

Nondestructive Evaluation of Cracking on Steel Bridges and Bridge Preservation Decision-Making

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MWBPP Meeting

Kansas City, MO

October 1, 2015

Horizontal Stiffener Fatigue Crack

KY 117 over I 24 in 1987



Resolution of Horizontal Stiffener Problem



Steps for Addressing Cracking on Steel Bridges

1. Identify problem or concern
2. Determine effective NDE method(s)
3. Develop a remedial action
4. Apply on pertinent bridges/structural members

US 23 Silver Bridge December 15, 1967



St. Marys Bridge WV807



Hercilio Luz Bridge Florianopolis Brazil



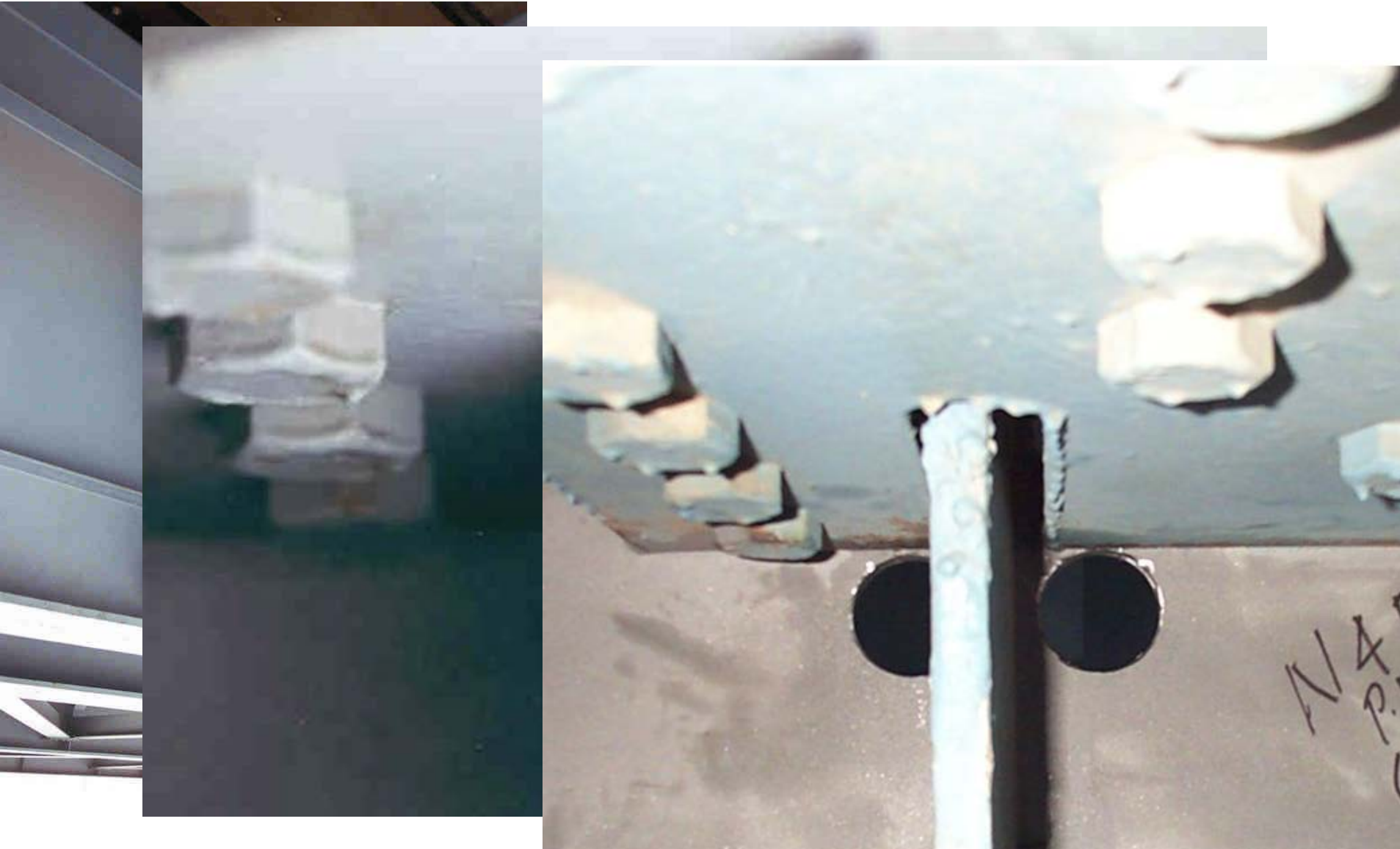
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I-794 Hoan Bridge December 13, 2000



Hoan Bridge Fracture and Repair



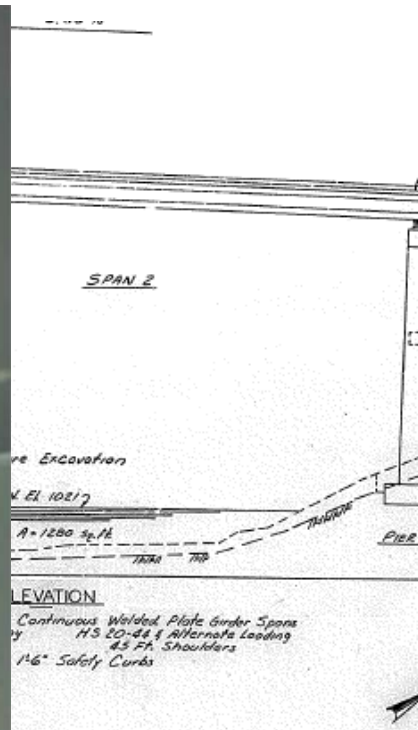
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I-75 Twin Bridges over Lynn Camp Creek in Whitley County, KY 2012 & 2014

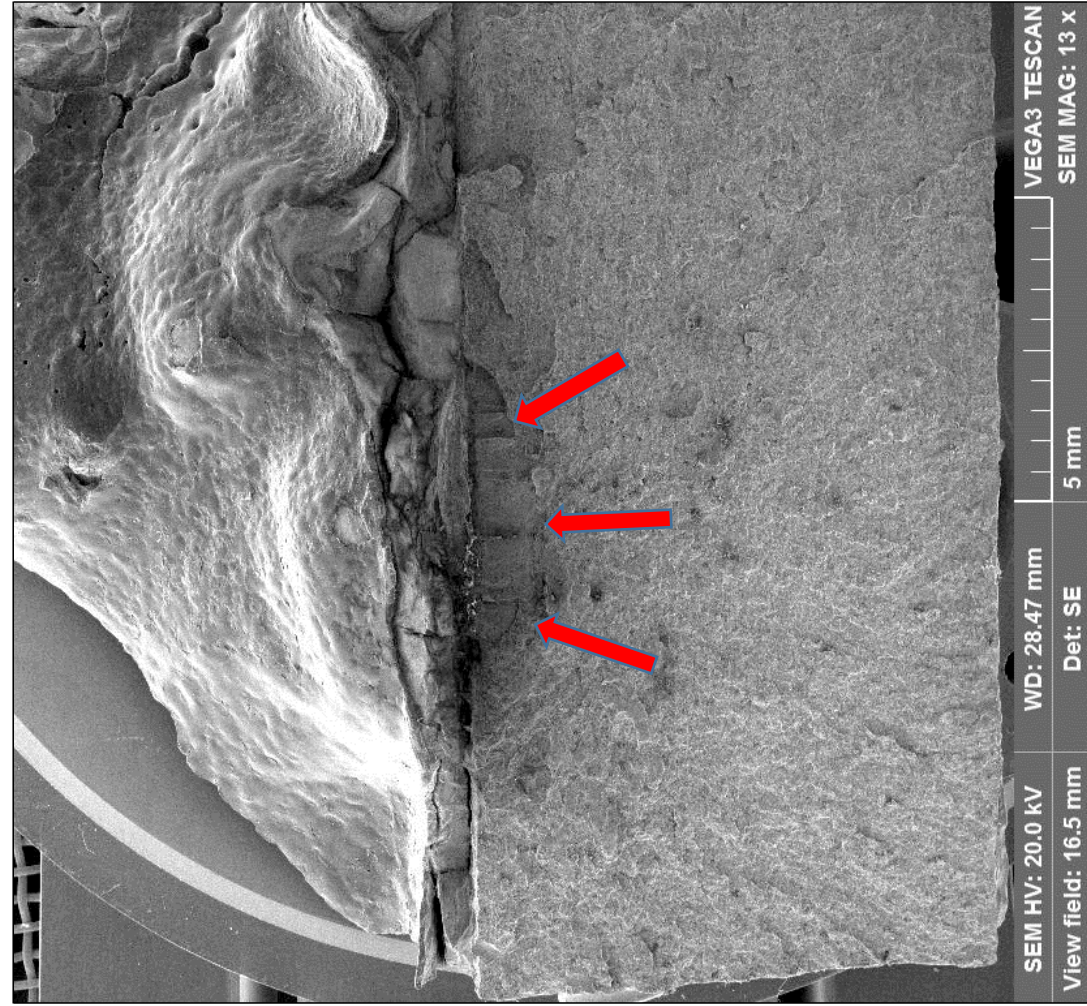
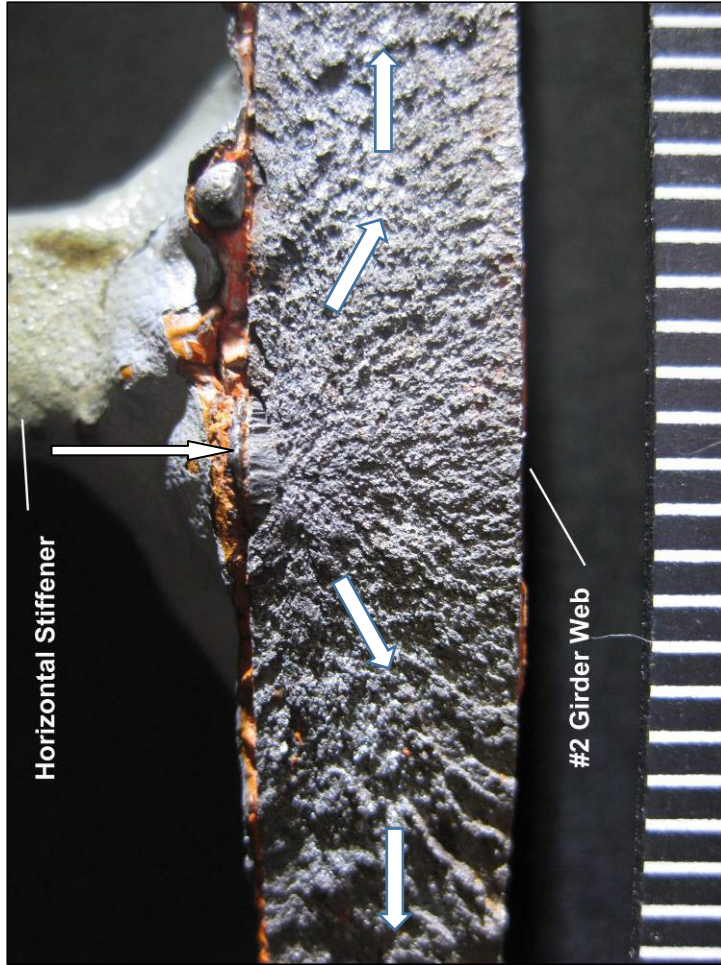


2012 Fractures on N.B. and S.B. Bridges



2014 Fractures on N.B. Bridge

Fracture Origin



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I 64 Sherman Minton Bridge 2010-2012



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I 65 JFK Bridge 1991-1994



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Summary

- A simple four-step model can be used for studying the application (or not) of NDE
- Identifying problems or concerns is an important step in determining follow-up actions
- The ability to use NDE can factor in both repair and bridge replacement decision-making

Thank You!!

The End

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Kentucky Transportation Center