

REPORT INDEX

(S.N. 056-3071)

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BRIDGE INSPECTION DOCUMENTATION & MAINTENANCE

STRUCTURE NUMBER: 056-3071

INSPECTION TYPE: 24 Month Routine

DATE: 05/06/2020

INSPECTORS PRESENT:

Larry Kinzer

TIME REQUIRED: (Approx. # of hours to complete the field inspection)

2:00 (Hours : Minutes)

ACCESS EQUIPMENT: (List any equipment used to inspect the bridge)

Chest/Hip Waders Tall Ladder

Traffic Control Snooper

Other:

MAINTENANCE ITEMS:

PHOTO REF. NO.

Remove debris from north side of pier 20

Monitor timber pile deterioration 7 - 18

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.....
.....
.....



SN: 056-3071	District: 1	Spans: 2	Appr. Spans: 0	Skew: 0	ADT: 225	Truck Pct: 8
ADT Un:	Maint. Co: MCHENRY	Twsp: HARTLAND			Status: OPEN - LOAD POSTED	
Facility Carried: PAULSEN RD			Feature Crossed: N BR KISHWAUKEE RIV			
Location: 1.7 MI S OF STREIT R	Municipality:		Team/Sub: /		Insp/Rte:	
Bridge Name: PAULSEN BRIDGE		Material & Type: PRESTRESS CONCRETE/BOX BEAM OR GIRDER-MULTI				
Insp. Intervals Routine: 24	Fracture Critical: 0	Underwater: 0	Special: 12 Mo.	Element Level: 24		

90 - Inspection Date: / /	90C - Temp. (°F)	90B1 - In-Depth	<input type="checkbox"/>
Is Delinquent: <input type="checkbox"/>	Reason:		
90A - Agency Program Manager:		90A3 - Consultant Program Manager:	
90A1 - Team Leader:		90A2 - Inspector:	

90B - Inspection Remarks:

Previous Inspection	Item 58: Significant Keyway leakage, minor spalling independent action
	Item 59: Significant Keyway leakages, minor spalling, independent action
	Item 60: Severe timber pile deterioration and section loss at S. Abut

Resources

Time to Inspect (H:M): 1:0	:	Traffic Control:		Boat:		Waders: W	Snooper:	
Ladder:		Manlift:		Bucket Truck:		Other:		

Inspector's Appraisals

	Prev	New	Comments
58 - Deck Condition:	5		
59 - Superstructure Cond:	5		
60 - Substructure Cond:	3		
62 - Culvert Condition:	N		
61 - Channel Condition:	6		
71 - Waterway Adequacy:	8		
72 - Approach Rdw Align:	8		
111 - Pier Navig Protection:	N		

90B - Inspector Remarks:

Routine Inspection Report

Structure Number: 0563071

Additional Inspection Data

36A – Bridge Railing Adequacy:	2	<input type="checkbox"/>	Rail Types:						
Approach Guardrail Adequacy:	36B – Transitions:	1	<input type="checkbox"/>	36C – Guardrail:	1	<input type="checkbox"/>	36D – Ends:	1	<input type="checkbox"/>

108A – Wearing Surface Type:	G	<input type="checkbox"/>	If "L-Other" Describe: _____
108B – Type of Membrane:	F	<input type="checkbox"/>	If "E-Other" Describe: _____
108C – Deck Protection:	J	<input type="checkbox"/>	If "I-Other" Describe: _____
108D – Total Deck Thickness (in):	21.0	<input type="checkbox"/>	

59A – Paint Date (Mo/Yr):		/	
59B – Paint Type:	_____	_____	Color: Fascia - ____: Inter. - ____: Railing - ____.

59C – Utilities Attached:	1NN	_____	If "B-Other" Describe: _____
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Weight Limit Posting:	70A2 – Single Unit Vehicles:	21	Ton
	70B2 – Combination Type 3S-1 (3 or 4 axles):	33	Ton
	70C2 – Combination Type 3S-2 (5 or more axles):	33	Ton
	70D2 – One Truck at a Time:	0	

Joint Openings (In.) _____

90B – Inspector Remarks Continued:

	Signature	Date
Inspection Team Leader:	<i>Lawrence J. King</i>	/ /
Consultant Program Manager:	<i>Brian K. Convent</i>	05 / 07 / 20
Agency Program Manager:	<i>Brian K. Convent</i>	05 / 07 / 20

SN: 056-3071	District: 1	Spans: 2	Appr. Spans: 0	Skew: 0	ADT: 225	Truck Pct: 8
ADT Un:	Maint. Co: MCHENRY	Twsp: HARTLAND	Status: OPEN - LOAD POSTED			
Facility Carried: PAULSEN RD	Feature Crossed: N BR KISHWAUKEE RIV					
Location: 1.7 MI S OF STREIT R	Municipality:	Team/Sub: /	Insp/Rte:			
Bridge Name: PAULSEN BRIDGE	Material & Type: PRESTRESS CONCRETE/BOX BEAM OR GIRDER-MULTIP					
Insp. Intervals Routine: 24	Fracture Critical: 0	Underwater: 0	Special: 12 Mo.	Element Level: 24		

93C – Inspection Date: 05 / 06 / 20	93C3 – Temp. (°F): 60					
Is Delinquent: <input type="checkbox"/>	Reason:					
90A – Agency Program Manager: Brian K. Converse	90A3 – Consultant Program Manager: Brian K. Converse					
93C2A – Team Leader: Lawrence J. Kinzer	93C2B – Inspector: Lawrence J. Kinzer					

93C4 – Special Inspection Remarks:

Previous Inspection	Resistograph results indicate softer timber material on most piles.
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Resources

Time to Inspect (H:M): 2:0	2 : 00	Traffic Control: N	Boat: N	Waders: W	Y	Snooper: N
Ladder: N	Manlift: N	Bucket Truck: N	Other:			

Special Inspection Inventory

92C – Inspection Interval: 12 Mo. 92C4 – Initiated By: 1 If "4-Other Agency" Describe: _____

92C2 – Start Date: 7/16/2013 92C6 – Determination Date: 8/20/2013 92C7 – Inspect By Date: 9/16/2013

92C1 – Type Code:

<input type="checkbox"/> A – Structural Damage/Steel Superstructure	<input type="checkbox"/> L – Existing Streambed Scour/Spread Footing
<input type="checkbox"/> B – Structural Damage/Concrete Superstructure	<input type="checkbox"/> M – Existing Streambed Scour/Pile Supported Footing
<input type="checkbox"/> C – Structural Damage/Timber Superstructure	<input type="checkbox"/> N – Existing Streambed Scour/Pile Bent Substructure Unit
<input type="checkbox"/> D – Structural Damage/Steel Substructure	<input type="checkbox"/> P – Embankment Movement or Settlement
<input type="checkbox"/> E – Structural Damage/Concrete Substructure	<input type="checkbox"/> Q – Substructure Movement or Settlement
<input checked="" type="checkbox"/> F – Structural Damage/Timber Substructure	<input type="checkbox"/> R – Pin & Link in Multi-Girder (Redundant) Bridge (If checked must add BBS Form(s) 2760 and 2780 if needed)
<input type="checkbox"/> G – Underwater/Debris and/or Erodible Soil	<input type="checkbox"/> S – Specifically Identified Problematic Structural Details
<input type="checkbox"/> H – Underwater/Flow Restriction or Velocity	<input type="checkbox"/> T – Deck
<input type="checkbox"/> I – Underwater/Spread footings not adequately keyed into rock or protected from the effects of streambed scour	<input type="checkbox"/> X – Critical Finding
<input type="checkbox"/> J – Reserved	<input type="checkbox"/> Z – Other (Describe: /)
<input type="checkbox"/> K – Underwater/Scour Critical Evaluation Monitoring	

92C5 – Special Type Remarks:

Special Inspection

93C1 – Special Inspection Condition Status:

Prev	New	
<input type="checkbox"/> 0	<input type="checkbox"/> 0	- Worsening Condition Indicative of Imminent Structural Failure - Immediate closure required pending follow-up by BBS
<input checked="" type="checkbox"/> 1	<input checked="" type="checkbox"/> 1	- Progression of Deterioration or Worsening of Condition - Contact BBS, Program Manager, and SI Initiator
<input type="checkbox"/> 2	<input type="checkbox"/> 2	- No Change in Condition Noted
<input type="checkbox"/> 3	<input type="checkbox"/> 3	- Corrected Condition Noted - Special inspections no longer required after verification by BBS personnel
<input type="checkbox"/> 4	<input type="checkbox"/> 4	- Feature Determined to be in Adequate Condition - Primarily for monitoring problematic structural details

93C4 – Special Inspection Remarks:

	Signature	Date
Inspection Team Leader:	<i>Lawrence J. Kinzer</i>	05 / 06 / 20
Consultant Program Manager:	<i>Brian K. Converse</i>	05 / 07 / 20
Agency Program Manager:	<i>Brian K. Converse</i>	05 / 07 / 20

Special Inspection Report

Structure Number: 0563071

93C4 – Special Inspection Remarks Continued:

South abutment:

Pile #1 - soft, estimate 10% section loss

Pile #2 - soft, estimate 25% section loss

Pile #3 - soft, estimate 10% section loss

Pile #4 - soft

Pile #5 - soft, estimate 40% section loss

Pile #6 - soft, estimate 50% section loss

North abutment:

Pile #7 - soft

Pile #8 - soft

Pile #9 - soft, estimate 20% section loss

Pile #10 - soft

Pile #11 - ok

Pile #12 - soft, estimate 30% section loss

**Illinois Department of Transportation
Structures Information Management System
Master Structure Report (S-107)**

Structure Number: 056-3071 District: 1

Inventory Data

Facility Carried:	PAULSEN RD	Bridge Name:	PAULSEN BRIDGE	Sufficiency Rating:	28.5	Structure Length:	70.0
Feature Crossed:	N BR KISHWAUKEE RIV	Location:	1.7 MI S OF STREIT R	HBP Eligible:	Yes	AASHTO Bridge Length:	65.2
Bridge Remarks:				Replaced By:		Length of Long Span:	34.0
Bridge Status:	2 OPEN - LOAD POSTED	StatusDate:	4/6/2018	Replaces:		Bridge Roadway Width:	22.2
Status Remarks:	Weight limit posting implemented on the structure.			Last Update Date:	07/05/2012	Appr Roadway Width:	19.0
Maint County:	056 MCHENRY	Maint Township:	10 HARTLAND	Parallel Structure:	None	Deck Width:	24.2
Maint Responsibility:	09 TOWNSHIP OR ROAD DISTRICT			Multi-Level Structure Nbr:		Sidewalk Width Right:	0.0
Service On/Under:	1 HIGHWAY / 5 WATERWAY			Skew Direction:	None	Sidewalk Width Left:	0.0
Reporting Agency:	3 COUNTY			Skew Angle:	0 D	Navigation Control:	0 No
Main Span Matl/Type:	5 PRESTRESS CONCRETE / 05 BOX BEAM OR GIRDER-MULTIPLE			Structure Flared:	No	Navigation Horiz Clear:	0
Nbr Of Main Spans:	2	Nbr Of Approach Spans:	0	Historical Significance:	No	Navigation Vert Clear:	0
Approaches				Border Bridge State:		Culvert Fill Depth:	0.0
Near #1 Matl/Type:				Bdr State SN:		Number Culvert Cells:	0
Near #2 Matl/Type:				Bdr State % Responsibility:	0	Culvert Opening Area:	0.0
Far #1 Matl/Type:				Structural Steel Wt:	0	Culvert Cell Height:	0.00
Far #2 Matl/Type:				Substructure Material:	25	Culvert Cell Width:	0.00
Median Width/Type:	0 Ft / 0 None			Rated By:	2 IDOT	Rate Method:	7 ALLOWABLE STRESS (
Guardrail Type L/R:	0 None / 0 None	Inventory Rating:	0.400 (14)	Load Rating Date:	04/05/2018	***Railroad Crossing Info***	
Toll Facility Indicator:	0 No Toll	Operating Rating:	1.160 (41)			Crossing 1 Nbr:	
Latitude:	42.36154870	Longitude:	88.55017994	Design Load:	03 HS15	Crossing 1 Nbr:	
Deck Structure Type:	E PCAST PRES CN DK BM	Deck Structure Thickness:	17.0	SD:	Y	FO:	Y
Sidewalks Under Structure:	0 None					RR Lateral Underclear:	0.0
						RR Vertical Underclear:	0 Ft 0 In

Key Route On Data

Key Route Nbr:	TOWNSHIP OR ROAD DISTRICT 0114	Station:	1.6500
Appurtenances	Main Route 00000	Segment:	
Inventory County:	056 MCHENRY	Linked:	Y
Township/Road Dist	10 HARTLAND	Natl. Hwy System:	Not on NHS
Municipality	0000	Inventory Direction:	
Urban Area:	None	Curr AADT Yr/Count:	2017 / 225
Functional Class:	7 LOCAL	Est Truck Percentage:	8 %
** CLEARANCES **	South/East North/West	Number Of Lanes:	2
Max Rdwy Width:	22.2	One Or Two Way:	2 Two-Way
Horizontal:	24.2 0.0	Bypass Length:	5
Min Vertical:	99Ft 11In 00Ft 00In	Future AADT Yr/Cnt:	2032 / 179
10 Ft Vertical:	99Ft 11In 00Ft 00In	Designated Truck Rte:	NONE
Lateral:		Special Systems:	No

Key Route Under Data

		Station:	
		Segment:	
		Linked:	
		Natl. Hwy System:	
		Inventory Direction:	
		Curr AADT Yr/Count:	/
		Est Truck Percentage:	%
		Number Of Lanes:	
		One Or Two Way:	
		Bypass Length:	
		Future AADT Yr/Cnt:	/
		Designated Truck Rte:	
		Special Systems:	

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	4 FAS, CH, or TR's Unmarked	
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number

**Illinois Department of Transportation
Structures Information Management System
Master Structure Report (S-107)**

Date: 12/31/2020

Page 2

Structure Number: 056-3071 District: 1

Data Related to Inspection Information

Inspection Intervals
 Routine NBIS: MOS Underwater: MOS
 Fracture Critical: MOS Special: Y

*** Maximum Allowable Posting Limits ***
 One Truck At A Time: Tons
 Single Unit Vehicles: Tons
 Combination Type 3S-1: Tons
 Combination Type 3S-2: Tons

Bridge Posting Level:
 >= 40% Below Legal Loads

Inspection/Appraisal Information

Inspection Date:	<input type="text" value="05/06/2020"/>	Inspection Temperature:	<input type="text" value="60"/> Deg. F	Insp by (Name):	<input type="text" value="Kinzer, Lawrence J"/>	** Actual Posted Limits **
Deck:	<input type="text" value="5"/>	FAIR CONDITION - MINOR SECTION LOSS, CRACKS		Insp by (Name):	<input type="text" value="Lawrence J. Kinzer"/>	Single Unit Vehicles: <input type="text" value="21"/> Tons
Superstructure:	<input type="text" value="5"/>	FAIR CONDITION - MINOR SECTION LOSS, CRACKS		Utilities Attached:	<input type="text" value="1"/> NATURAL GAS	Combination Type 3S-1: <input type="text" value="33"/> Tons
Substructure:	<input type="text" value="3"/>	SERIOUS CONDITION - SIGNIFICANT SECTION LOSS			<input type="text" value="N"/> N/A	Combination Type 3S-2: <input type="text" value="33"/> Tons
Culvert:	<input type="text" value="N"/>	NOT APPLICABLE			<input type="text" value="N"/> N/A	One Truck At A Time: <input type="text" value="0"/>
Channel and Protection:	<input type="text" value="6"/>	SATISFACTORY CONDITION - MINOR DETERIORATION		Deck Wearing Surf:	<input type="text" value="G"/> BITUMINOUS OVERLAY	Last Paint Type:
Structural Evaluation:	<input type="text" value="3"/>	INTOLERABLE - HIGH PRIORITY FOR CORRECTION		Deck Membrane:	<input type="text" value="F"/> NONE	<input type="text"/>
Deck Geometry:	<input type="text" value="4"/>	MINIMUM ADEQUACY TO BE LEFT IN PLACE		Deck Protection:	<input type="text" value="J"/> NONE	<input type="text"/>
Underclearance-Vert/Lat.:	<input type="text" value="N"/>	NOT APPLICABLE		Total Deck Thick:	<input type="text" value="21.0"/>	<input type="text"/>
Waterway Adequacy:	<input type="text" value="8"/>	EQUAL TO PRESENT DESIRABLE CRITERIA		Last Paint Date:	<input type="text"/>	<input type="text"/>
Approach Roadway Align:	<input type="text" value="8"/>	EQUAL TO PRESENT DESIRABLE CRITERIA		Inspection Remarks:	<input type="text"/>	
Bridge Railing Appraisal:	<input type="text" value="2"/>	Doesn't Meet Standards		Items 58 & 59 - Significant keyway leakage. Minor spalls in several beams due to inadequate concrete cover. Item 60 - Severe timber pile deterioration and section loss both abutments.		
Approach Guardrail:	<input type="text" value="111"/>	Does Not Exist	<input type="text" value="Does Not Exist"/>	South abut pile 1 - soft estimate 10% section lo		
Pier Navig Protection:	<input type="text" value="N"/>	N/A				

Underwater Inspection/Appraisal Information

Inspection Date:

Temperature: Inspection Method:

Inspected By: Inspected By: Appraisal Rating:

Inspection Remarks:

Scour Critical Information

Rating: CALCULATED SCOUR ACCEPTABLE Evaluation Method: Rational Analysis

Analysis Date: Analysis By:

Miscellaneous

Fracture Critical Members: No
 Microfilm Data Recorded: No

Construction Information

Year: Original Reconstructed

Route: Sta: Sta:

Section Nbr:

Contract Nbr:

Fed Aid Pr #:

Built By: COUNTY AGENCY

Proposed Improvement

Cost Estimate Year: Length:

Type of Work:

Done By:

Remarks:

*** Costs in Dollars ***

Bridge Cost:

Roadway Cost:

Total Project Cost:



WILLET HOFMANN ASSOCIATES INC

CIVIL ENGINEERING ARCHITECTURE INTERIOR DESIGN

JOB HARTLAND TWP.

JOB # 056-3071

SHEET NO

OF

CALCULATED BY MC

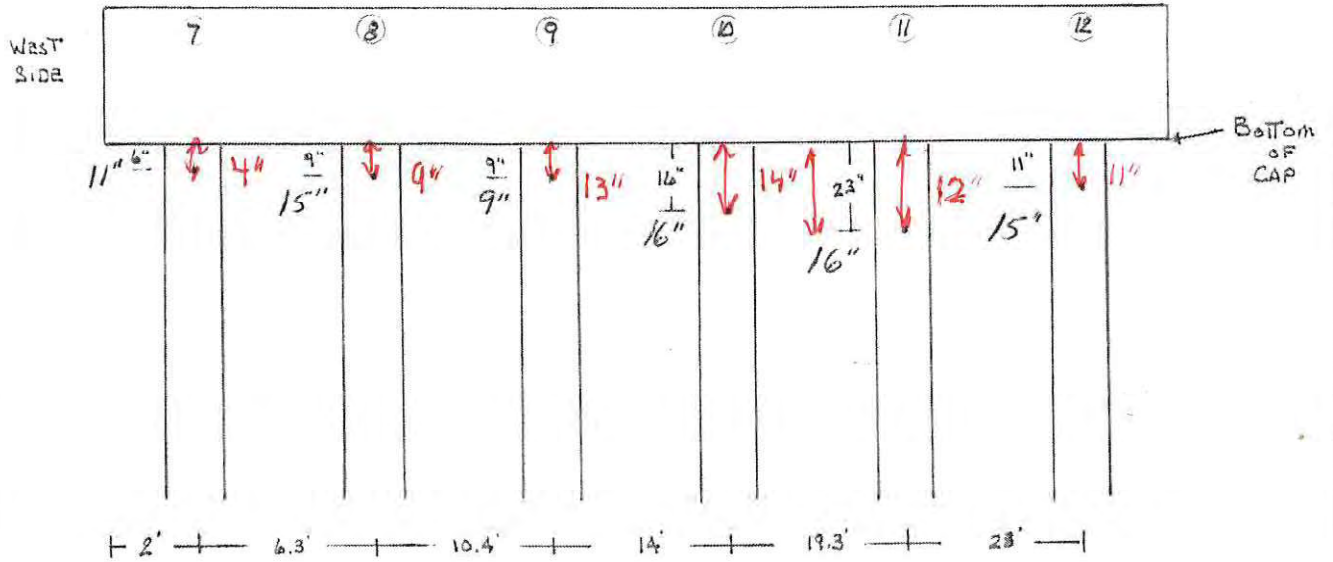
DATE 11/21/12

CHECKED BY BV-BSK

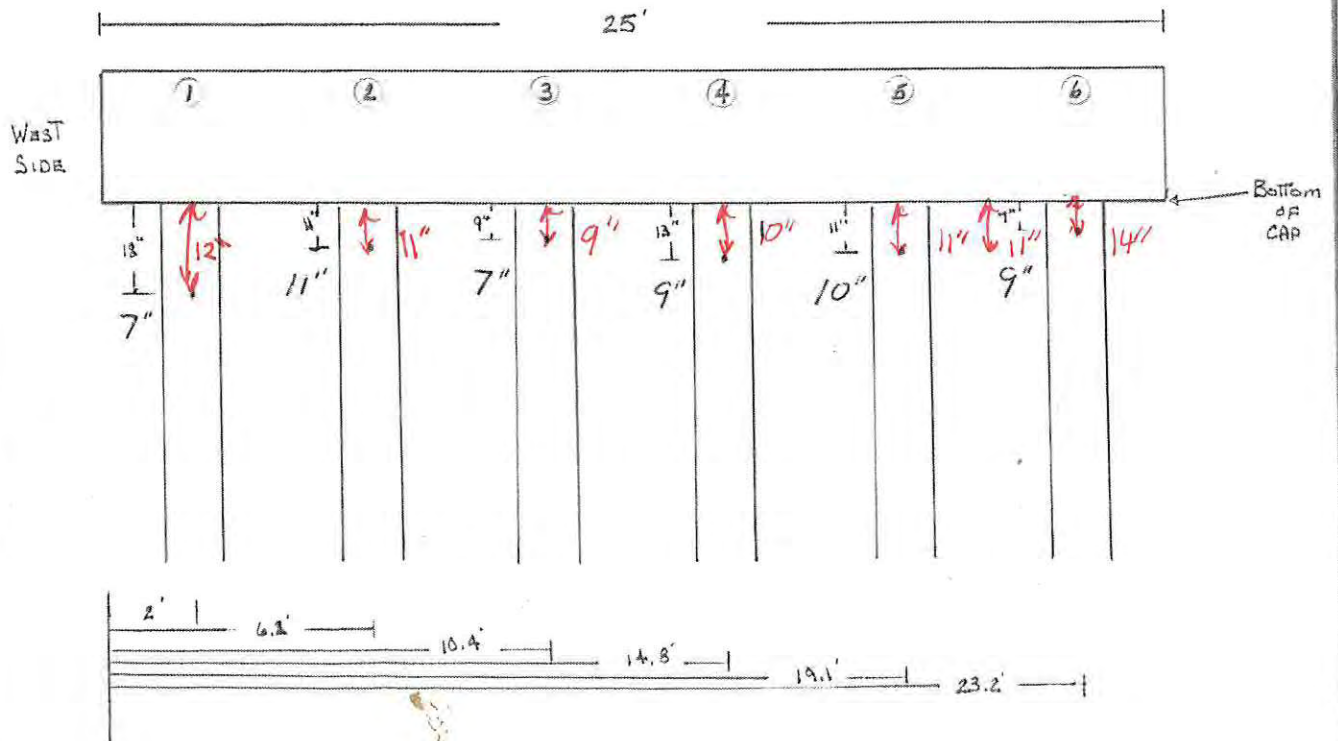
DATE 6/2/16

SCALE TIMBER PILE SPACING

N. ABUT.



S. ABUT.



2020 HARTLAND TOWNSHIP BRIDGE INSPECTION PROGRAM

REPORT SUMMARY

STRUCTURE NUMBER:	056-3071
ROAD NAME:	Paulsen Road
FEATURE CROSSED:	North Branch of the Kishwaukee River
TOWNSHIP:	Hartland
COMMENTS:	Monitor deterioration of timber piles Remove debris from under bridge on north side of pier

PHOTOS

Photo 1	
<p>Weight limit sign at Paulsen & Streit Roads</p>	<p style="color: green; font-size: small;">Weight limit sign at Paulsen & Streit Rd Year Watermark - 2014</p> <p style="color: green; font-size: small; text-align: right;">SN 056-3071 08 May 2020</p>

2020 HARTLAND TOWNSHIP BRIDGE INSPECTION PROGRAM

STRUCTURE NUMBER: 056-3071


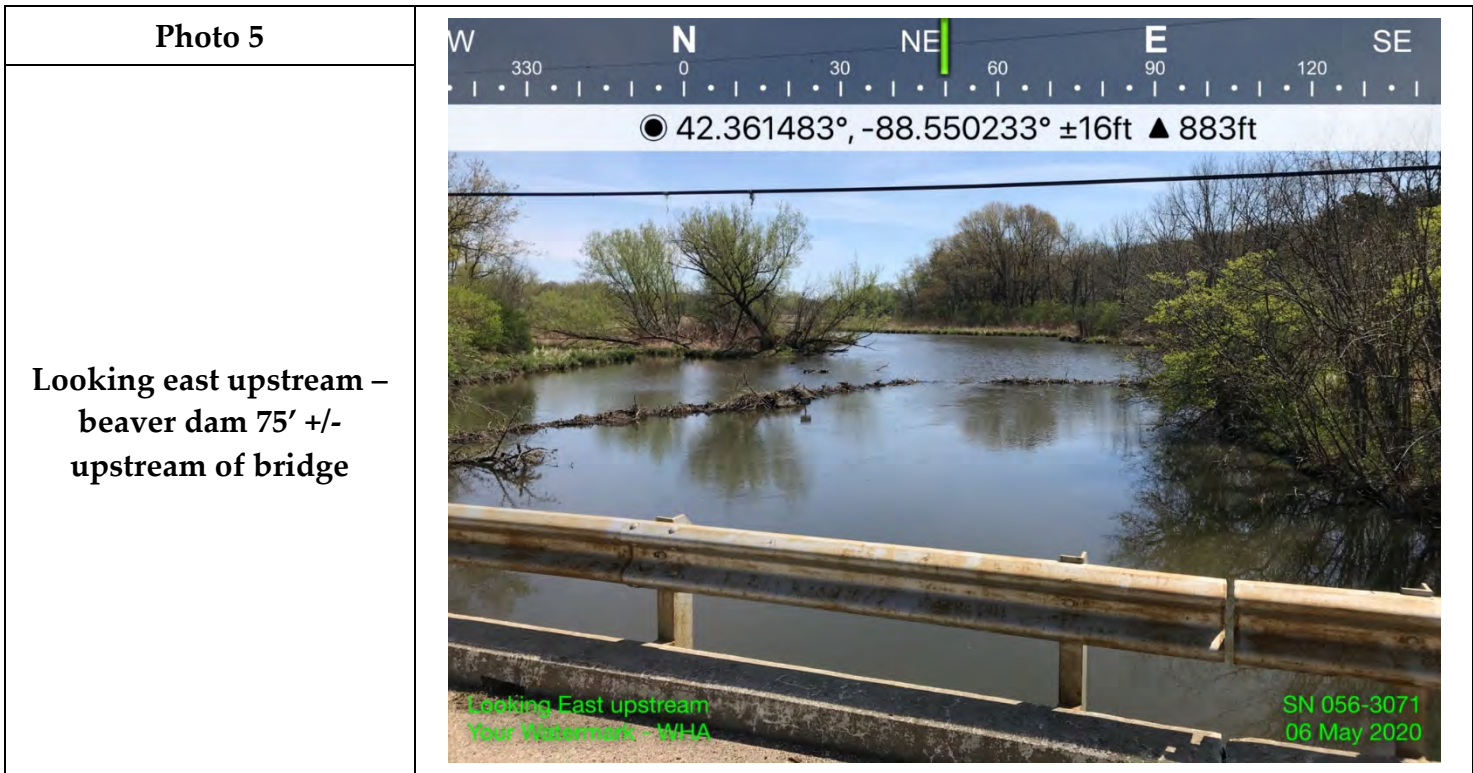
Photo 2	
<p style="text-align: center;">Looking north across bridge – weight limit sign</p>	<p style="color: green; font-size: small;">Looking North across bridge Your Watermark - WHA</p> <p style="color: green; font-size: small; text-align: right;">SN 056-3071 06 May 2020</p>

Photo 3	
<p style="text-align: center;">Looking south across bridge</p>	<p style="color: green; font-size: small;">Looking South across bridge Your Watermark - WHA</p> <p style="color: green; font-size: small; text-align: right;">SN 056-3071 06 May 2020</p>

2020 HARTLAND TOWNSHIP BRIDGE INSPECTION PROGRAM

STRUCTURE NUMBER: 056-3071



Looking East upstream
Your Watermark - WHA

SN 056-3071
06 May 2020

2020 HARTLAND TOWNSHIP BRIDGE INSPECTION PROGRAM

STRUCTURE NUMBER: 056-3071



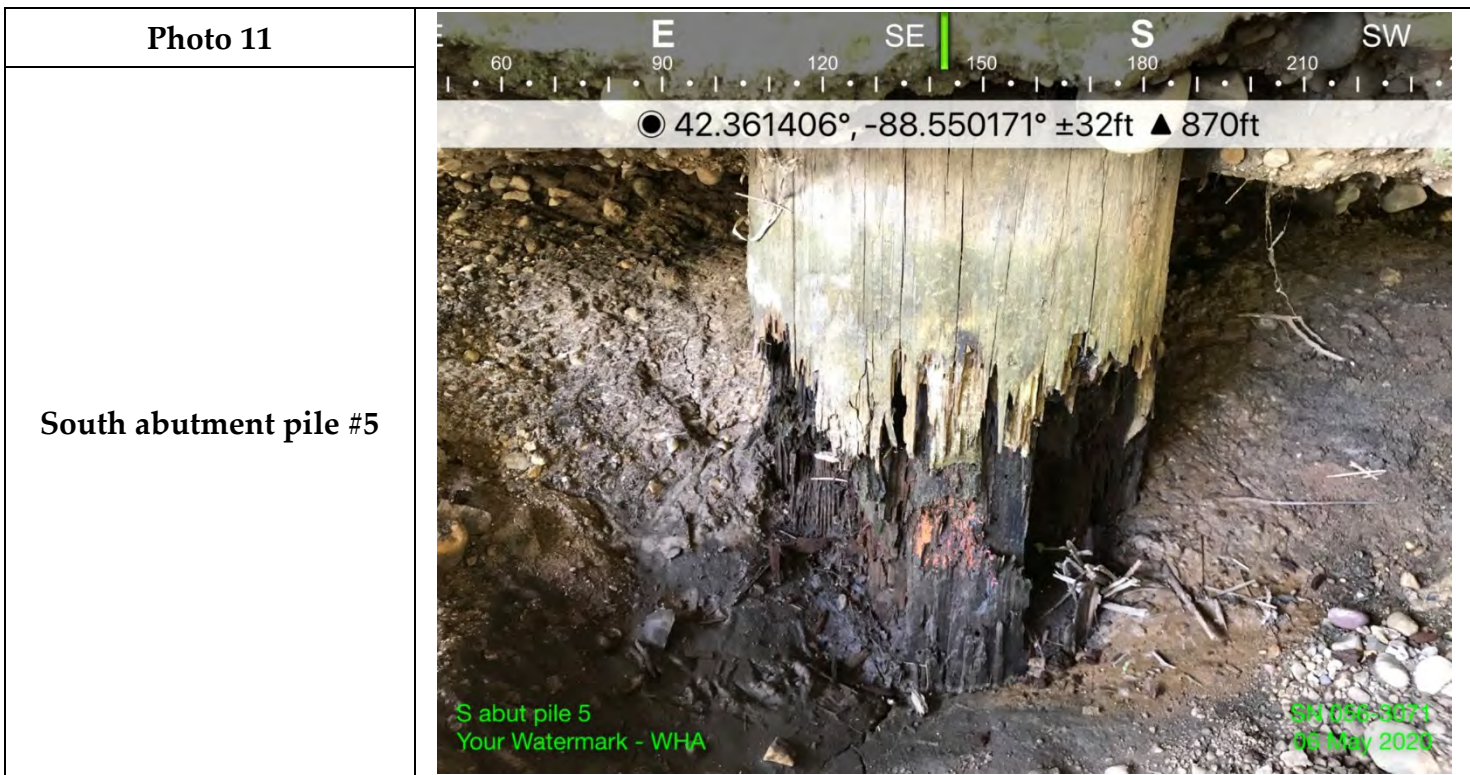
2020 HARTLAND TOWNSHIP BRIDGE INSPECTION PROGRAM

STRUCTURE NUMBER: 056-3071



2020 HARTLAND TOWNSHIP BRIDGE INSPECTION PROGRAM

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2020 HARTLAND TOWNSHIP BRIDGE INSPECTION PROGRAM

STRUCTURE NUMBER: 056-3071

Photo 12

South abutment pile #6



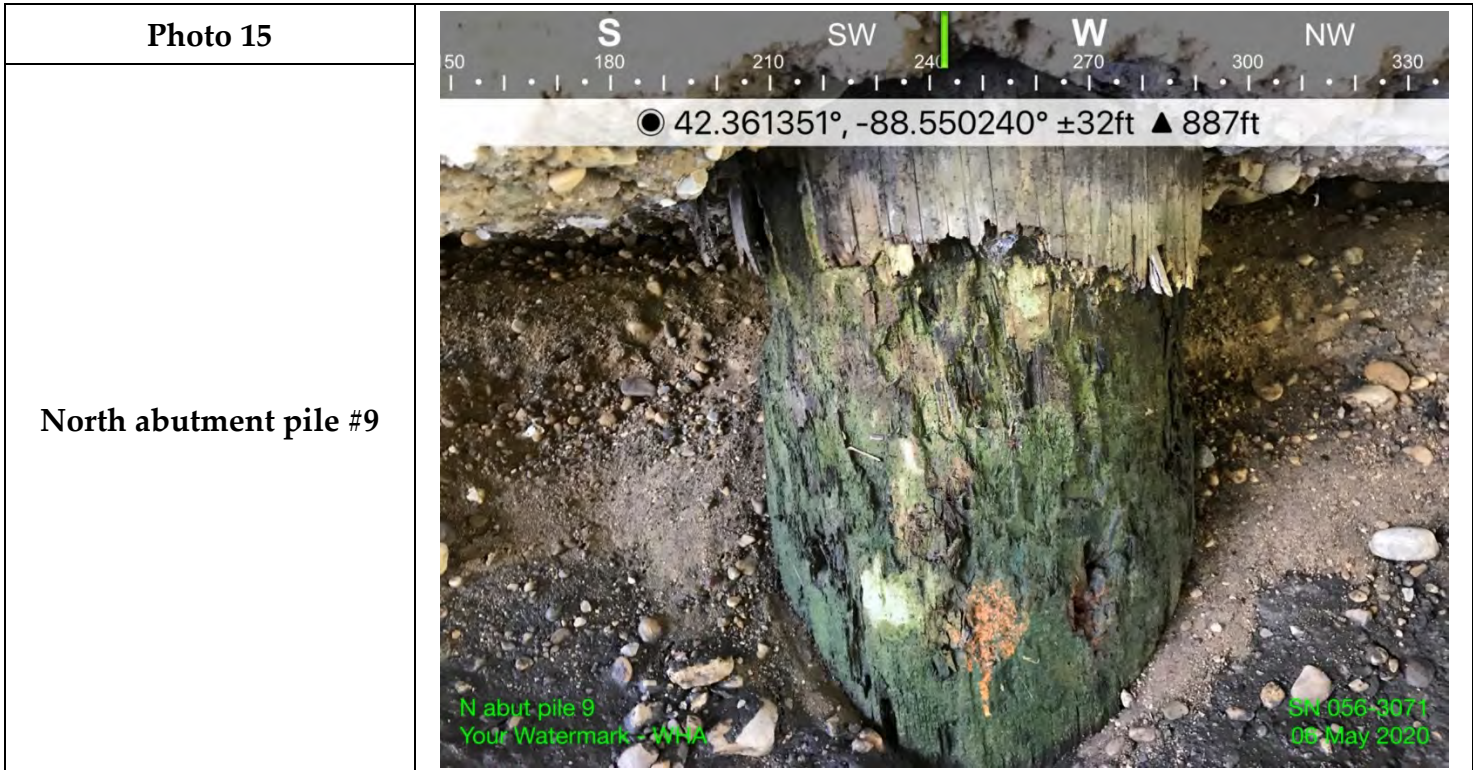
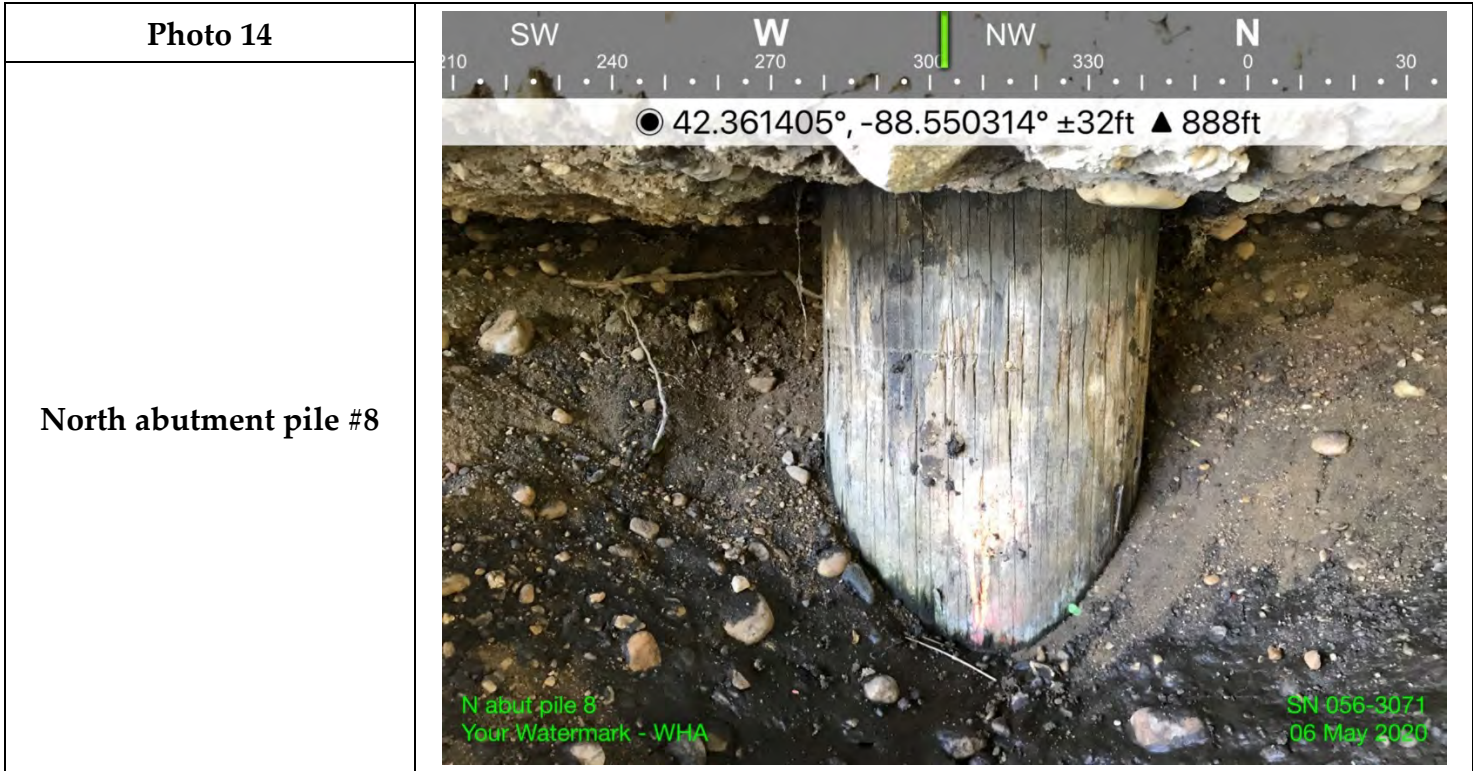
Photo 13

North abutment pile #7



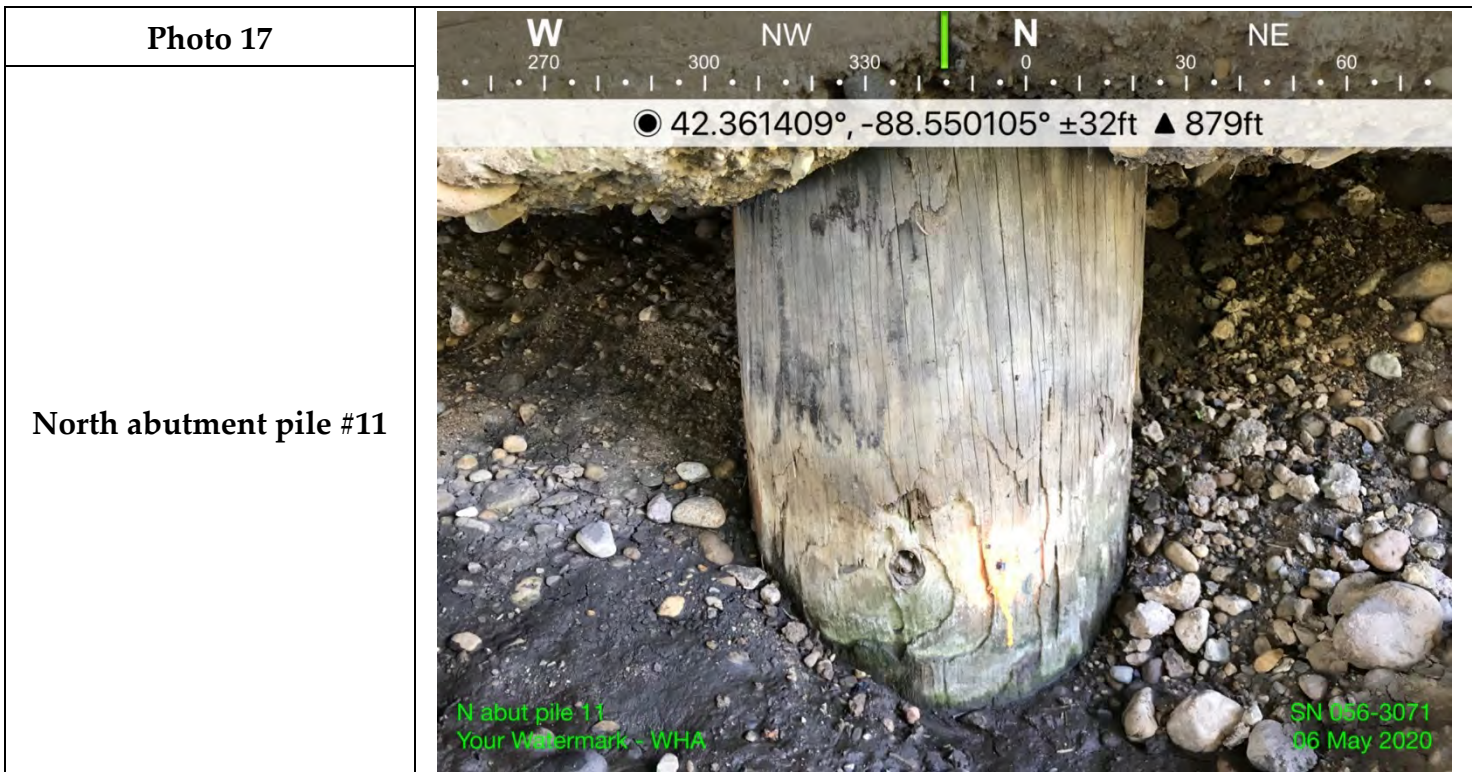
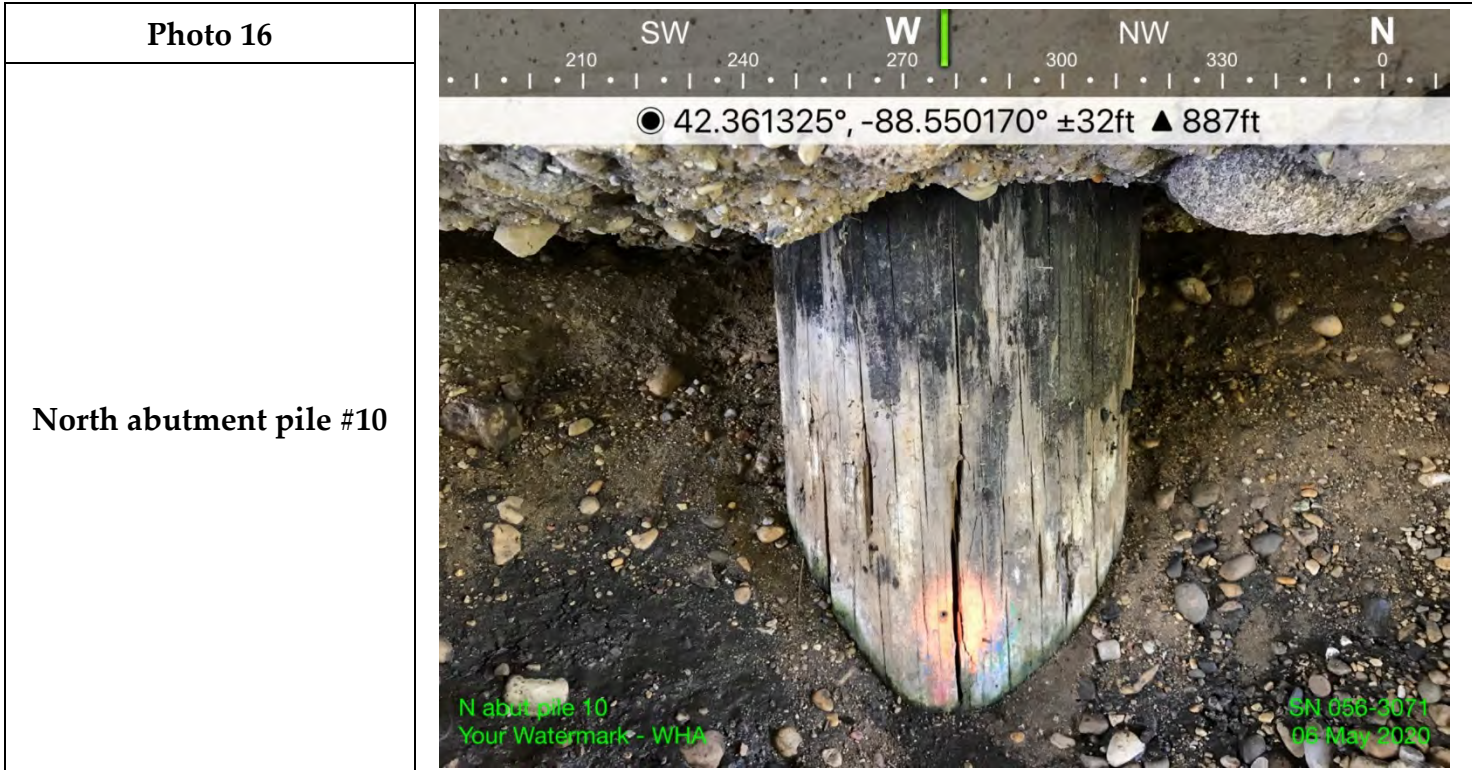
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STRUCTURE NUMBER: 056-3071



2020 HARTLAND TOWNSHIP BRIDGE INSPECTION PROGRAM

STRUCTURE NUMBER: 056-3071





Photo 18	
North abutment pile #12	

Photo 19	
Natural gas line on west beam fascia disconnected	

2020 HARTLAND TOWNSHIP BRIDGE INSPECTION PROGRAM

STRUCTURE NUMBER: 056-3071

<p>Photo 20</p>	 <p>A photograph taken from underneath a bridge, looking towards a concrete pier. The pier is supported by several vertical columns. A large piece of debris, possibly a log or branch, is caught on the north side of the pier. The water is dark and reflects the sky. The photo includes a compass overlay at the top with directions E, SE, S, SW, W and a scale from 90 to 270. Below the compass, the coordinates are given as 42.361492°, -88.550237° ±32ft ▲ 883ft. In the bottom left corner, there is a green watermark that reads 'N side pier' and 'Your Watermark - WHA'. In the bottom right corner, there is a green watermark that reads 'SN 056-3071' and '06 May 2020'.</p>
<p>Debris caught on north side of pier</p>	

<p>Photo 21</p>	 <p>A close-up photograph of the underside of a concrete beam. The surface shows signs of weathering and small delaminations, which are areas where the concrete has chipped away or separated. The background shows some green foliage and a clear sky.</p>
<p>North span east beam small delaminations</p>	

2020 HARTLAND TOWNSHIP BRIDGE INSPECTION PROGRAM

STRUCTURE NUMBER:	056-3071
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Photo 22	
North span 3 rd beam from west spalls	

Photo 23	
North span 2 nd beam from west spalls	

2020 HARTLAND TOWNSHIP BRIDGE INSPECTION PROGRAM

STRUCTURE NUMBER: 056-3071

Photo 24

**South span 4th beam from
west spalls**



Photo 25

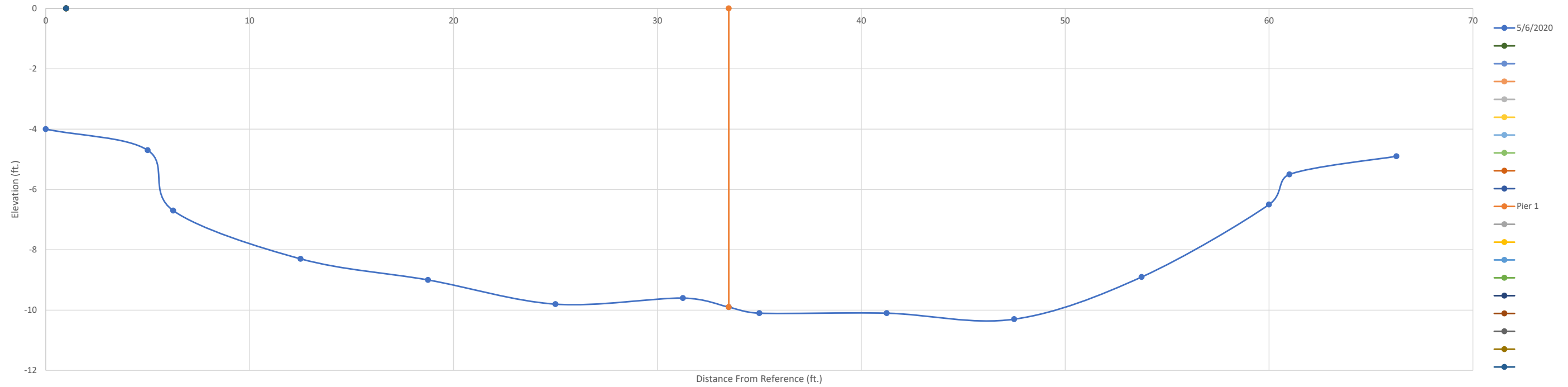
Leaking keyway joints





County: McHenry - Hartland Township
S.N: 056-3071
Roadway: Paulsen Road
Stream: North Branch of the Kishwaukee River

Upstream Channel Cross Section



Downstream Channel Cross Section

