



Pedestrian Bridges

Arch 173: Building Construction 2
Winter 2022
Terri Meyer Boake

Bridge concerns:

- Span – how far?
 - Over what?
 - Clear span or intermediate supports?
- Access to get on the bridge
- Edge support conditions
- Any height restrictions?
 - Support overhead
 - Support under deck
- Does any transportation need to go under the bridge?
- How do you transport it to location?

- Outside: materials, durability, corrosion

BRIDGES BY STRUCTURAL SUPPORT SYSTEM



Arched



Suspension



Mast supported



Tubes



Support below deck



Tension

ARCHED



Pedestrian Bridge
Denver, Colorado





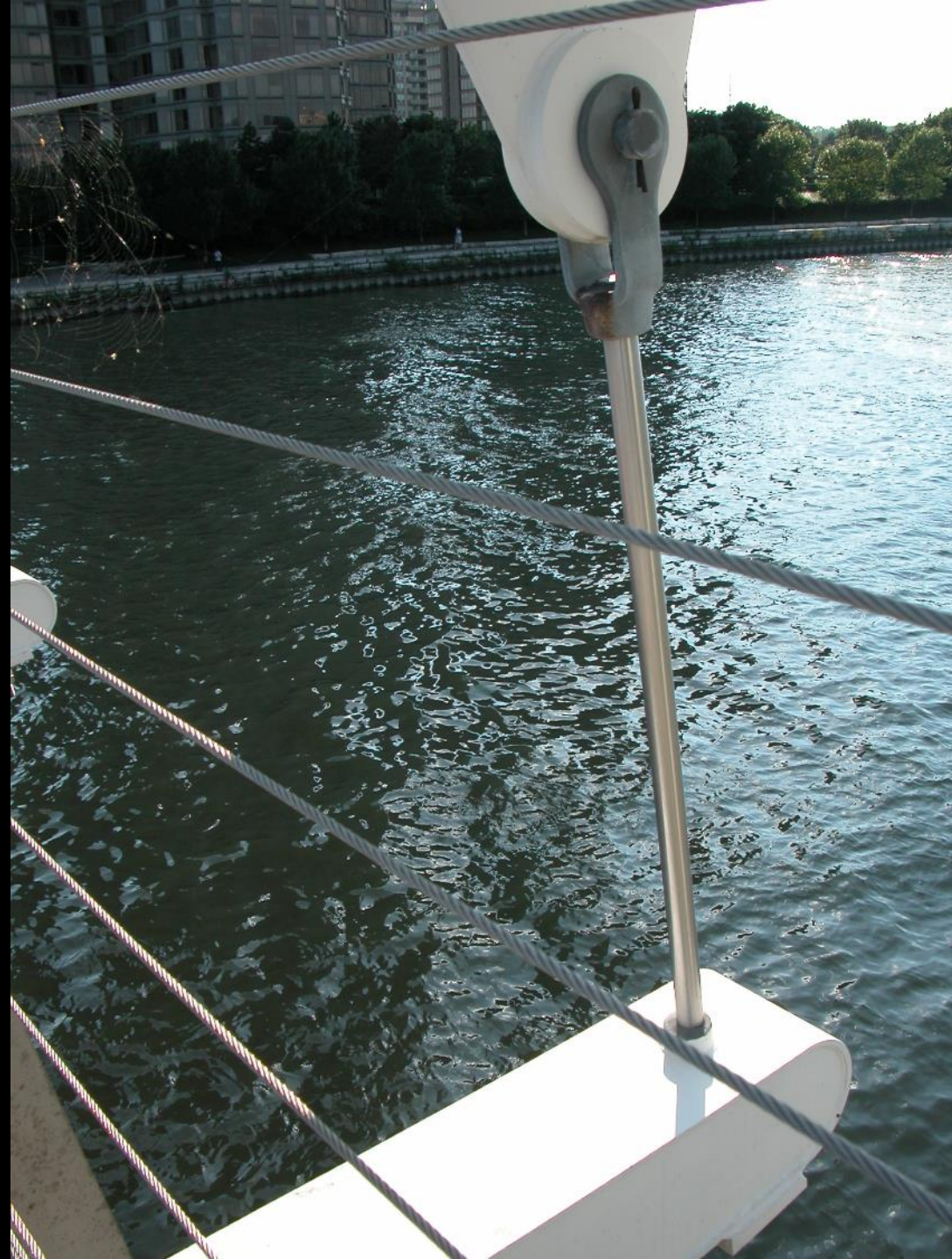




Humber Bay Bridge
Toronto, ON













Pedestrian overpass
Richmond, BC















John Street Bridge
Toronto, ON







Commercial Station Bridge
Vancouver, BC

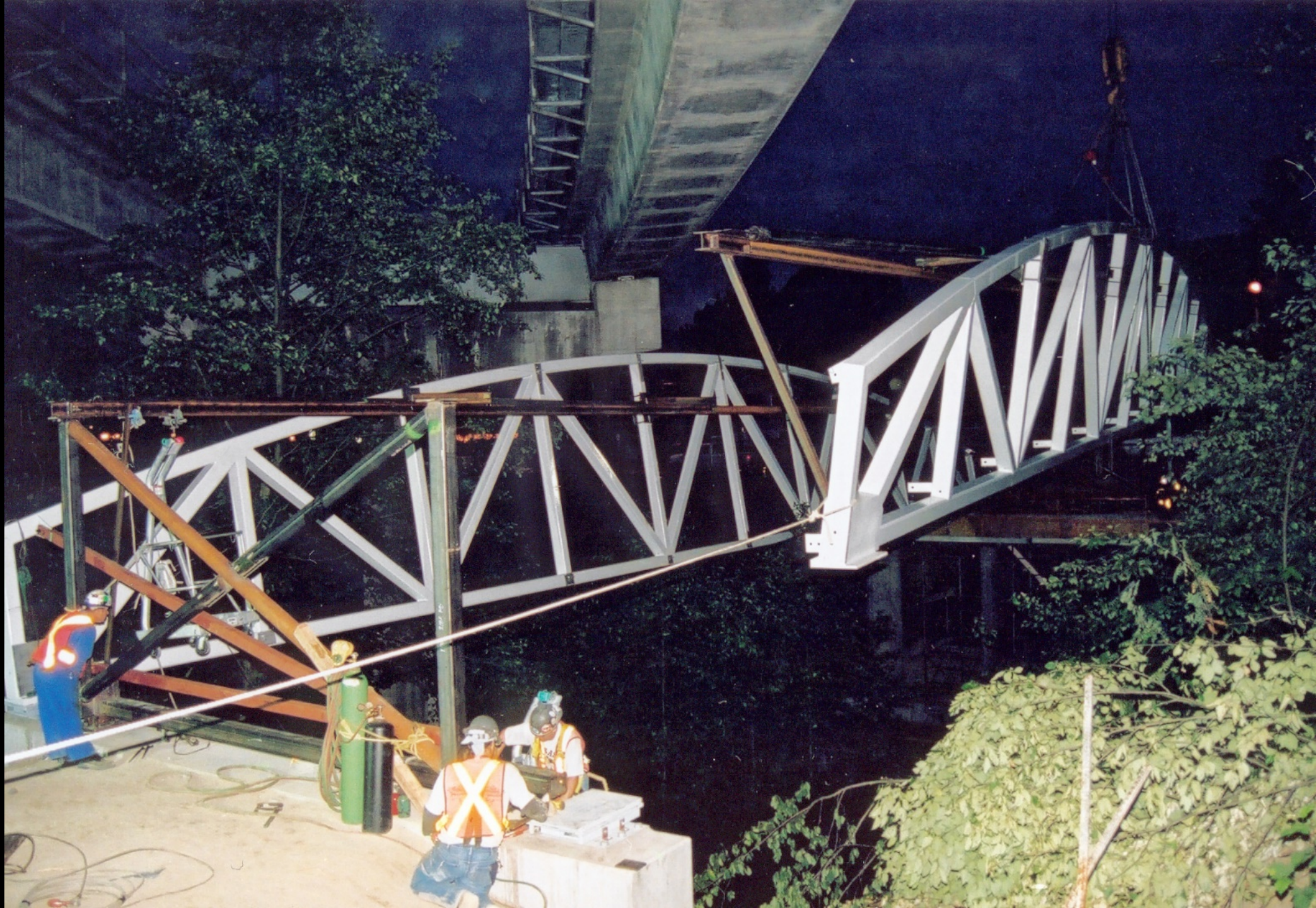






Image: George Thind & Son



Trans Canada Highway overpass
Vancouver, BC

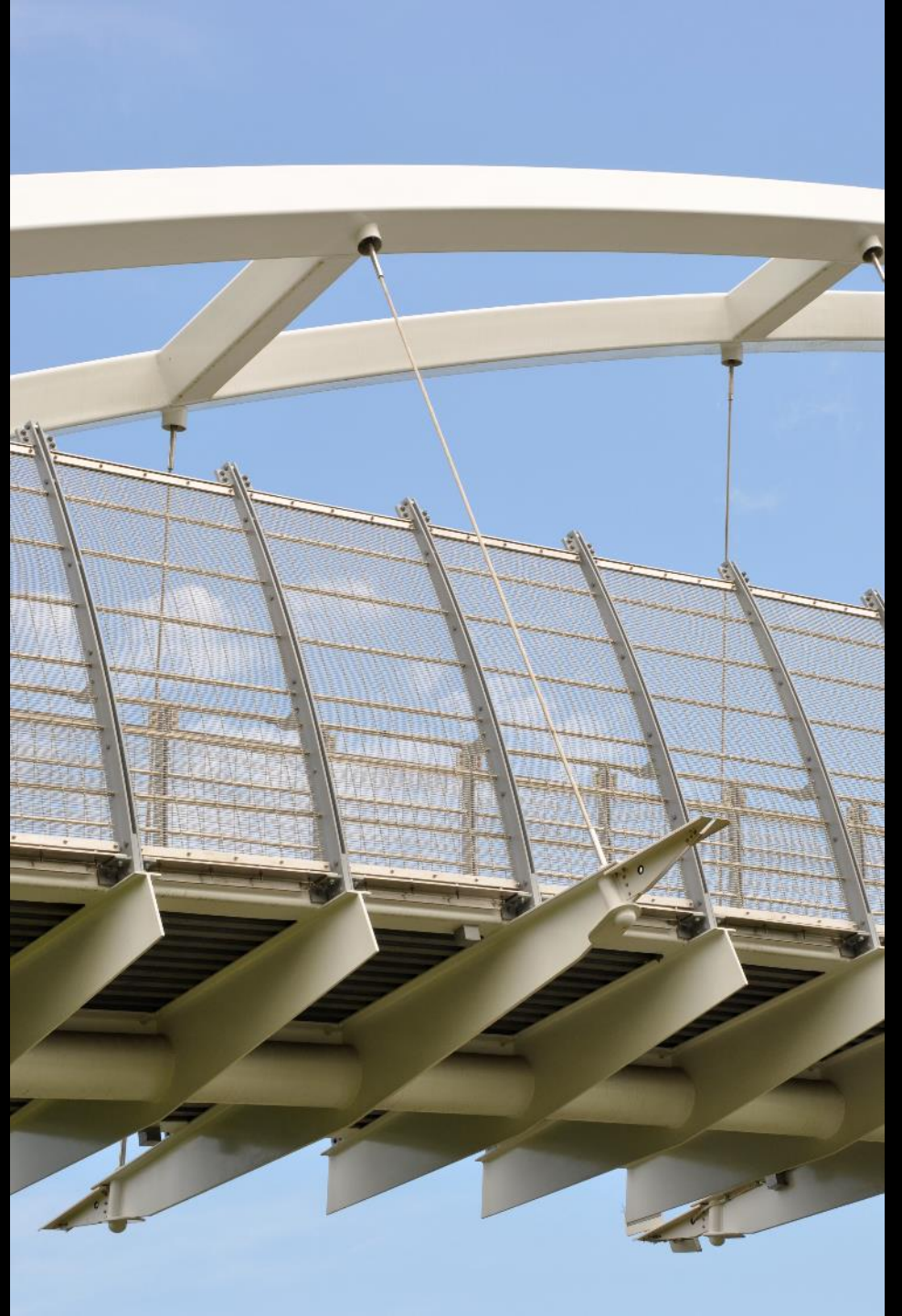














St. Patrick Bridge
Calgary, Alberta















Pedestrian Bridge
Olympia, Greece





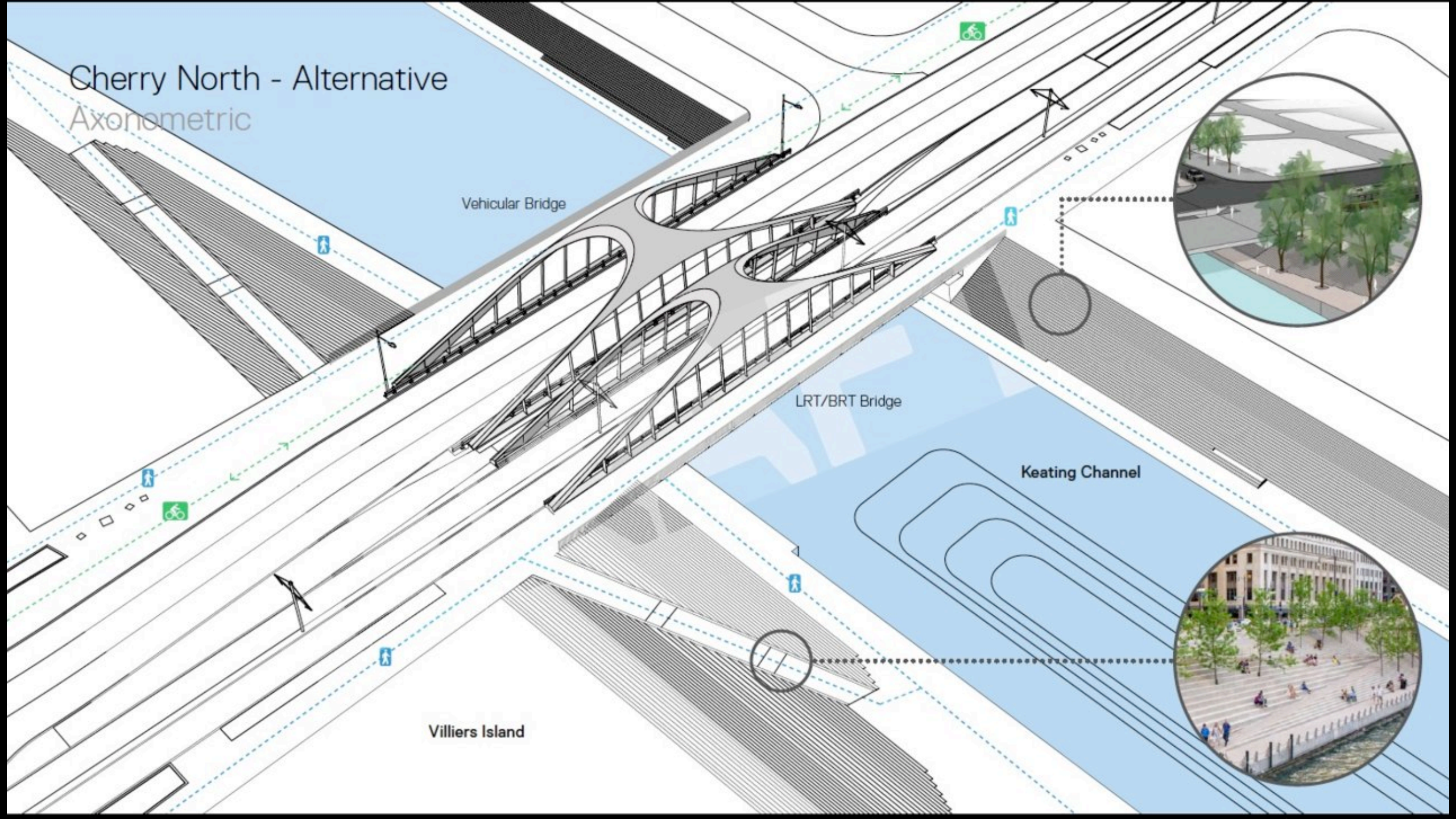




Portlands Bridge
Toronto, ON



Cherry North - Alternative Axonometric



Vehicular Bridge

LRT/BRT Bridge

Keating Channel

Villiers Island



DANGER

DUE TO

CONSTRUCTION

ALL TRAFFIC MUST STOP

AT THIS LOCATION

UNTIL ADVISED OTHERWISE

BY THE PROJECT MANAGER

OR THE CITY ENGINEER

FOR FURTHER INFORMATION

CONTACT THE PROJECT MANAGER

AT THE LOCATION OF THE SIGN

OR THE CITY ENGINEER

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Amgen Bridge
Seattle, Washington















Calatrava Bridge
Bilbao, Spain



RESTAURANT
CAFE















Lisbon Train Station Bridge
Calatrava













Mimico Creek Bridge – Calatrava
Toronto, ON







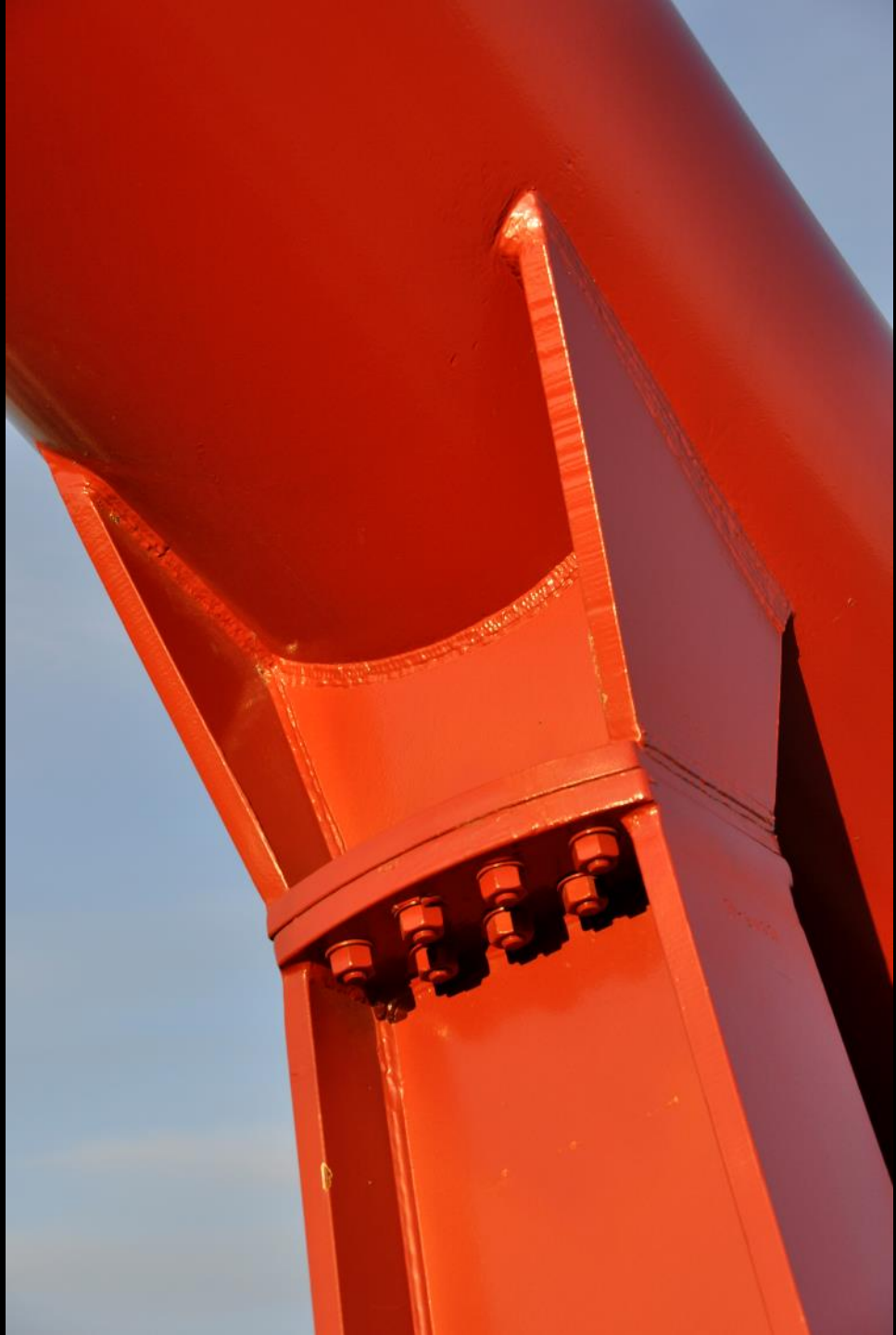




Red Hill Bridge
Hamilton, ON







SUSPENSION



Miyazaki, Japan

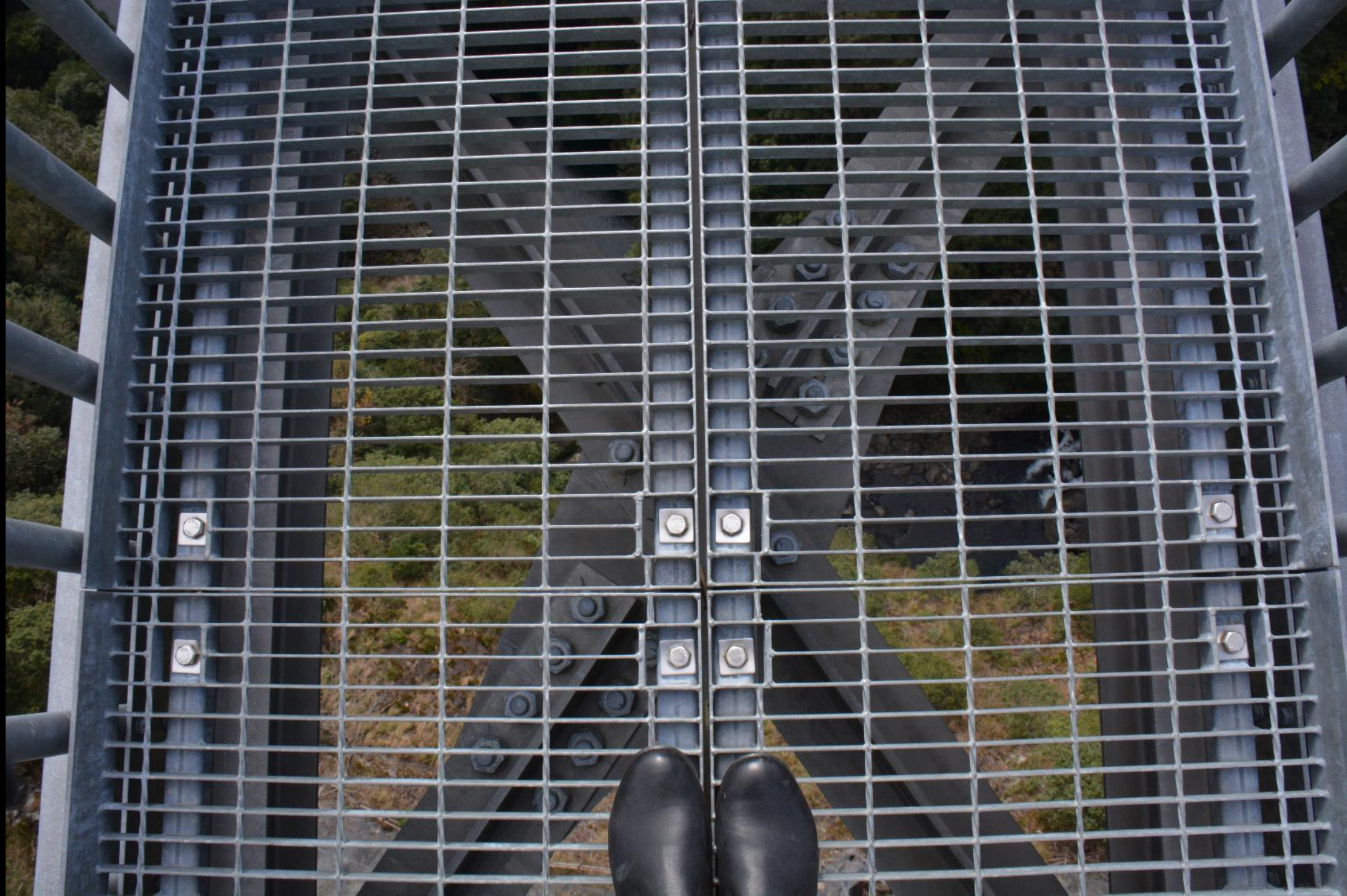














Yufuin, Japan







カメラの
フラッシュ
撮影しすぎ
は気軽に
かけください！
※撮影するお写真は希望無効です。



MASTS



Dalian, China













Jubilee Bridge
London, UK















Canary Wharf Bridge
London, UK











Northumbria University Bridge
Newcastle, UK











Paddington Basin Bridge
London, UK







WELCOME TO
**Paddington
Waterside**



Part of the City of London



The Point
Marks & Spencer

3.1.1.1.1.1




La Villette Raised Walkway
Paris, France





cité

LIWEI
李晔



Pedestrian Bridge
Denver, Colorado







Louis Riel Bridge
Winnipeg, Manitoba



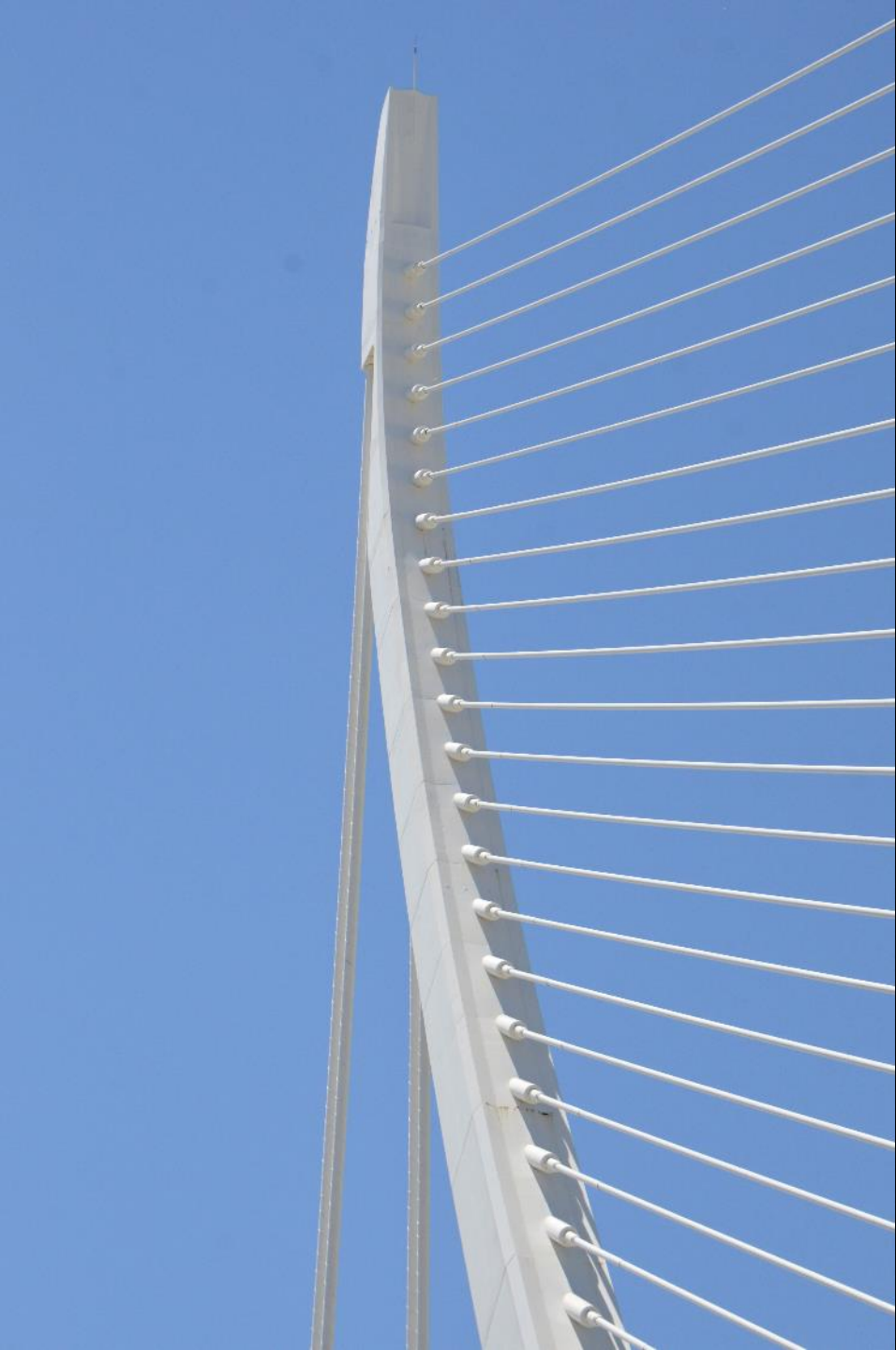






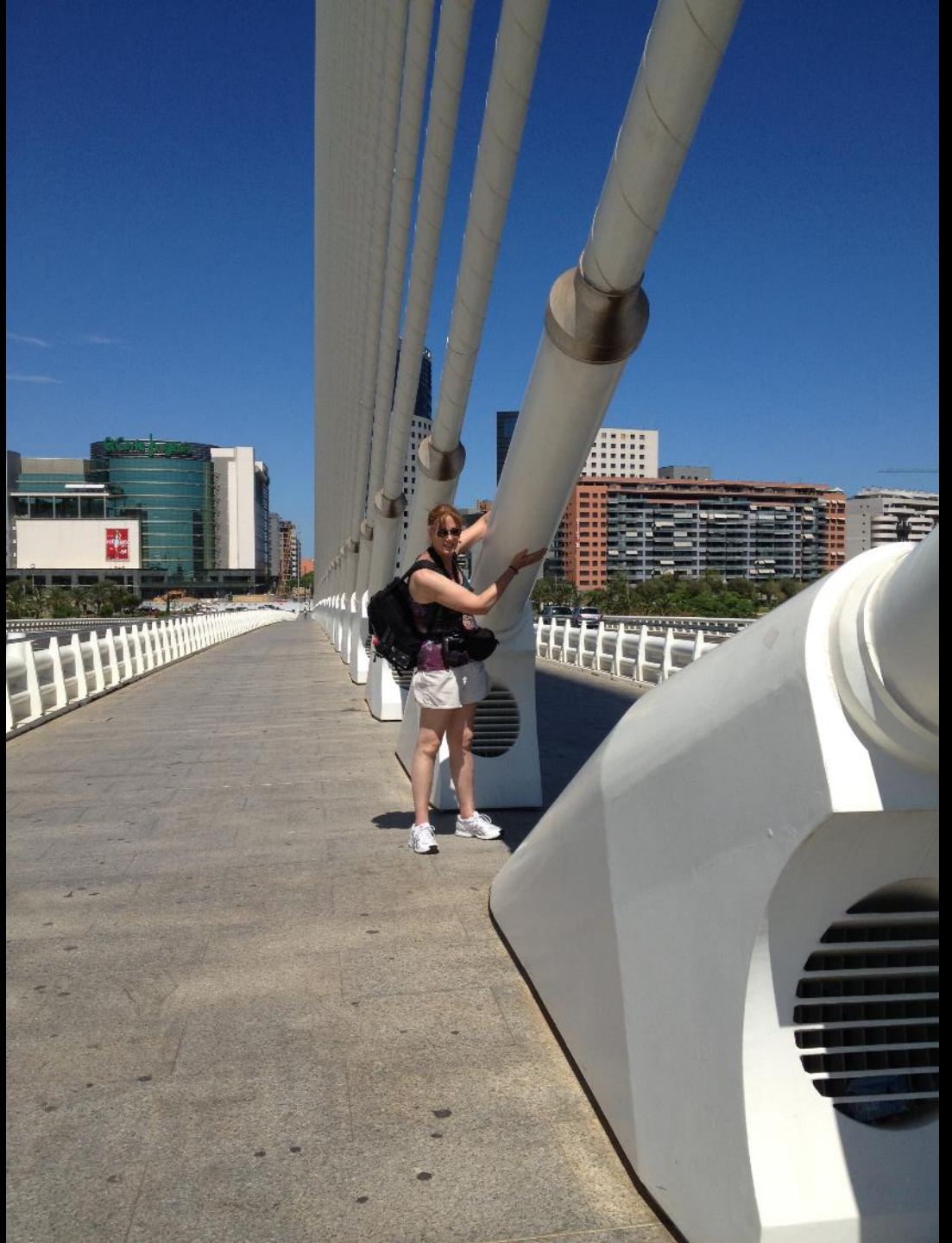
Bridge, Calatrava
Valencia, Spain













Poplar Street Station
London, UK

A1261. The City (A13)
Canary Wharf
W.I. Quay
(A1206) 

Tower Bridge, Wapping (A1203)


















A wide-angle photograph of the Docklands Bridge in Melbourne, Australia. The bridge is a modern, white, cable-stayed pedestrian bridge with a distinctive design of three large, interconnected loops. It spans across the water, connecting the Docklands area to the city center. In the background, there are several modern buildings, including a prominent one with a curved facade and blue-tinted windows. The sky is overcast and grey. In the foreground, a wooden pier with a metal railing and a lamp post is visible on the right side. A few people can be seen walking on the pier. The water is calm and greyish-brown.

Docklands Bridge
Melbourne, Australia













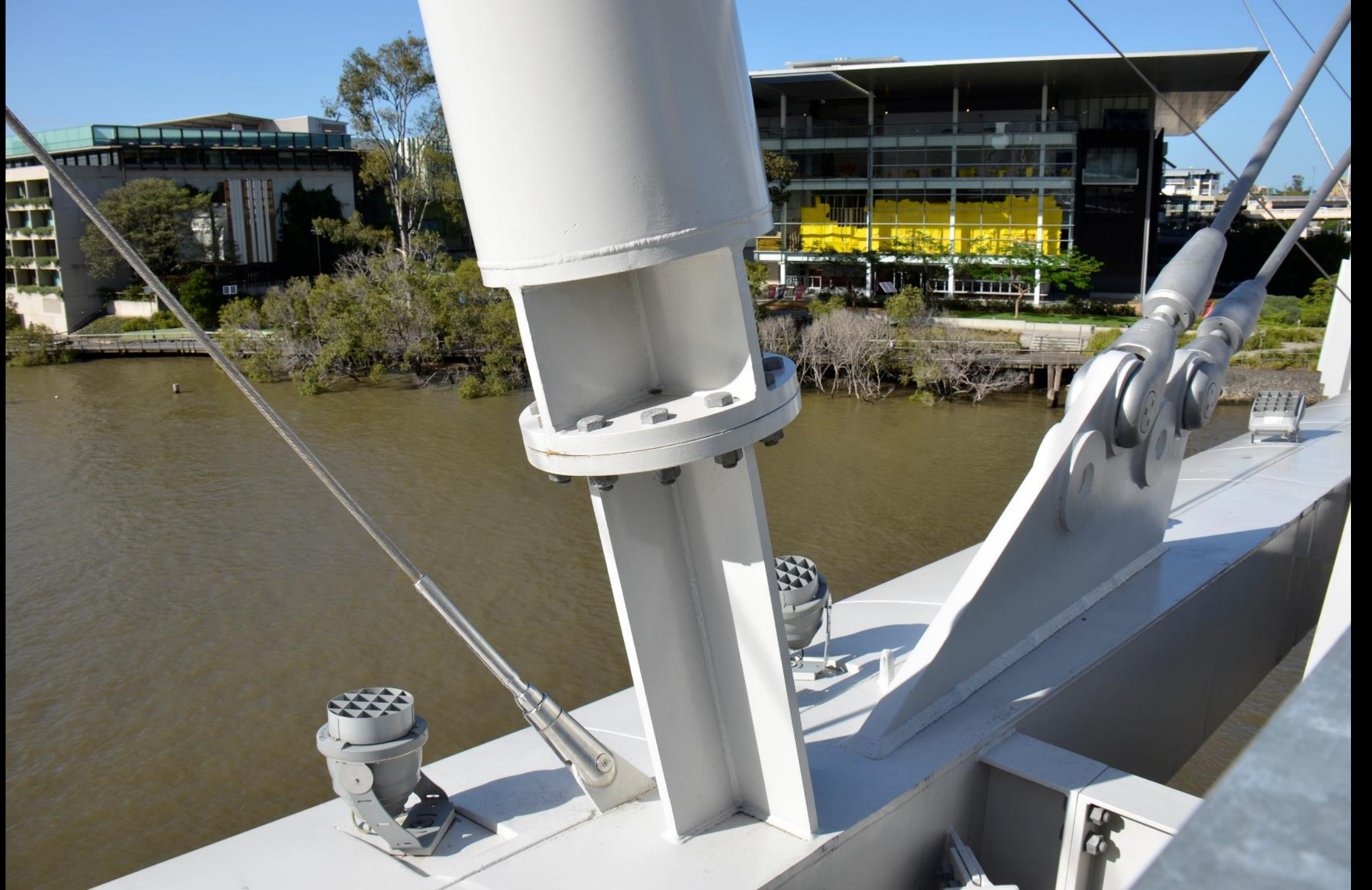




Kurilpa Bridge
Brisbane, Australia











CLEARANCE 56 m

CLEARANCE 53 m

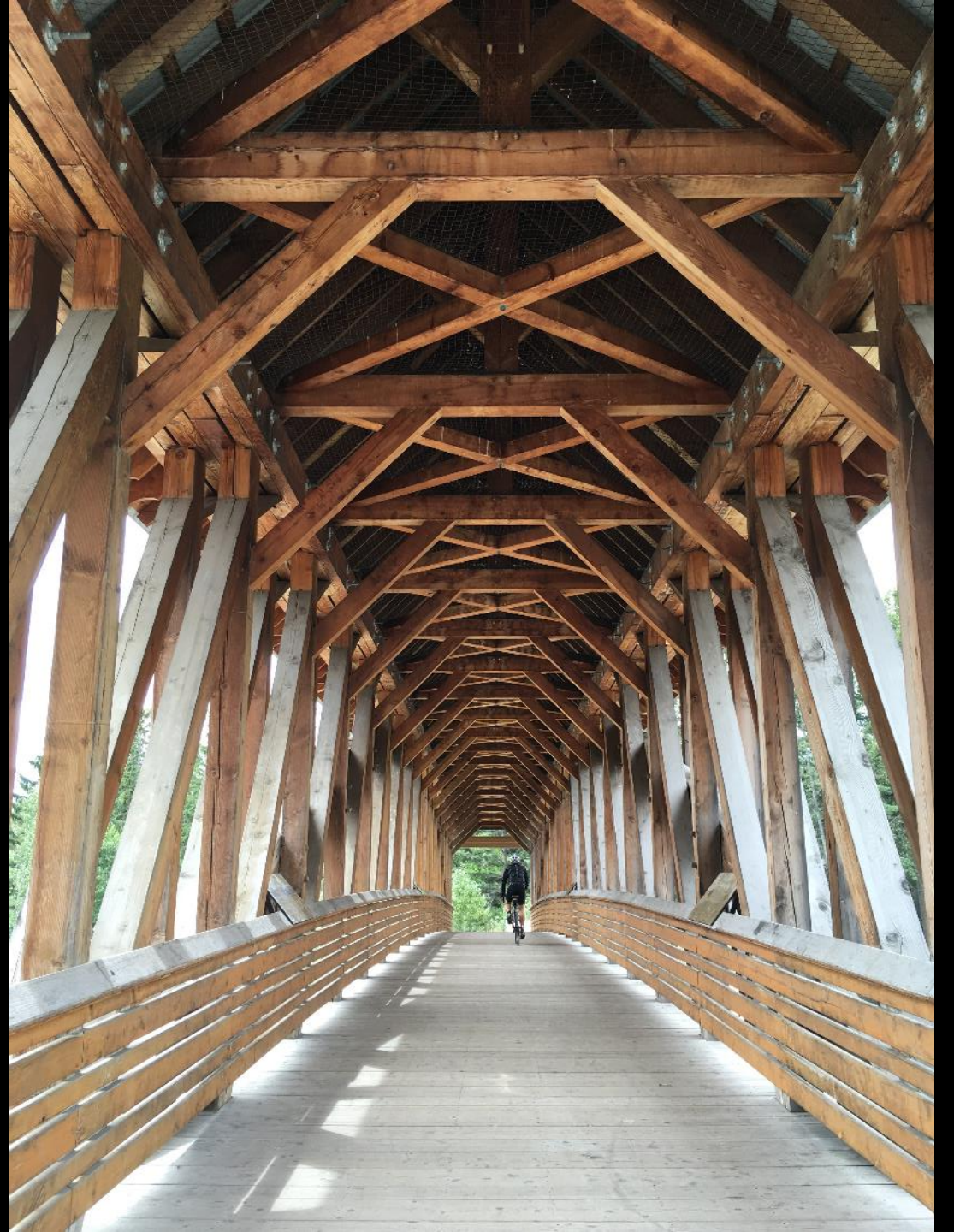


TUBES



Covered Bridge
Golden, B.C.











Pedestrian Bridge
Richmond, B.C.









Paddington Basin Bridge
London, U.K.





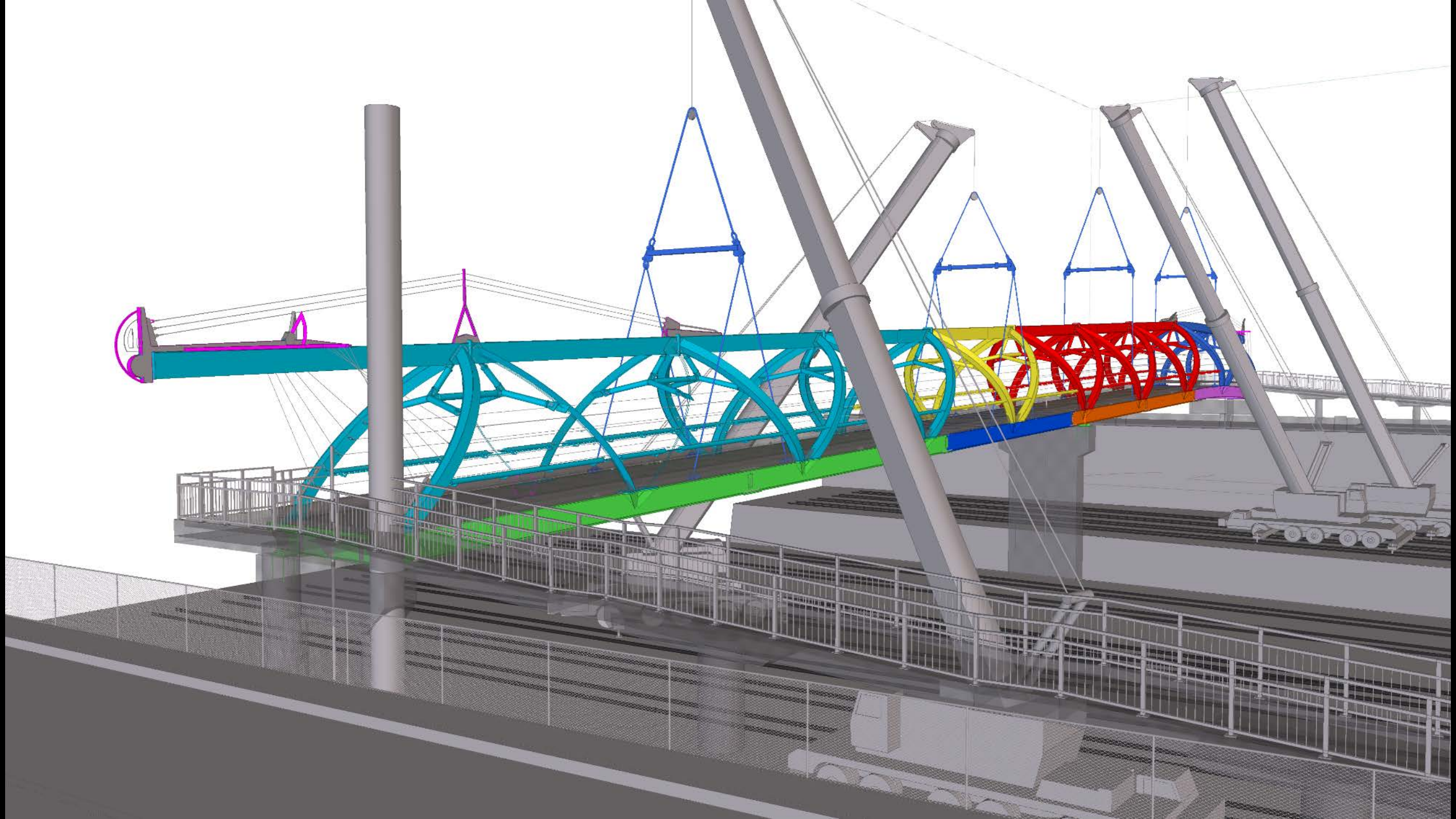


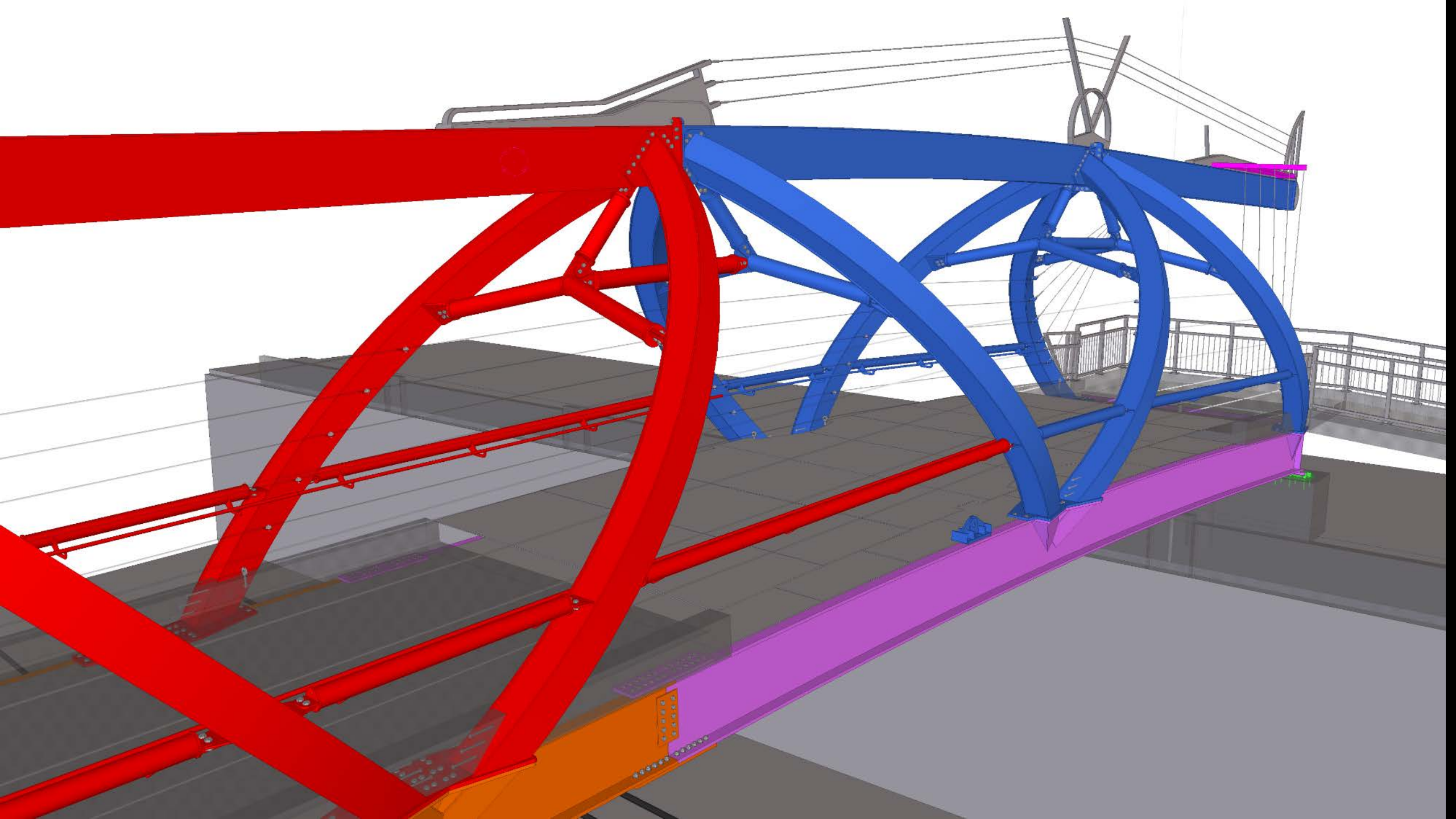
Puenta de Luz
Toronto, ON













Seattle Flight Museum Bridge
Seattle, Washington





BOEING AIRPLANE CO

OFFICE







There's
No Better
Space
on Earth.



GHT
WONY
LER



Peace Bridge – Calatrava
Calgary, Alberta













Arganzuela Bridge
Madrid, Spain













Web Bridge
Melbourne, Australia

→
Mar Museum
ebb Bridge
lands Park
atman TAFE











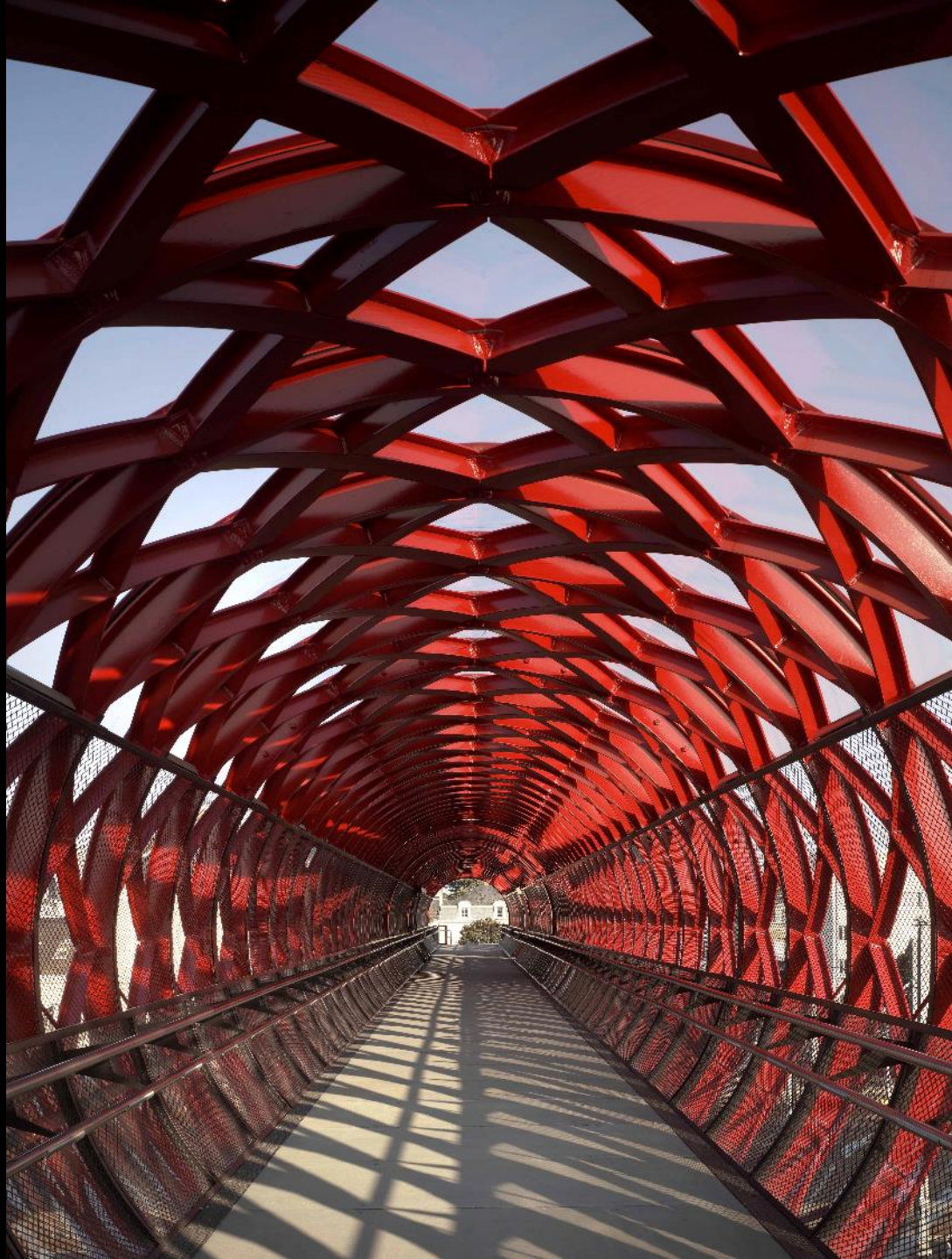


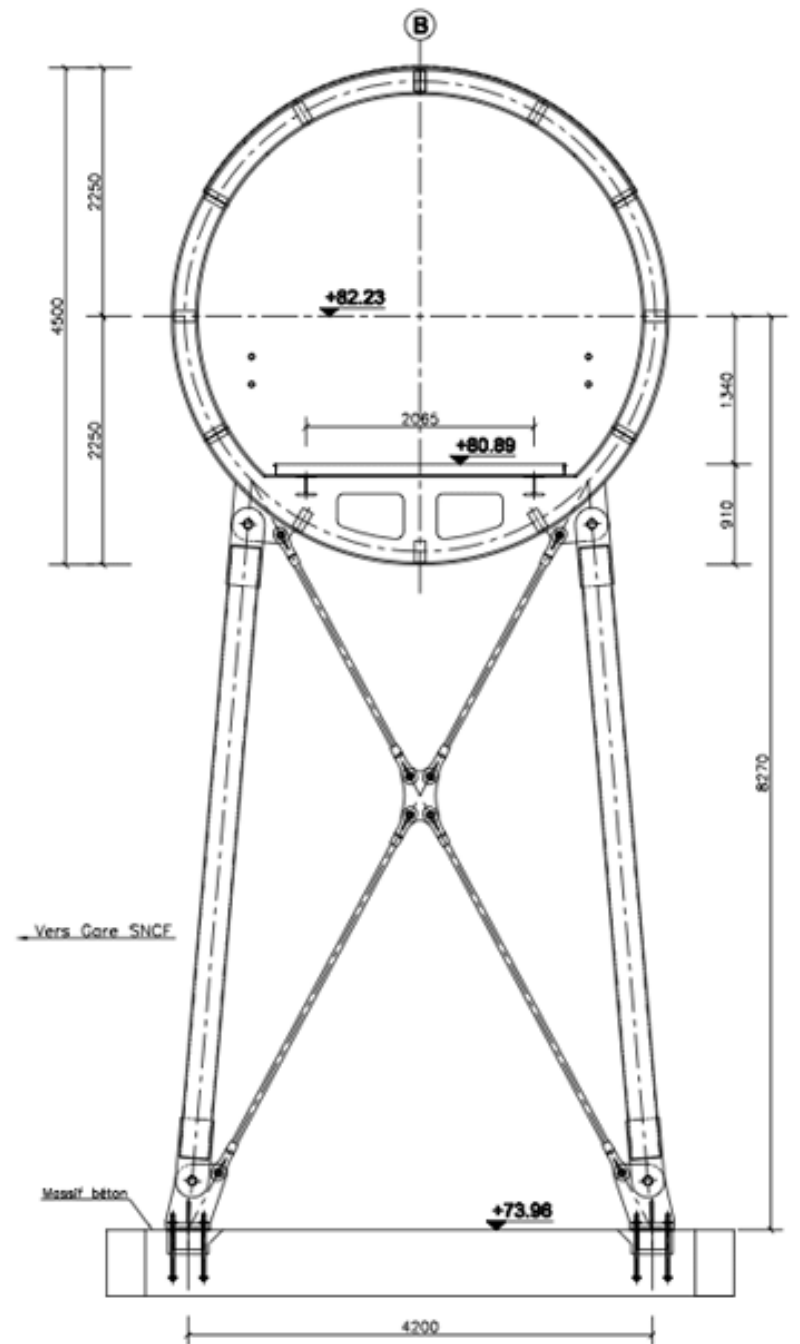
La Roche sur Yon Bridge
France

Next set of photos not Terri's











Helix Bridge
Singapore













Tokyo International Forum
Tokyo, Japan



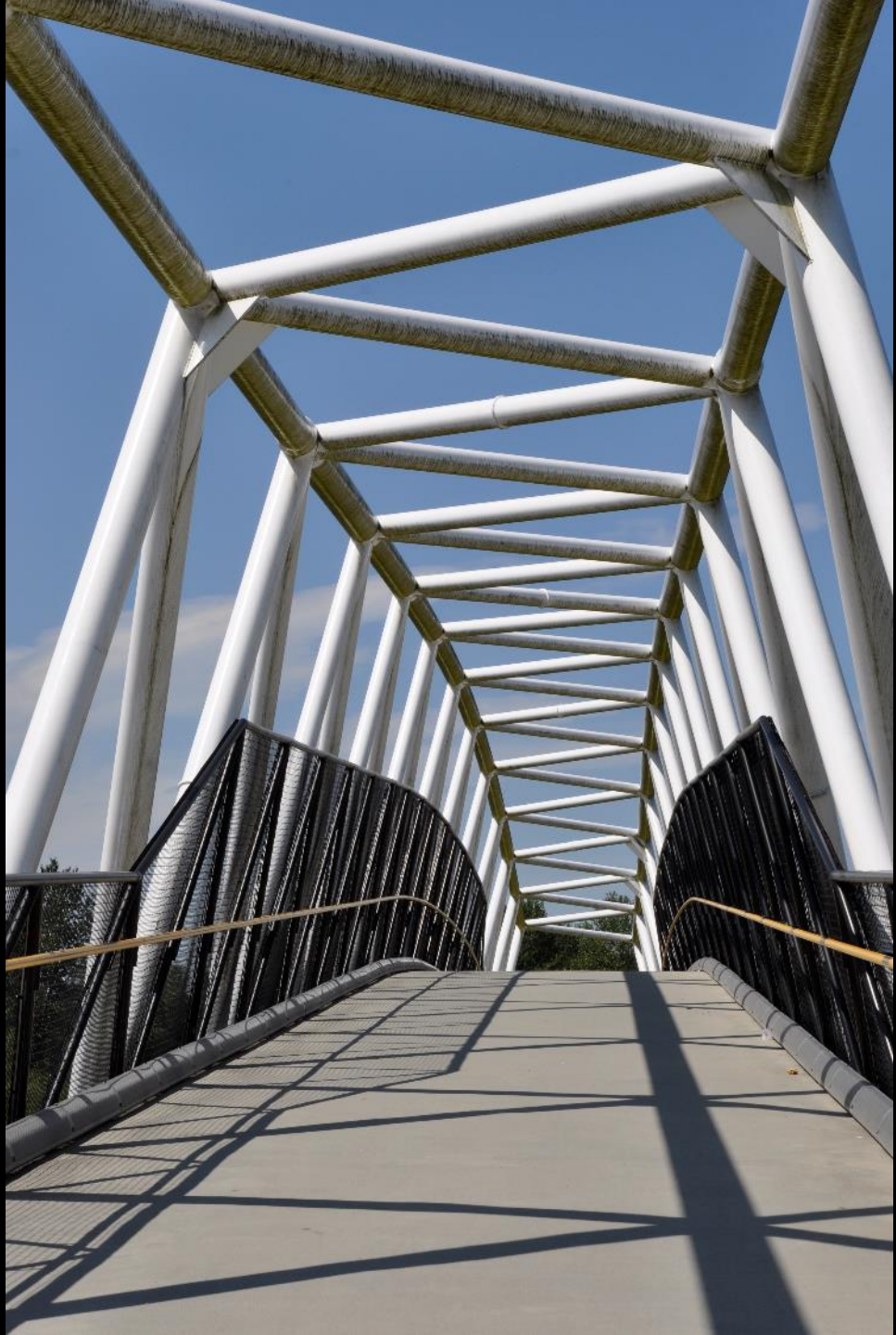






Skytrain Station Bridge
Vancouver, B.C.













Prefectural Art Museum – Shigeru Ban
Oita, Japan








RUMICHI





A photograph of the Art Gallery Bridge in Wellington, New Zealand. The bridge is a prominent feature, constructed with a bright yellow steel frame and large glass panels. It spans across a courtyard area, connecting two modern buildings. The building on the left has a grey, textured facade, while the building on the right is a light-colored, multi-story structure. In the foreground, there is a paved area and a small garden with various green plants and trees. The sky is overcast.

Art Gallery Bridge
Wellington, New Zealand







London Olympic Site Access Bridge
London, U.K.









Pedestrian Over Highway Bridge
Melbourne, Australia











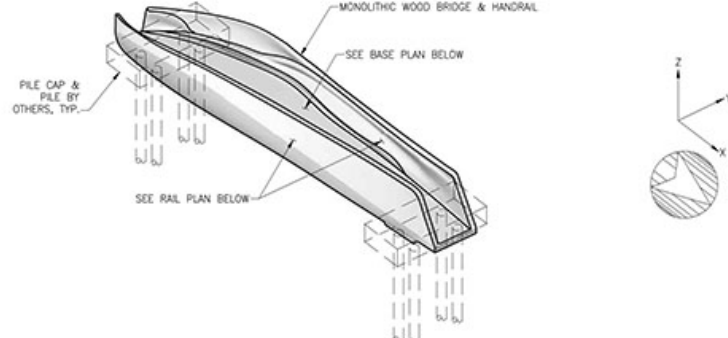


Drift Bridge
Ft. Worth, Texas

Next set of photos not Terri's



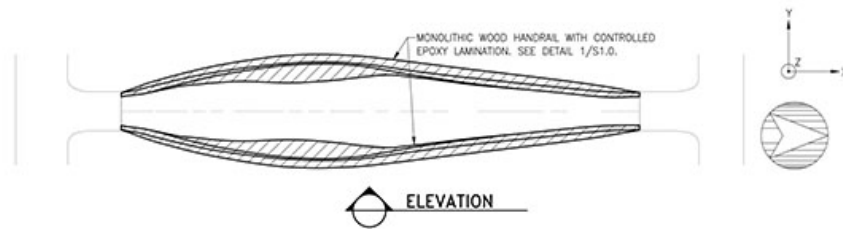




NOTES:
1. SEE ARCHITECTURAL DRAWINGS AND MODEL FOR ALL GEOMETRY, LOCATION, AND EXTENTS INFORMATION.

ISO VIEW OF MONOLITHIC WOOD BRIDGE

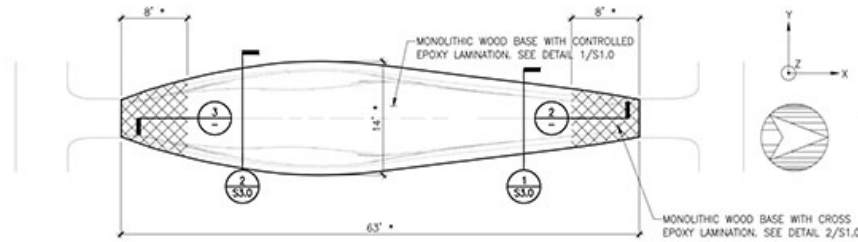
1/8" = 1'-0"



ELEVATION

MONOLITHIC WOOD BRIDGE UPPER HANDRAIL PLAN

1/8" = 1'-0"

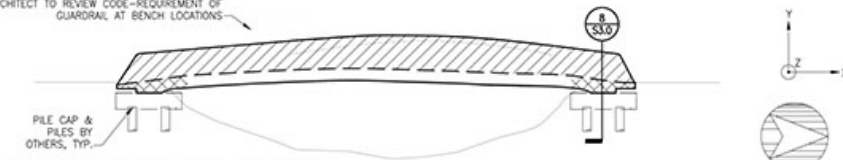


MONOLITHIC WOOD BRIDGE LOWER BASE PLAN

1/8" = 1'-0"

NOTES:
1. * ON PLAN INDICATES APPROXIMATE BRIDGE LENGTH FOR REFERENCE ONLY. SEE ARCHITECTURAL DRAWINGS FOR FINAL DIMENSIONS.

ARCHITECT TO REVIEW CODE-REQUIREMENT OF GUARDRAIL AT BENCH LOCATIONS

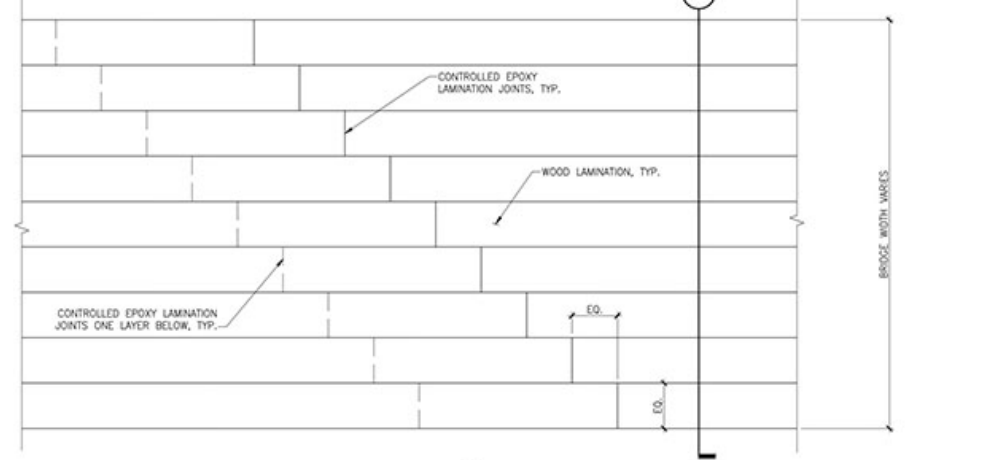


MONOLITHIC WOOD BRIDGE ELEVATION

1/8" = 1'-0"

TABLE OF REACTIONS

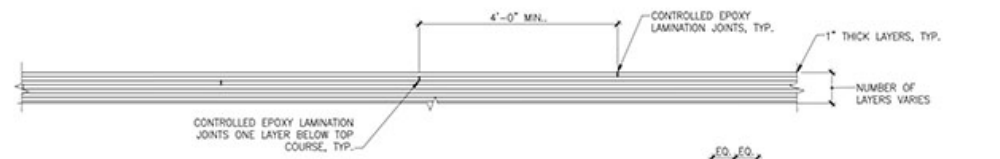
REACTION PER PILE CAP	LOAD TYPE	X DIRECTION [K]	Y DIRECTION [K]	Z DIRECTION [K]	M _X DIRECTION [K-FT]	M _Y DIRECTION [K-FT]	M _Z DIRECTION [K-FT]
	DEAD LOAD	0	0	15	0	0	0
	LIVE LOAD	0	0	25	±15	0	0
	WIND LOAD	±1	±5	0	±10	0	±15 (NORTH) ±0 (SOUTH)



PLAN VIEW



3/4" = 1'-0"



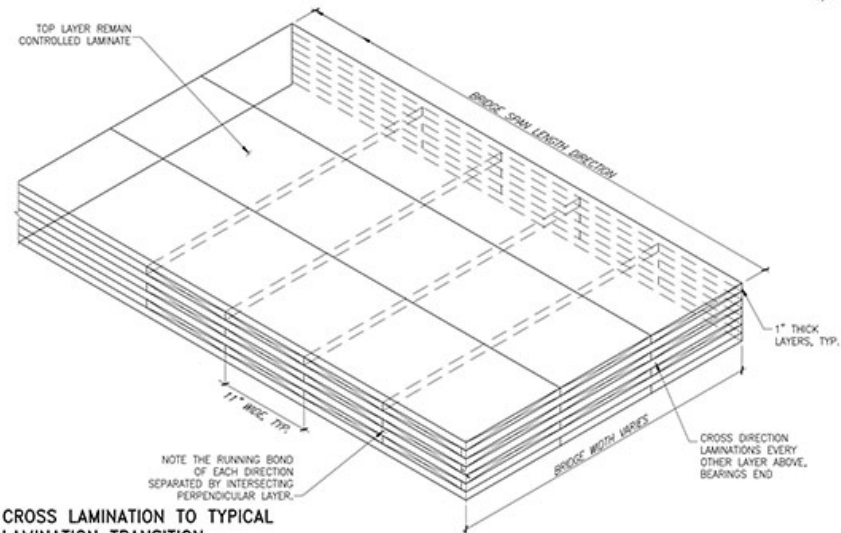
ELEVATION VIEW A-A

3/4" = 1'-0"

SECTION VIEW B-B

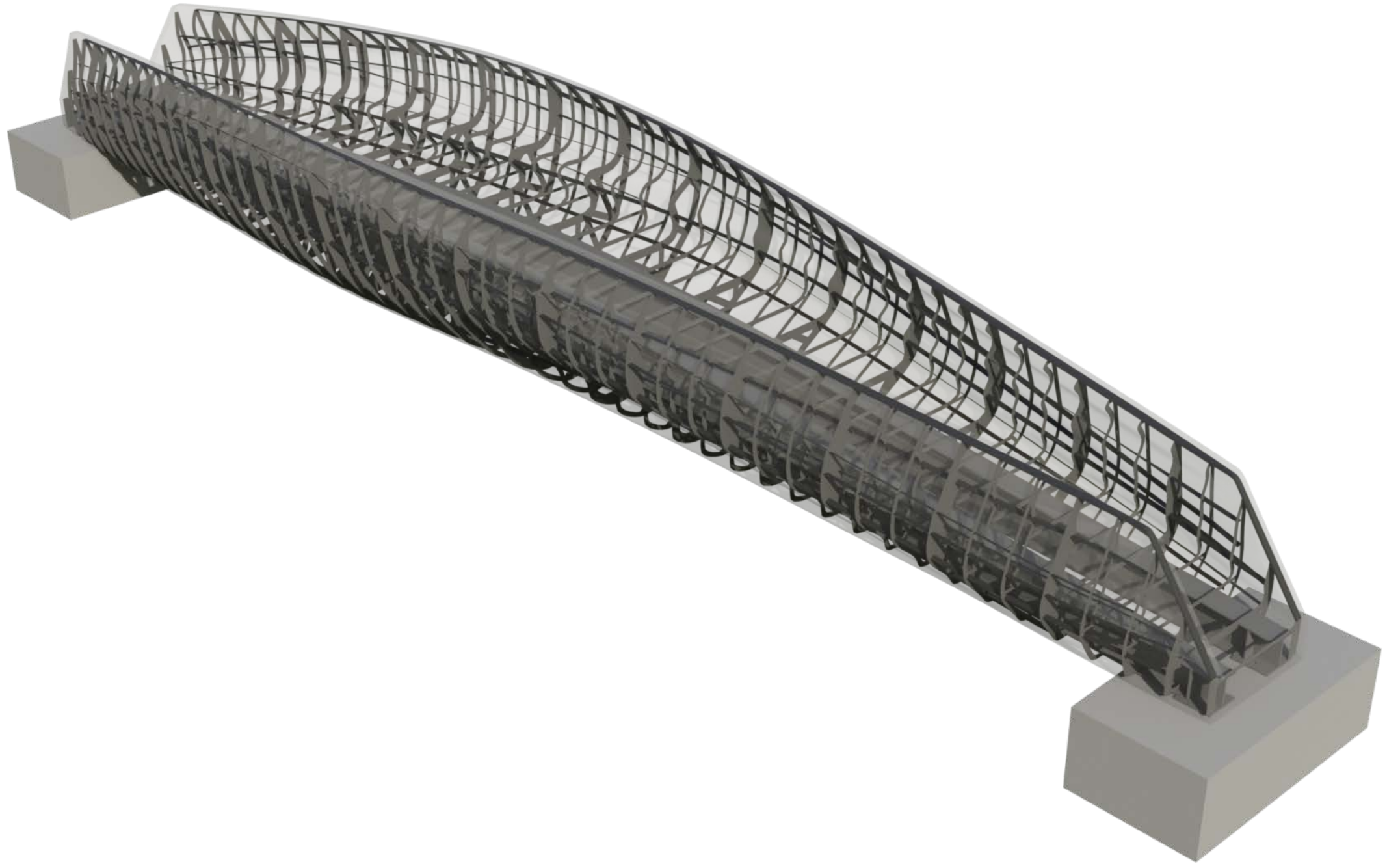
3/4" = 1'-0"

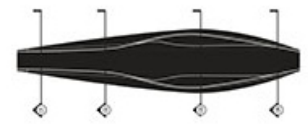
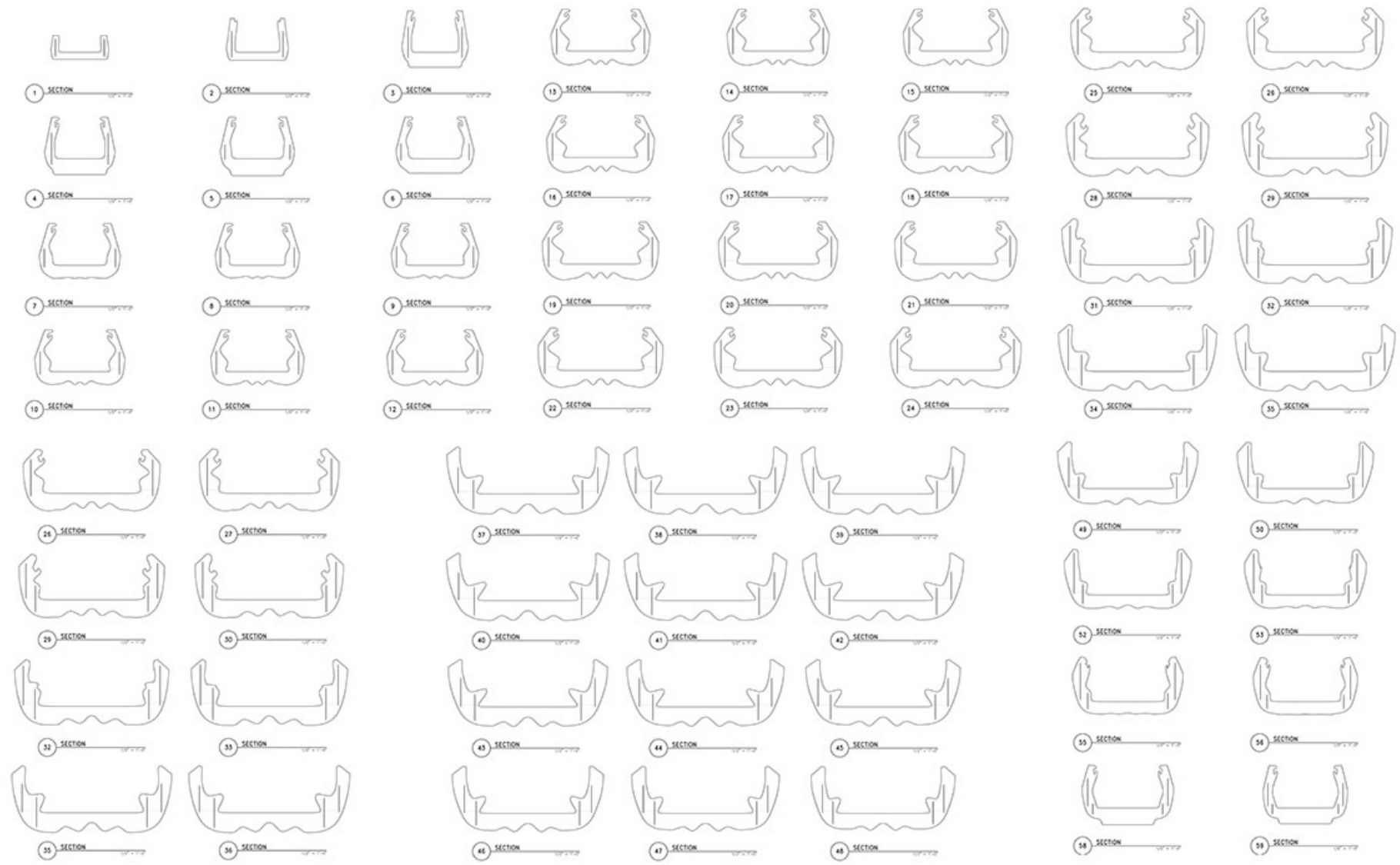
1 TYPICAL LAMINATION LAYUP

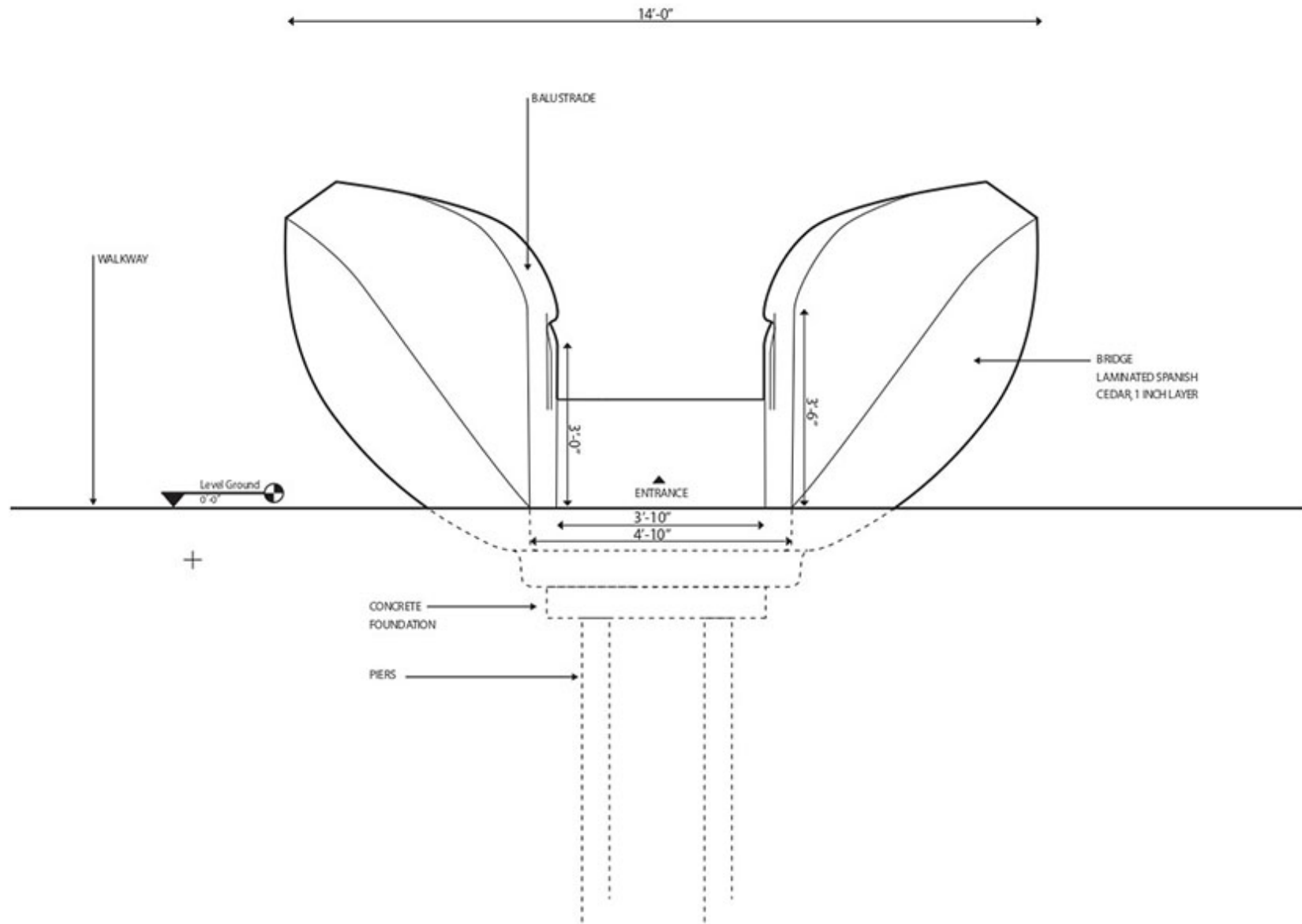


2 CROSS LAMINATION TO TYPICAL LAMINATION TRANSITION

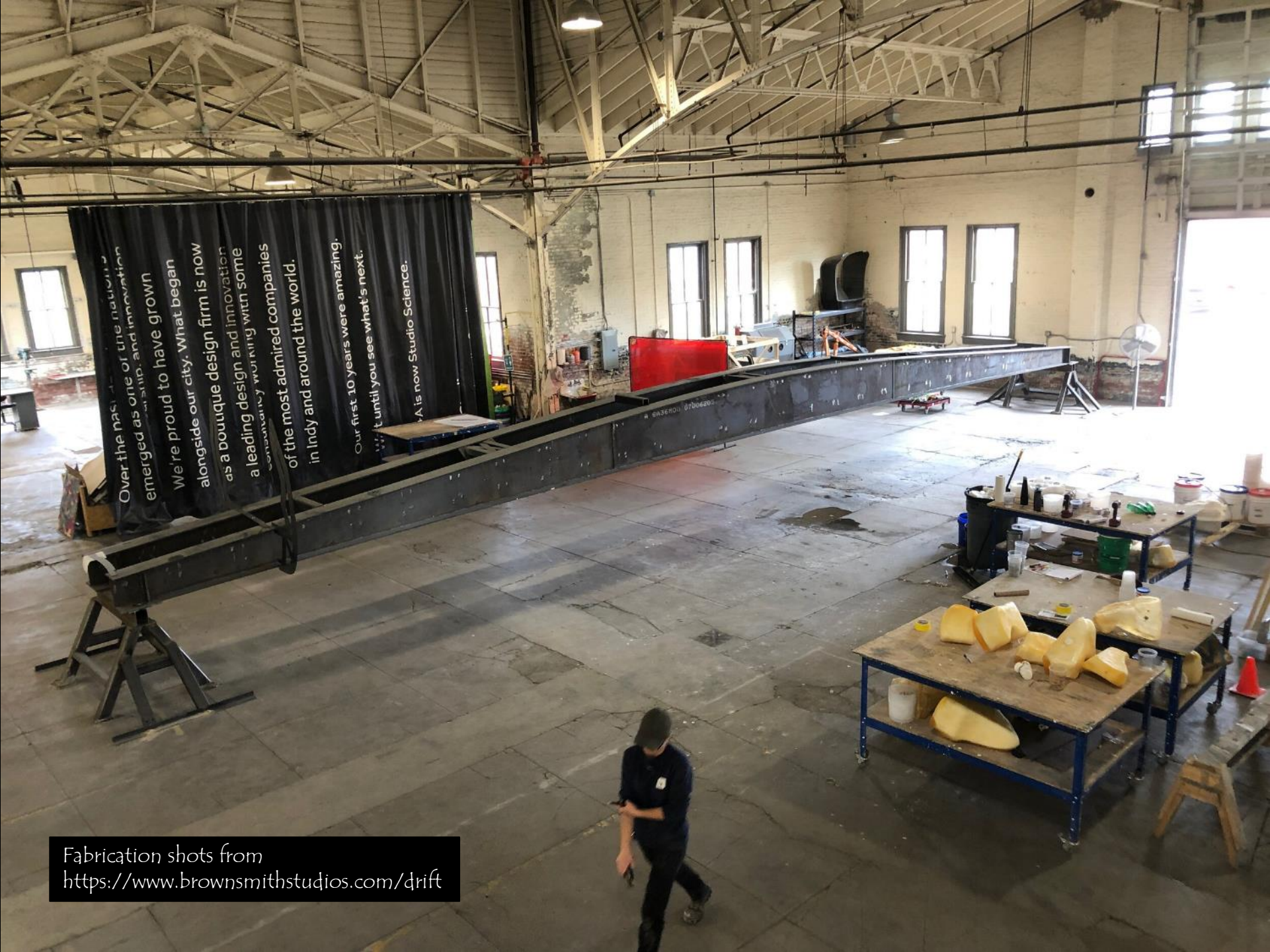
1 1/2" = 1'-0"







06 Elevation North
NTS



Over the past 10 years, we have emerged as one of the nation's leading design and innovation firms. We're proud to have grown alongside our city. What began as a boutique design firm is now a leading design and innovation firm, consistently working with some of the most admired companies in Indy and around the world. Our first 10 years were amazing. We're excited to see what's next. A is now Studio Science.

Fabrication shots from <https://www.brownsmithstudios.com/drift>







TRUSS / SUPPORT BELOW



Nagasaki, Japan



Canoe Bridge
Vancouver, B.C.















Westgate Cycle Bridge
Auckland, New Zealand













Pedestrian Bridge La Villette
Paris, France



CABARET ← SAUVAGE

P

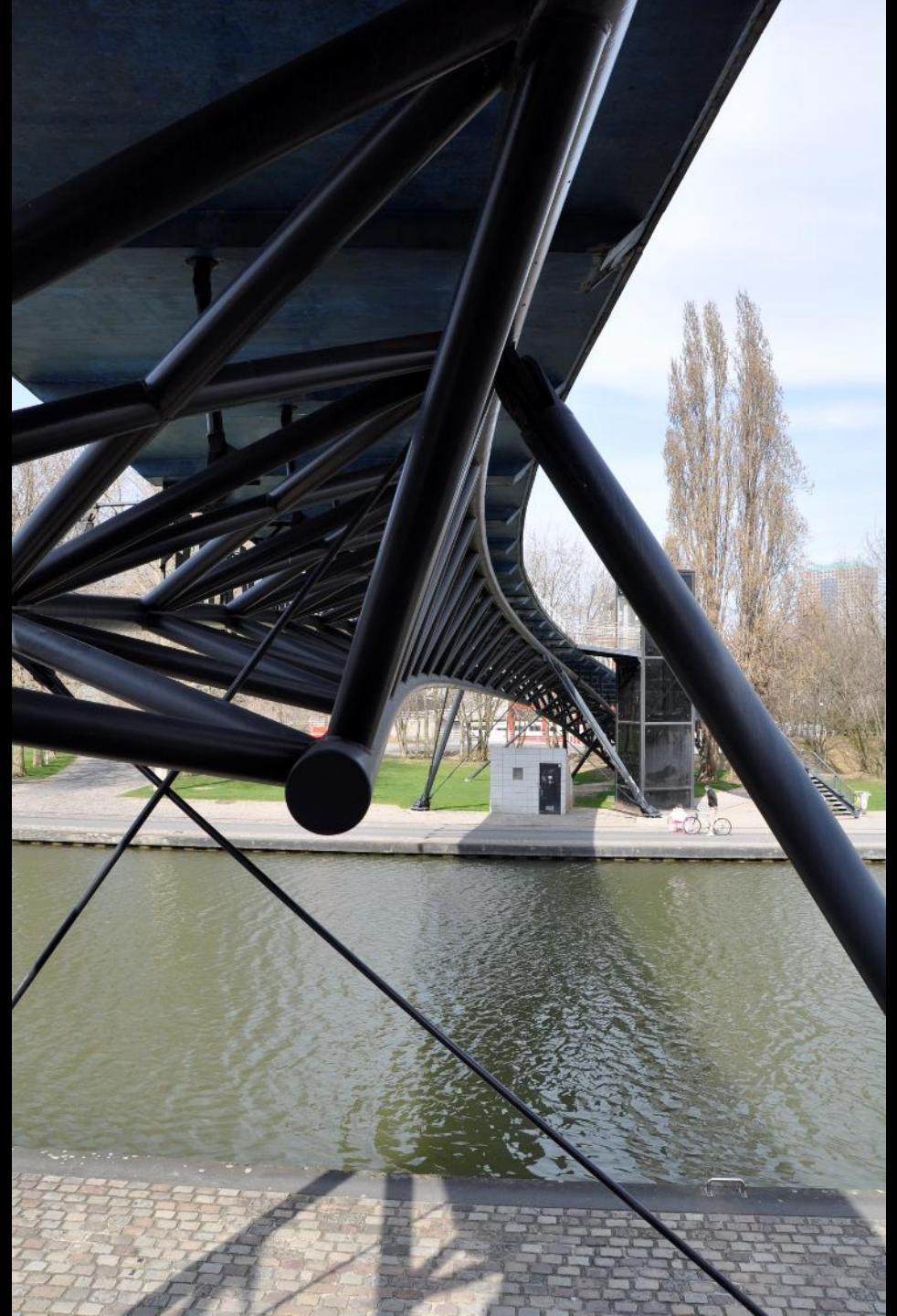
POURCHEREAU













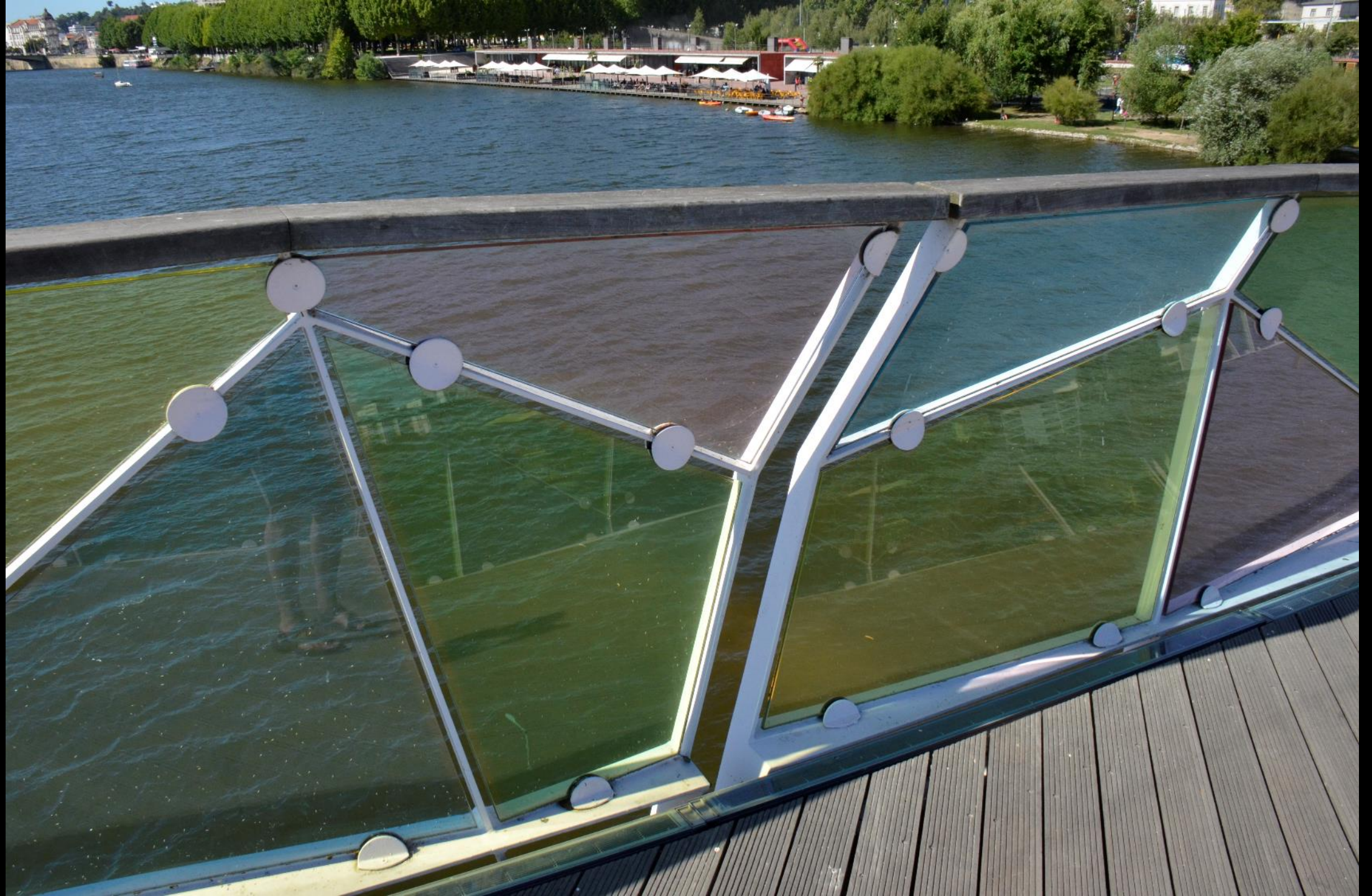


Pedro e Ines Bridge
Coimbra, Portugal











Glass Bridge
Perth, Australia









Orsay Footbridge
Paris, France













Simone Beauvoir Footbridge
Paris, France









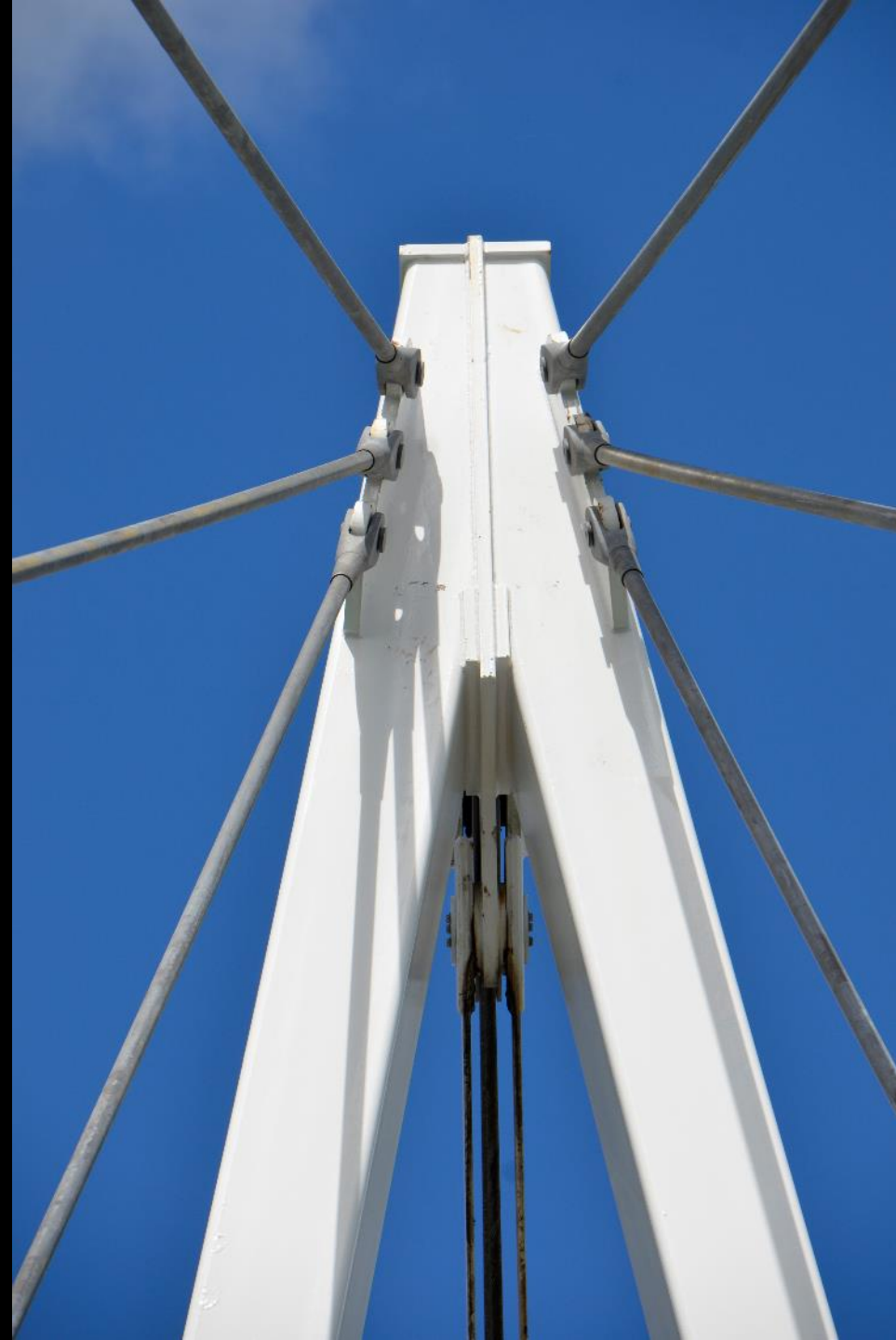


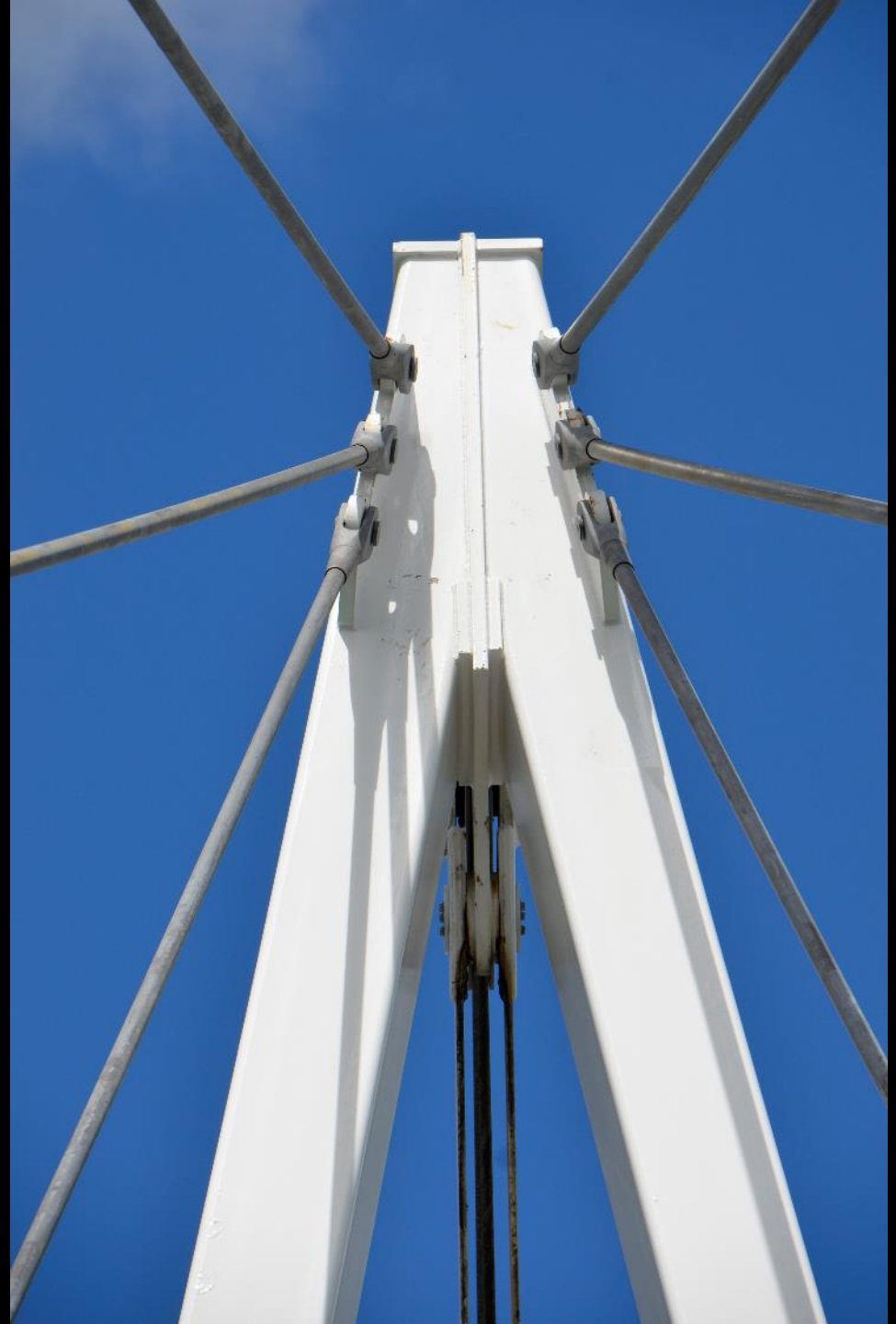


KINETIC - MOVING



Lift Bridge
Auckland, New Zealand







Gateshead Millennium Bridge
Newcastle, England





PITCHER
&
PIANO







Not Terri's photo



Curling Lift Bridge Paddington Basin
London, U.K.





Not Terri's photo

TENSION



Millennium Bridge
London, U.K.











