

**RHODE ISLAND DEPARTMENT OF TRANSPORTATION  
BRIDGE ENGINEERING-BRIDGE INSPECTION UNIT**

**BRIDGE CRITICAL FINDINGS  
(Form BI-006)**

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<b>Bridge No.:</b>	070001
<b>Bridge Name:</b>	Washington Bridge North
<b>Route Carried:</b>	I-195 WB
<b>Crossing:</b>	Seekonk River
<b>City/Town:</b>	East Providence

**Date Reported:**  
12/11/2023  
**Time Reported:**  
11:30  
**Reported By:**  
Jeff Klein  
**Firm/Agency:**  
VHB

CRITICAL ISSUE SUMMARY

At Piers 6 and 7 there are 12 post tensioned rods (tiedowns) per pier that are securing the cantilever concrete spans. There are 2 rods per pier at the fascias that are fully exposed as part of the original construction of the bridge.

West Wall of Pier 7 – The post tensioned rods located north and south of cantilever beam F are severed.

East Wall of Pier 6 – The post tensioned rods located north and south of cantilever beam A show necking with up to 1” remaining diameter (1.375” original diameter). At Girder A, a gap was found between the cantilever end and beam seat, and bouncing of the cantilever end and tiedown was observed. Based on these observations it is assumed that the tiedown has failed with the failure location not visible.

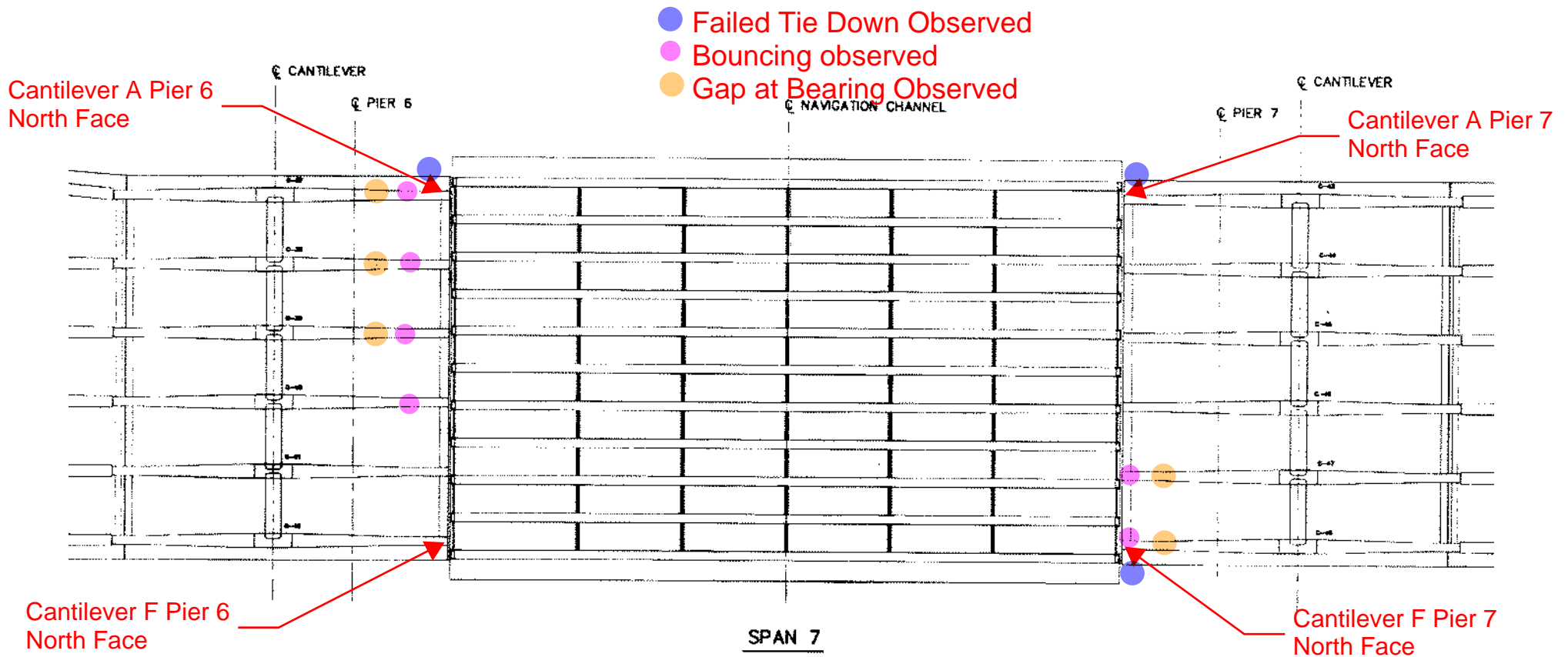
See attached document for photos and locations.

ACTION/COMMENTS

Notified RIDOT. Bridge closure recommended.

Notes:

1. Attach photos with proper labels showing the critical deficiency and any other support documentation.



Cantilever A Pier 6 North Face

- See photos 1 and 2.
- 1" diameter remaining at base of steel rod (original 1 3/8" diameter based on 1967 record plans) (See Photo 1).
- Defect to cause failure of tiedown not found, however, it was observed a gap between cantilever end and beam seat (fit 11" long section of clipboard in gap), bouncing of cantilever end and tiedown under live load. It is assumed based on the observations that the tiedown has failed with the failure location not visible. (See Photos 1 and 2)

Cantilever F Pier 6 South Face

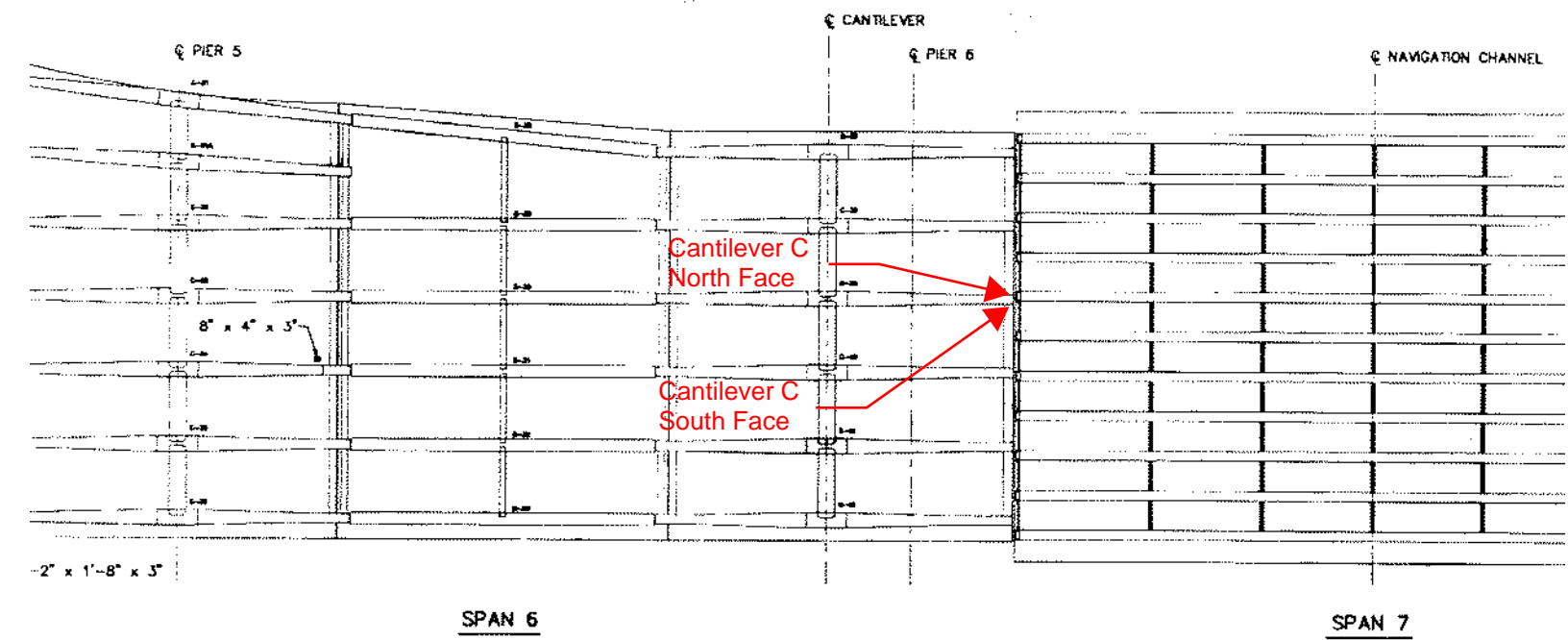
- See photos 6 and 7.
- 1" diameter remaining at base of steel rod (original 1 3/8" diameter based on 1967 record plans) (See Photos 6 and 7).

Cantilever A Pier 7 North Face

- See photos 3-5.
- Tiedown steel rod failed, sheared at the top below deck (See Photos 3-5)

Cantilever F Pier 7 South Face

- See photos 8 and 9.
- Tiedown steel rod failed, sheared at the base near the seat (See Photos 8)
- Gap between cantilever end and seat up to 8" long (See Photo 9)



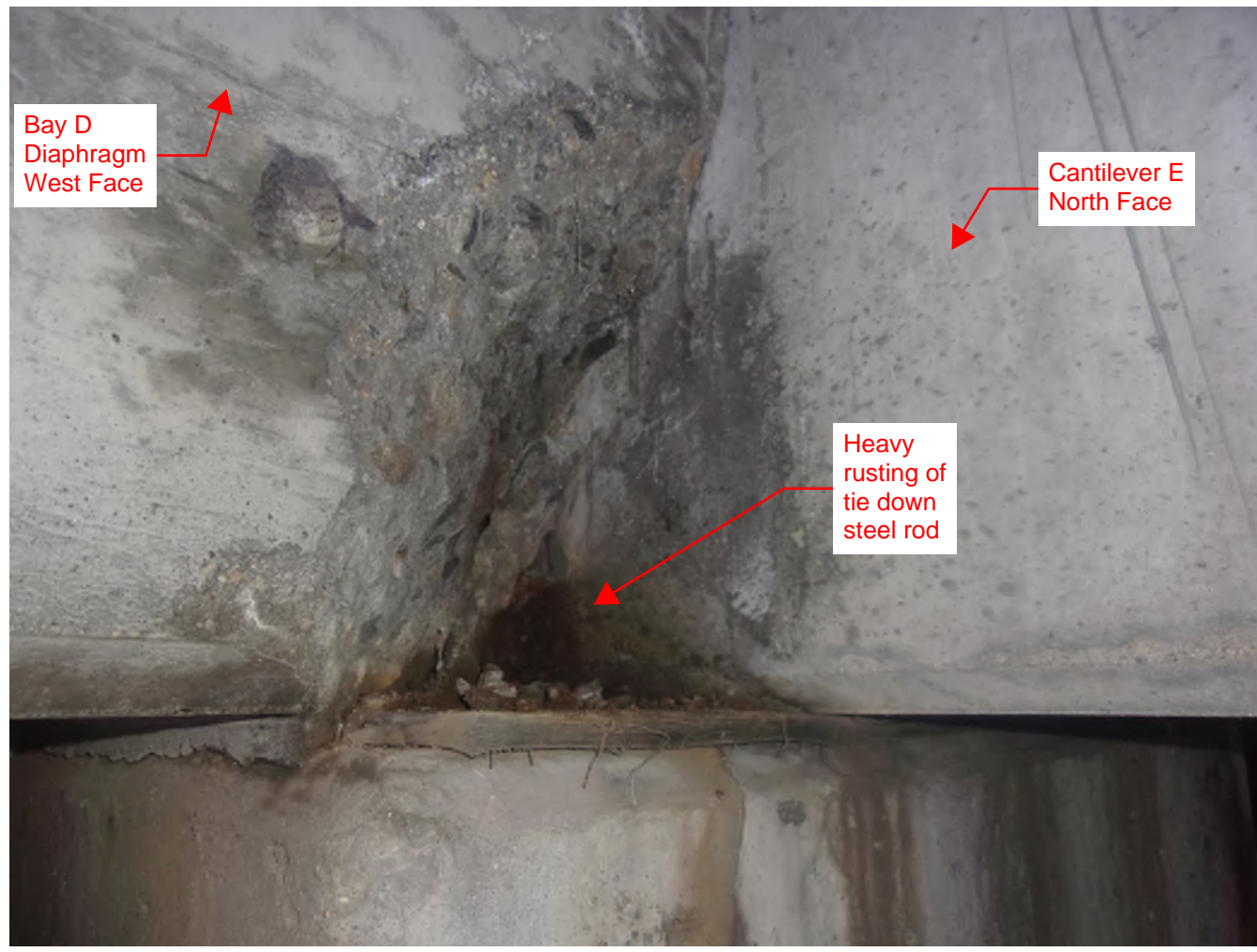
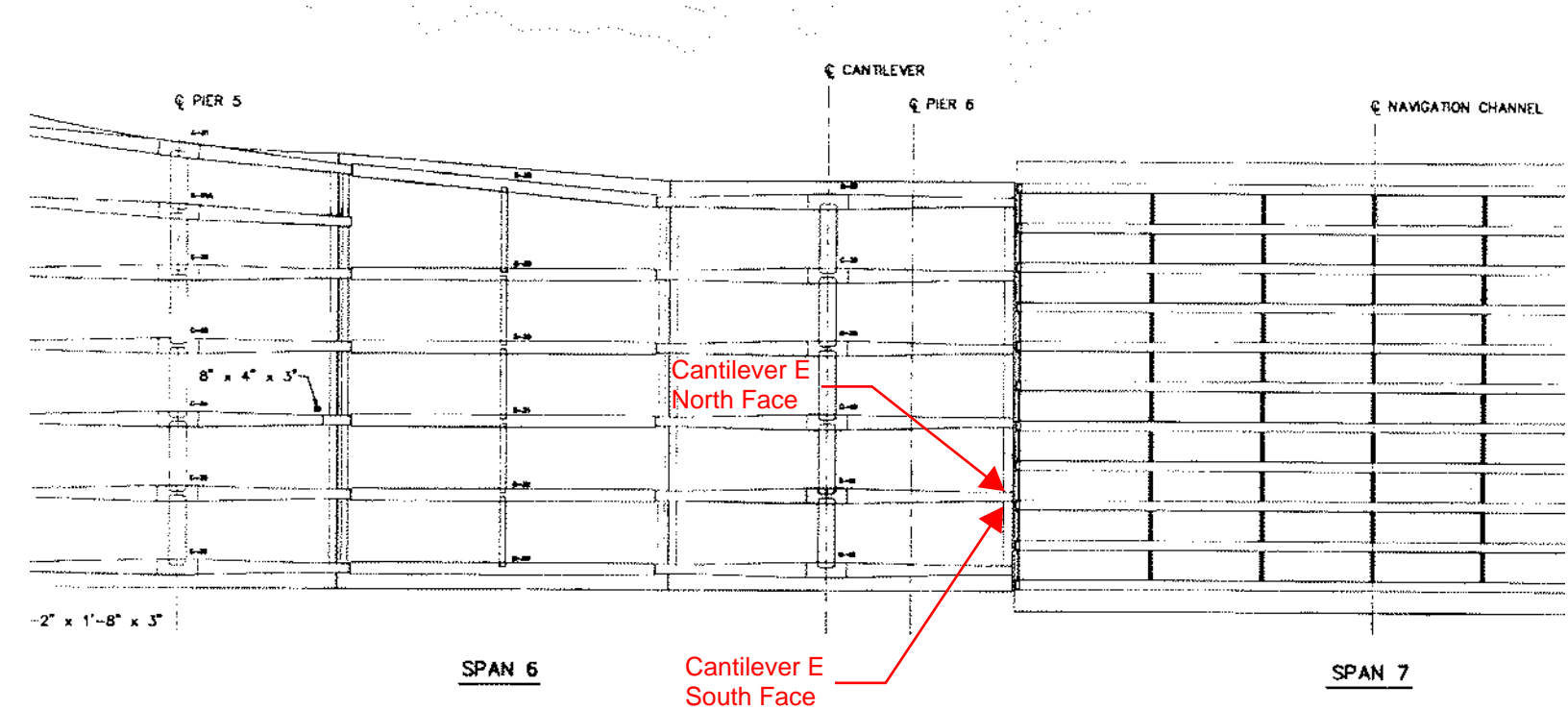
Cantilever C North Face



Cantilever C South Face

Note:

- Spalls on diaphragm at Cantilever C north and south face. Rust stain on the Bay B diaphragm at approximate tie down steel rod location, and exposed steel rod at Bay diaphragm.



Cantilever E North Face

Cantilever E South Face

Note:  
 - Spalls on diaphragm at Cantilever E north and south face. Tie down steel rod exposed with heavy rusting.

**Photo #1**

Bouncing of steel rod  
observed under live load

1" diameter  
remaining at base



**Bridge # 070001**

**Cantilever A North Face at Pier 6  
(Looking South)**

**12/08/ 2023**

Photo #2



Bouncing of cantilever end observed under live load

Gap between cantilever and beam seat

Bridge # 070001

Cantilever A East Face at Pier 6  
(Looking West)

12/08/ 2023

Photo #3



Steel rod sheared at top

Failed tiedown

Cantilever A North Face at Pier 7  
(Looking South)

Bridge # 070001

12/08/ 2023

**Photo #4**

Steel rod sheared at top



**Bridge # 070001**

**Cantilever A North Face at Pier 7  
(Looking South)**

**12/08/ 2023**

Photo #5

Steel rod sheared at top

Cantilever A North Face at Pier 7  
(Looking South)

Bridge # 070001

12/08/ 2023

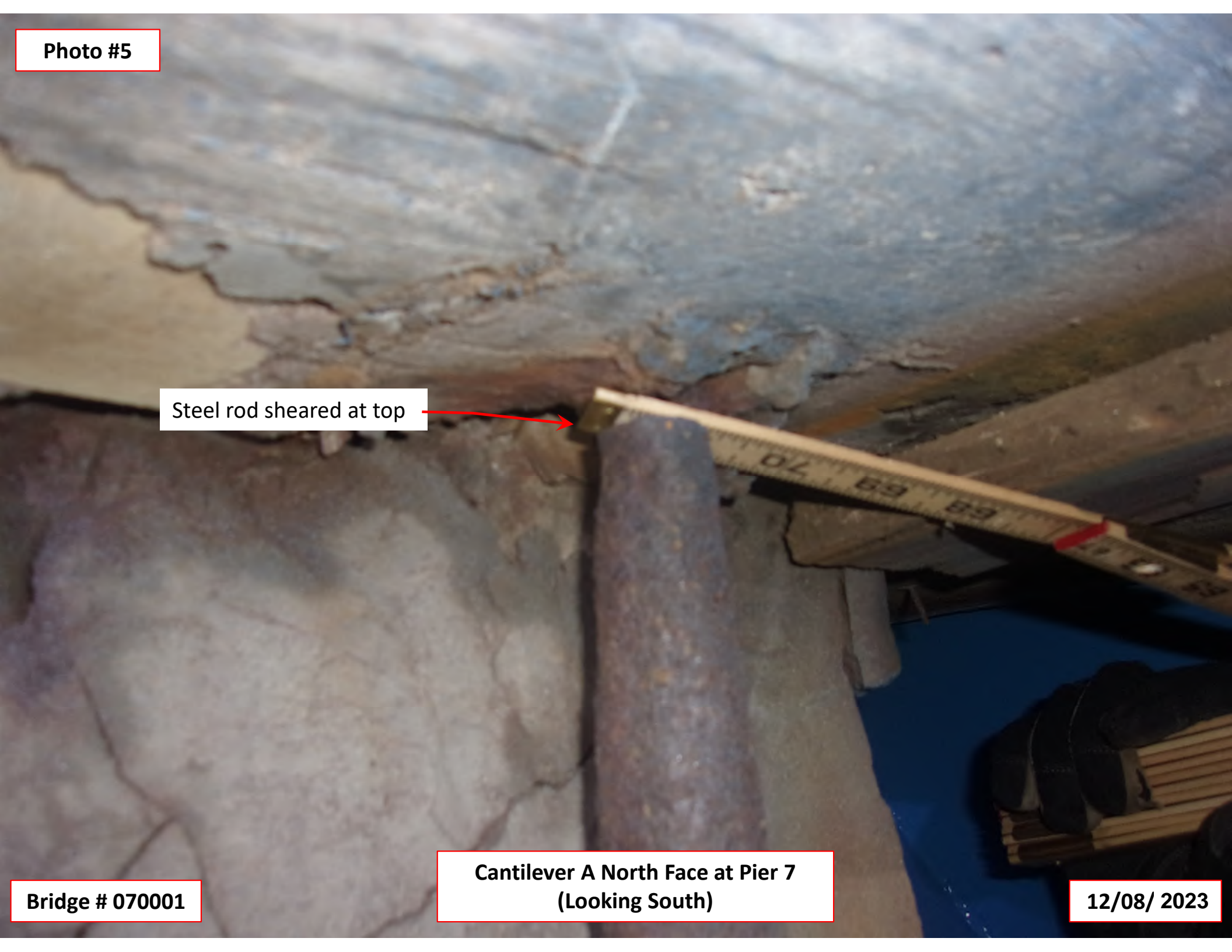



Photo #6

1" diameter remaining  
near base



Bridge # 070001

Cantilever F South Face at Pier 6  
(Looking North)

12/08/ 2023

**Photo #7**



1" diameter remaining  
near base

**Cantilever F South Face at Pier 6  
(Looking North)**

**Bridge # 070001**

**12/08/ 2023**

Photo #8

Steel rod sheared  
near base


Cantilever F South Face at Pier 7  
(Looking North)

Bridge # 070001

12/08/ 2023

Photo #9

Gap between  
cantilever end and  
seat



Bridge # 070001

Cantilever F West Face at Pier 7  
(Looking East)

12/08/ 2023