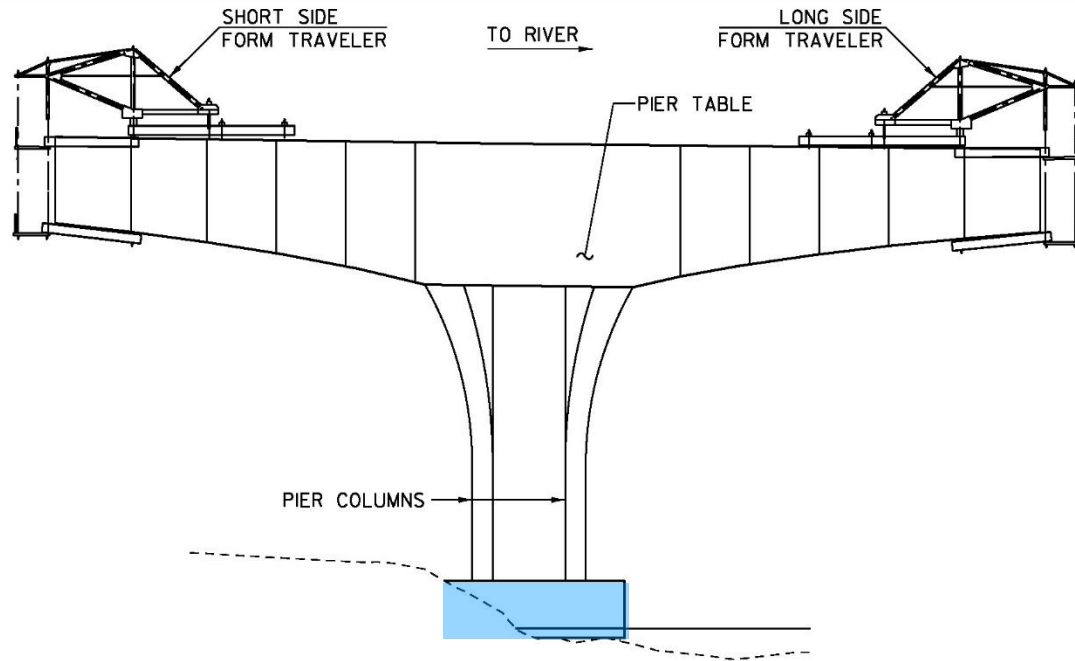
New Bridge 9



Bridge 9 Foundations



Bridge 9 Foundations

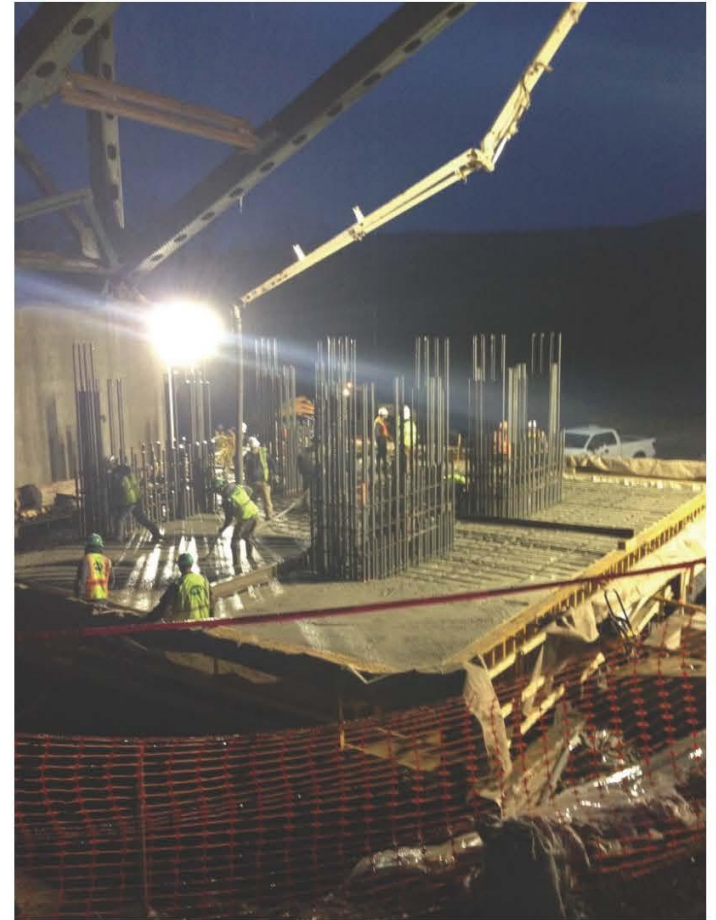


Drilled Shaft Construction



Pier 1: Oct 2013 - Apr 2014, Pier 2: Mar 2014 - Aug 2014

Footing Construction



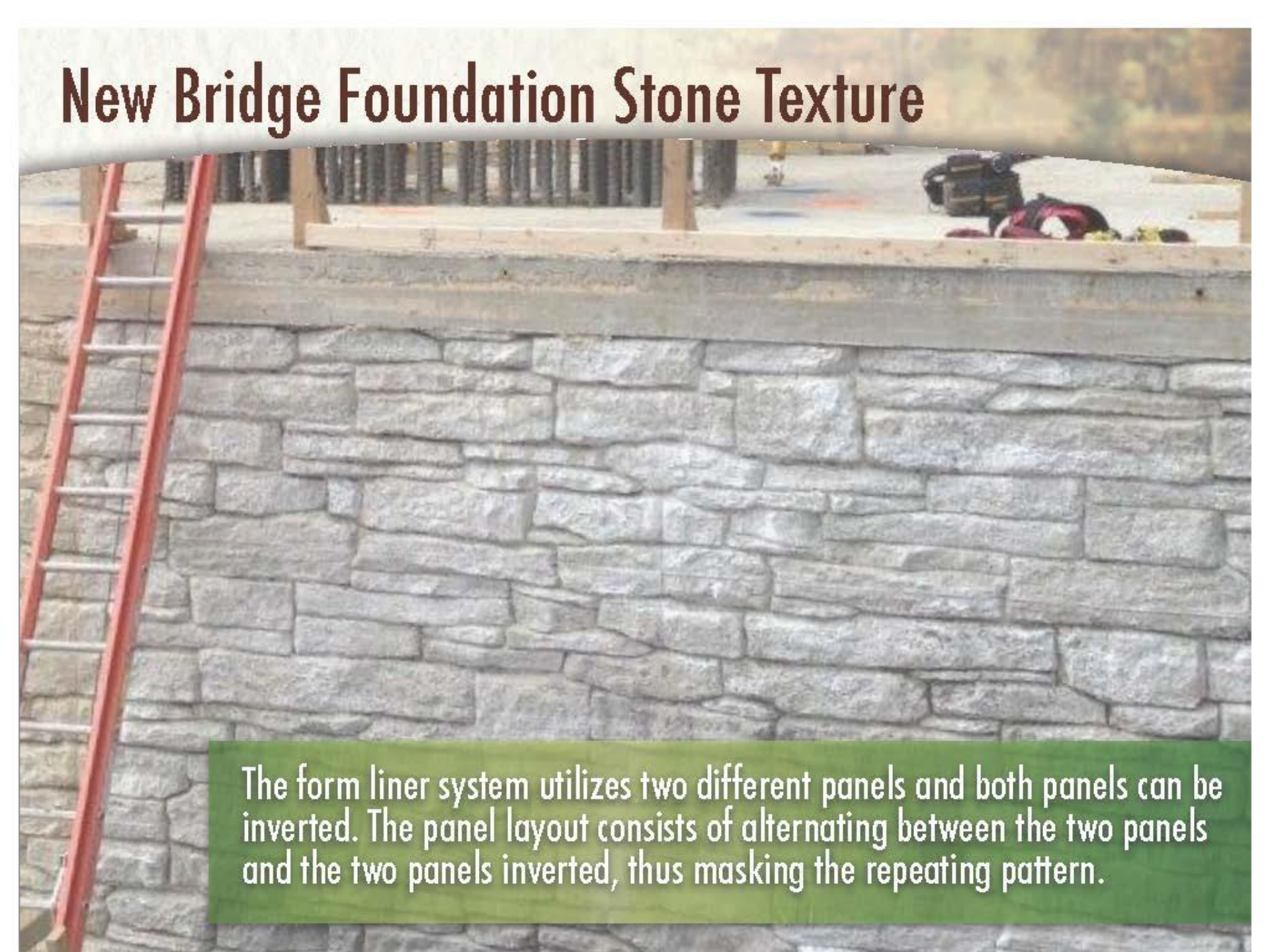
Footing Construction



Footing Formliner



New Bridge Foundation Stone Texture



The form liner system utilizes two different panels and both panels can be inverted. The panel layout consists of alternating between the two panels and the two panels inverted, thus masking the repeating pattern.

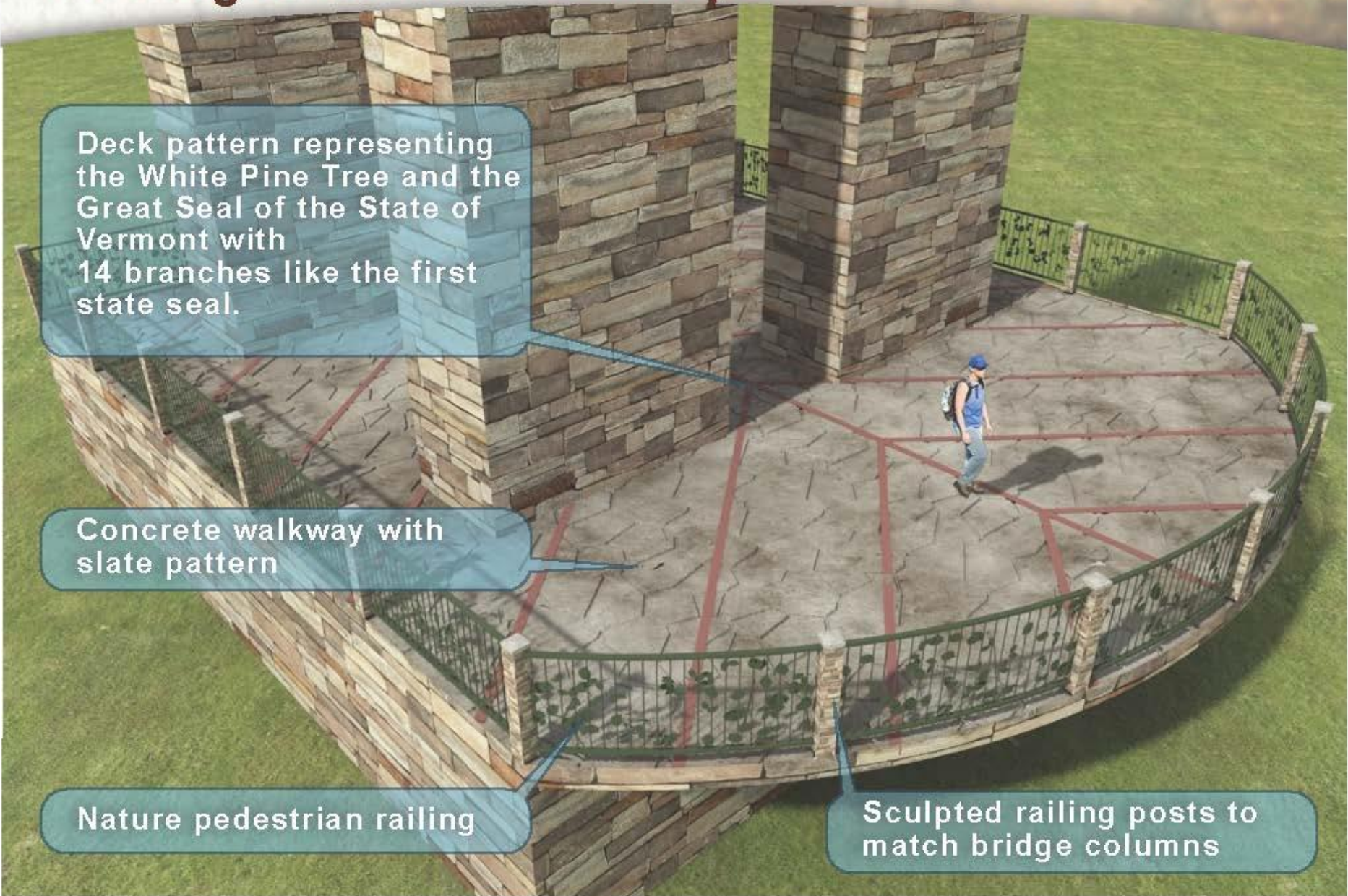
Viewing Platforms - Gallery of the Natural Habitat

Deck pattern representing the White Pine Tree and the Great Seal of the State of Vermont with 14 branches like the first state seal.

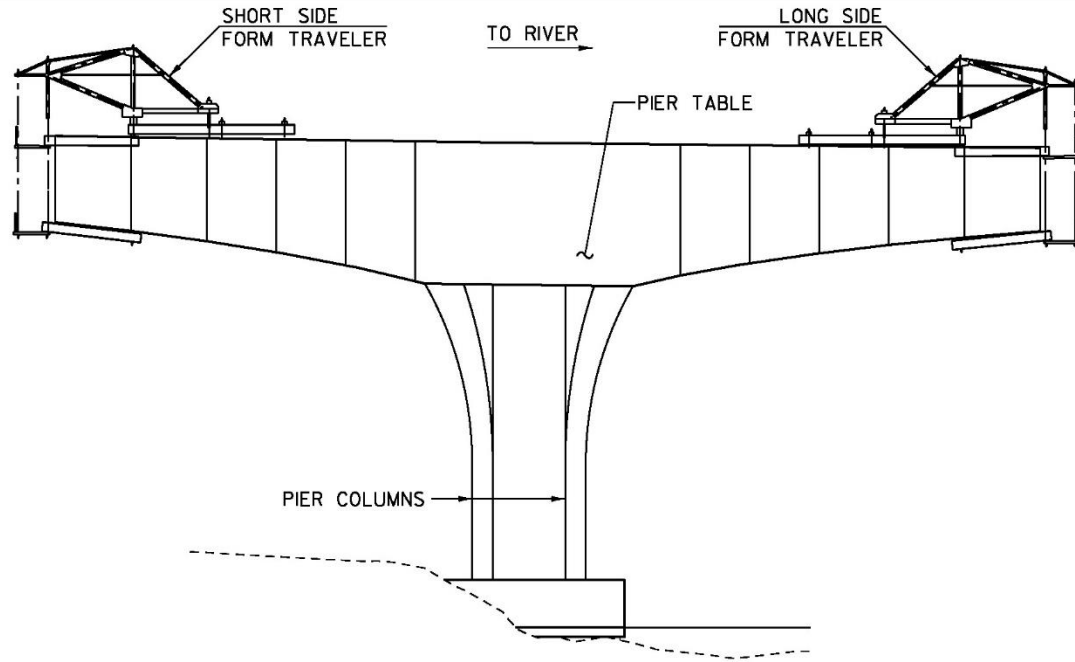
Concrete walkway with slate pattern

Nature pedestrian railing

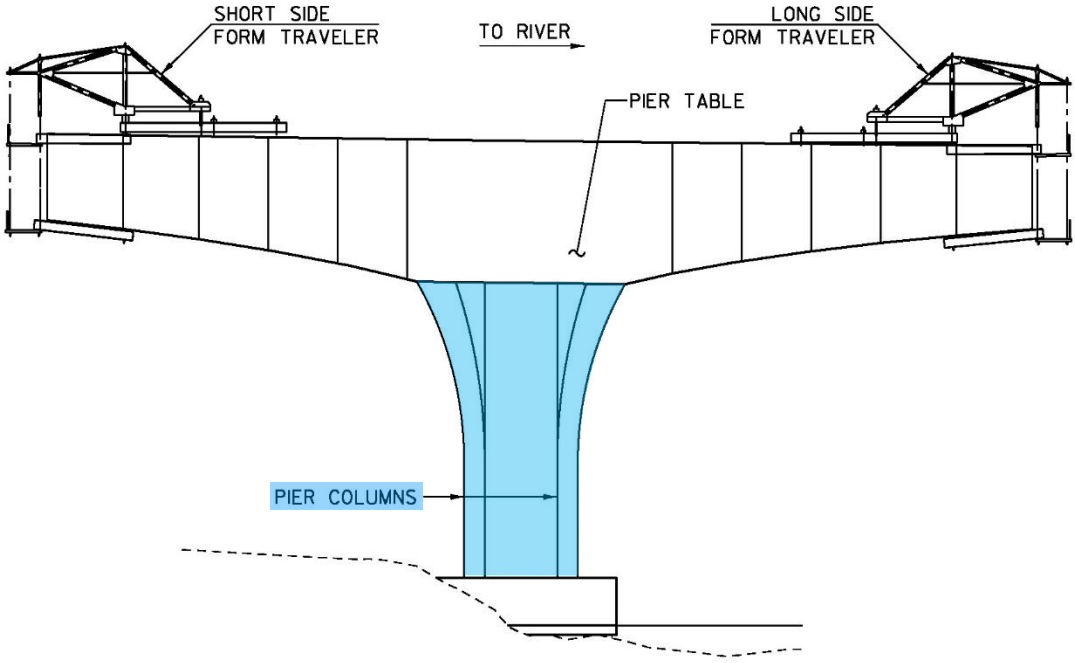
Sculpted railing posts to match bridge columns



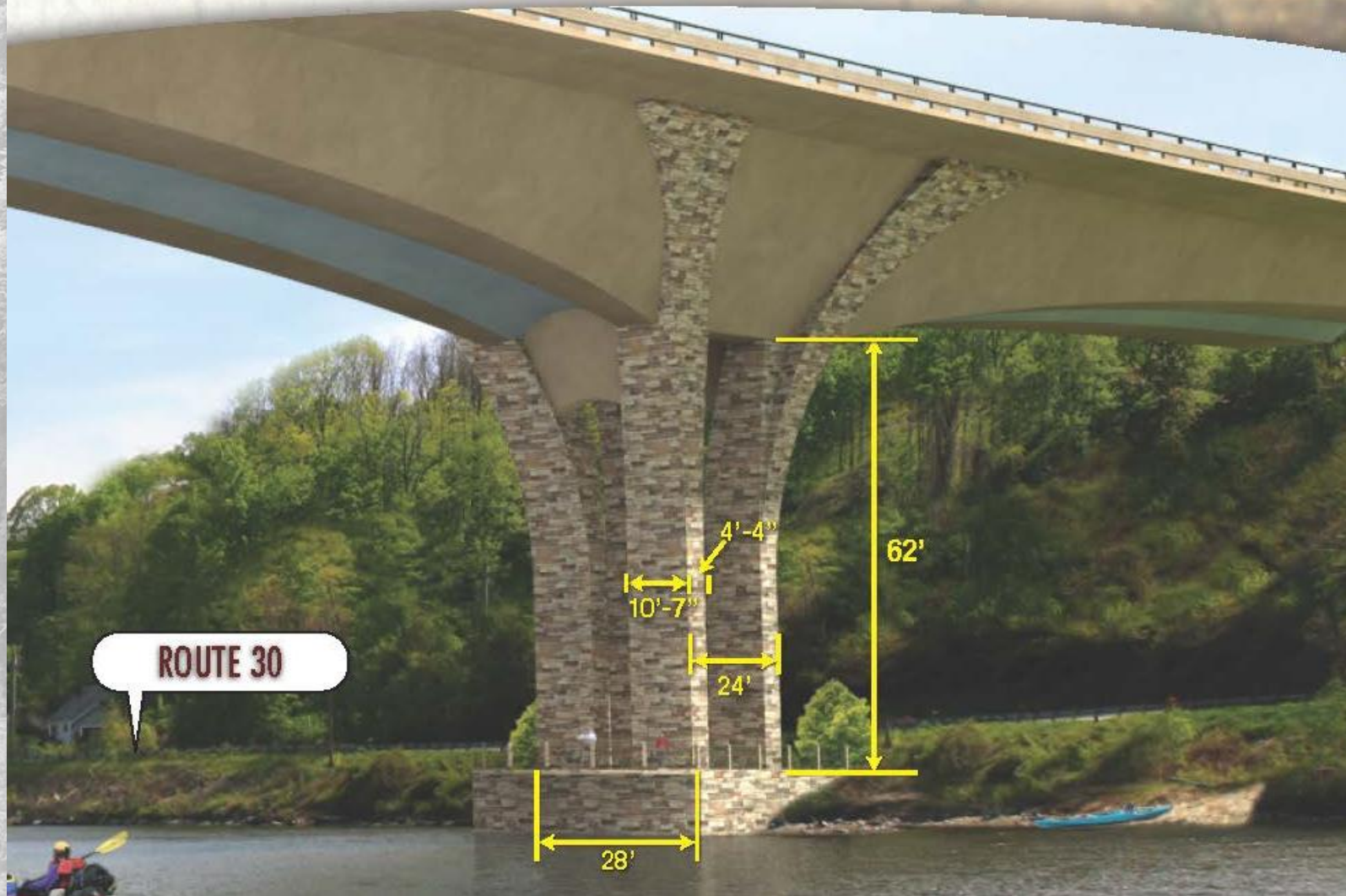
Bridge 9 Columns



Bridge 9 Columns



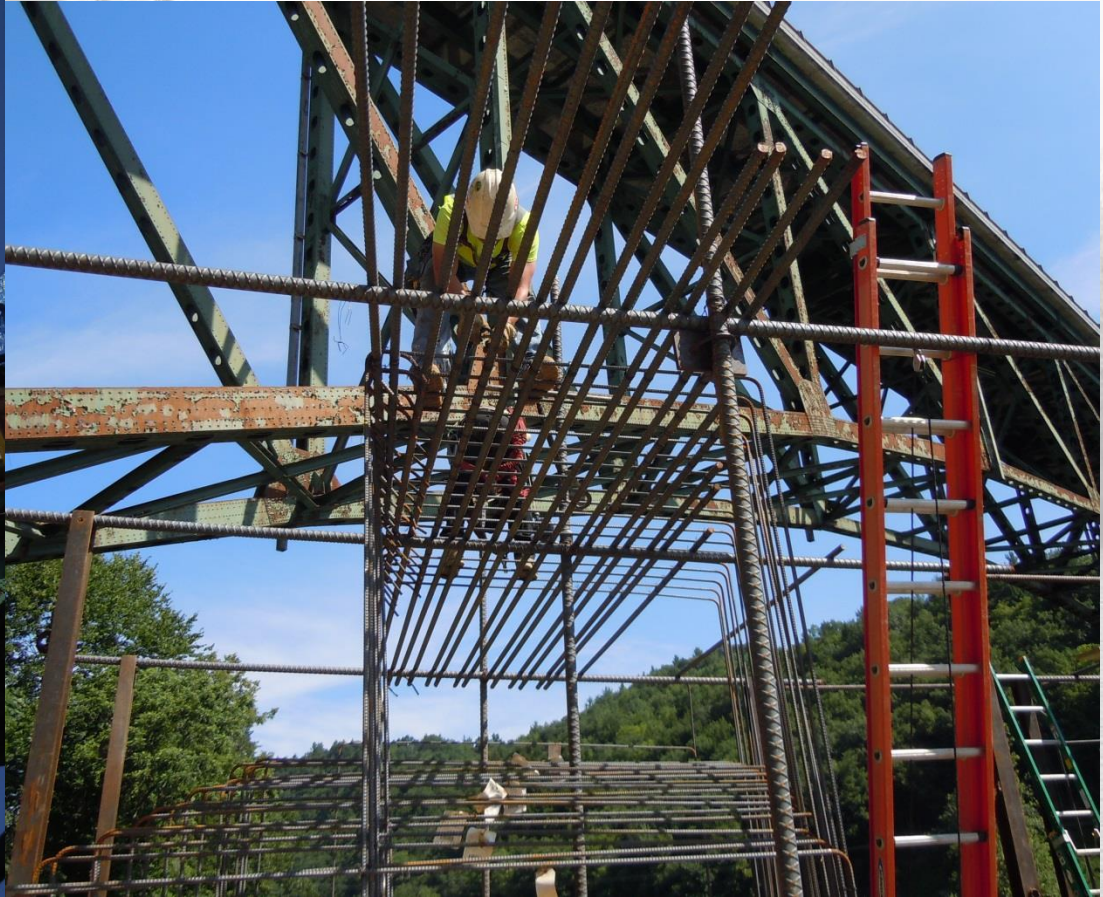
Pier Dimensions



Bridge 9 Columns



Pier Construction



Pier Construction



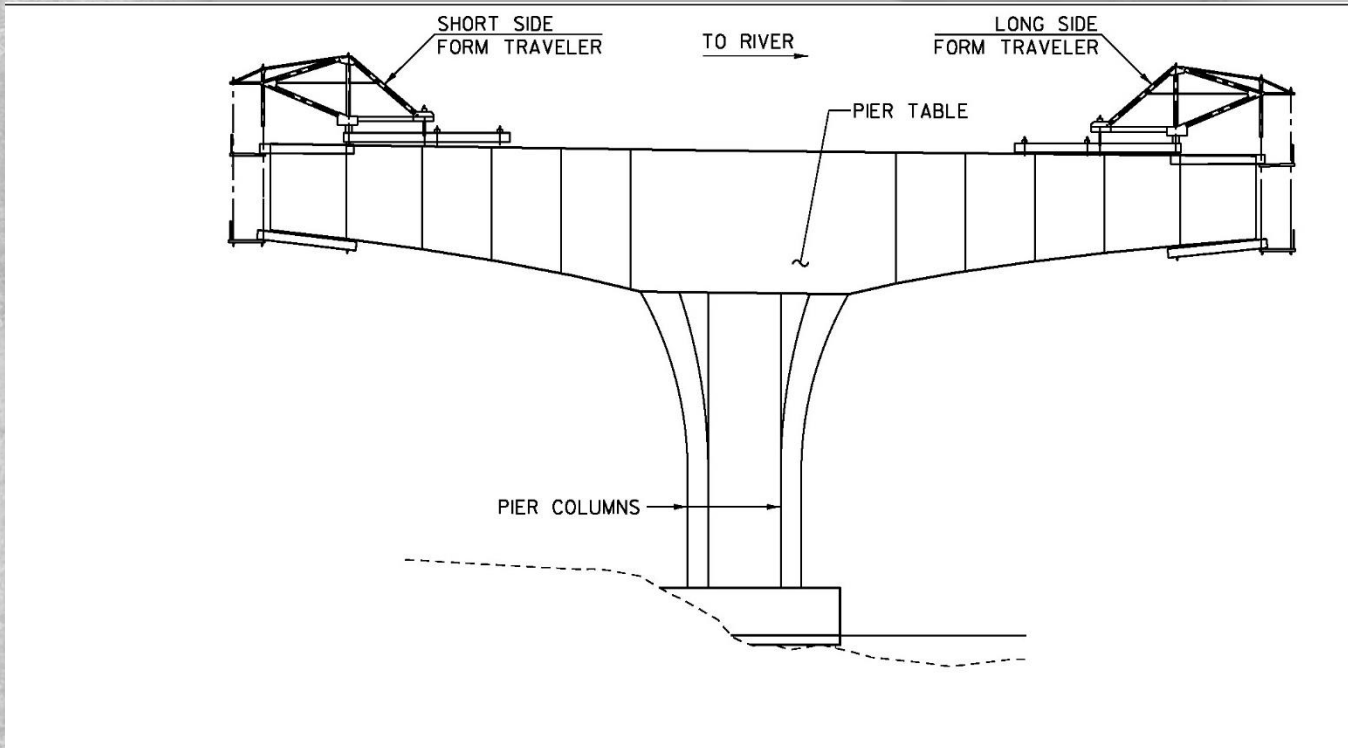
Bridge 9 Columns



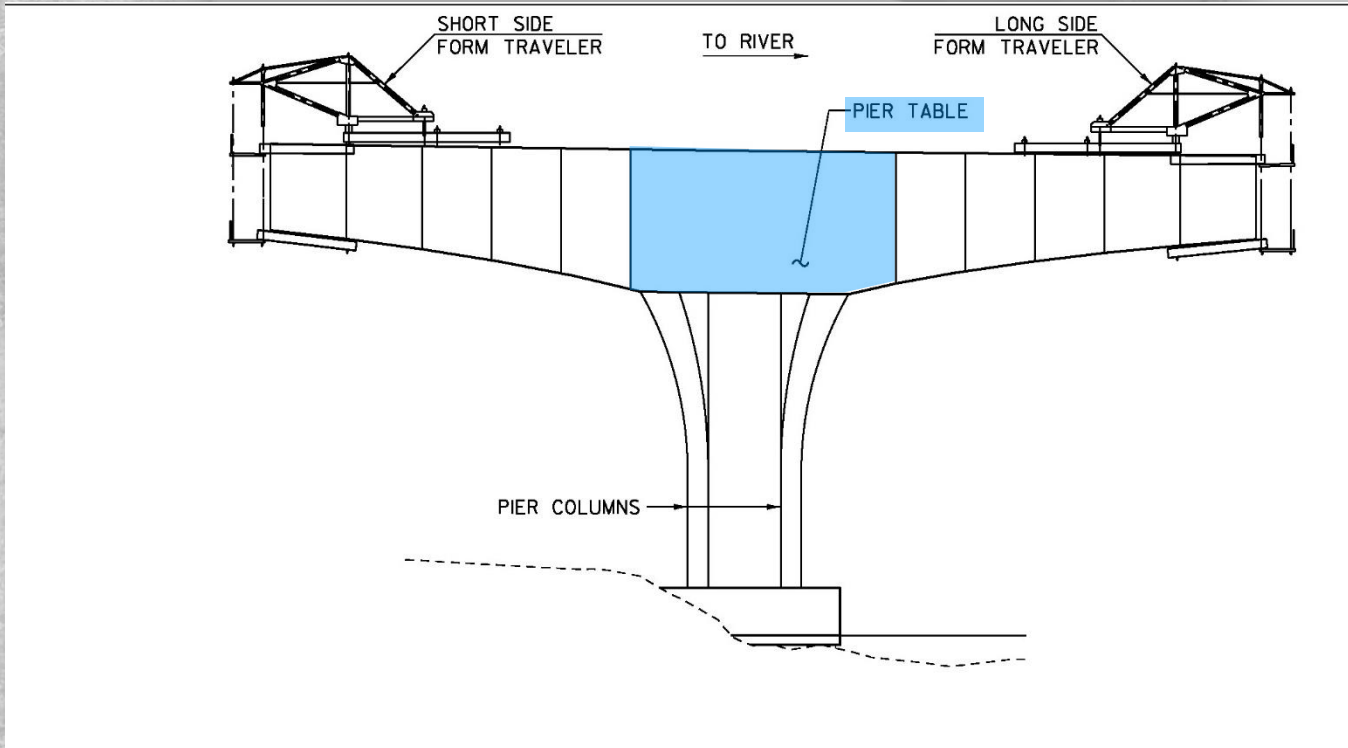
Bridge 9 Columns

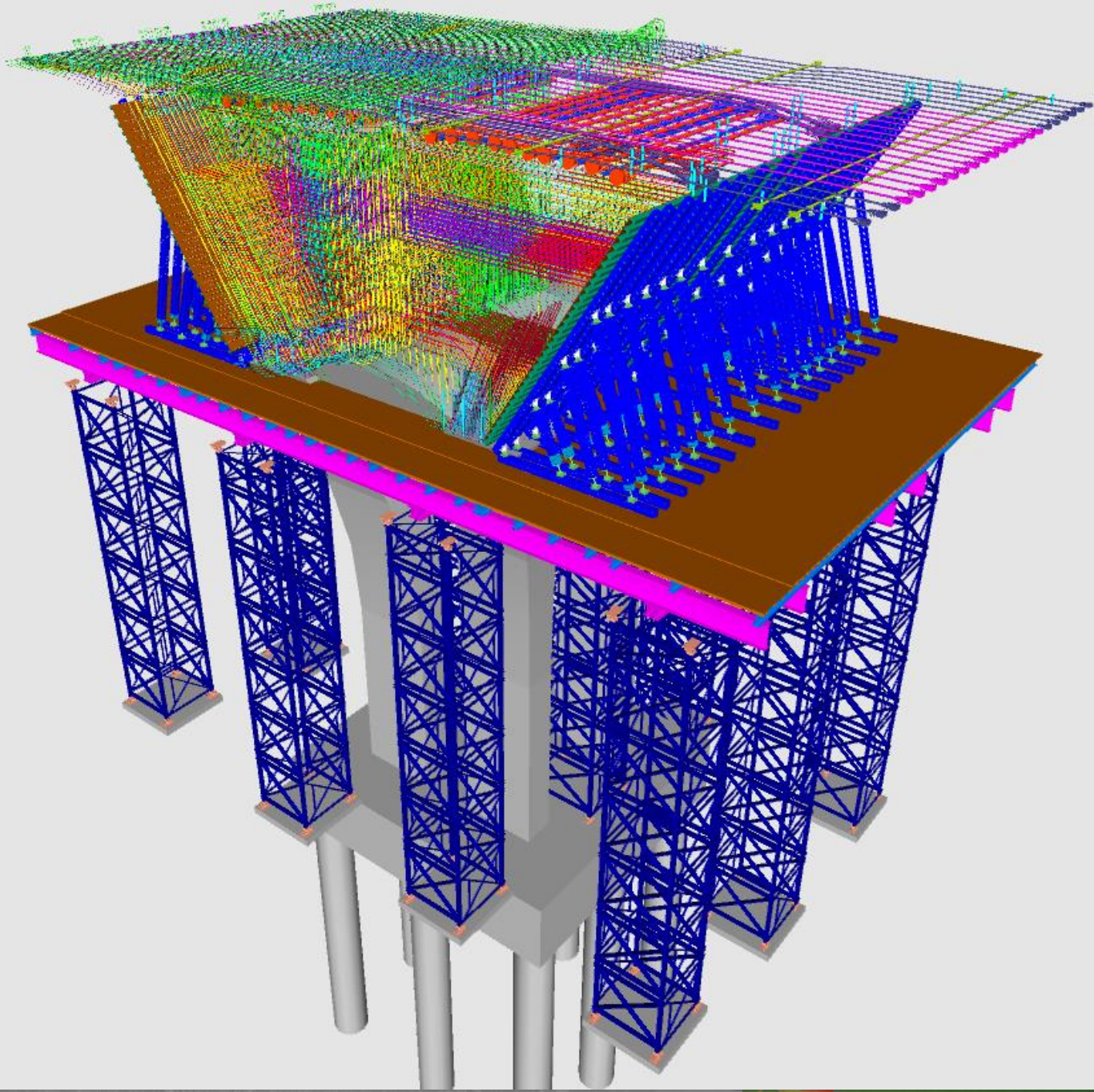


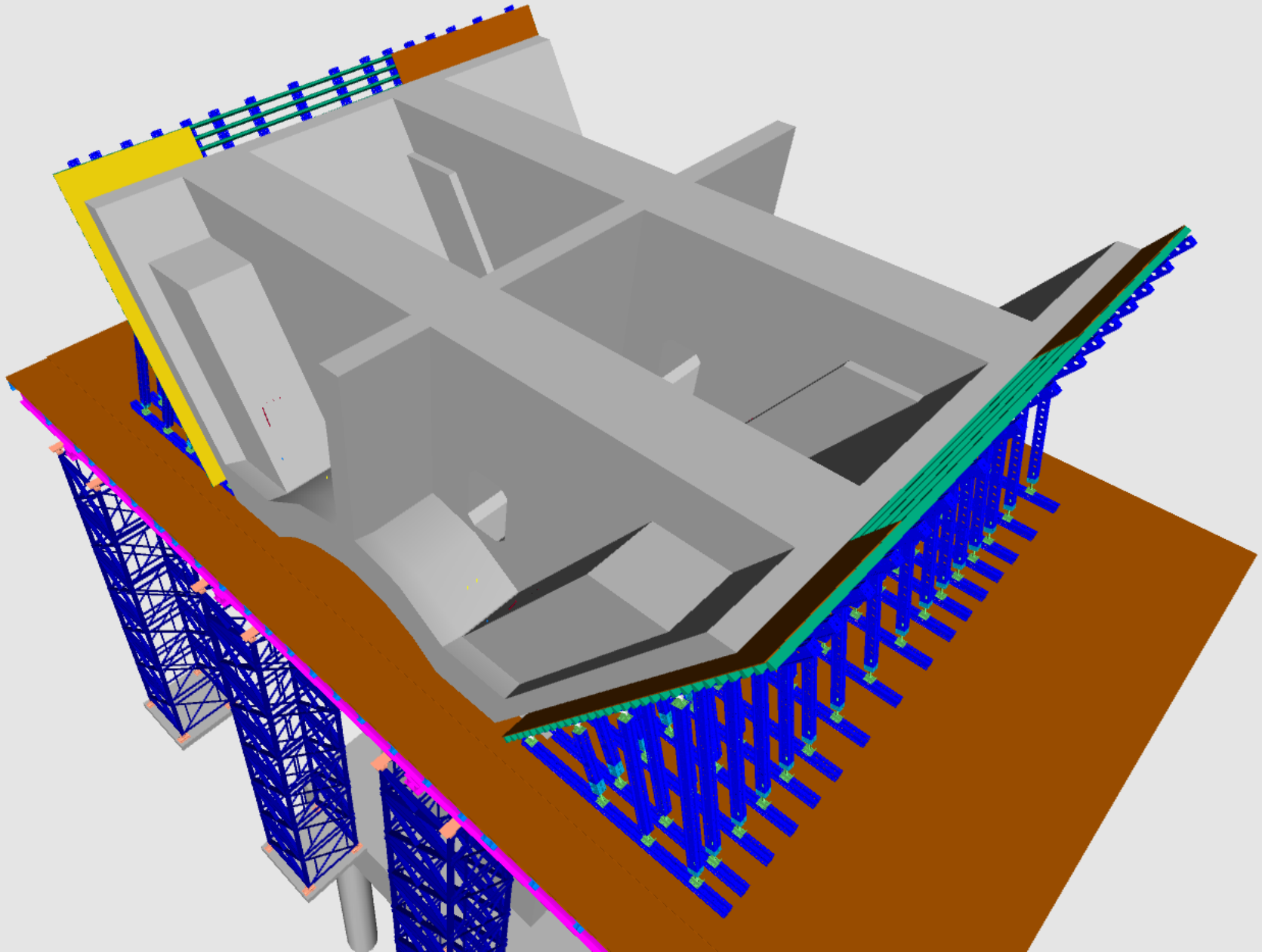
Bridge 9 Pier Tables



Bridge 9 Pier Tables







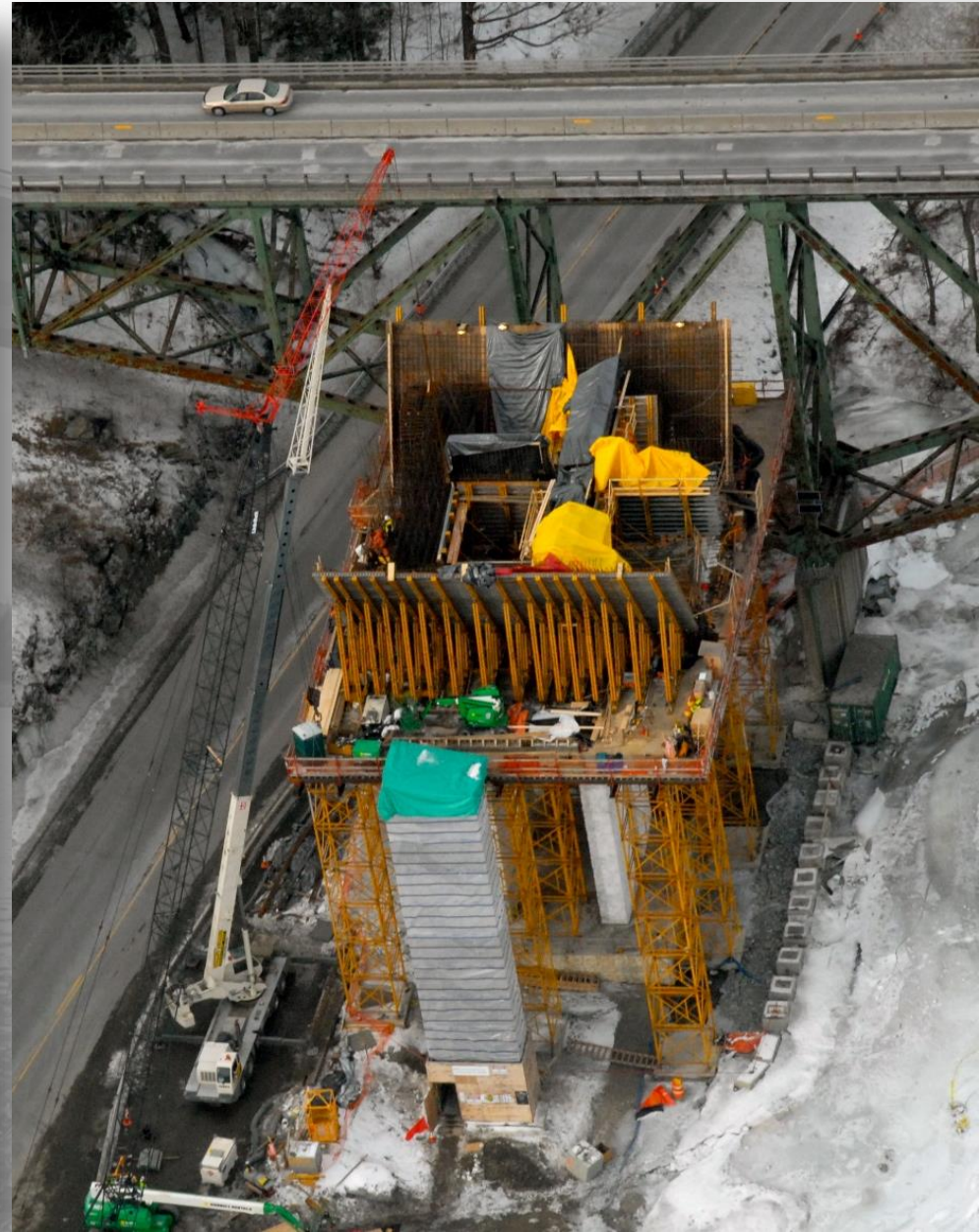
Bridge 9 Pier Tables



Bridge 9 Pier Tables



Bridge 9 Pier Tables



Bridge 9 Pier Tables



Bridge 9 Pier Tables



Bridge 9 Pier Tables

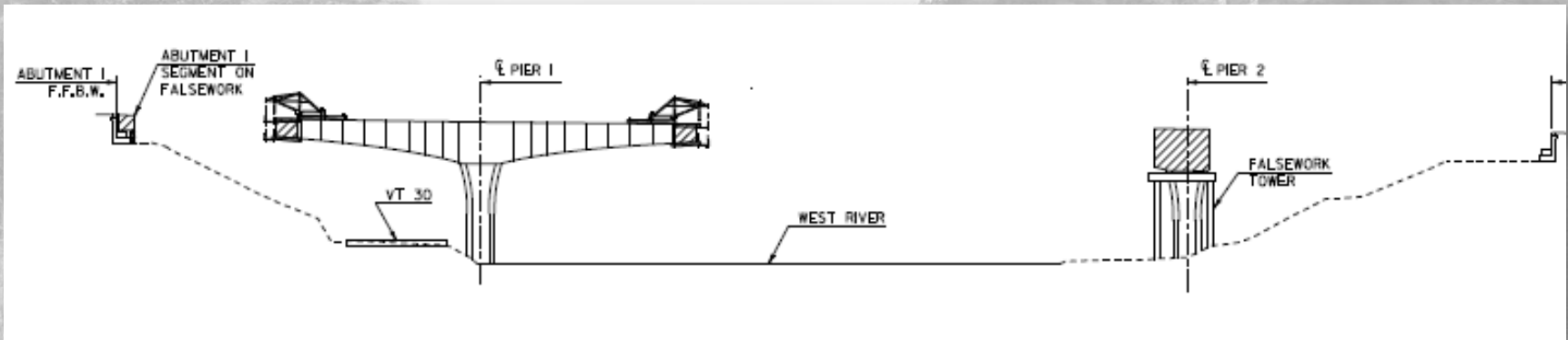


PCL+FIGG TEAM

Bridge 9 Segments



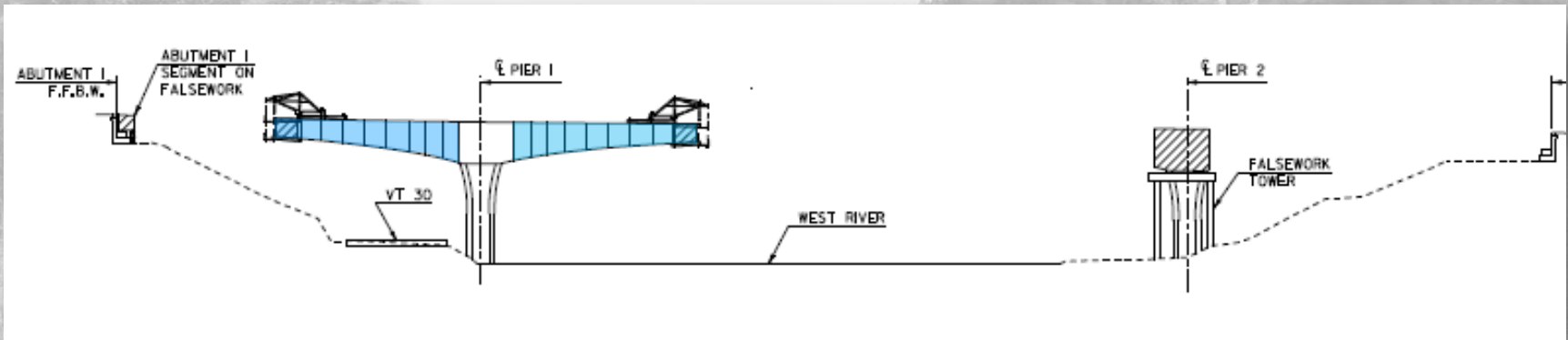
□ Balance Cantilever Construction



Bridge 9 Segments



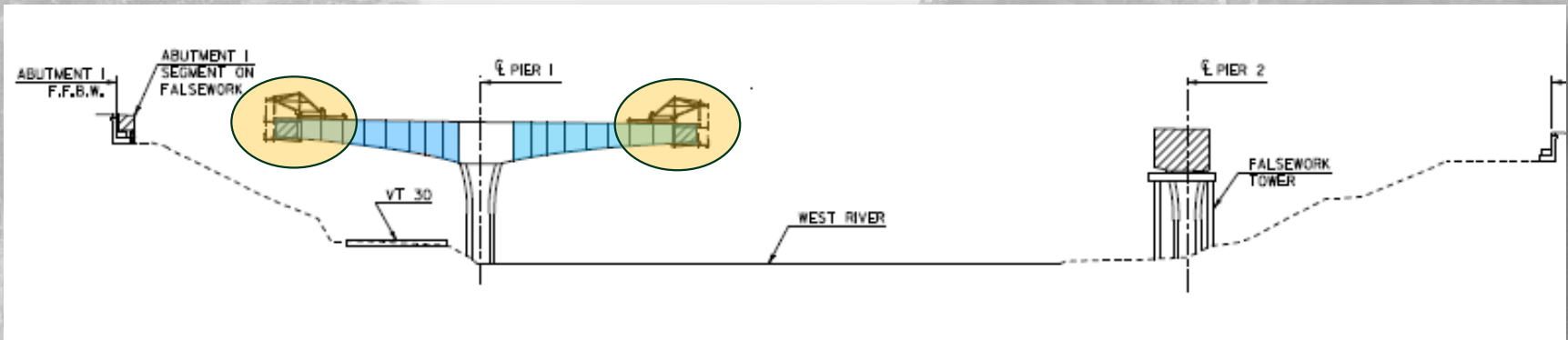
Balance Cantilever Construction



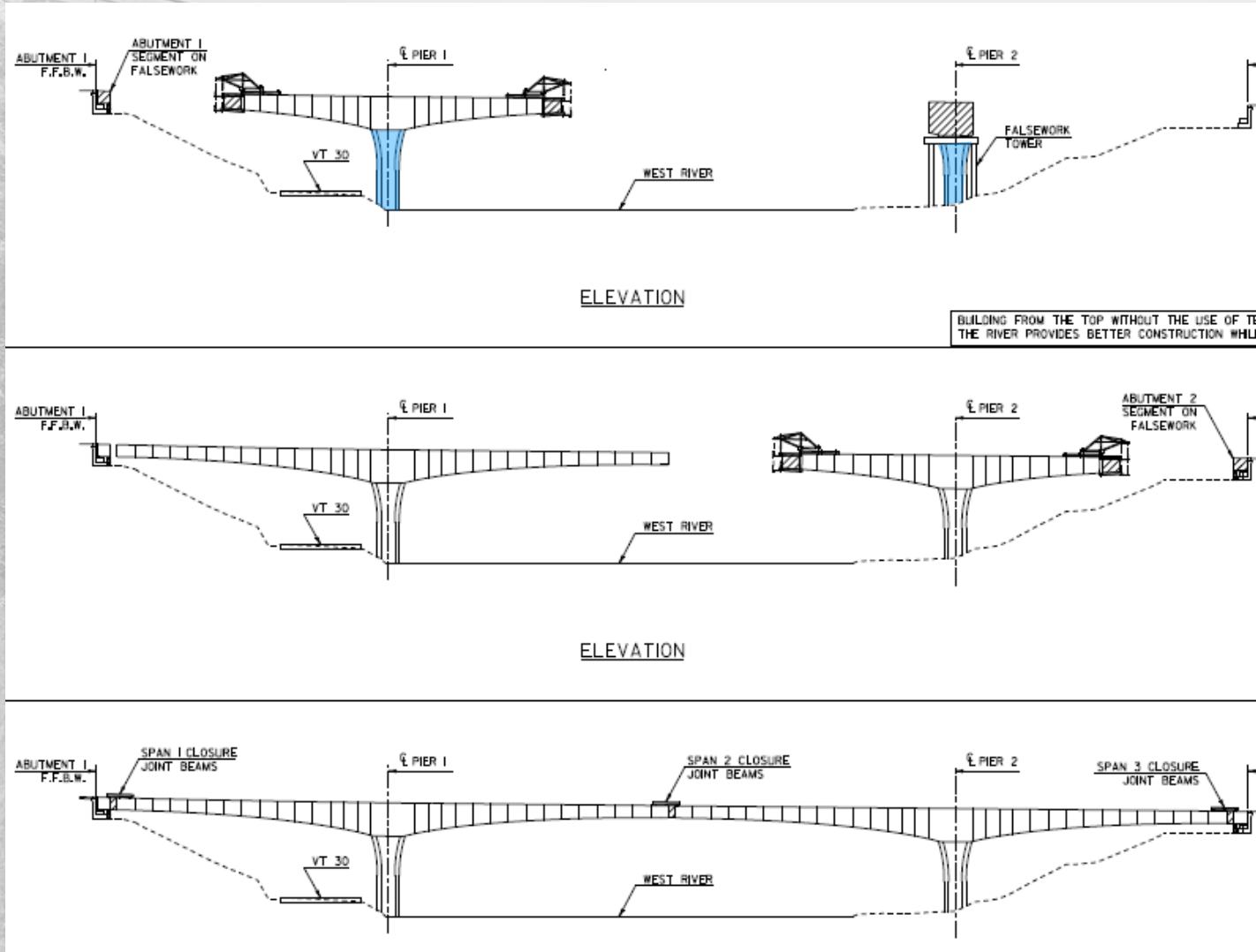
Bridge 9 Segments



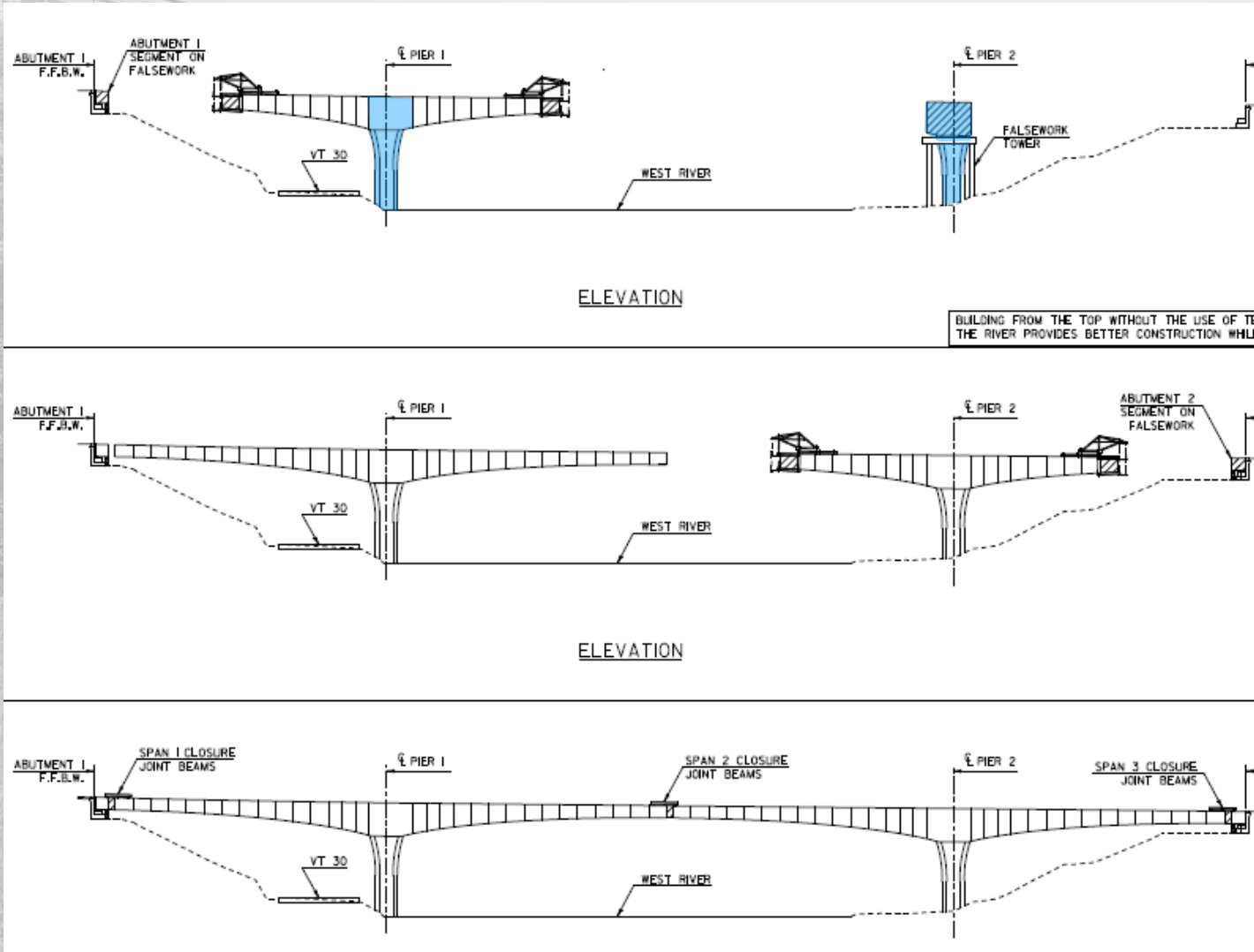
Balance Cantilever Construction



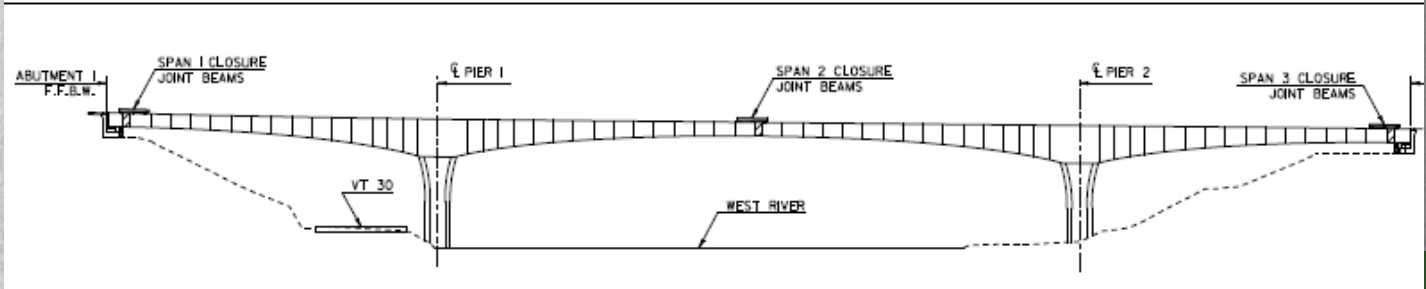
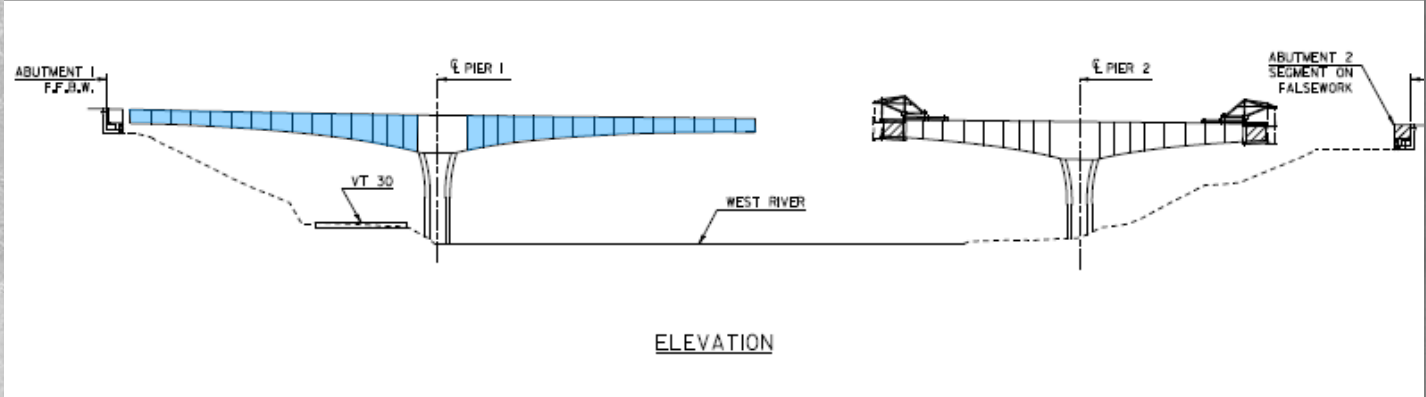
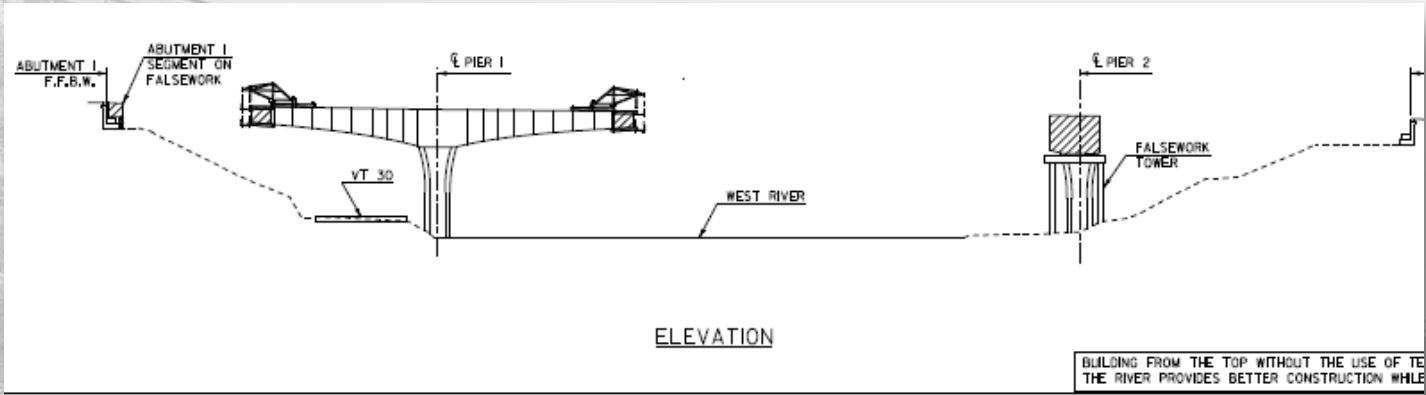
Bridge 9 Segments



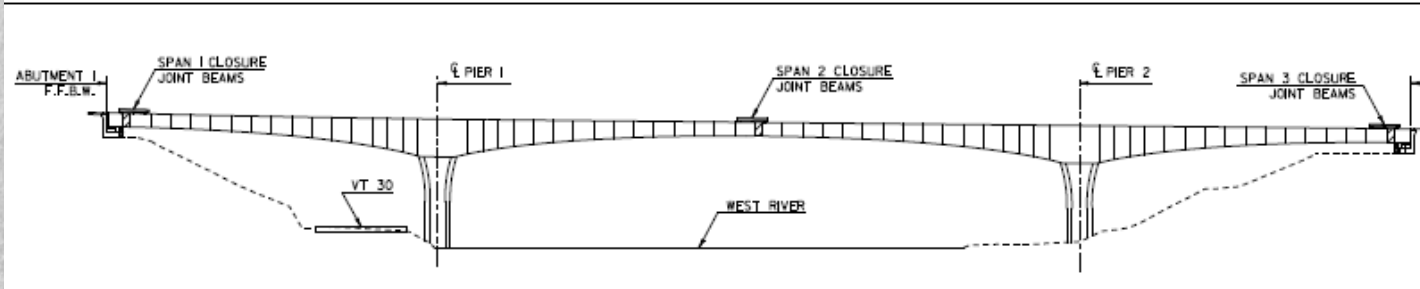
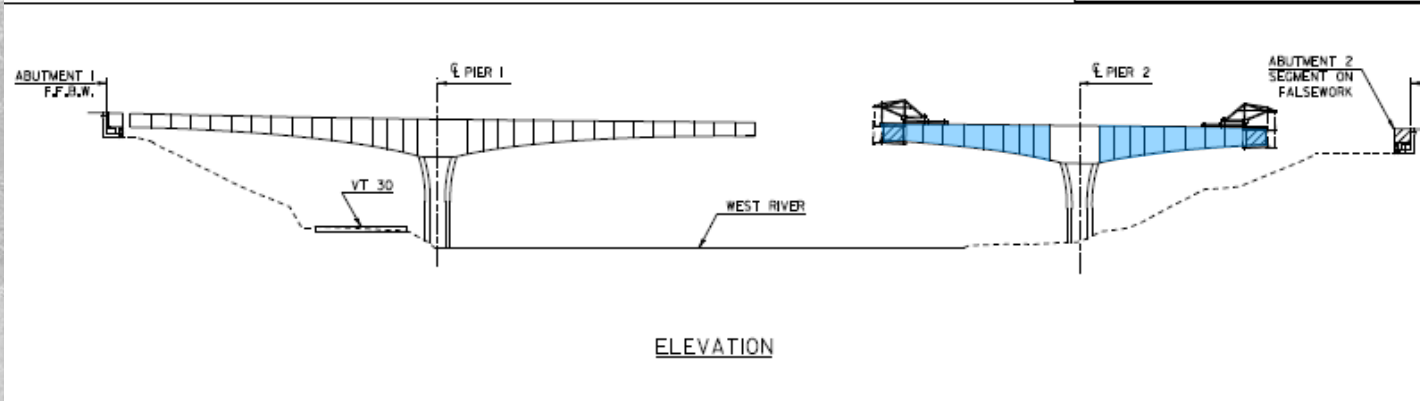
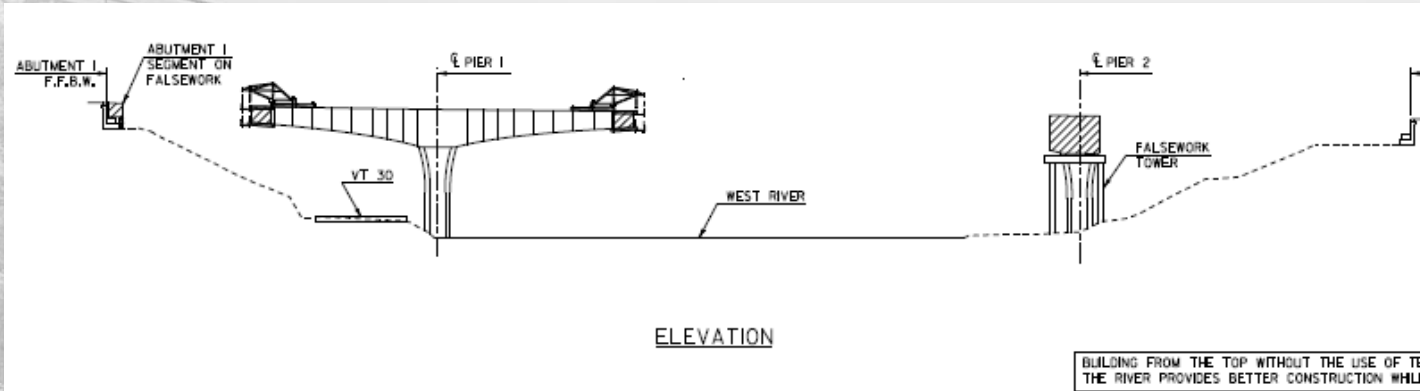
Bridge 9 Segments



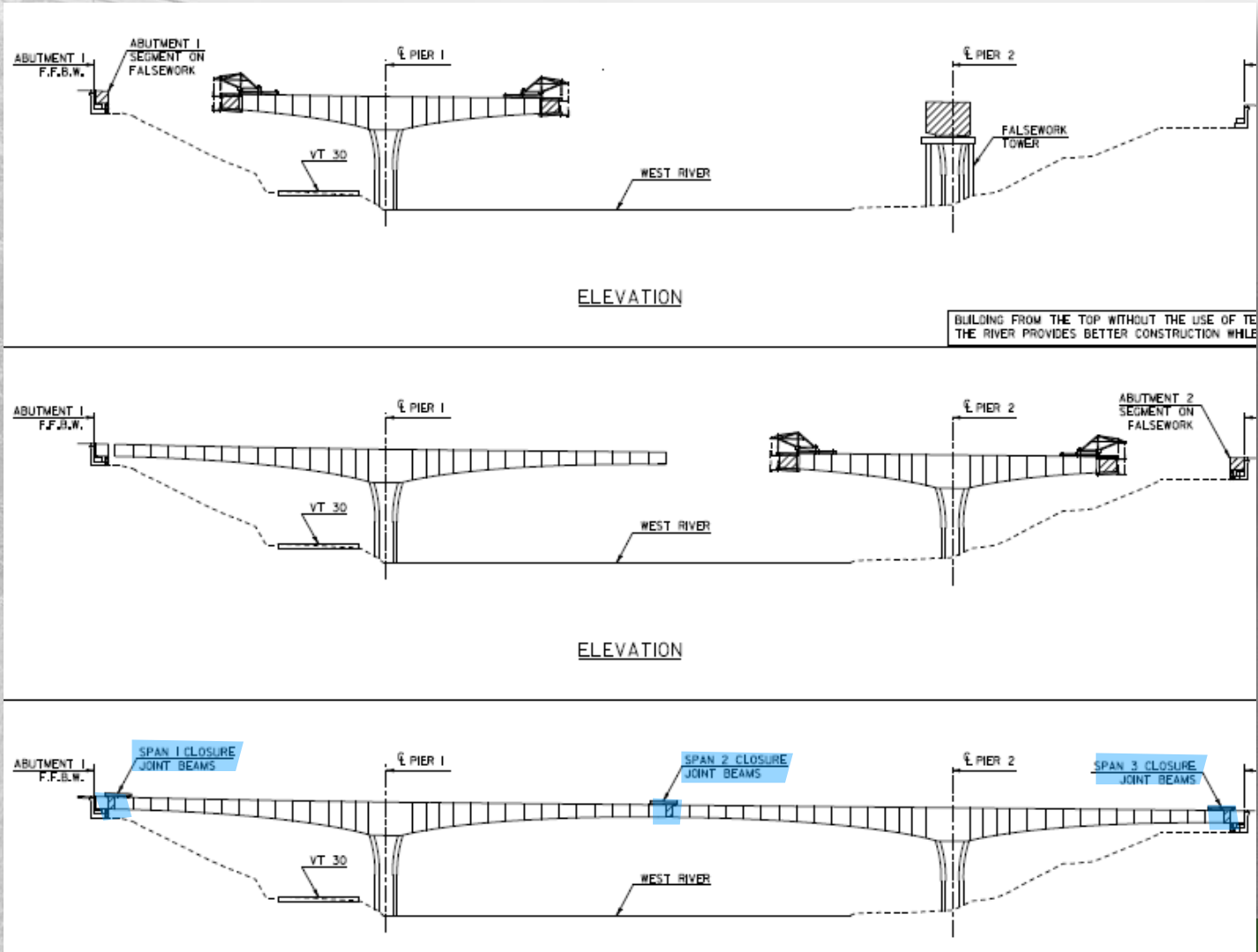
Bridge 9 Segments



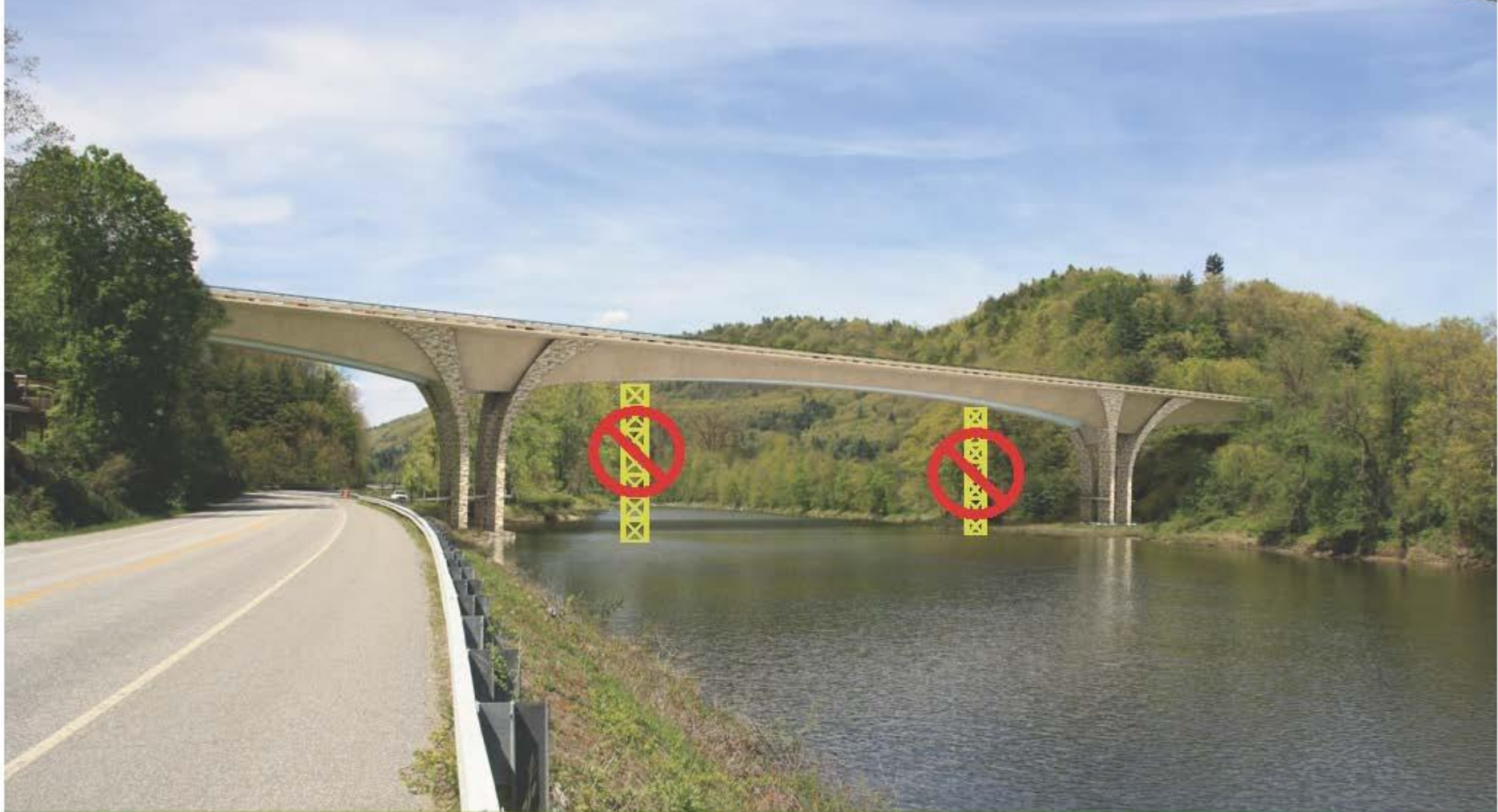
Bridge 9 Segments



Bridge 9 Segments

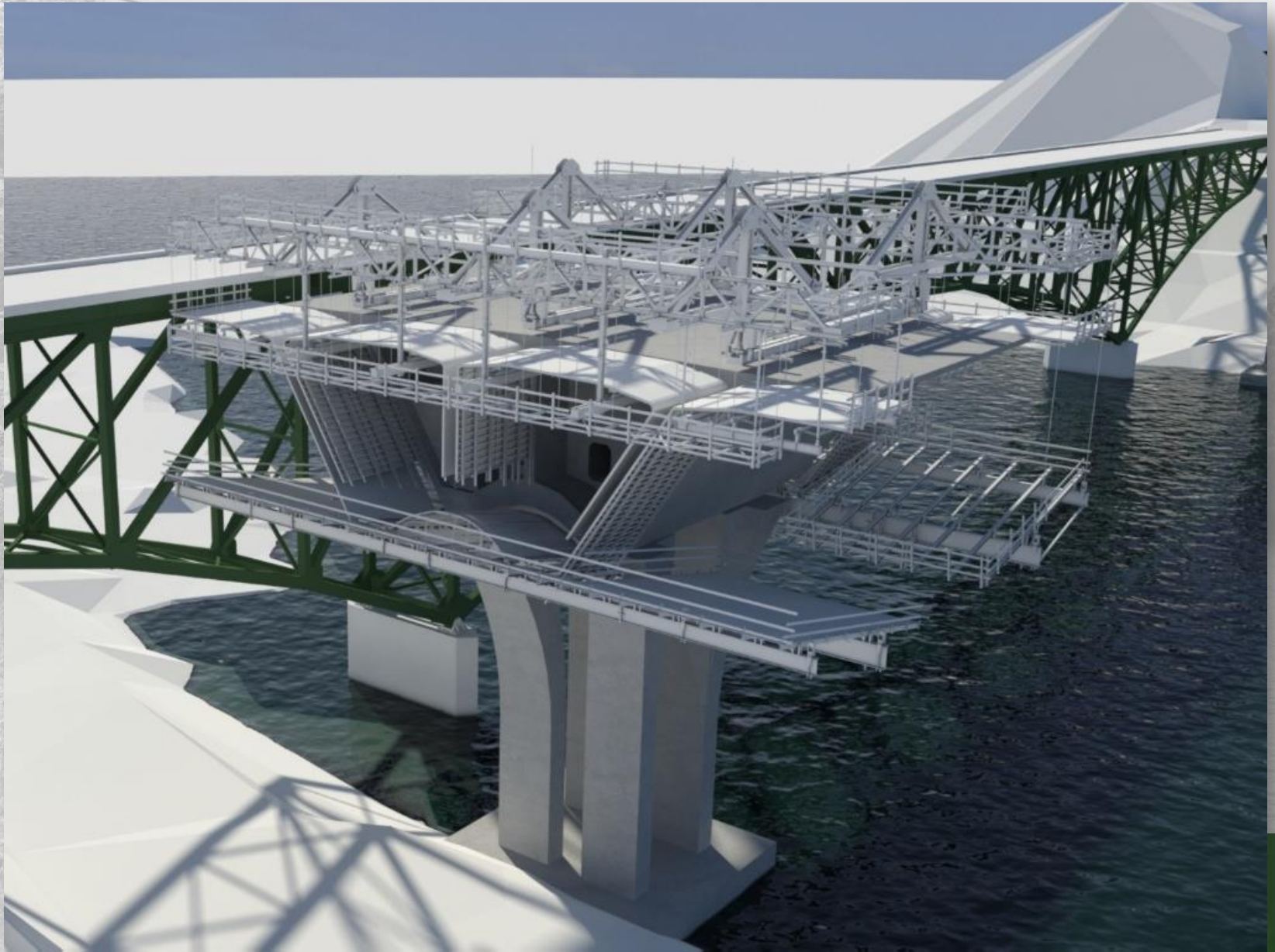


No Temporary Support Towers in the River during Construction

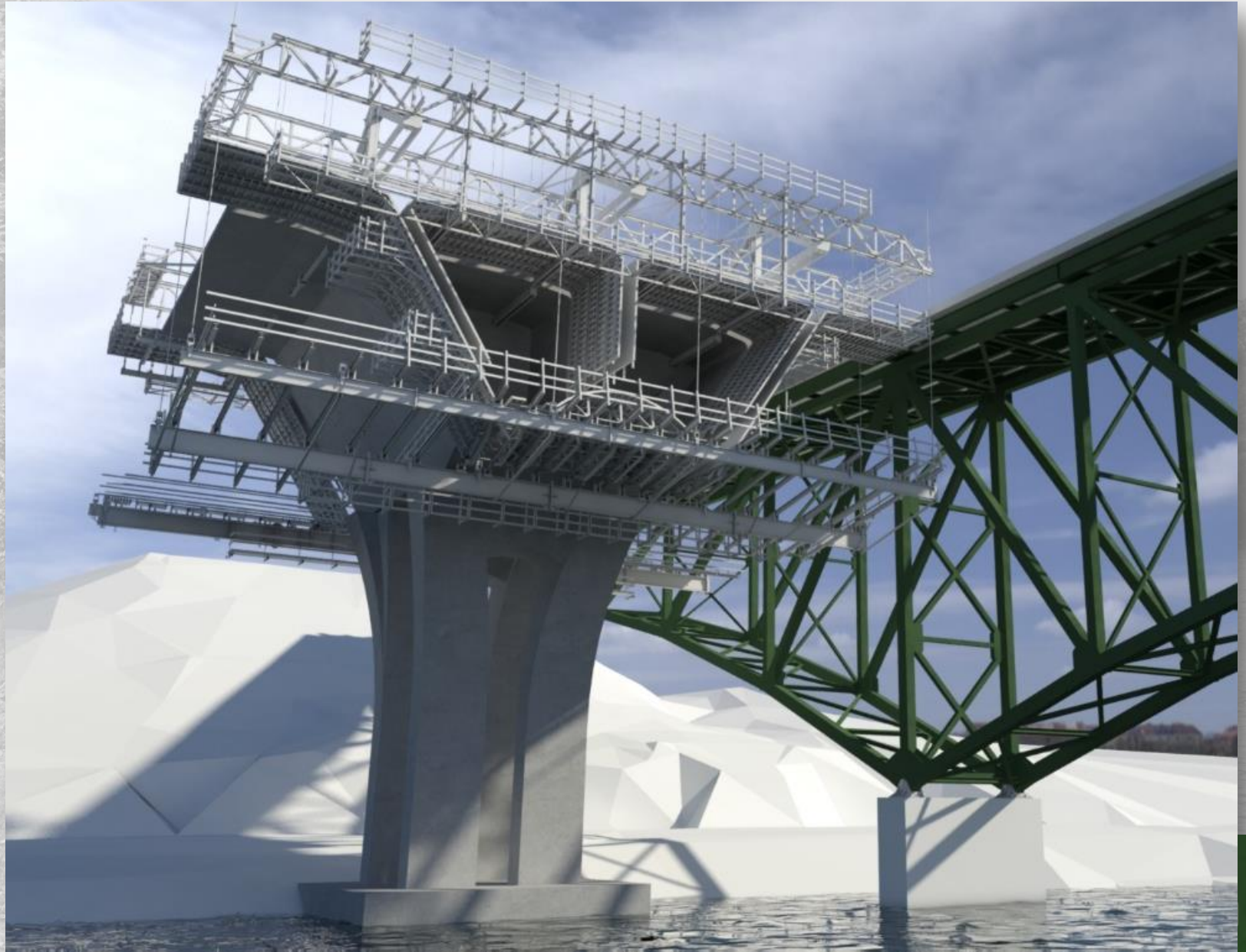


Open pier columns provide stability during construction which removes the need for temporary towers in the water

Bridge 9 Form Traveler



Bridge 9 Form Traveler



Bridge 9 Form Traveler



Bridge 9 Form Traveler



Trail Talks to Share The Progress of Construction

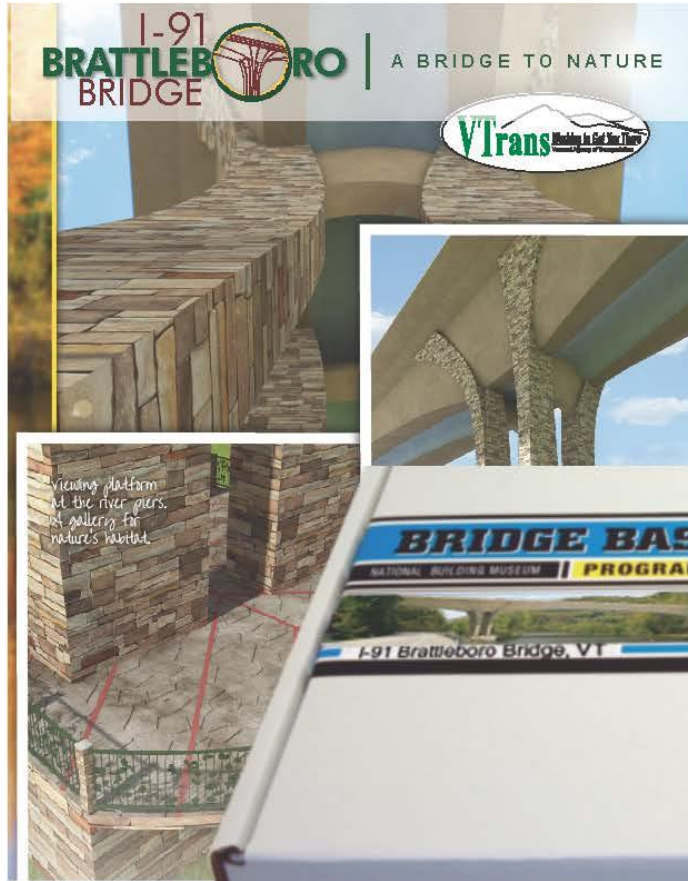
2013
December 14

2014
February 8
March 8
June 14
July 12
September 13
October 11
November 8
December 13

2015
January 10
February 21
March 14
April 18
May 9



Community "Trail Talks"
Second Saturday
of each month until
project completion



Educational Tool for School Children
 Customized with the I-91 Brattleboro Bridge
 by PCL and FIGG



Local middle schools will be given a
 Bridge Basics Kit, created by FIGG and the
 National Building Museum

Roads and Bridges #1 Bridge for 2014

2014
ROADS & BRIDGES
Top 10 Bridges

#1

A plan with no holes

FIGG, PCL Civil Constructors thorough with execution of I-91 span



QUESTIONS?

