

**New York State Department of Transportation
Red Flag 3B190TW049**

By: Thomas Barrell
Flag Date: October 02, 2019

Superseding Information:
No Flags Superseded

Structure Information

BIN: 3209800

Feature Carried: FREESE ROAD

Feature Crossed: FALL CREEK

Orientation: 8 - NORTHWEST

Region: 03 - SYRACUSE

County: TOMPKINS

Political Unit: Town of DRYDEN

Approximate Year Built: 1920

Posted Load Matches Inventory : Yes

Bridge Load Posting (Tons) : 15

Primary Owner: 30 - County

Primary Maintenance Responsibility: 30 - County

Typical or Main Span Type: 3 - Steel, 10 - Truss - Thru

This Bridge is not a Ramp

Number of Spans: 2

Verbal Notification Information

Person Notified: Arthur Petrozzi

Date: October 04, 2019 10:34:00 AM

Of: NYSDOT Region 3

Signature Information

Signature: Thomas Barrell, P.E. 087058-1

Date: October 04, 2019

Reviewed By: Glenn Klein

Date: October 04, 2019

Attachments: 4

Flagged Elements

| Parent Element | Element | Total Quantity | Unit |
|------------------------|----------------------------------|----------------|------|
| <i>Span Number : 1</i> | | | |
| | PR220 - Reinforced Concrete Pile | 30 | ft |
| | PR800 - Erosion or Scour | 60 | ft |

Flagged Condition Description

Subject: Pier Footing Undermining

Pier Information:

The pier consists of a concrete pier wall supported by a concrete footing that is surrounded by steel sheeting driven 8 ft into the streambed. It is unknown if the footing is 8 ft thick and it is also unknown if the sheeting was meant to be scour protection or just formwork (sheeting is connected to the pier wall with dowel rods). The plans in the BIN folder are from a major rehabilitation from 1952 and the pier is original (from 1920), although it was rehabilitated in 1952.

2019 Conditions:

The upstream side (Right side) and the End Right portion of the pier footing is undermined more than 5 ft at one location (other readings ranged from 2 ft+/- to 4 ft+/-). The undermining extends over a length of 15 ft. The water was approx. 4.5 ft at the pier and accurate readings were not possible. Based on the limited reach from the scour rod, due to depth of water, it appears that the footing is undermined at least up to the edge of the pier wall at some locations. There was no undermining previously noted although the sheeting appeared to be mostly exposed based on photos from past inspections. It should also be noted that the Fall Creek was flowing well above normal during the Fall of 2018.

The footing exhibits some cracking along the top surface and the cracks extend from the sheeting to the pier wall. The cracks appear to mostly line up or are close to the dowel rods that connect the sheeting to the pier wall.

A diving inspection is recommended to obtain more accurate undermining readings. There was no previous diving inspection for this bridge.

This flag was changed from Yellow to Red during QC review since the footing is not supported on piles and there is the potential for pier failure during the next flooding event.

Note:

Normal flow is directed at the pier and under span 2. It appears that high flows would be directed at the pier and along the End side of span 1 as well as under span 2.

Flag Photographs

Photo Number: 1

Photo Filename: 19-3209800-DSCF0750.JPG



Attachment Description: Pier, Right Side (Upstream Side), Looking Left

Photo Number: 2

Photo Filename: 19-3209800-DSCF0755.JPG



Attachment Description: Pier, Right and End Sides (Upstream Side), Looking Left

Photo Number: 3

Photo Filename: 19-3209800-DSCF0748.JPG



Attachment Description: Pier, Right Side (Upstream Side), Looking Back (scour readings)

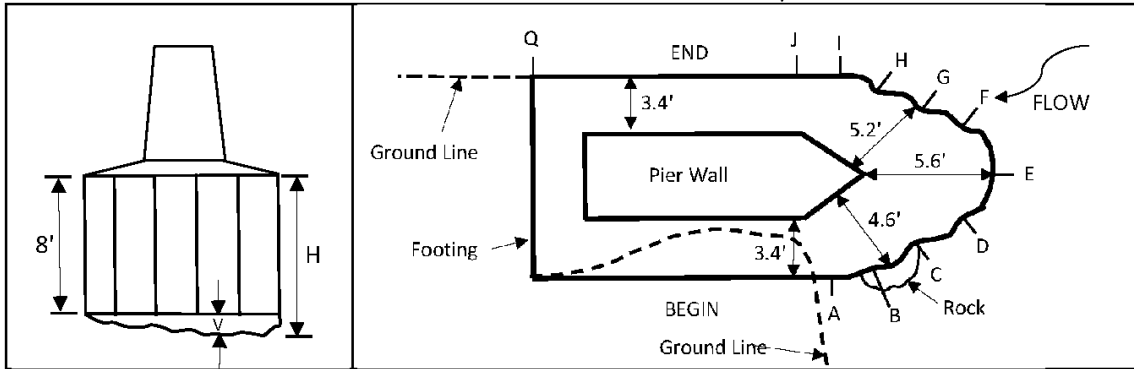
Photo Number: 4

Photo Filename: 19_Pier Profile_Page_1.png

UNDERMINING DOCUMENTATION ALONG PIER

BIN 3209800

October 2, 2019



ALL READINGS ARE IN FEET

| YEAR > | 2019 | | | | | | | | | | | | | | | | | |
|----------|------|------|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| LOCATION | V | H | D | | | | | | | | | | | | | | | |
| A | -- | 3.4 | -- | | | | | | | | | | | | | | | |
| B | -- | 5.4 | -- | | | | | | | | | | | | | | | |
| C | -- | 5.3 | -- | | | | | | | | | | | | | | | |
| D | 0.4 | 8.4 | 3 ± | | | | | | | | | | | | | | | |
| E | 2.0 | 10.0 | 5 + | | | | | | | | | | | | | | | |
| F | 2.2 | 10.2 | 4 ± | | | | | | | | | | | | | | | |
| G | 2.5 | 10.5 | 4 ± | | | | | | | | | | | | | | | |
| H | 1.7 | 9.7 | 4 ± | | | | | | | | | | | | | | | |
| I | 1.1 | 9.1 | 3 ± | | | | | | | | | | | | | | | |
| J | 0.6 | 8.6 | 2 ± | | | | | | | | | | | | | | | |
| K | -- | 8.0 | -- | | | | | | | | | | | | | | | |
| L | -- | 7.6 | -- | | | | | | | | | | | | | | | |
| M | -- | 6.9 | -- | | | | | | | | | | | | | | | |
| N | -- | 6.8 | -- | | | | | | | | | | | | | | | |
| O | -- | 6.3 | -- | | | | | | | | | | | | | | | |
| P | -- | 6.0 | -- | | | | | | | | | | | | | | | |
| Q | -- | 5.4 | -- | | | | | | | | | | | | | | | |

NOTES

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|-------------|--|
| 2019 | New undermining and Pier profile readings taken. The footing is undermined by 5 ft. + at station E. Water is 4.5 ft. +/- deep along the pier which makes accurate undermining readings very difficult. |
| | |

Attachment Description: 19_Pier Profile