

WELL TIMED BRIDGE PRESERVATION

2016 Midwest Bridge Preservation Partnership
Annual Meeting



NEBRASKA

Good Life. Great Journey.

DEPARTMENT OF ROADS

Mark Traynowicz

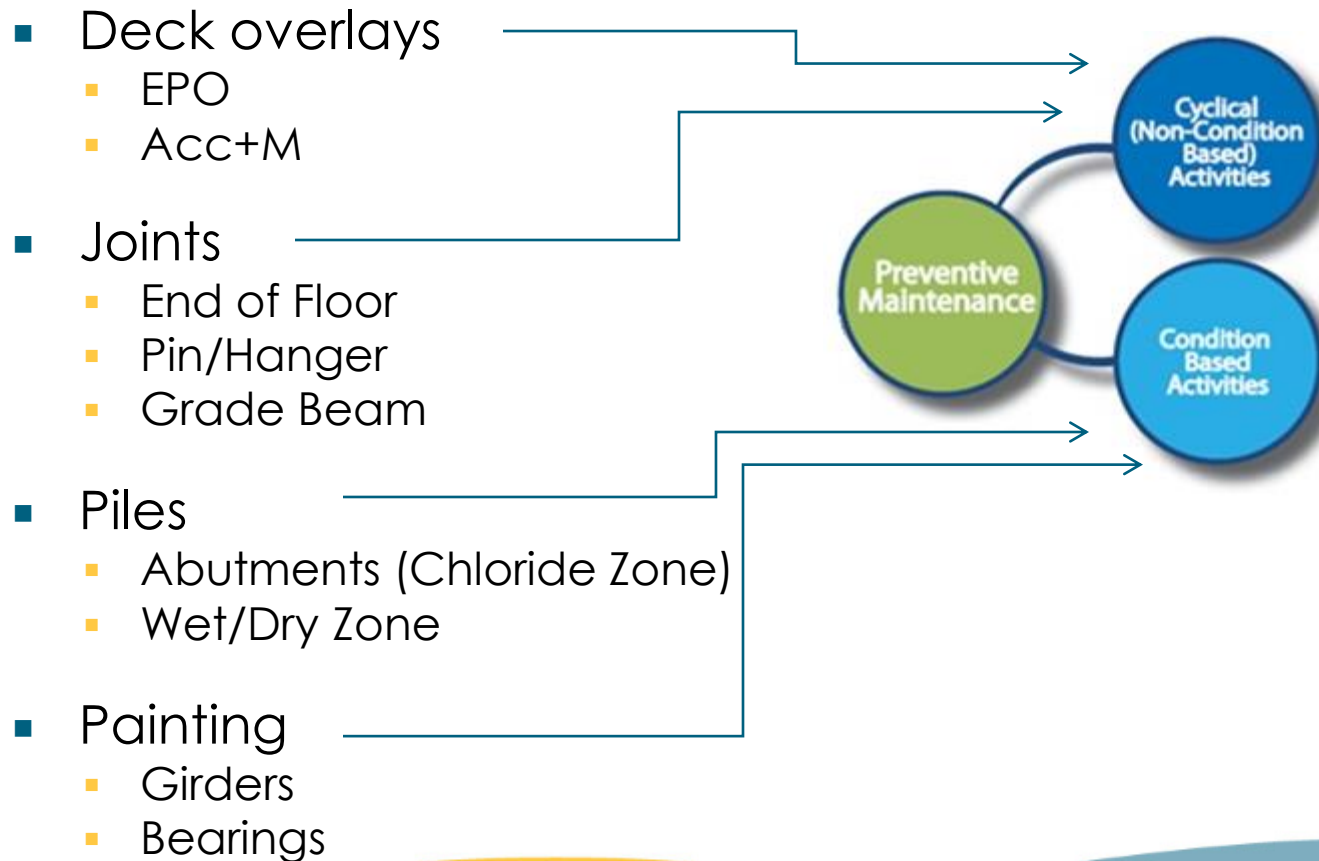
October 4, 2016

FHWA – Bridge Preservation Guide



FHWA – Bridge Preservation Guide

Preventive Maintenance



Nebraska Preservation

- **Design with preservation in mind**
- **Jointless bridges**
- **Deck protection on good decks**

- **Old way of doing business**
- **New ideas**

- **One Deck for Life**



Well-Timed Preservation

ONE DECK FOR LIFE

- **Re-decking NU Girders will be challenging**



Well-Timed Preservation

CASE STUDY

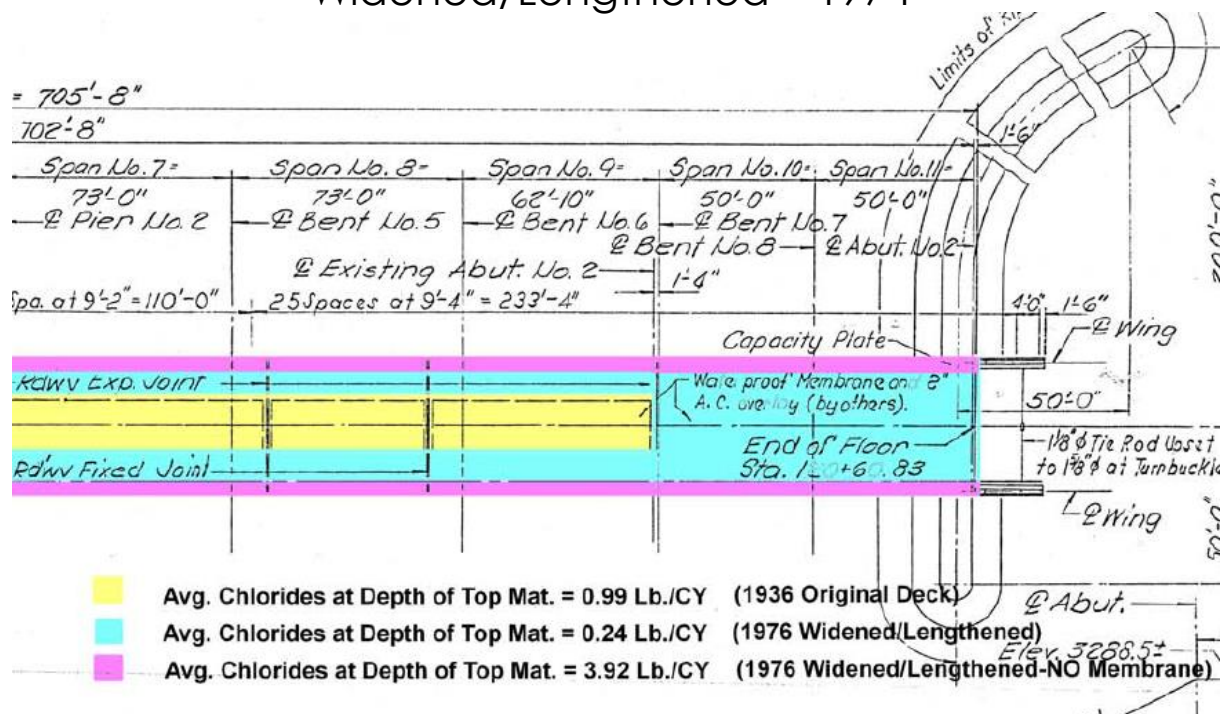
SL51 A00068 – Brule, NE over Platte River
Built – 1934
Widened/Lengthened – 1974



Well-Timed Preservation

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Only deck area deteriorated is along the deck edge



Well-Timed Preservation

CASE STUDY

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Original
Deck
Region



Well-Timed Preservation

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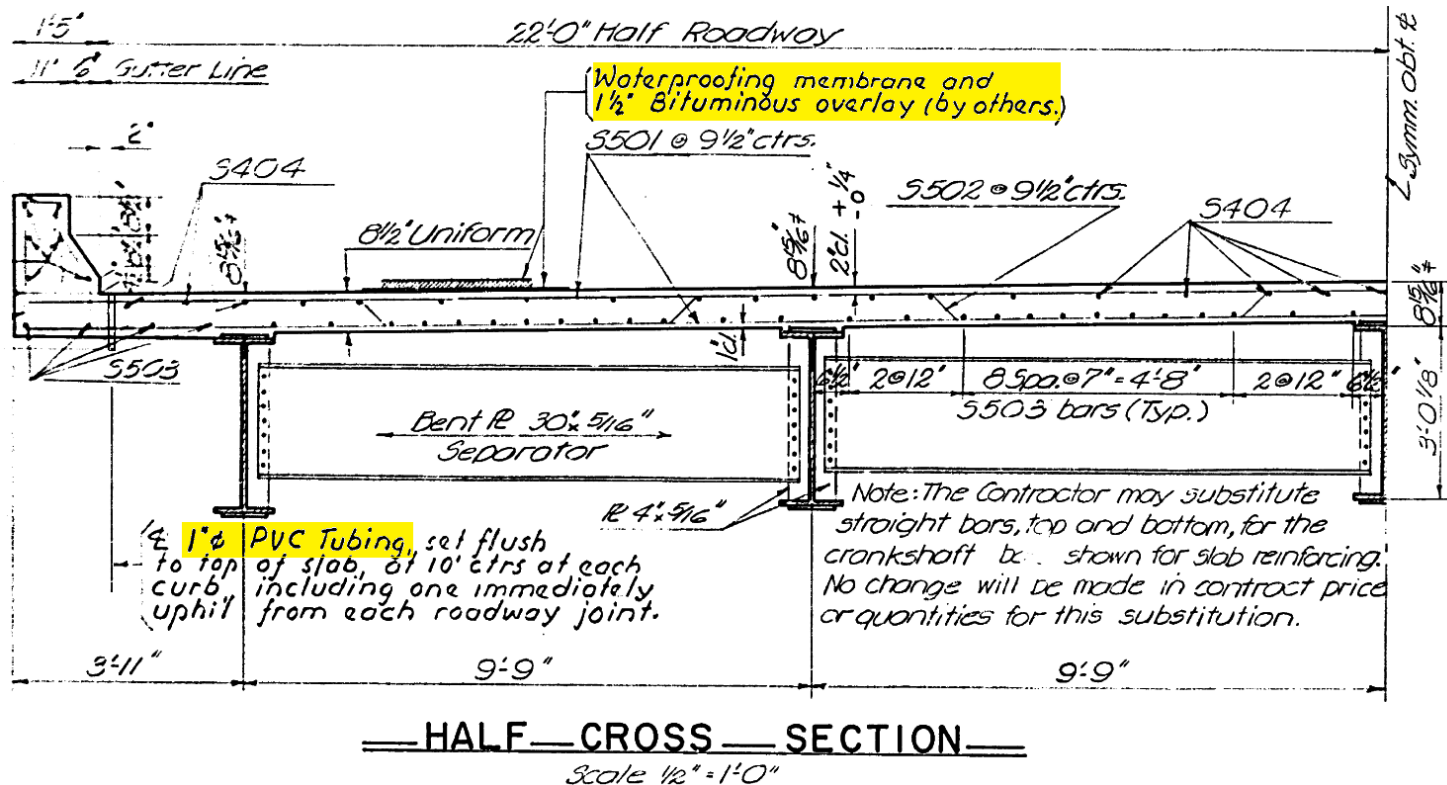
Widened
Deck
Region



Well-Timed Preservation

ONE DECK FOR LIFE

- 1970's – 26 bridges built with Fabric Membrane



Well-Timed Preservation

ONE DECK FOR LIFE

- **1970's – 26 bridges built with Fabric Membrane**



Preservation – Bridge Decks

Deck Overlays - EPO



Preservation – Bridge Decks

Deck Overlays – Fabric Membrane, Option 1



Preservation – Bridge Decks

Deck Overlays – Fabric Membrane, Option 2
2-ply fabric w/ PG Binder



Preservation – Bridge Decks

Deck Overlays – Liquid Membrane



Preservation – Bridge Decks

Deck Overlays – Asphalt Placement



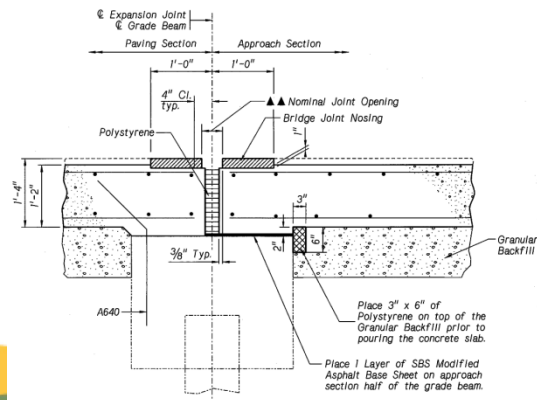
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Joints – Asphalt Plug



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Joints – Polymer Nosing



Preservation – Bridge Decks

Deck Overlays – Membrane Candidate



Preservation – Bridge Decks

Deck Overlays – Membrane Candidate

Tining Depth Gage – Determine
Extent of Deck Prep.



Preservation – Joints and Bearings

Joints



Preservation – Joints and Bearings

Joints



Preservation – Joints and Bearings

Joints









Preservation – Joints and Bearings

Joints



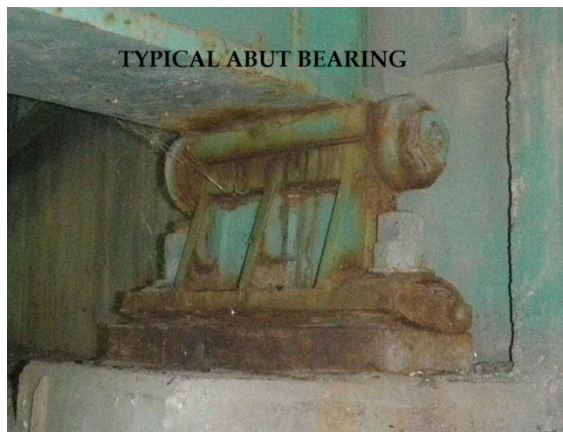
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Joints – Started collecting Element Data in 2014

Defects	Condition States			
	1	2	3	4
	GOOD	FAIR	POOR	SEVERE
Leakage (2310)	None.	Minimal. Minor dripping through the joint.	Moderate. More than a drip and less than free flow of water.	Free flow of water through the joint.
	*			
Seal Adhesion (2320)	Fully adhered.	Adhered for more than 50% of the joint height.	Adhered 50% or less of joint height but still some adhesion.	Complete loss of adhesion.
Seal Damage (2330)	None.	Seal abrasion without punctures.	Punctured or ripped or partially pulled out.	Punctured completely through, pulled out, or missing.
Seal Cracking (2340)	None.	Surface crack.	Crack that partially penetrates the seal.	Crack that fully penetrates the seal.
	*			

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Paint Bearings



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Turndowns & Approaches



Preservation - Piling

Piles



Preservation - Piling

Piles



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ONE DECK FOR LIFE

- **Membrane on New Bridges**



Questions?

