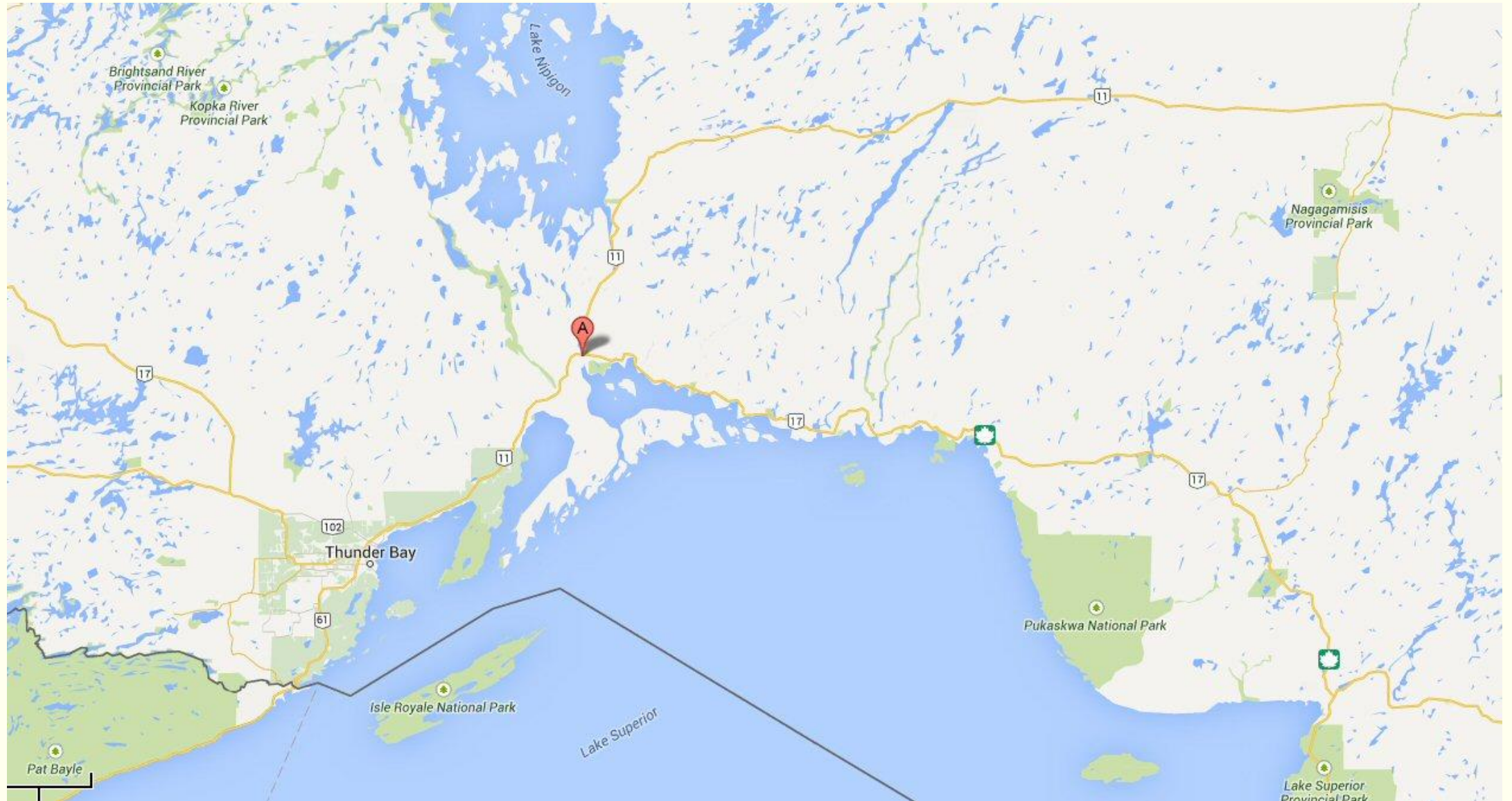


Building of the Nipigon River Cable Stayed Bridge

Ray Krisciunas P. Eng.

Nipigon River Cable Stayed Bridge

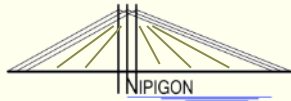


Nipigon River Cable Stayed Bridge



CPR Mainline

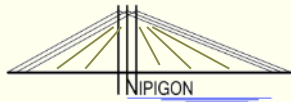
Gapen's Pool



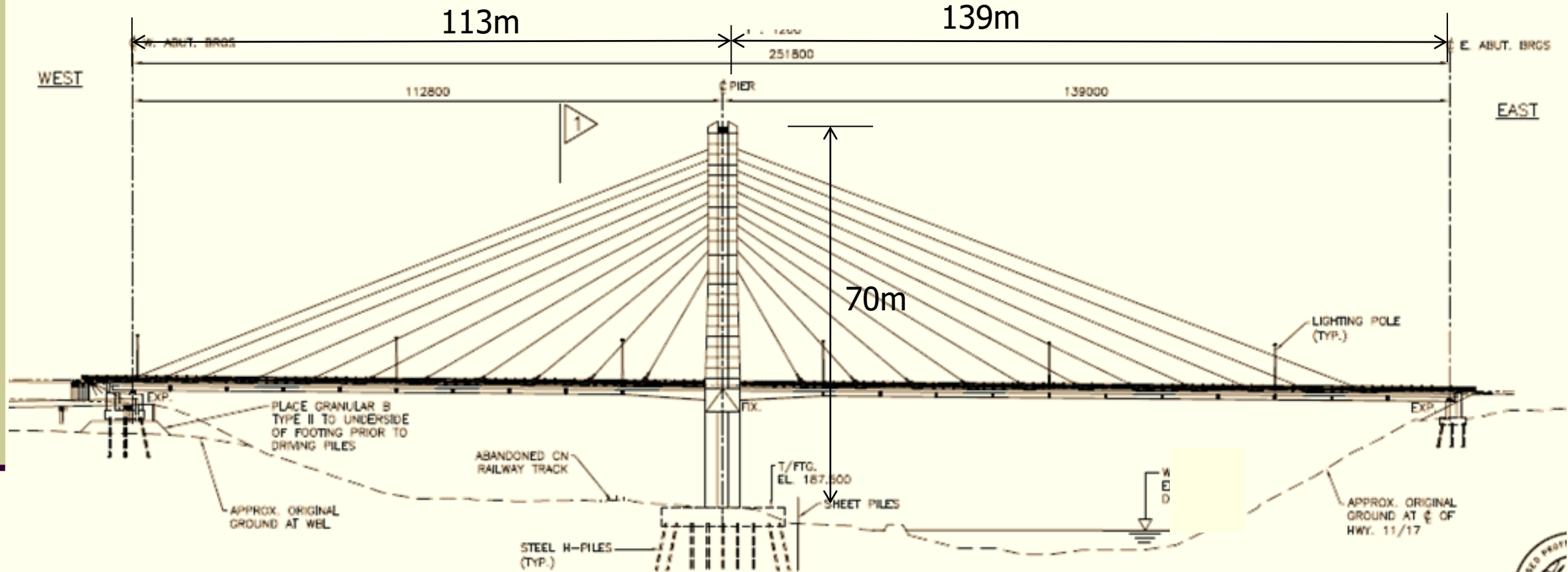
Nipigon River Cable Stayed Bridge

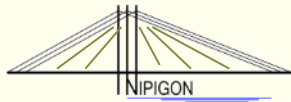
Signature Bridge
3 Towers
'Modified Fan' Shape
1st Cable Stayed Br in Ont.
1st Stage Constructed





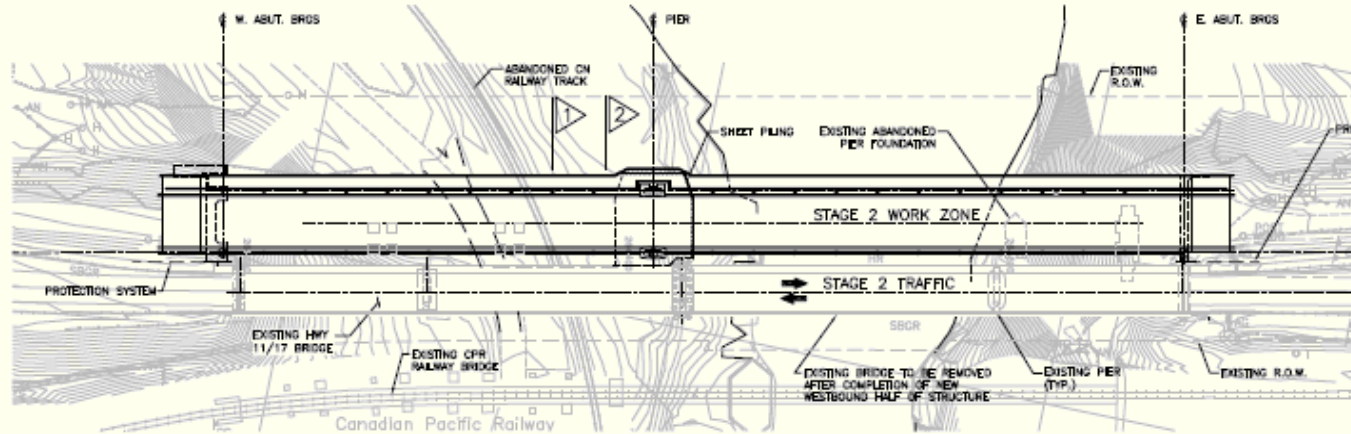
Nipigon River Cable Stayed Bridge



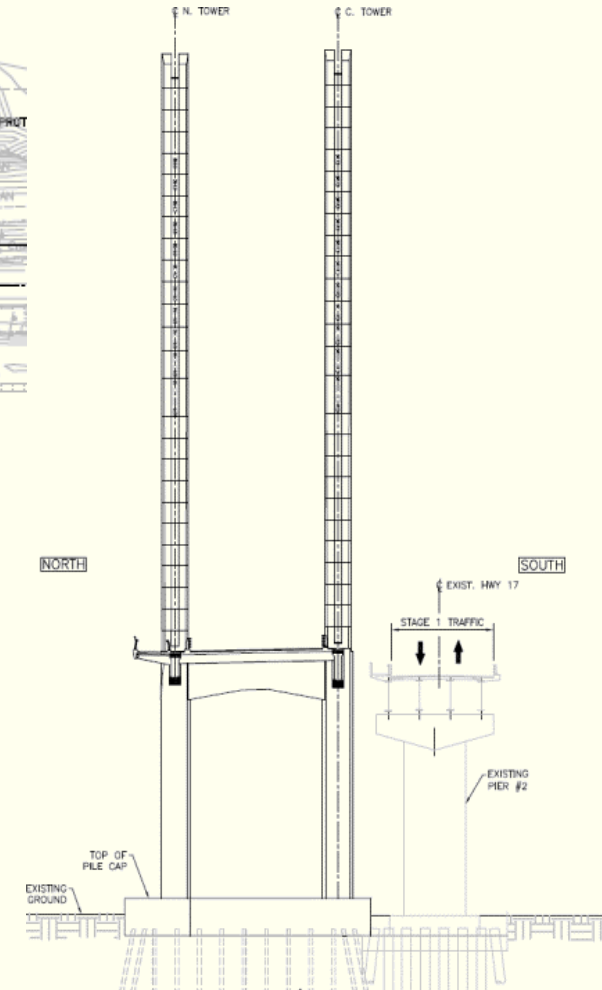
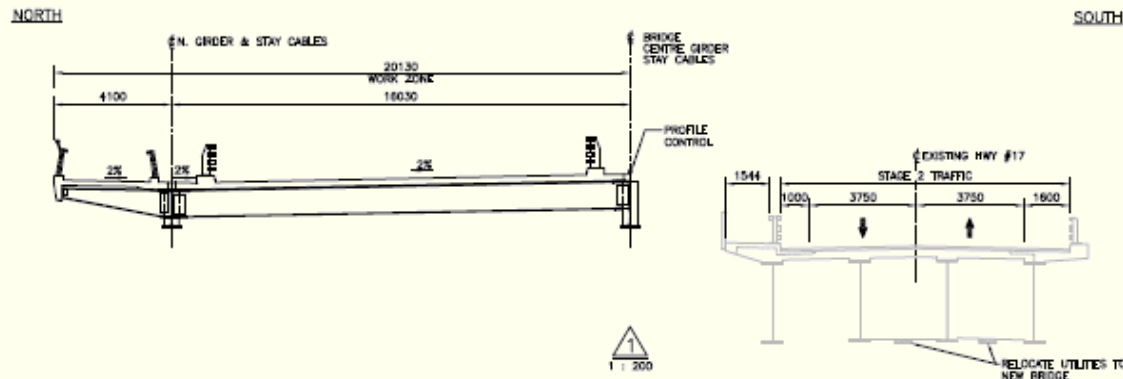


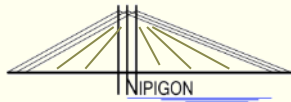
Nipigon River Cable Stayed Bridge

1st Ever Stage Constructed Cable Stayed Bridge

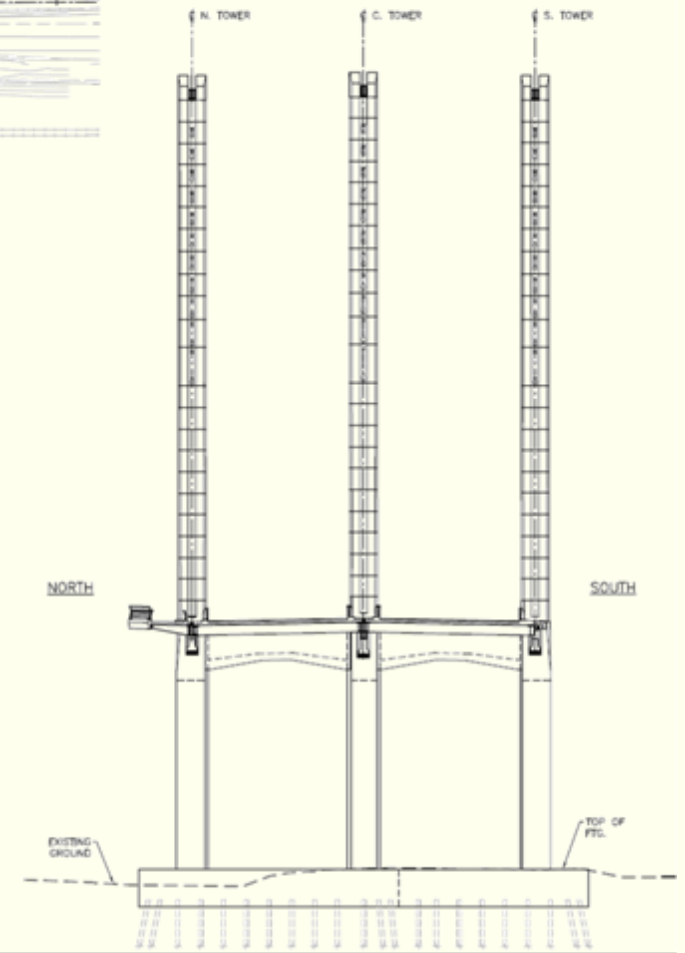
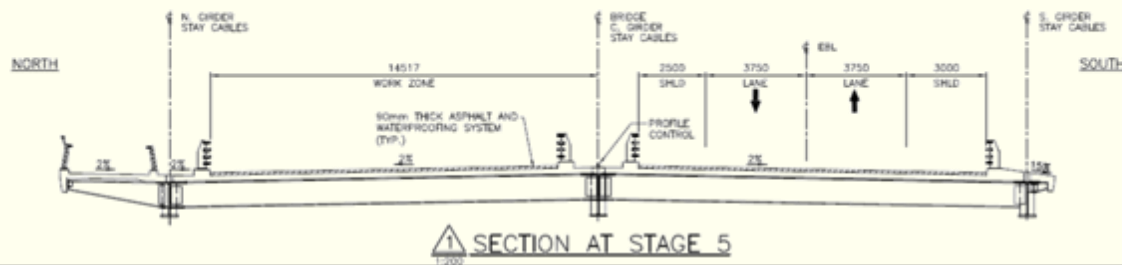
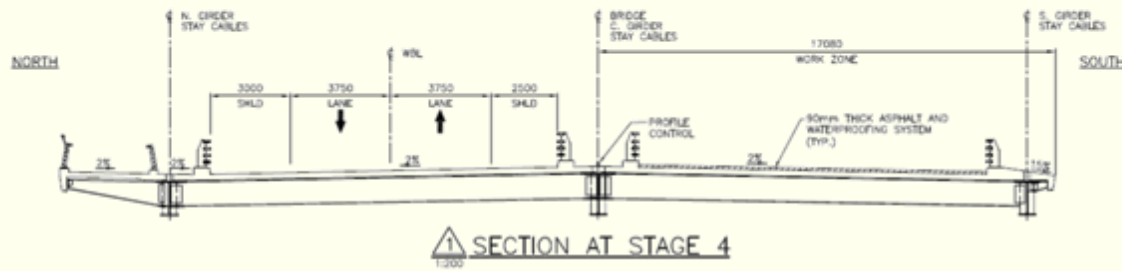
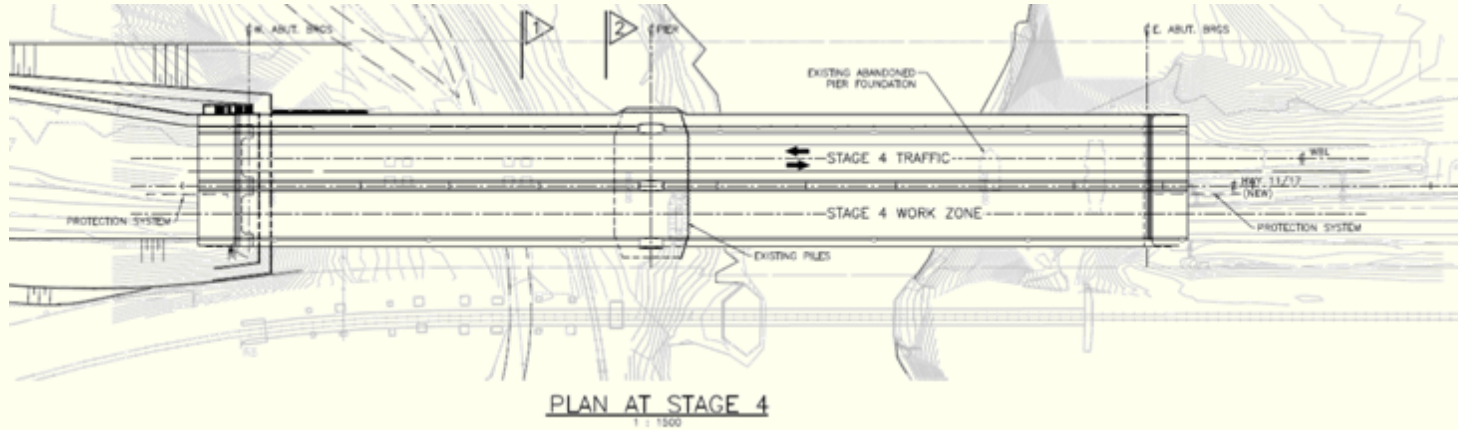


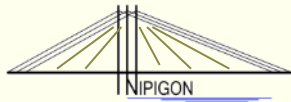
PLAN AT STAGE 2
1 : 1000





Nipigon River Cable Stayed Bridge



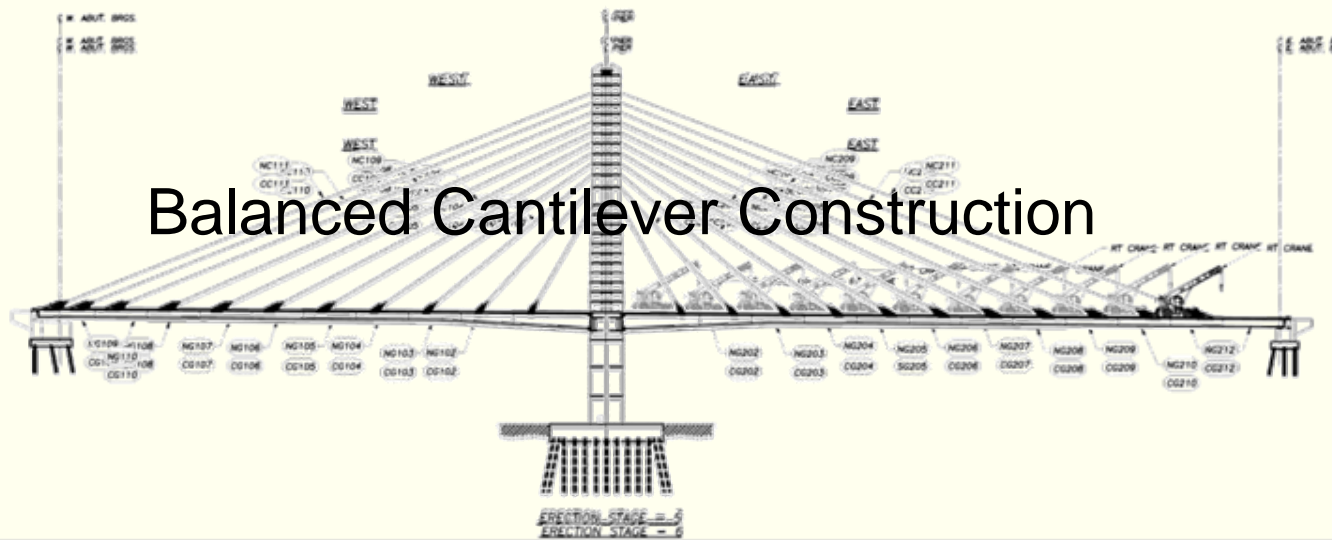


Nipigon River Cable Stayed Bridge



Nipigon River

Balanced Cantilever Construction

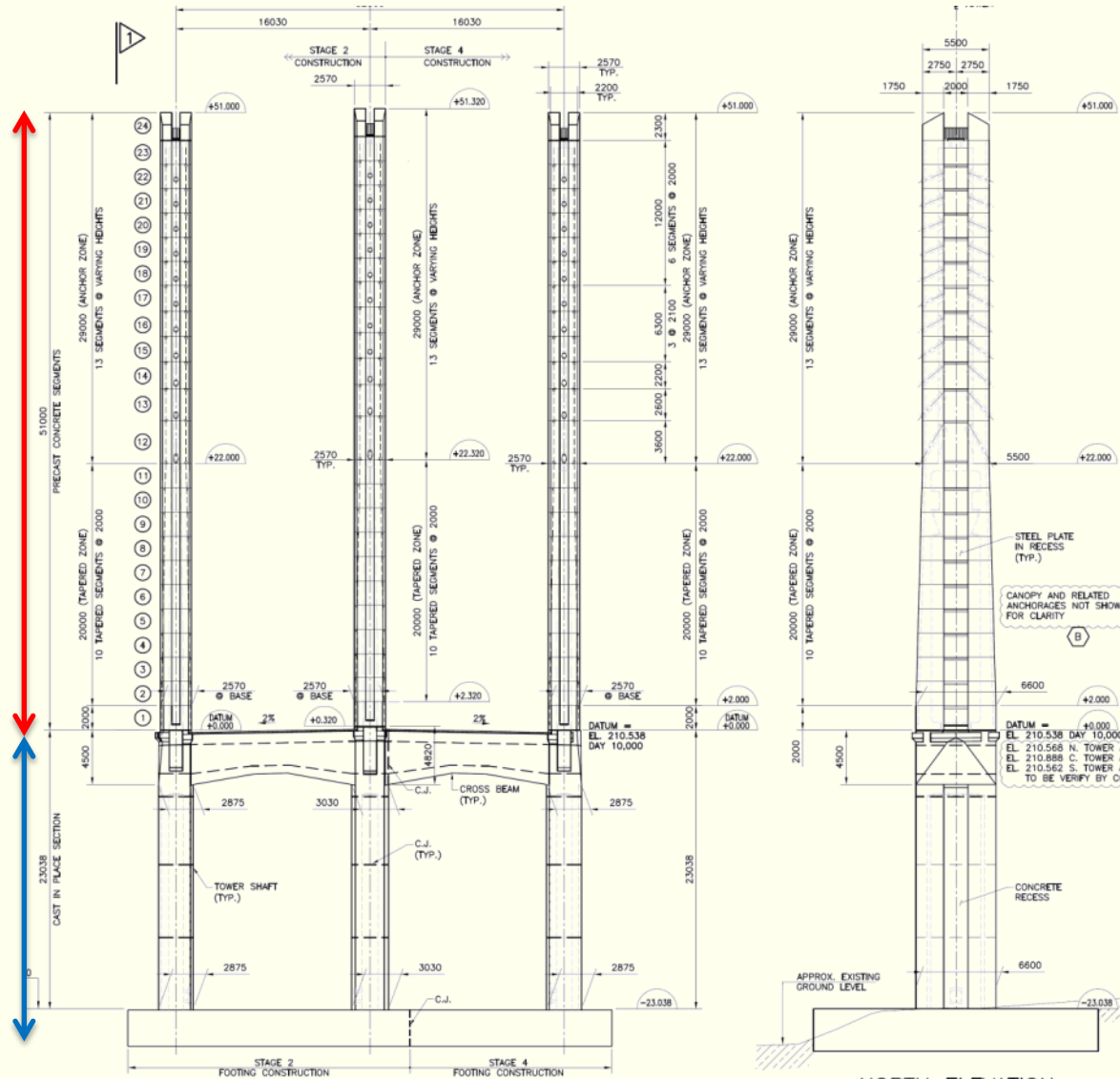




Nipigon River Cable Stayed Bridge

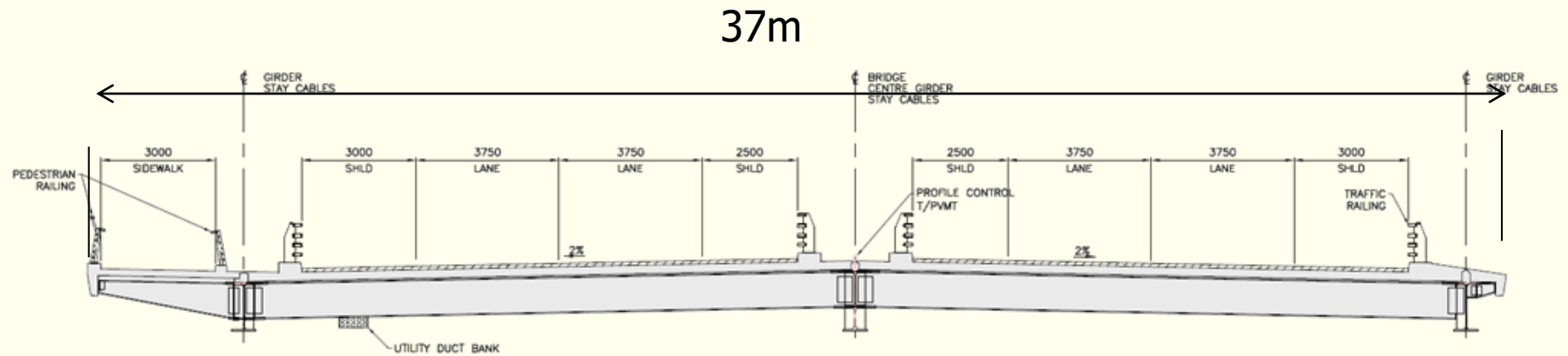
Prefabricated

Cast in Place





Nipigon River Cable Stayed Bridge



- Precast Deck--Winnipeg
- Precast Towers--Calgary
- Structural Steel—Laval, Quebec, Calgary
- Cables—Spain
- Expansion Joints—China



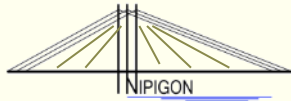
Piles driven ~60m to bedrock
Total of ~ 8km of 14" H-pile

Fall 2013

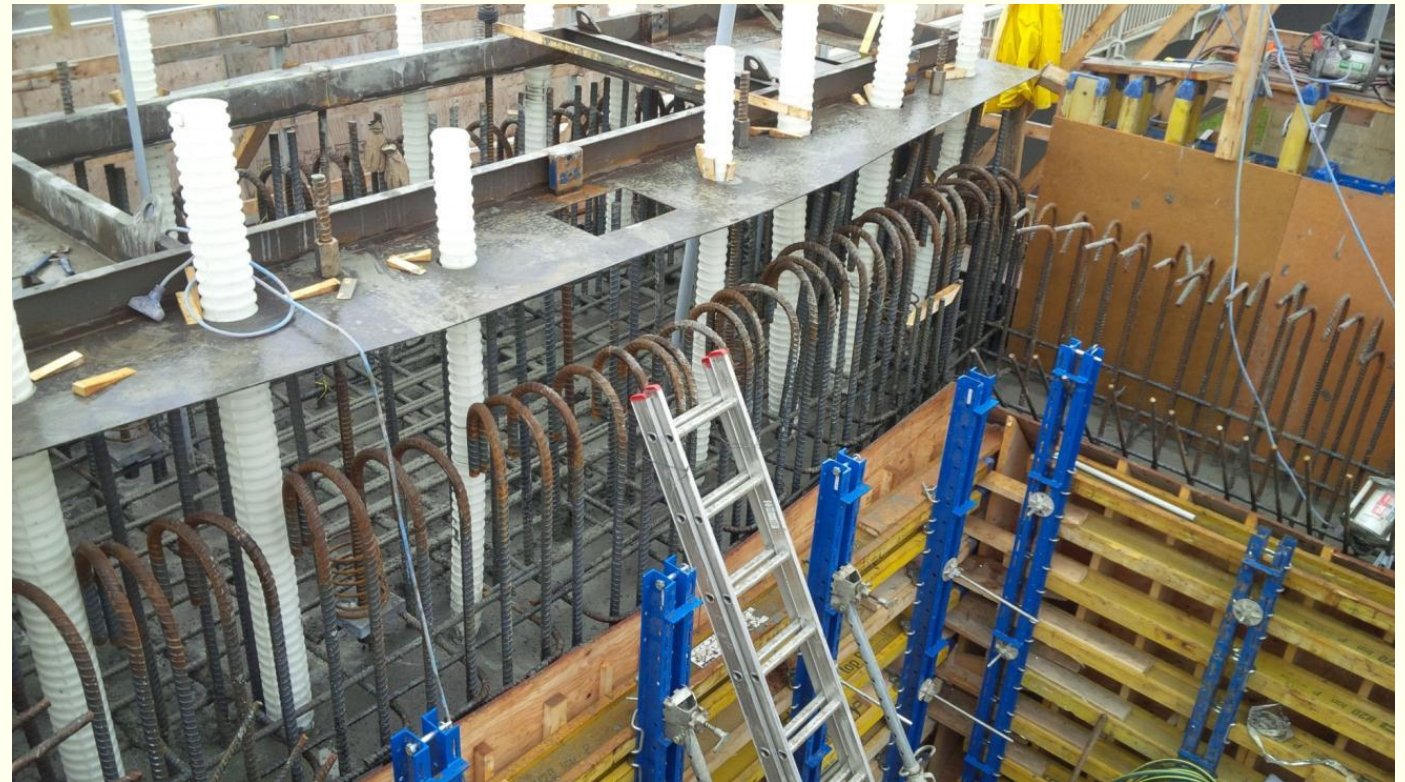


Winter 2014





Nipigon River Cable Stayed Bridge

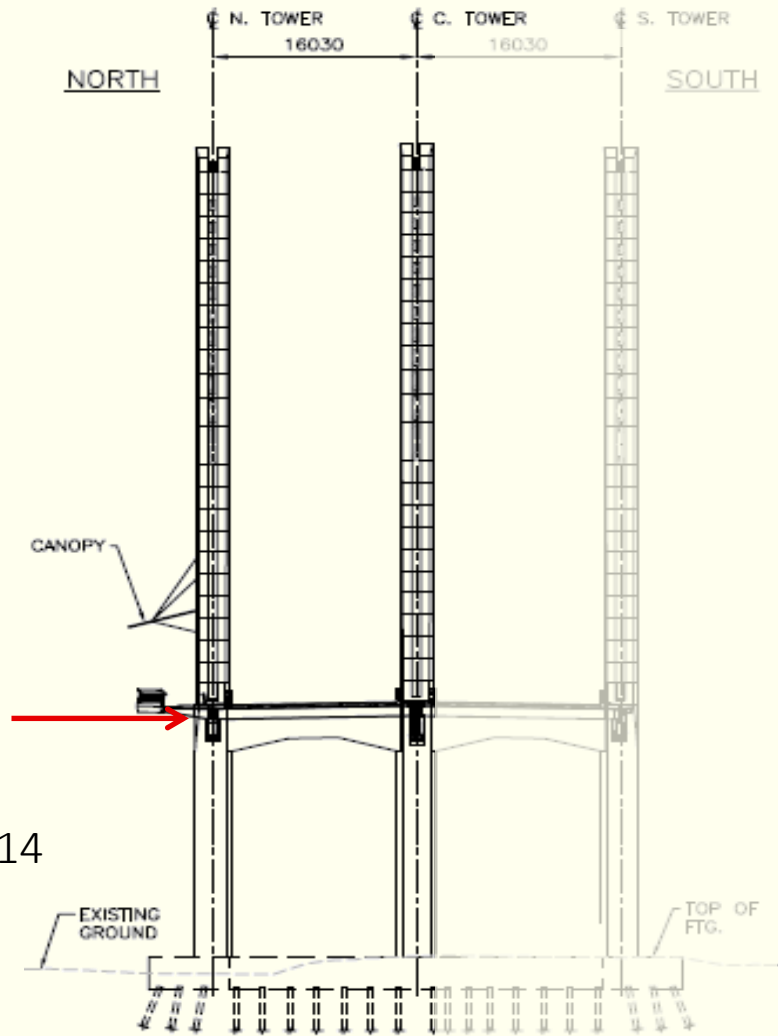


Cross Beam with Tower PT Anchorages

Pier Reinforcing



Nipigon River Cable Stayed Bridge



Summer 2014

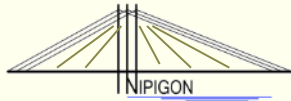




Nipigon River Cable Stayed Bridge

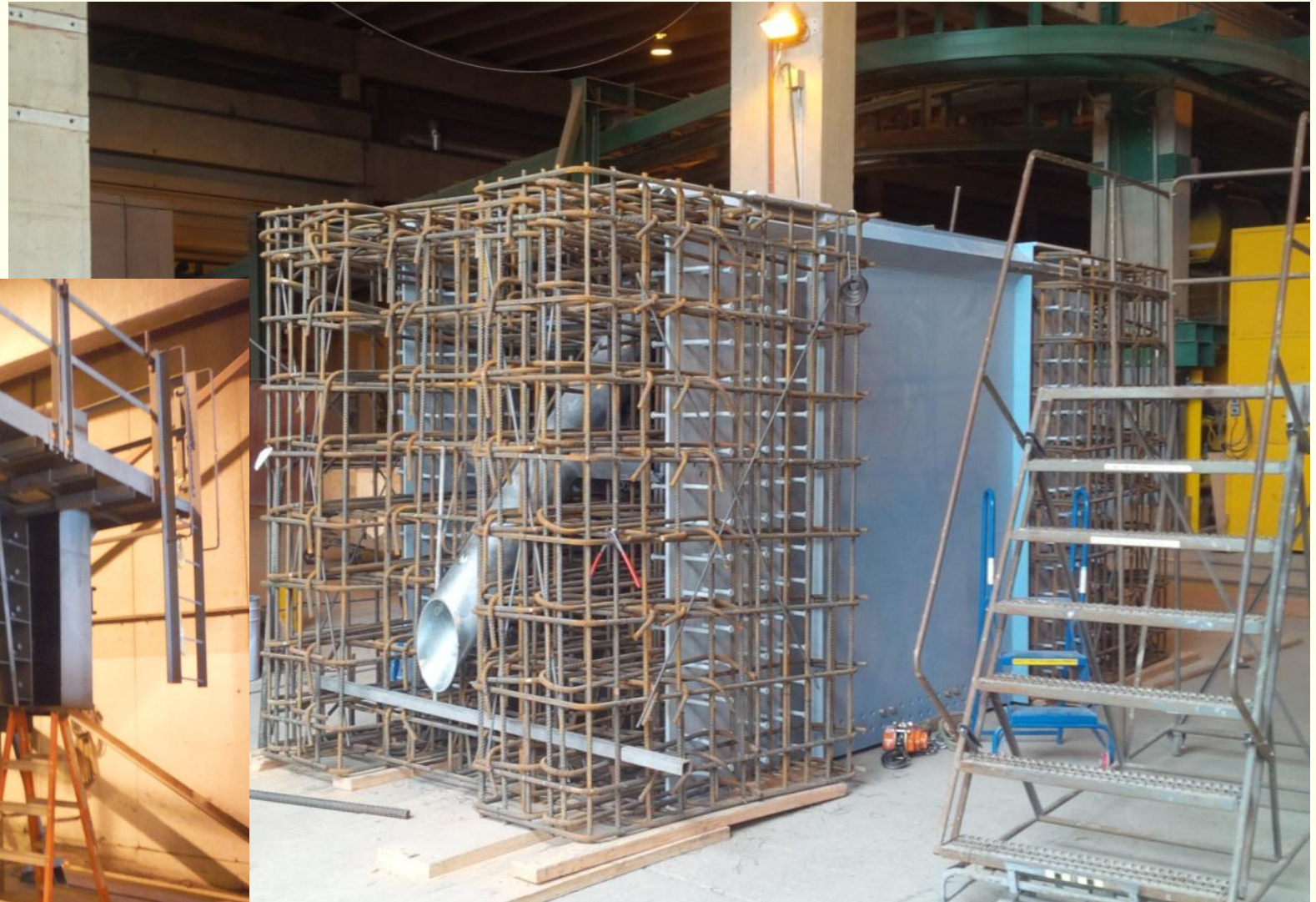


Steel Fabrication by Canam,
Laval & Quebec



Nipigon River Cable Stayed Bridge

Tower elements fabricated by Armtec, Calgary using match casting





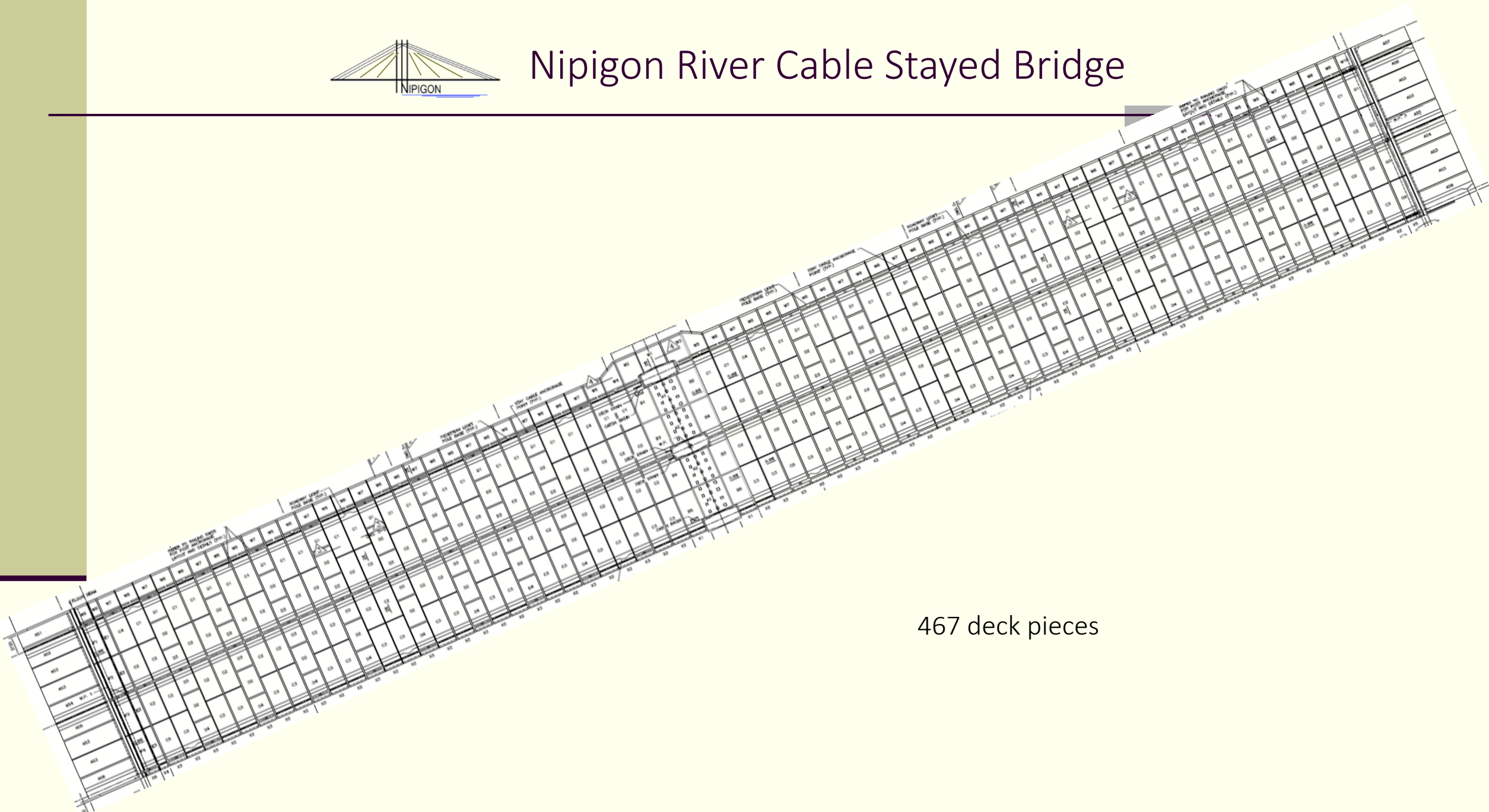
Nipigon River Cable Stayed Bridge

Deck Panels fabricate by Armtec Winnipeg





Nipigon River Cable Stayed Bridge



467 deck pieces



Nipigon River Cable Stayed Bridge



Heaviest Tower elements ~70 tonnes



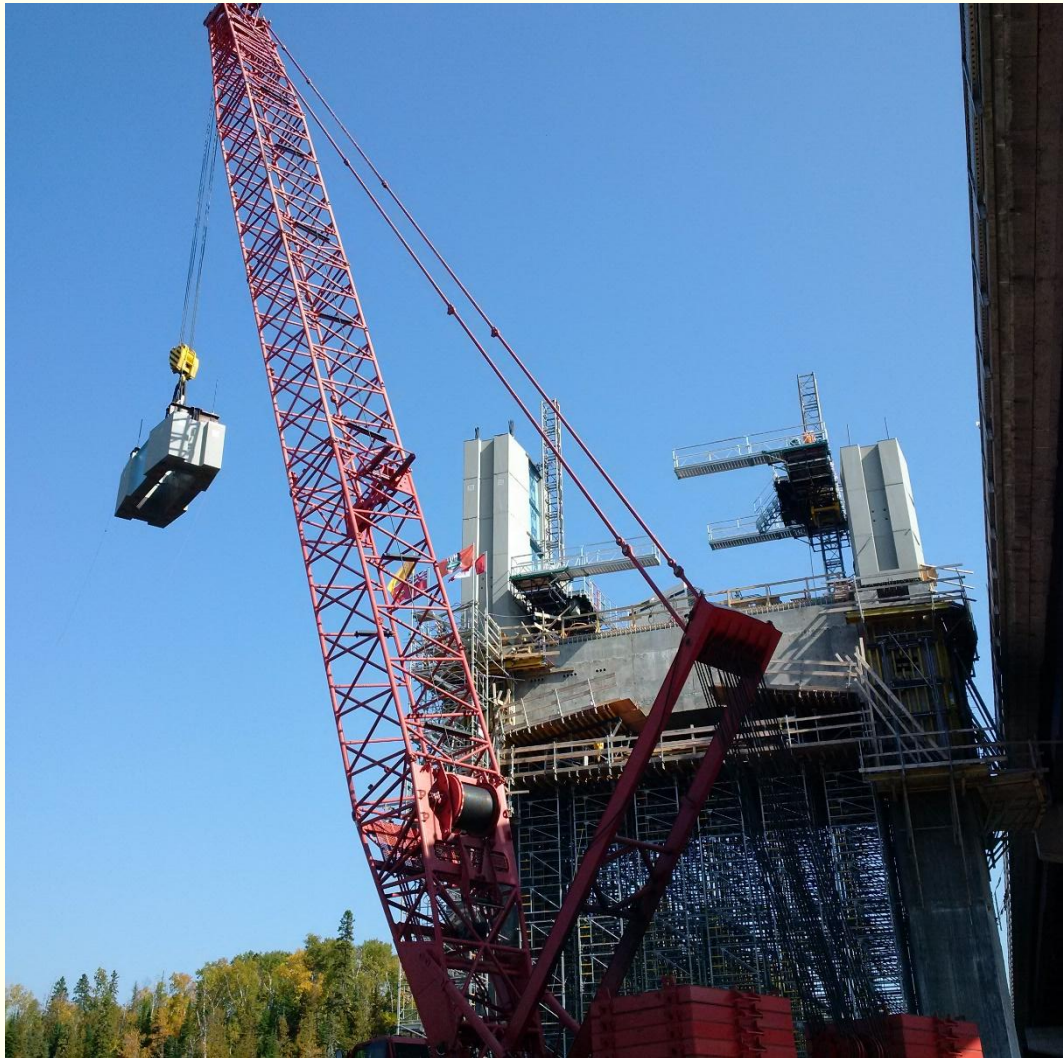
Nipigon River Cable Stayed Bridge



Fall 2014



Nipigon River Cable Stayed Bridge



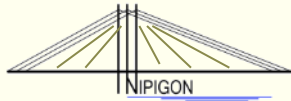
Fall 2014



Nipigon River Cable Stayed Bridge



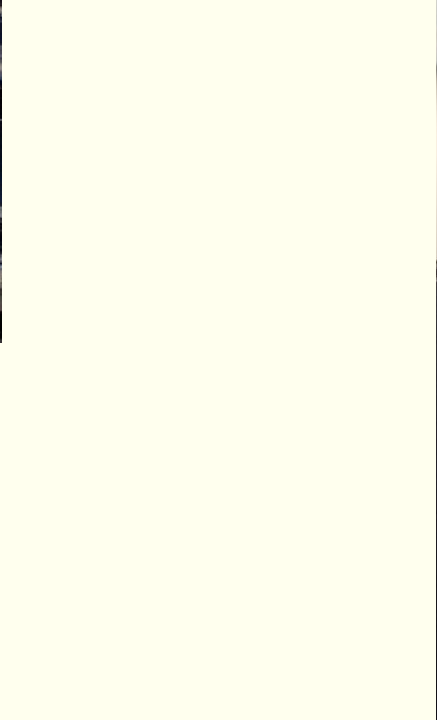
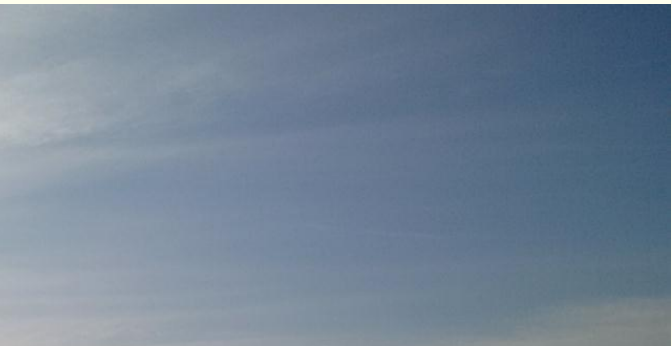
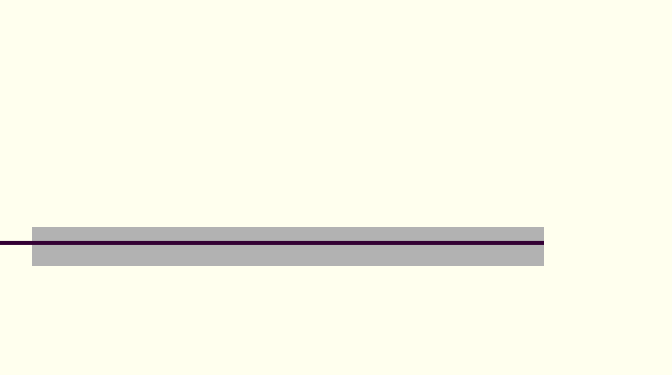
Fall 2014



Nipigon River Cable Stayed Bridge

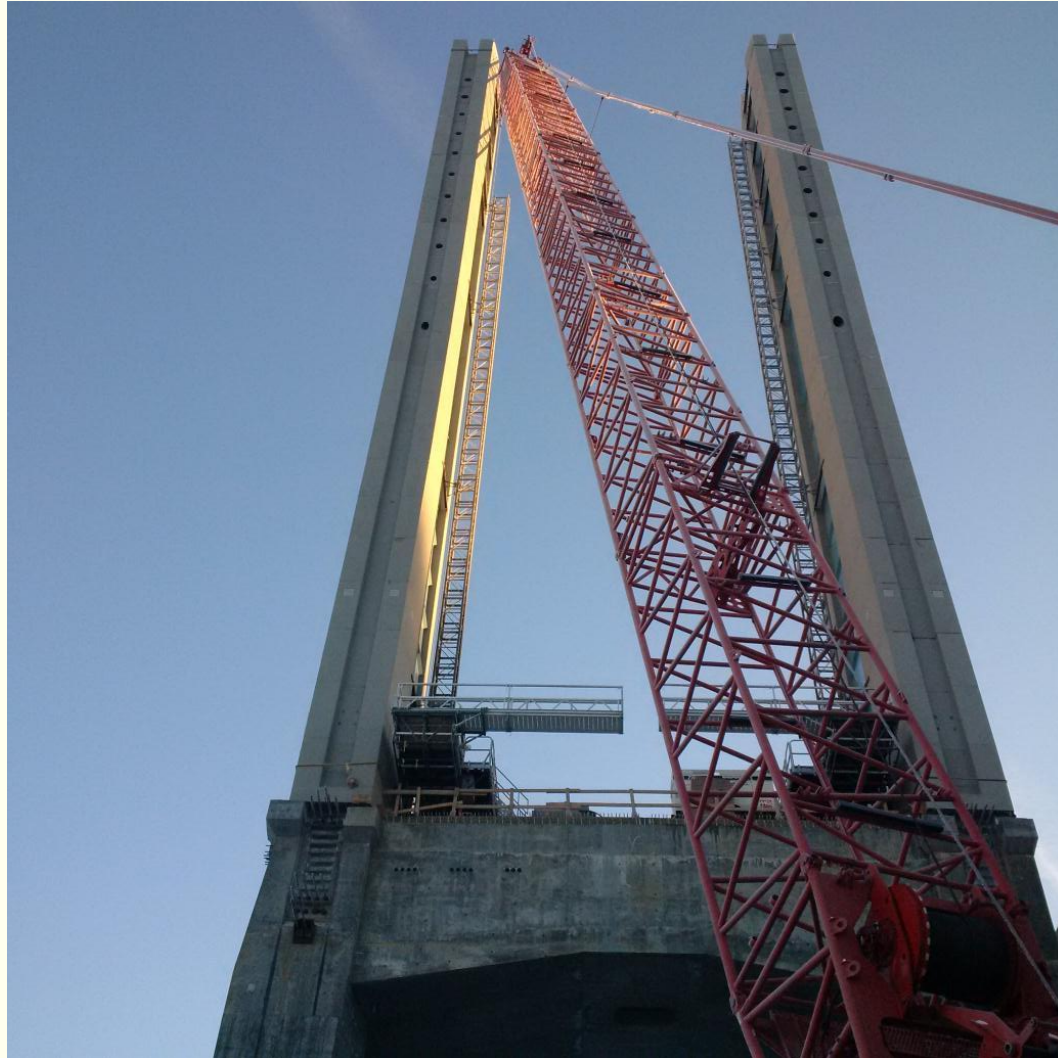


Towers have both temporary and permanent PT



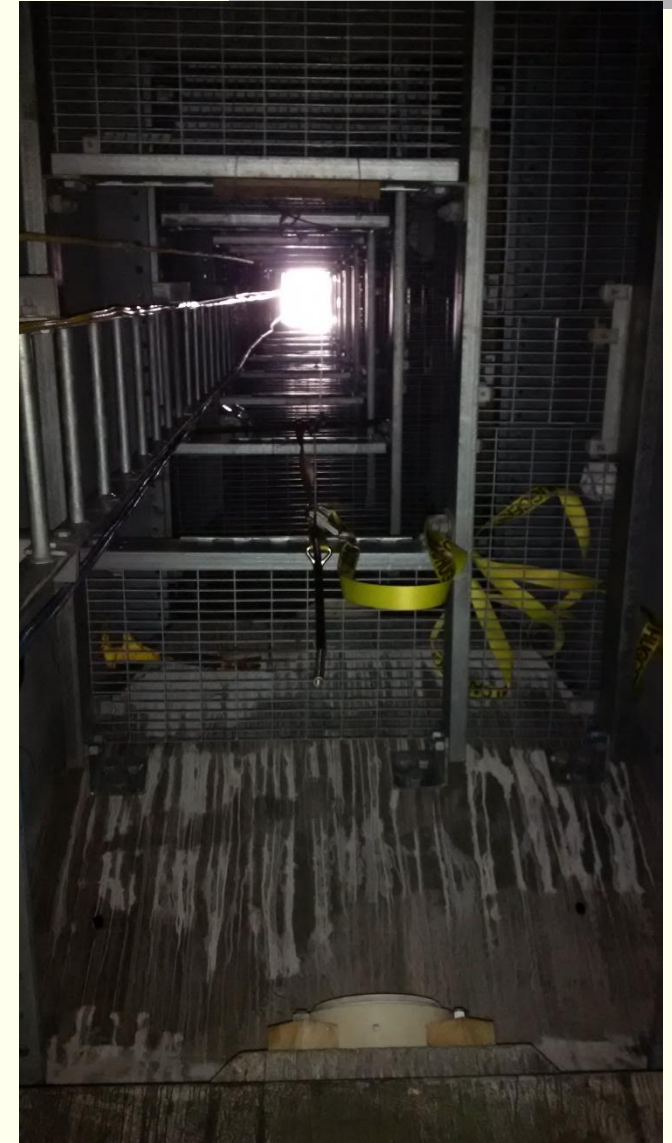


Nipigon River Cable Stayed Bridge





Nipigon River Cable Stayed Bridge

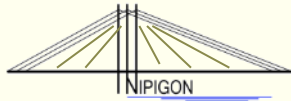




Nipigon River Cable Stayed Bridge



Mar 2015



Nipigon River Cable Stayed Bridge



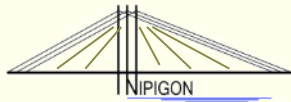
Mar 2015

Nipigon River Cable Stayed Bridge



Summer 2015

GUAY



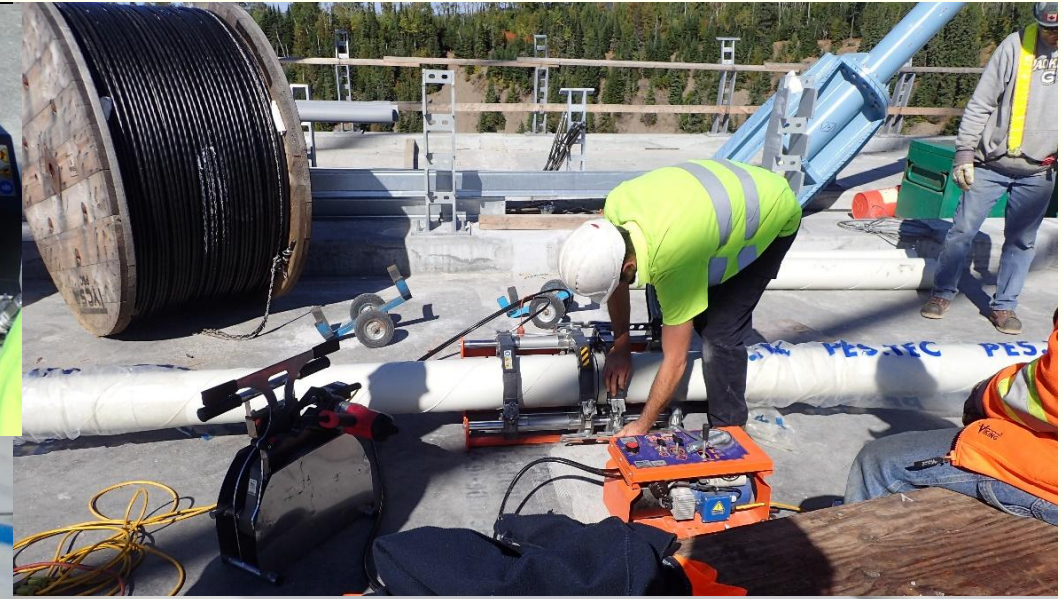
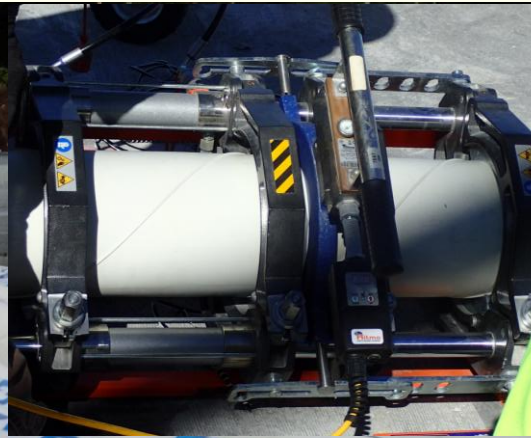
Nipigon River Cable Stayed Bridge

Stay Cables:
Multiple strands of
High strength PT wire



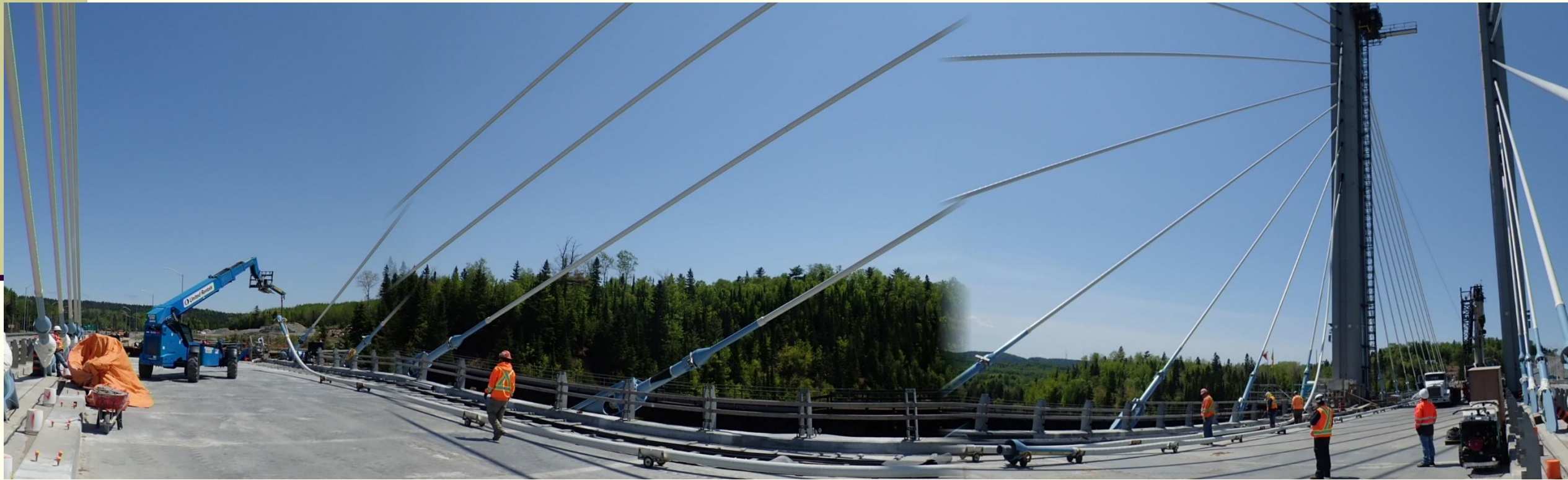


Nipigon River Cable Stayed Bridge





Nipigon River Cable Stayed Bridge





Nipigon River Cable Stayed Bridge





Nipigon River Cable Stayed Bridge





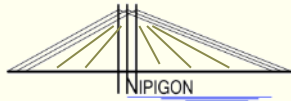
Nipigon River Cable Stayed Bridge





Stay Cable Dampers





Nipigon River Cable Stayed Bridge



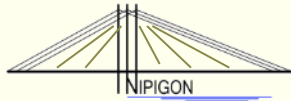


Nipigon River Cable Stayed Bridge

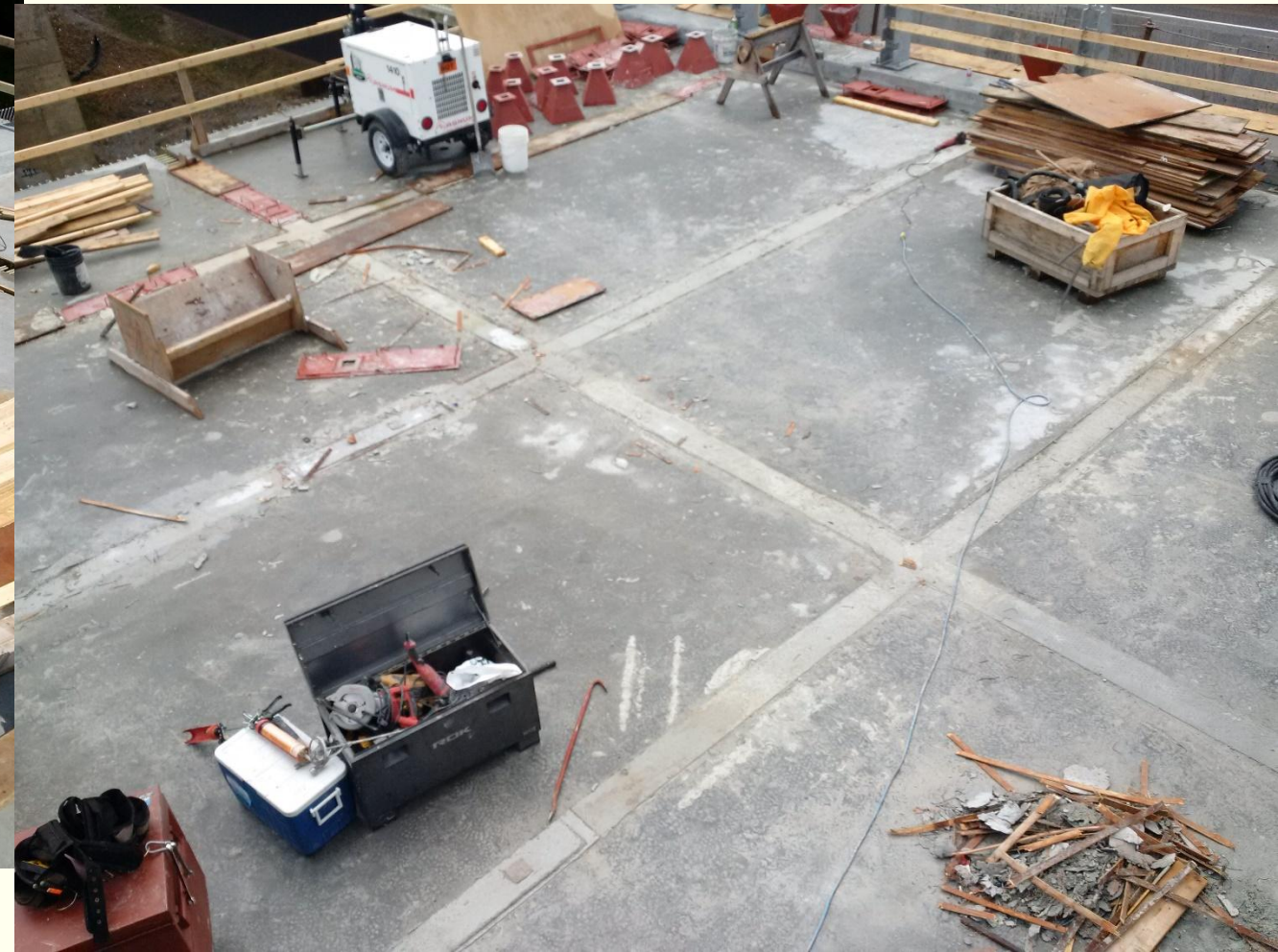


GFRP Reinforcing

08/09/2015



Nipigon River Cable Stayed Bridge





Nipigon River Cable Stayed Bridge





09/09/2015

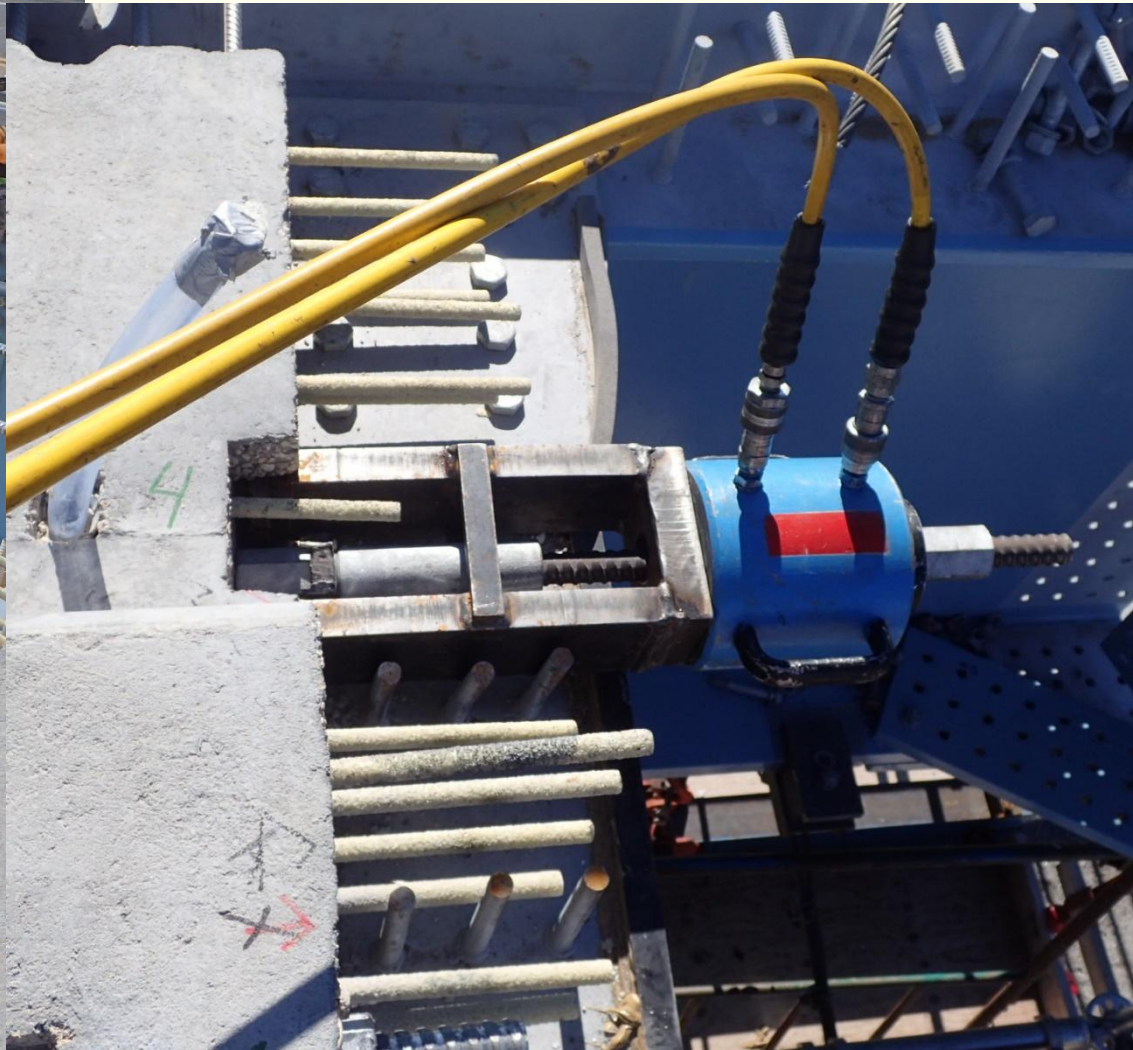


Bridge in balanced state





Nipigon River Cable Stayed Bridge







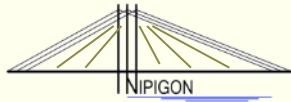






Nipigon River Cable Stayed Bridge





Nipigon River Cable Stayed Bridge

