

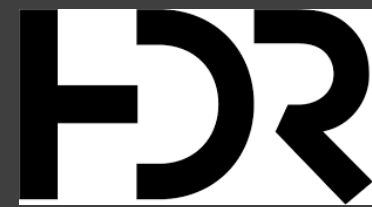


# North Hero – Grand Isle, VT Drawbridge Project

February 15<sup>th</sup>, 2023



# CIANBRO

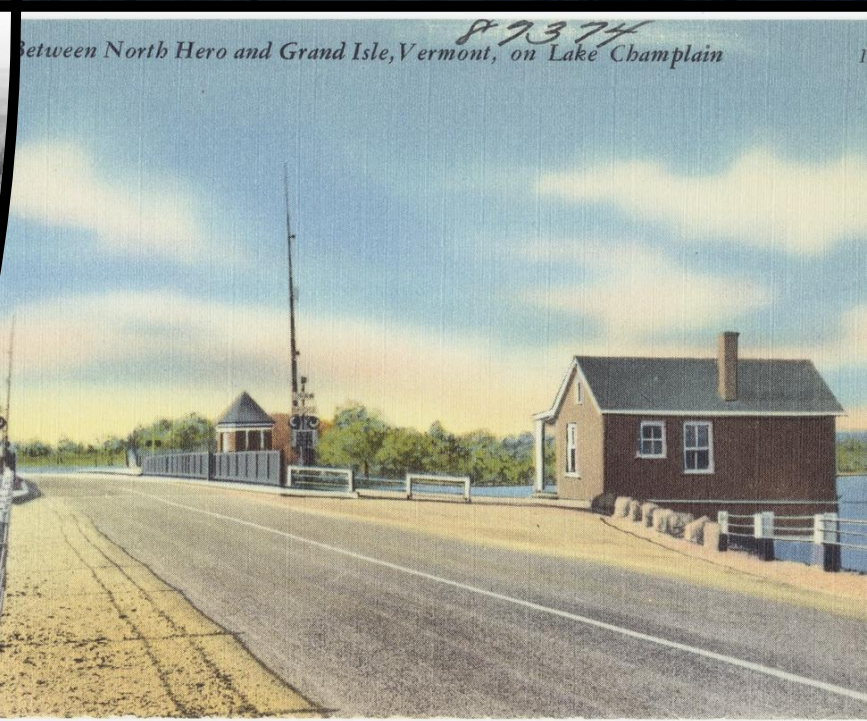


## PROJECT DETAILS

- DESIGNER: HDR INC.
- GENERAL CONTRACTOR: CIANBRO CORP.
- CURRENT CONSTRUCTION CONTRACT: \$73,650,000
- DOUBLE LEAF BASCULE BRIDGE
  - FROM THE FRENCH WORD FOR SEE-SAW.
  - HYDRAULIC POWERED VS MECHANICAL (OLD BRIDGE)
- FAST FACTS:
  - 870,000 LBS. REBAR
  - 6,200 CY CONCRETE
  - 15,000+ BOLTS

# HISTORY OF THE BRIDGE

- THE ORIGINAL BRIDGE WAS A SWING BRIDGE, WHICH WAS REPLACED IN 1953 BY A DOUBLE LEAFED BASCULE BRIDGE
- THE BRIDGE WAS REHABILITATED IN 1996 AND UNDERWENT REPAIRS IN 2008
- NEW BRIDGE CONSTRUCTED MAY 2018- MAY 2023 WITH 100-YEAR DESIGN LIFE.
- ONLY MOVEABLE BRIDGE IN VTRANS INVENTORY







Steel Erection & Trunnion Bearing



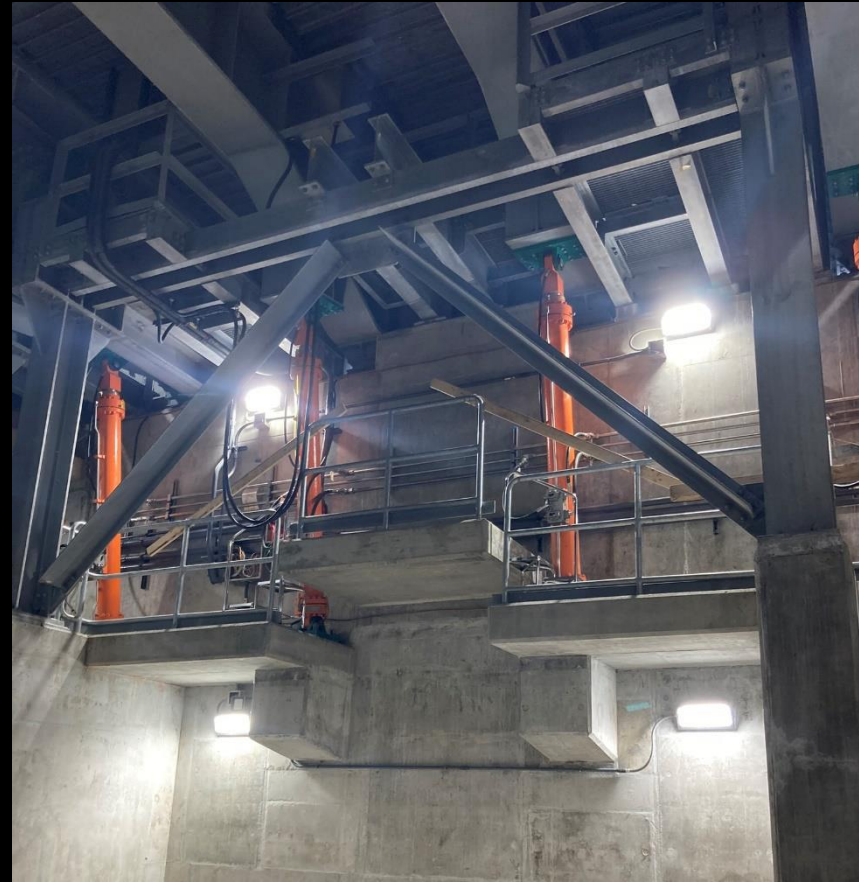






Deck is Poured





# MACHINERY

COMBINATION OF ELECTRICAL MOTORS AND HYDRAULICS

# ELECTRIC MOTORS

TWO LARGE ELECTRIC MOTORS WITH LARGE  
HYDRAULIC OIL RESERVOIR





North Hero Bridge - Leaf Status - East Side Only

10/27/2022 THU 16:09:12

East Side Pump #1

East Side Pump #2

Leaf Status: 6.75%

Pressure Limit Out: 85.0 PSI

Speed Out (Flow): 0.0

Buttons: Stop, Start, Full Speed, Near Speed, Near Closed, Near Open, Fully Open, Fully Closed, Fully Open Out of Calibration, Fully Closed Out of Calibration.

FAULT ACKNOWLEDGE

Red emergency stop button.

North Hero Bridge - Maintenance

10/27/2022 14:34:33 East Leaf Fully Open Out of Calibration

10/27/2022 THU 16:09:36

Alarm Delays

East PLC Set Points

West PLC Set Points

Buttons: Main, Full Speed, Near Speed, Near Closed, Near Open, Fully Open, Fully Closed, Fully Open Out of Calibration, Fully Closed Out of Calibration, Add User, Delete User, Set Privilege, Set Password, User Login, Alarm.

Dell Laptop

Keyboard

Physical control panel with various buttons and lights.

Buttons: EAST MOTOR 1 START, EAST MOTOR 2 START, WEST MOTOR 1 START, WEST MOTOR 2 START, EAST LEAF RAISE, WEST LEAF RAISE, SPAN CONTROL, BOTH LEAFS RAISE, FULL, STOP, START, STOP.

Lights: Green, Orange, Red.

Labels: EAST SPAN LOCK LED, WEST SPAN LOCK LED, CIRCULAR PUMP START, CIRCULAR PUMP STOP, HPI/LP/HP CIRCULAR PUMP STOP.

Handwritten notes on a yellow notepad.



## View from the Control House

- Wireless Communication between spans
- Catwalk under bridge to access far pier
- Channel is 81 feet wide, fender to fender

# CFR GOVERNING BRIDGE OPERATION

## § 117.993 LAKE CHAMPLAIN.

THE DRAWSPAN MUST OPEN AS SOON AS POSSIBLE FOR THE PASSAGE OF PUBLIC VESSELS OF THE UNITED STATES.

THE DRAW OF THE US2 BRIDGE, MILE 91.8, OVER LAKE CHAMPLAIN, BETWEEN SOUTH HERO ISLAND AND NORTH HERO ISLAND, SHALL OPERATE AS FOLLOWS:

THE DRAW SHALL OPEN ON SIGNAL ON THE HOUR AND THE HALF HOUR FROM MAY 15TH THROUGH OCTOBER 15TH FROM 8 A.M. TO 8 P.M. DAILY.

THE DRAW SHALL OPEN ON SIGNAL FROM MAY 15TH THROUGH OCTOBER 15TH FROM 8 P.M. TO 8 A.M. IF AT LEAST FOUR HOURS NOTICE IS GIVEN BY CALLING THE NUMBER POSTED AT THE BRIDGE. THE DRAW SHALL OPEN ON SIGNAL FROM OCTOBER 16TH THROUGH MAY 14TH IF AT LEAST FOUR HOURS NOTICE IS GIVEN BY CALLING THE NUMBER POSTED AT THE BRIDGE.

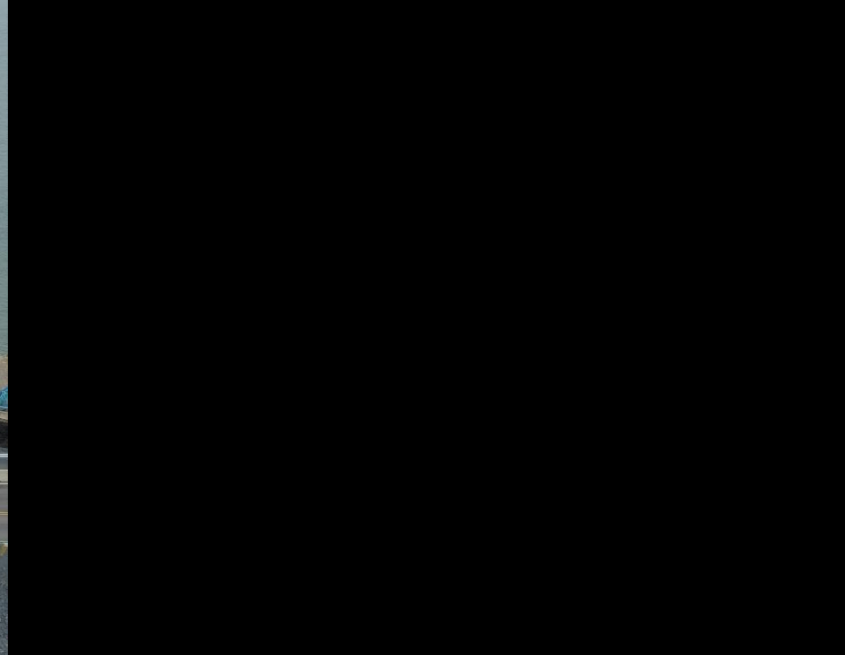


# OPEN TO TRAFFIC!

- BRIDGE OPENS TO MARINE TRAFFIC TOP AND BOTTOM OF THE HOUR BETWEEN MAY 15<sup>TH</sup> – OCTOBER 15<sup>TH</sup>
- BRIDGE TENDER ONSITE 0800 – 2000, 7 DAYS A WEEK
- MAXIMUM OF 24 OPENINGS PER DAY







# Finished Bridge

Aerial from 12/6/22

View of Navigational Channel

# CURRENT CONSTRUCTION STATUS

- **TEMPORARY BRIDGE: 1 WEEK LEFT FOR REMOVAL**
- **REMOVAL OF ONE ABUTMENT REMAINS**
- **TEMPORARY ROCK ANCHORS BEING REMOVED**
- **ONLY NOTABLE WORK ITEMS REMAINING INCLUDE POURING WARNING GATE FOUNDATIONS, PAVING THE FINAL LIFT OF PAVEMENT AND FINISHING PERMANENT GUARDRAIL**

- QUESTIONS?

- FAST FACTS:

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- 6,200 CY CONCRETE
- 15,000+ BOLTS

