

2016 UNDERWATER BRIDGE INSPECTION REPORT



BRIDGE # 30505 CSAH 14 over RUM RIVER

DISTRICT: District 3

COUNTY: Isanti

CITY/TOWNSHIP: CAMBRIDGE

STATE: Minnesota

Date of Inspection: 09/21/2016

Equipment Used:

Owner: County Highway Agency

Inspected By: Stromberg, Dan

Report Written By: Dan Stromberg

Report Reviewed By:

Final Report Date:



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UNDERWATER INSPECTION

REPORT SUMMARY

The substructure units inspected at Bridge No. 30505, Piers 1 and 2, were found to be in good condition with no defects of structural significance below water. The concrete of both piers exhibited light scaling below the waterline with up to 1/4 inch maximum penetrations. A moderate accumulation of timber debris was noted at Pier 2 and a minor accumulation of timber debris was noted at Pier 1. Overall, the channel bottom configuration appeared to be in satisfactory and stable condition with no notable scour depressions observed.

INSPECTION FINDINGS

- A. The channel bottom consisted of sand, gravel, and 4-inch-diameter cobbles allowing up to 1 inch of probe rod penetration.
- B. The channel bottom consisted of silty sand allowing up to 3 inches of probe rod penetration.
- C. A band of light scaling was observed around the entire perimeter of Piers 1 and 2 extending from the waterline to the channel bottom with typical penetrations of 1/8 inch and maximum penetrations of up to 1/4 inch at the upstream noses.
- D. A moderate accumulation of timber debris, consisting of 9-inch-diameter and smaller logs and branches, was observed along the upstream nose and west face of Pier 2 and extended from the channel bottom to 3 feet above the waterline and up to 5 feet out from the pier.
- E. A log up to 1 foot in diameter was present along the east face of Pier 2 extending from 1 foot below the waterline to 1 foot above the waterline.
- F. A minor accumulation of timber debris, consisting of smaller sticks and branches, was observed at the upstream nose of Pier 1 and extended from the channel bottom to approximately 6 inches above the channel bottom.

RECOMMENDATIONS

- (A) Remove timber debris accumulation at Pier 2. Removal of the timber debris will reduce excessive lateral loads on the pier, limit further debris accumulation, and reduce the likelihood of channel bottom degradation resulting from obstructed flow. Until the timber debris can be removed, monitor for any increase in accumulation and/or scour at the pier.
- (B) Reinspect the submerged substructure units at the normal maximum recommended (NBIS) interval of sixty (60) months.

Contractor: Collins Engineers, Inc.

Contractor Job Number: 9687

UNDERWATER INSPECTION

1. BRIDGE DATA

Bridge #: 30505
Feature Intersected: RUM RIVER
Facility Carried: CSAH 14
District: District 3
County: 030 - Isanti
Bridge Description:

The bridge superstructure consists of three spans of multiple steel girders supported by two concrete hammerhead type piers and two concrete abutments. The piers are numbered 1 and 2 starting from the east side of the bridge.

2. INSPECTION DATA

Professional Engineer/Team Leader: Garrett R. Owens
Inspection Diver: Garrett R. Owens
Date of Underwater Inspection: 09/21/2016
Weather Conditions: Sunny, 60°F
Underwater Visibility (feet): 1.0 foot
Waterway Velocity (ft/sec): 1.0 ft/sec

3. SUBSTRUCTURE INSPECTION DATA

Substructure(s) Inspected: Piers 1 and 2.
General Shape:

Each pier consists of an oblong rectangular shaft with rounded noses, and rests upon a rectangular concrete footing founded on timber piles.

Maximum Water Depth at Substructure(s) Inspected (feet): 6.1 feet

4. WATERLINE DATUM

Water Level Reference: The top of the pier cap of Pier 1.
Waterline Elevation (feet): 84.4 feet
Description: The waterline was located approximately 15.6 feet below reference.

5. NBIS CODING INFORMATION

(Minnesota specific codes are used for 92B and 113)

Item 60: Substructure: Code: 7
Item 61: Channel and Channel Protection: Code: 7
Item 62: Culvert: Code:
Item 92B: Underwater Inspection: Code: Y 48 09/2016

Item 113: Scour Critical Bridge:

Code: O

Bridge is scour critical because abutment or pier foundation is rated as unstable due to observed scour at bridge site.

Yes

No

(Mark your selection with an X)

6. STRUCTURAL ELEMENT CONDITION RATING

ELEM #	Element Description	Quantity	Unit	Conditions			
				CS1	CS2	CS3	CS4
210	Reinforced Concrete Pier Wall	39	LF	39			
885	Scour	1	EA	1			

UNDERWATER INSPECTION

INSPECTION PROCEDURES

The routine underwater inspection of Bridge 30505 (CSAH 14 over Rum River) was completed on September 21, 2016. The underwater inspection was conducted from the shore. The inspection was conducted by a team consisting of a Professional Engineer Diver with a valid MnDOT Team Leader certification, a backup diver and dive tender. The inspection utilized commercial dive equipment and techniques (SSA and/or SCUBA) in accordance with OSHA regulations. Profiles were taken along the upstream and downstream faces of the bridge and around the periphery of substructure units to determine the presence, location, and area of scour.

The bridge elements inspected consisted of two reinforced concrete piers. According to design drawings, the inspected substructure units are supported by a rectangular concrete footing founded on timber piles. Inspection procedures followed FHWA guidance and the MnDOT Bridge and Structure Inspection Program Manual with channel bottom probing to search for foundations. The maximum routine underwater inspection frequency is recommended to remain at 60 months based on those findings and risk factors. Also, inspection procedures should continue to follow the above approach and standard guidance with 100% Level I and 10% Level II intensity efforts.

Minnesota Structure Inventory Report

Bridge ID: 30505

CSAH 14 over RUM RIVER

Date: 12/20/2016

+ GENERAL +	+ ROADWAY +	+ INSPECTION +		
Agency Br. No. Crew District 03 Maint. Area County 030 - Isanti City Township 30003 - CAMBRIDGE Desc. Loc. 2.7 MI N OF JCT TH 95 Sect., Twp., Range 18 - 036N - 23W Latitude 45 ° 36 ' 32.07 " Longitude 93 ° 15 ' 24.77 " Custodian 02 - County Highway Agency Owner 02 - County Highway Agency BMU Agreement Year Built 1975 MN Year Reconstructed FHWA Year Reconstructed MN Temporary Status Bridge Plan Location 3 - COUNTY Date Opened to Traffic On - Off System 1 - ON Legislative District 17A Potential ABC 2 - N/A	Bridge Match ID (TIS) 0 Roadway O/U Key Route On Structure Route Sys 04 - CSAH Number 14 Roadway Name or Description CSAH 14 Level of Service 1 - MAINLINE Roadway Type 2 - 2-way traffic Control Section (TH Only) Reference Point 002+00.760 Detour Length 12.0 mi. Lanes ON 2 UNDER 0 ADT 510 YEAR 2008 HCA DT ADTT % Functional Class 07 - Rural - Major Collector	Userkey 70 Structurally Deficient Y Functionally Obsolete N Sufficiency Rating 93.3 Routine Inspection Date 09/28/2015 Routine Inspection Frequency 12 Inspector Name Stromberg, Dan Status A - Open		
		+ NBI	CONDITION	RATINGS +
		Deck	4	Unsound Deck %
		Superstructure	7	
		Substructure	7	
		Channel	7	
		Culvert	N	
		+ NBI	APPRAISAL	RATINGS +
		Structure Evaluation	7	
		Deck Geometry	7	
		Underclearances	N	
		Waterway Adequacy	8	
		Approach Alignment	8	
		+ SAFETY FEATURES +		
		Bridge Railing	0 - SUBSTANDARD	
		GR Transition	0 - SUBSTANDARD	
		Appr. Guardrail	0 - SUBSTANDARD	
		GR Termini	0 - SUBSTANDARD	
		+ IN DEPTH INSP. +		
			Y/N	Freq Date
		Frac. Critical		
		Underwater	60	09/21/2016
		Pinned Asbly.		
		Spec. Feat.		
		+ WATERWAY +		
		Drainage Area (sq. mi.)	1176.0	
		Waterway Opening (sf.)	1900	
		Navigation Control	0 - No nav. control on	
		Pier Protection		
		Nav. Clr. (ft.)	Vert. 0.0	Horiz. 0.0
		Nav. Vert. Lift Bridge Clear. (ft.)		
		MN Scour Code	O - STBL - ACT	Year 2007
		+ CAPACITY RATINGS +		
		Design Load	5 - HS 20	
		Operating Rating	2 - HS TRUCK	32.5
		Inventory Rating	2 - HS TRUCK	19.4
		Posting VEH:	SEMI:	DBL:
		Rating Date	01/14/2015	
		Overweight Permit Codes		
		A	N - N/A	B N - N/A
			C	N - N/A
+ STRUCTURE +	+ RDWY DIMENSIONS +			
Service On 1 - Highway Service Under 5 - Waterway Main Span Type 4 - Steel Continuous Main Span Design 01 - Beam Span Main Span Detail Appr. Span Type Appr. Span Design Appr. Span Detail Skew 20 RIGHT Culvert Type Barrel Length Cantilever ID Number of Spans MAIN: 3 APPR: 0 TOTAL: Main Span Length 80.0 ft. Structure Length 212.6 ft. Deck Width (Out-to-Out) 42.2 ft. Deck Material 1 - Concrete Cast-in-Place Wear Surf Type 1 - Monolithic Concrete Wear Surf Install Year Wear Course/Fill Depth 0.00 ft. Deck Membrane 0 - None Deck Rebars 0 - None Deck Rebars Install Year Structure Area (Out-to-Out) 8972 sq. ft. Roadway Area (Curb-to-Curb) 7653 sq. ft. Sidewalk Width 50A. Lt 0.00 ft. 50B. Rt 0.00 ft. Curb Height Lt 0.50 ft. Rt 0.50 ft. Rail Type Lt 03 Rt 03	If Divided NB-EB SB-WB Roadway Width 36.00 ft. ft. Vertical Clearance ft. ft. Max. Vert. Clear. ft. ft. Horizontal Clear. ft. ft. Lateral Clearance ft. ft. Appr. Surface Width 36.0 ft. Bridge Roadway Width 36.0 ft. Median Width On Bridge ft.			
		+ MISC. BRIDGE DATA +		
		Structure Flared 0 - No flare Parallel Structure N - No parallel structure Field Conn. ID 4 - Bolted Abutment Foundation (Material/Type) 3 - FTG PILE Pier Foundation (Material/Type) 3 - FTG PILE Historic Status 5 - Not eligible		
		+ PAINT +		
		Year Painted Unsound Paint % Painted Area sq. ft. Primer Type Finish Type		
		+ BRIDGE SIGNS +		
		Posted Load 0 - Not Required Traffic 0 - Not Required Horizontal 1 - Object Markers Vertical N - Not Applicable		

MINNESOTA BRIDGE INSPECTION REPORT

12/21/2016

Inspector: CO Bridge

BRIDGE 30505 CSAH 14 OVER RUM RIVER

County: Isanti	Location: 2.7 MI N OF JCT TH 95	Length: 212.6 ft.
City:	Route: 04 - CSAH 14 Ref. Pt.: 002+00.760	Deck Width: 42.2 ft.
Township: 30003 - CAMBRIDGE	Control Section:	Rdwy. Area/ Pct. Unsnd: 7653 sq. ft. / %
Section: 18 Township: 036N Range: 23W Maint. Area:		Paint Area/ Pct. Unsnd: sq. ft. / %
Span Type: 4 - Steel Continuous 2 -	Local Agency Bridge Nbr.:	Culvert: N/A
List: Stringer/Multi-beam or Girder		Postings:
NBI Deck: 4 Super: 7 Sub: 7 Chan: 7 Culv: N		
	Open, Posted, Closed: A - Open	
	MN Scour Code: O - STBL - ACT REQD	

Appraisal Ratings - Approach: 8	Waterway: 8	Unofficial Structurally Deficient	Y
Required Bridge Signs - Load Posting: 0 - Not Required	Traffic: 0 - Not Required	Unofficial Functionally Obsolete	N
Horizontal: 1 - Object Markers	Vertical: N - Not Applicable	Unofficial Sufficiency Rating	93.3

ELEM NBR	ELEMENT NAME	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
12	Reinforced Concrete Deck	Underwater	12/20/2016	8972 SF	6729	0	2243	0
		Migrated Values		8972 SF	6729	0	2243	0
Notes: 2015- 10% to 25% distressed. Cracks with efflorescence and rust staining. 3-5 cracks per bay (diaphragm to diaphragm & beam to beam). Possible alligator cracking showing up. 2014- 10% to 25% distressed. Cracks with efflorescence and rust staining. 2012- 2% to 10% distressed.								
510	Wearing Surfaces	Underwater	12/20/2016	7653 SF	5357	0	2296	0
		Migrated Values		7653 SF	5357	0	2296	0
Notes: Top of Concrete Deck with Uncoated Rebar Notes: (The area of estimated unsound deck (spalls, delamination, cracks and chain drag) during inspections is divided by the deck area). 2015- More than 25% unsound deck surface. Extensive delamination and spalling with severe crack density. 2014- More than 25% unsound deck surface. Extensive delamination and spalling. 2012- More than 25% unsound deck surface.								
107	Steel Open Girder/Beam	Underwater	12/20/2016	846 LF	0	846	0	0
		Migrated Values		846 LF	0	846	0	0
Notes: 2015- East end is rusting under expansion joint (with some flaking). Element is dusty & granular and with orange speckling. 2014- East end is rusting under expansion joint (with some flaking). Element is dusty & granular and with orange speckling. 2012- East end is rusting under expansion joint.								
515	Steel Protective Coating	Underwater	12/20/2016	999 SF	0	0	999	0
		Migrated Values		999 SF	0	0	999	0
Notes: [2016] Migrator assumed quantity of 999 SF and estimated the condition states.								
210	Reinforced Concrete Pier Wall	Underwater	12/20/2016	39 LF	39	0	0	0
		Migrated Values		39 LF	39	0	0	0
Notes: 2015- Has minor scaling at water level. Debris has been removed. 2014- Remove debris and trees from west pier. Has minor scaling. 2012- Remove debris and trees from west pier.								

BRIDGE 30505 CSAH 14 OVER RUM RIVER

ELEM NBR	ELEMENT NAME	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
215	Reinforced Concrete Abutment	Underwater	12/20/2016	125 LF	30	95	0	0
		Migrated Values		125 LF	30	95	0	0
<p>Notes: [2016] Migrator added 40 LF to abutment quantity to account for wingwalls (CS1:30 CS2:10 CS3:0 CS4:0). 2015- Minor delamination and moderate sized cracks (top and front face) under girders east abutment, between girders west abutment. 1-2 vertical hairline cracks per beam bay for both abutments. 2014- Minor delamination and moderate sized cracks (top and front face) under girders east abutment, between girders west abutment. Wingwall notes: 2015- SE end has minor spall. 2014- SE end has minor spall. 2012- SE end has minor spall.</p>								
234	Reinforced Concrete Pier Cap	Underwater	12/20/2016	85 LF	85	0	0	0
		Migrated Values		85 LF	85	0	0	0
<p>Notes: 2015- Rust staining (dripped) running under girders. 2014- Rust staining (dripping) running under girders.</p>								
301	Pourable Joint Seal	Underwater	12/20/2016	105 LF	105	0	0	0
		Migrated Values		105 LF	105	0	0	0
<p>Notes: 2015- Sealant properly adhered. delamination adjacent to joint. 2014- Sealant properly adhered. delamination adjacent to joint.</p>								
305	Assembly Joint without Seal	Underwater	12/20/2016	43 LF	0	43	0	0
		Migrated Values		43 LF	0	43	0	0
<p>Notes: 2015- Sliding plate leaking with moderate corrosion underneath, delamination adjacent to joint. 2014- Sliding plate leaking with moderate corrosion, delamination adjacent to joint.</p>								
311	Movable Bearing	Underwater	12/20/2016	12 EA	4	8	0	0
		Migrated Values		12 EA	4	8	0	0
<p>Notes: (Expansion at both abuts. and east pier) 2015- Sliding plate rusted with section loss. Slide plates worn at abutments. Components properly positioned. East pier exp. bearings appear in good condition. 2014- Sliding plate rusted with section loss. Slide plates worn at abutments. Components properly positioned. East pier exp. bearings appear in good condition. 2012- Rusted with section loss. Slide plates worn.</p>								
313	Fixed Bearing	Underwater	12/20/2016	4 EA	4	0	0	0
		Migrated Values		4 EA	4	0	0	0
<p>Notes: (West pier fixed) 2015- Pier bearings appear in good condition. 2014- Pier bearings appear in good condition.</p>								
331	Reinforced Concrete Bridge Railing	Underwater	12/20/2016	423 LF	0	273	150	0
		Migrated Values		423 LF	0	273	150	0
<p>Notes: 2015- Approx. 150 ft. of north curb face has extensive cracking and delamination with approx. 30 ft. spalled with exposed rebar. Most posts on both sides have cracks with rust staining. South curb face in fair condition with small spots of Minor delamination and rust staining. 2014- Minor delaminations and spalling . (North is worse than South) 2012- Minor delaminations.</p>								

BRIDGE 30505 CSAH 14 OVER RUM RIVER

ELEM NBR	ELEMENT NAME	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
800	Critical Deficiencies or Safety Hazards	Underwater	12/20/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes: No critical structural deficiencies or serious safety hazards are present on this structure.								
810	Concrete Decks - Cracking & Sealing	Underwater	12/20/2016	0 LF	0	0	0	0
		Migrated Values		0 LF	0	0	0	0
Notes: 2015- Surface cracks of severe size and density.								
2014- Surface cracks of severe size and density.								
2012- Surface cracks of moderate size and density.								
822	Bituminous Approach Roadway	Underwater	12/20/2016	2 EA	0	2	0	0
		Migrated Values		2 EA	0	2	0	0
Notes: 2015- Both ends slightly uneven. Potholes patched.								
2014- Both ends slightly uneven. Potholes patched.								
2012- Bumps and potholes.								
855	Secondary Members (Superstructure)	Underwater	12/20/2016	30 EA	26	4	0	0
		Migrated Values		30 EA	26	4	0	0
Notes: (Used for diaphragms)								
2015- The east diaphragms have rust flaking due to the expansion joint leakage.								
2014- The east diaphragms have rust flaking due to the expansion joint leakage.								
2012- The E. diaphragms have rust flaking due to the expansion joint.								
883	Concrete Shear Cracking	Underwater	12/20/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes: Use this element to monitor the presence of shear cracking on concrete elements. Pay particular attention to the concrete pier caps.								
885	Scour	Underwater	12/20/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes: 2012- Underwater inspection on July 27, 2012.								
891	Other Bridge Signing	Underwater	12/20/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
892	Slopes & Slope Protection	Underwater	12/20/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
893	Guardrail	Underwater	12/20/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes: 2015- 2 posts have rotted or broke at ground line SE rail.								
2014- Fixed.								
2012- The end post on the SE rail is rotted.								
894	Deck & Approach Drainage	Underwater	12/20/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0

BRIDGE 30505 CSAH 14 OVER RUM RIVER

ELEM NBR	ELEMENT NAME	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
895	Sidewalk, Curb, & Median	Underwater	12/20/2016	1 EA	0	0	0	1
		Migrated Values		1 EA	0	0	0	1

Notes: 2015- Curb face is spalling with exposed rebar. Especially the north side.
 2014- Curb face is spalling with exposed rebar.
 2012- Curb face is deteriorating.

900	Protected Species	Underwater	12/20/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0

Notes: Use this element to track the presence of protected species living on this structure.

General Notes: Abutment bearings are cleaned with wire brush and sprayed with anti-rust lubricant annually for some years now.

58. Deck NBI: 2015- 4, >25% unsd, extensive delamination & spalling on surface and cracks with efflorescence and rust staining under deck.
 2014- 4, >25% unsd, extensive delamination & spalling on surface and cracks with efflorescence and rust staining under deck.

36A. Brdg Railings NBI:
 36B. Transitions NBI:
 36C. Appr Guardrail NBI:
 36D. Appr Guardrail Terminal NBI:

59. Superstructure NBI: 2015- 7, Isolated deterioration, east end under expansion joint rusting.
 2014- 7, Isolated deterioration, east end under expansion joint rusting.

60. Substructure NBI: 2015- 7, Piers; minor scaling at water level. Abutment; moderate cracking-no spalls.
 2014- 7, Piers; minor scaling. Abutment; moderate cracking-no spalls.

61. Channel NBI: 2015- 7, Minor bank erosion
 2014- 7, Minor bank erosion

62. Culvert NBI:

71. Waterway Adeq NBI:
 72. Appr Roadway Alignment NBI:

Inventory Notes: Underwater inspection on July 27, 2012.

 Inspector's Signature

 Reviewer's Signature

Pictures



Photo 1 - Overall View of Downstream Fascia, Looking South



Photo 2 - Overall View of Upstream Fascia, Looking Northwest

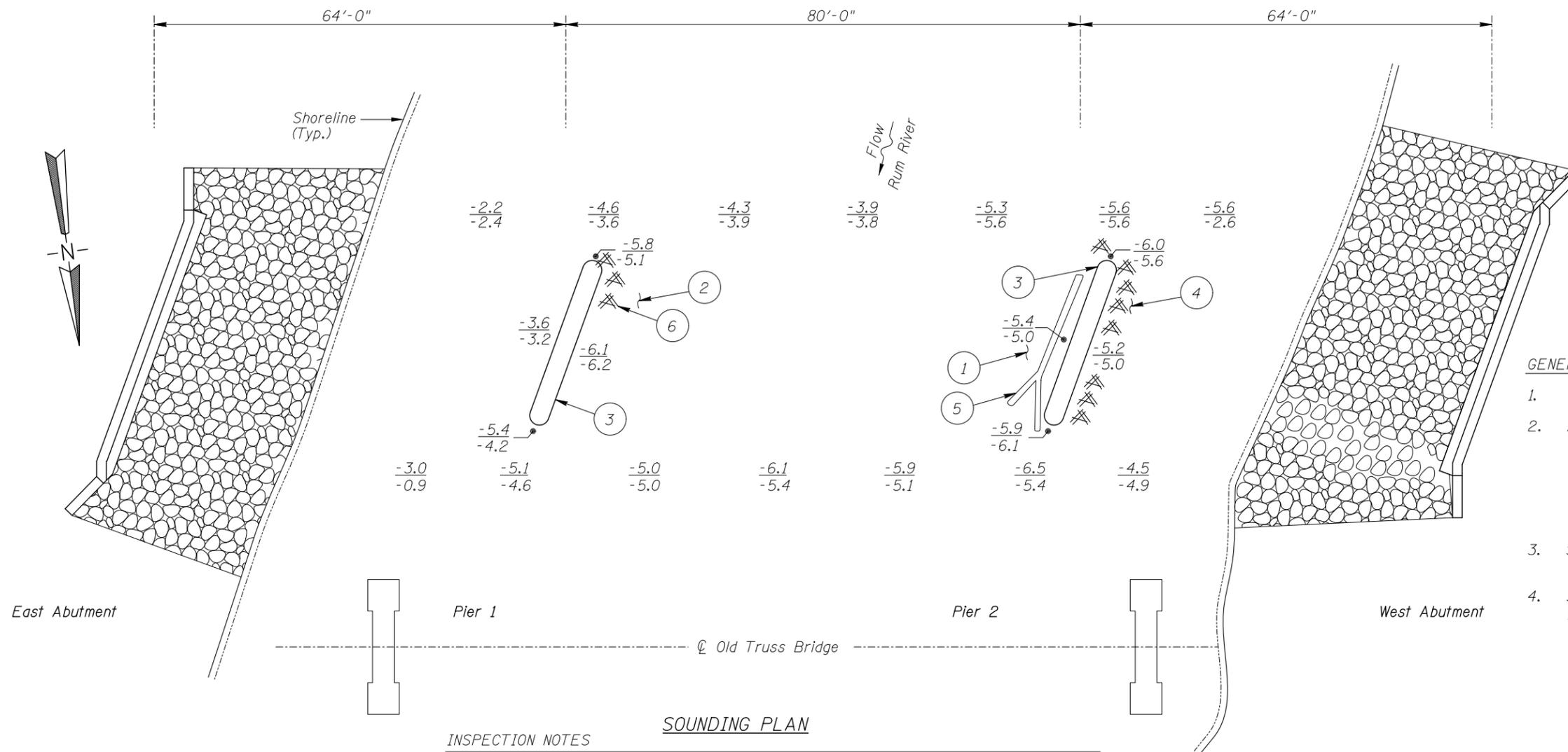
Pictures



Photo 3 - View of Pier 1, Looking East



Photo 4 - View of Pier 2, Looking West



GENERAL NOTES:

1. Piers 1 and 2 were inspected underwater.
2. At the time of inspection on September 21, 2016, the waterline was located approximately 15.6 feet below the top of the pier cap of Pier 1 at the downstream end. Since insufficient bridge elevation information was available a reference elevation of 100.0 was assumed. Based on the assumed reference the waterline elevation was 84.4.
3. Soundings indicate the water depth at the time of inspection and are measured in feet.
4. Soundings were taken parallel to the bridge at 1/4 point intervals between the substructure units.

INSPECTION NOTES

- 1 The channel bottom consisted of sand, gravel, and 4-inch-diameter cobbles allowing up to 1 inch of probe rod penetration.
- 2 The channel bottom consisted of silty sand allowing up to 3 inches of probe rod penetration.
- 3 A band of light scaling was observed around the entire perimeter of Piers 1 and 2 extending from the waterline to the channel bottom with typical penetrations of 1/8 inch and maximum penetrations of up to 1/4 inch at the upstream noses.
- 4 A moderate accumulation of timber debris, consisting of 9-inch-diameter and smaller logs and branches, was observed along the upstream nose and west face of Pier 2 and extended from the channel bottom to 3 feet above the waterline and up to 5 feet out from the pier.
- 5 A log up to 1 foot in diameter was present along the east face of Pier 2 extending from 1 foot below the waterline to 1 foot above the waterline.
- 6 A minor accumulation of timber debris, consisting of smaller sticks and branches, was observed at the upstream nose of Pier 1 and extended from the channel bottom to approximately 6 inches above the channel bottom.

Legend

- 6.0 Sounding Depth (9/21/16)
- 6.0 Sounding Depth (7/27/12)

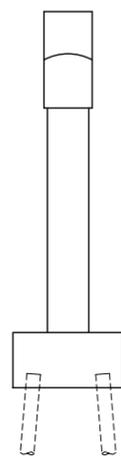
Timber Debris

Riprap

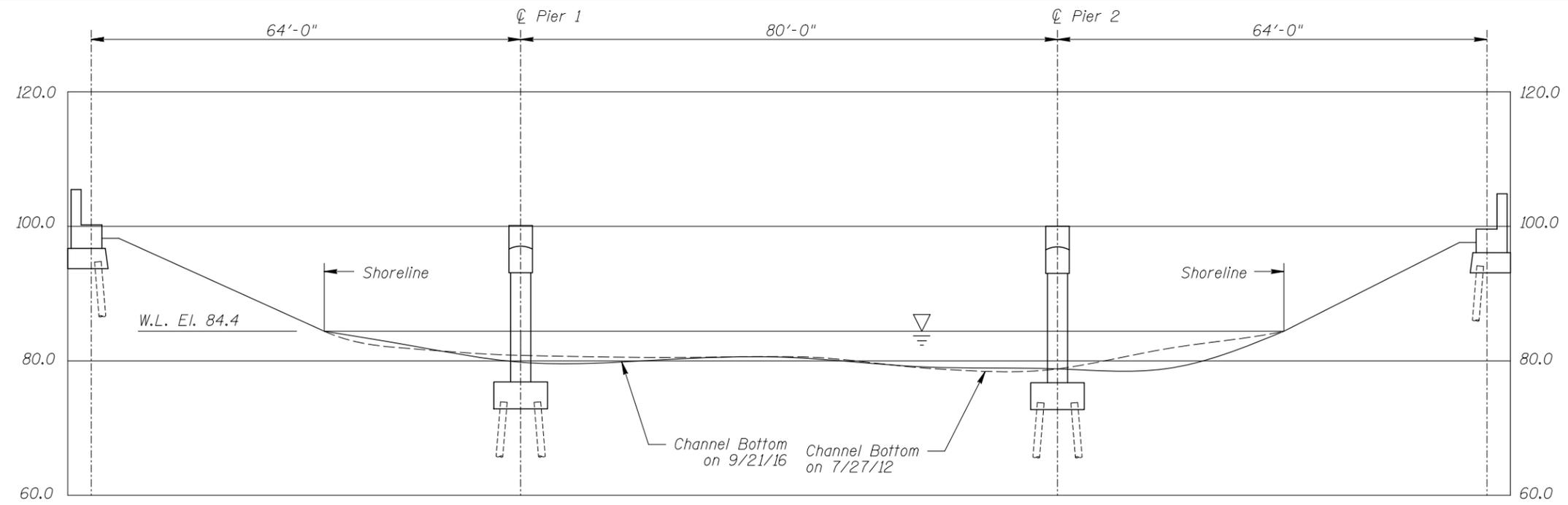
Notes:

All soundings based on 2016 waterline location.

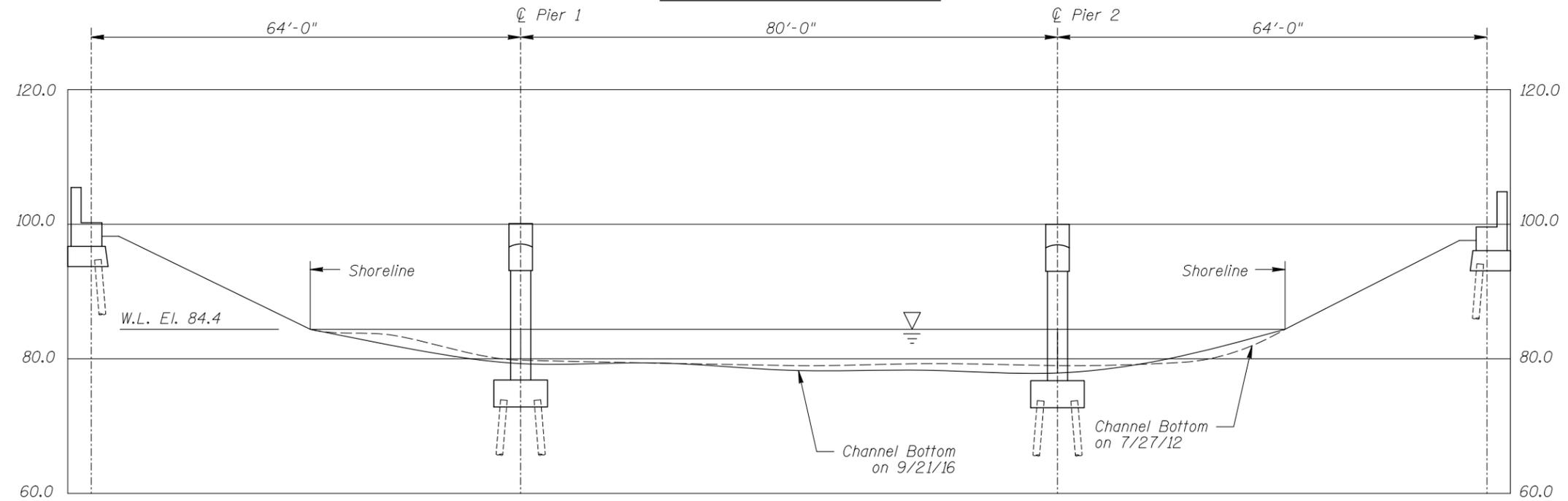
TYPICAL END VIEW OF PIERS



MINNESOTA DEPARTMENT OF TRANSPORTATION UNDERWATER BRIDGE INSPECTION		
STRUCTURE NO. 30505 OVER THE RUM RIVER DISTRICT 3, ISANTI COUNTY		
INSPECTION AND SOUNDING PLAN		
Drawn By: BMS	COLLINS ENGINEERS	Date: NOV., 2016
Checked By: DGS	<small>123 North Wacker Drive Suite 900 Chicago, IL 60606 (312) 704-9300 www.collinsengr.com</small>	Scale: NTS
Code: 968730505		Figure No.: I



UPSTREAM FASCIA PROFILE



DOWNSTREAM FASCIA PROFILE

Notes:
Refer to Figure 1 for General Notes.

MINNESOTA DEPARTMENT OF TRANSPORTATION UNDERWATER BRIDGE INSPECTION		
STRUCTURE NO. 30505 OVER THE RUM RIVER DISTRICT 3, ISANTI COUNTY		
UPSTREAM AND DOWNSTREAM FASCIA PROFILES		
Drawn By: BMS	COLLINS ENGINEERS <small>123 North Wacker Drive Suite 900 Chicago, IL 60606 (312) 704-9300 www.collinsengr.com</small>	Date: NOV., 2016
Checked By: DGS		Scale: 1"=20'
Code: 968730505		Figure No.: 2