

Highway Bridge Inspection Report

JAMES ANDREW GRIFFITH

**Route 1
over**



Inspection Date: 11/08/2019

Inspected By: Engineering Childs

Inspection Type(s): Underwater

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Inspector: Engineering Childs

Inspection Date: 11/08/2019

Structure Number: 2786

Facility Carried: Route 1

Highway Bridge Inspection Report

Location Map



Latitude:

Longitude:

Underwater Dive Inspection Report

Structure Number: 2786

Bridge Name: JAMES ANDREW GRIFFITH

Town 1: 13170 - Warren

Town 2: 13140 - Thomaston

Division: Rockland

DiveID:

☒ Tidal:

Location: 4 MI E. OF RTE. 90

Tide Information: Dove on a rising tide @ 1400, strong currents toward end of dive.

Photos:

Dive Entry Location: Jon boat dive- entered near clearing on the eastern side of the bridge.

Yes

Scour: 7

Comments/Hazards:

Tidal-strong currents dive @ slack high tide-possible boat traffic. Marine contractor located along east side of bridge
Missed slack tide - strong current
watch for submerged timber piles in river. exposed steel H-pile in northern side of seal.
Long walk with equipment through mud flat if diving at low slack tide.

Streambed Description:

Marine clay- hard packed gravel with scour hole 4 feet long x 1 foot wide x 2 feet deep on the north end of the pier.

Channel Description:

Small localized scour holes around base of pipe piles. The pier is aligned in the center of the riverbed. Both abutments are well protected with rip rap and dry at the time of inspection. Center of channel is deeper around base of pier piles.

Substructure Description:

Bridge is a 2 span-pipe pile pier with concrete cap. Thin layer of algae growth & barnacles on piles. Cleans away easily, slight scour bowl shape around each pile. Depth is consistent in pier area. Coating failing in some areas (5%) rustling in some areas around coating failure.

2011: Coating failure in tidal zone continues - now rusting into steel pile. Deep pitting. Coating ok below low water. Thin marine algae growth on piles.

2015: Coating failure of piles in tidal zone is substantial. Lowered Substructure rating to "5"

2019: The abutments are protected with rip rap and appears to be stable. both abutment during the inspection were dry. The coating failure in and above the tidal zone continues to deteriorate on the above water sections of the pipe piles. The top 8' of pipe piles have localized to widespread coating failure that ranges from 20 to 40 percent into vertical piles and 75 to 100 percent to the batter piles. Below water the coating remains is mostly intact with one exception, the north batter pile is 75 percent coated with 3 areas with localized coating, corrosion nodules that are up to 6 inches in diameter that have advanced section loss and exposed concrete fill. The concrete seal extends out roughly 5 feet and is exposed 12 inches along both pier faces. There is an exposed H-pile extending out of the concrete seal adjacent to pile 3 on the west side. The top of the seal is noted to be uneven with variation in height up to 40 inches. There is scour along the north upriver side of the seal that is 4 foot x 4 foot wide x 2 foot deep.

Inspection Team:

Iantosca

Role:

TL,SD

Cavanaugh

D

Klier

T

Dive Conditions:

Time: Entry: 1400 AM/PM pm

Time: Exit: 1521 AM/PM pm

Water Temp: 47

Visibility (ft): 1'-2'

Max Depth (ft): 12'

Current: 1

Weather: Sunny

Underwater Inspection Date: 11/04/2019

Channel Condition: 4

Substr/Culvert Condition: 8

Inspection Cycle:

Ratings Comments:

Sub structure rating lowered to a 4, North batter pile has 3 corrosion holes with advance section loss exposing concrete fill. Repairs to the northern steel pipe piles should be made.

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Pictures



PHOTO 1 Other

Description Overall of bridge looking north.



PHOTO 2 Elevation

Description Eastern abutment looking northeast.

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Pictures



PHOTO 3 Elevation

Description Western abutment looking northwest.



PHOTO 4 Elevation

Description Pier west face.

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Pictures



PHOTO 5 Elevation

Description Pier east face.



PHOTO 6 Condition

Description North batter pile with 100% coating loss above water.

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Pictures

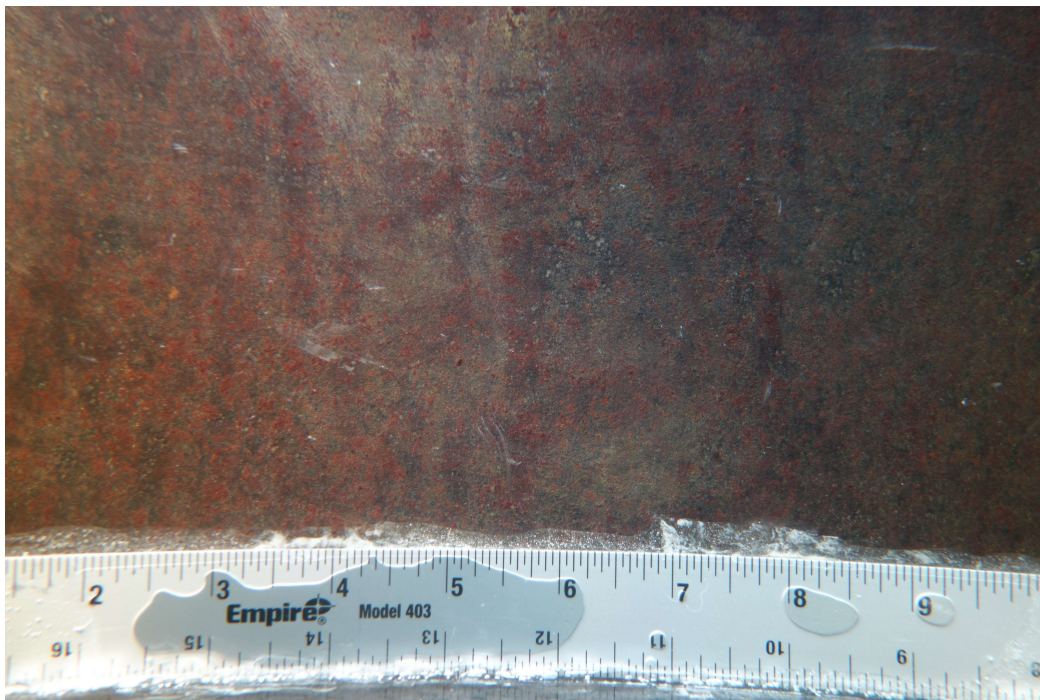


PHOTO 7 Condition

Description North batter pile with 100% coating loss in tidal zone

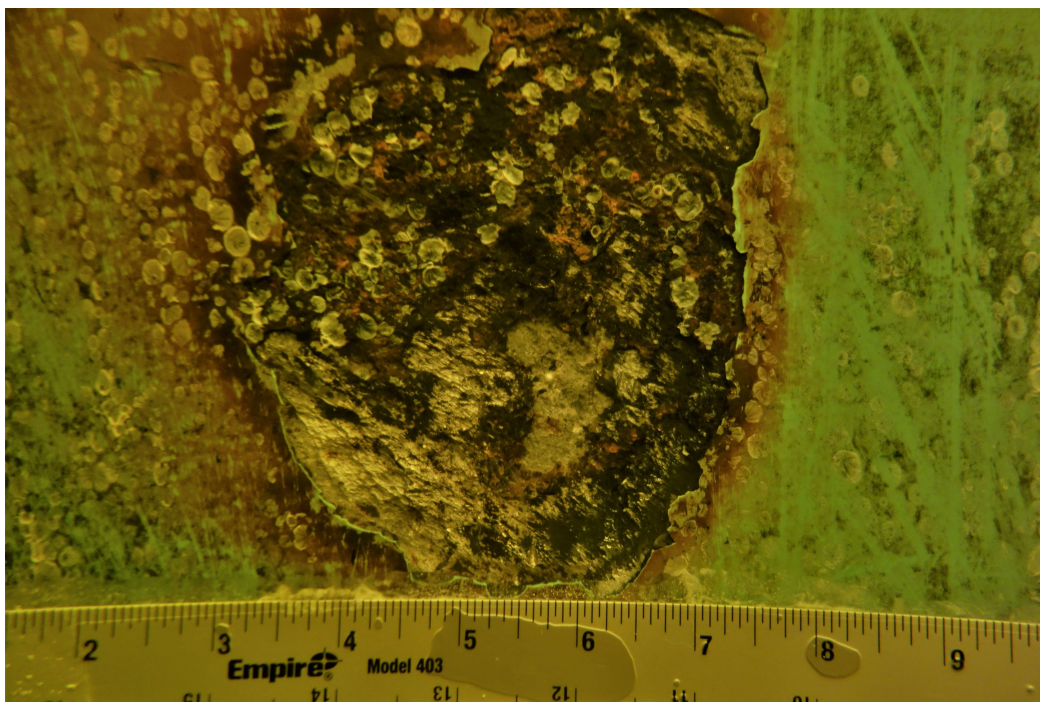


PHOTO 8 Condition

Description One of three, corrosion holes in northern batter pipe pile below water.

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Pictures

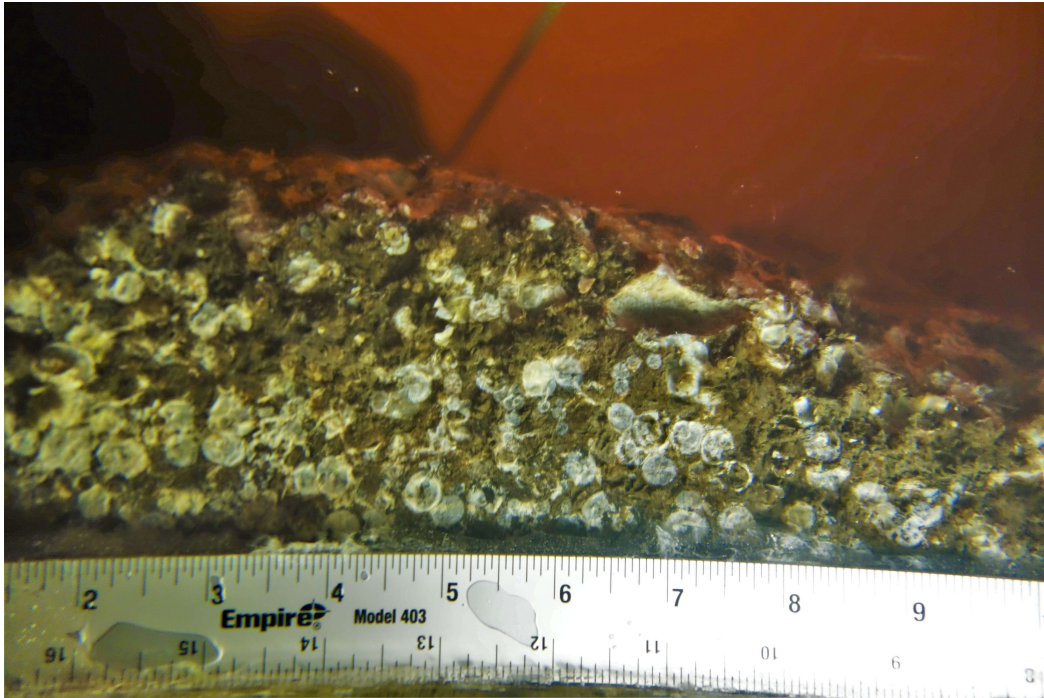


PHOTO 9 Condition

Description Exposed concrete seal on north side of pier in good condition with moderate marine growth.

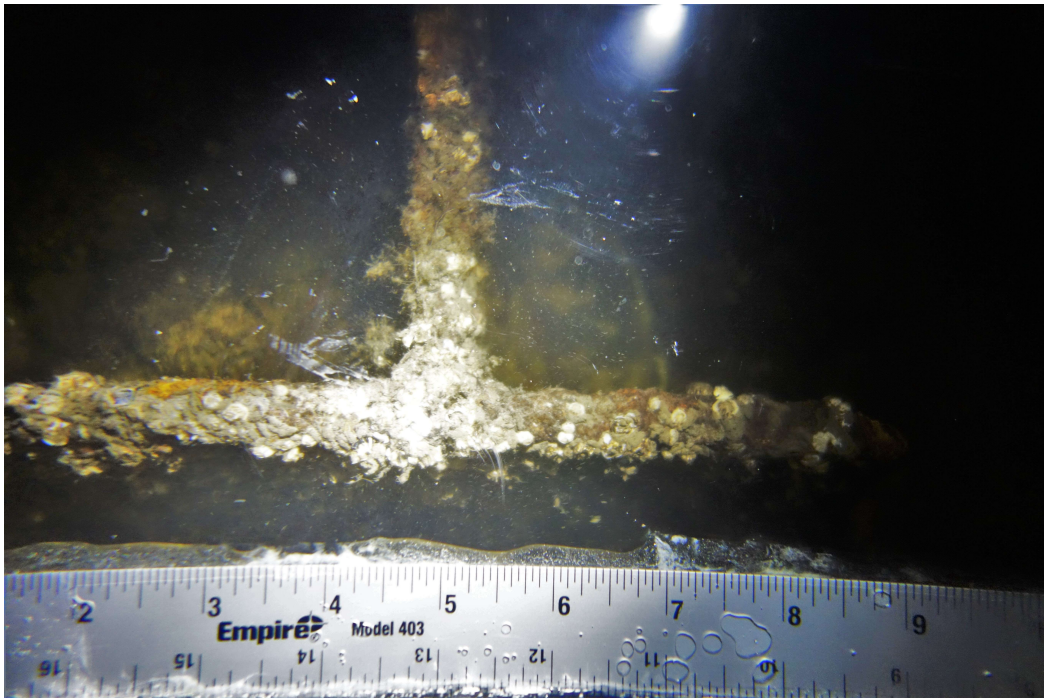


PHOTO 10 Condition

Description Exposed steel H-Pile in concrete seal located adjacent to pile #3 on north side of pier.

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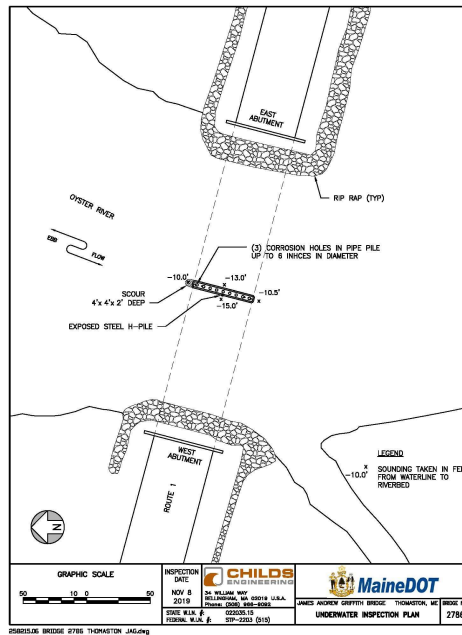


PHOTO 11 Condition

Description Condition plan.