FOR CONTRACT NO.: 02-1E6704

INFORMATION HANDOUT

MATERIALS INFORMATION

LAKE BRITTON PAINT INSPECTION REPORT

ROUTE: 89-Sha-29.2

Lake Britton Paint Inspection Report
Prepared by John C. Rogers (July 3, 2008)

On April 15, 2008, I inspected the existing coating system on the Lake Britton structure (No. 06-0052, 02-Sha-089-28.19). I was able to climb down and visually inspect the coating system in Spans 2 and 4. Lacking the aid of a UBIT, I was not able to perform a close up inspection of the coating system on the steel members in the main span (Span 3) over the lake. My inspection comments are noted below.

Coating History

- Bridge was built in 1938. SMI does not have any information on the original paint system applied in 1938
- Bridge was repainted in 1957. The bridge was spot blast cleaned and repainted with red lead primer paints and aluminum finish paints
- Bridge was last painted in 1984. The bridge was spot blast cleaned and repainted with waterborne primers and waterborne green finish coat paints.
- Bridge paint area = 66,875 square feet; railing paint area = 5,300 square feet. The total paint area on the structure = 72, 175 square feet.

Inspection Comments

The existing coating system on the Lake Britton structure is deteriorating at numerous locations on the bridge. The purpose of this inspection was to assess whether the existing coating system could be spot blast cleaned and overcoat painted, or if full removal of the existing system and repainting was warranted. If a structure has more than 20% rust throughout the entire structure, then the entire existing coating system is usually completely removed by abrasive blasting. After the blasting operation is completed, the bridge is repainted with 2 coats of primer paint and 2 coats of finish paint.

The floorbeams in Spans 2 and 4 (and what I could see in Span 3) all have heavy rusting along the top flange with rusting also along the lower flange edges. The floorbeam webs have rust staining consistent on all floorbeam members. The paint deterioration on the floor beams appears to be caused partly by clogged deck drains and water seepage from the deck on to the floorbeams

Rust was observed on the stringer lower flange edges and beneath the lower flange of several stringers in Spans 2, 3 and 4.

There is heavy rusting with some section loss at several of the lower chord gusset plate connections. I didn't observe the section loss up close, but I saw Tim Campbell's pictures of the rusting and section loss from his recent UBIT inspection.

There is also heavy rusting with some section loss on the lower chord web in Span3 (See Tim Campbell's 8-6-07 and 9-11-07 photos).

Lastly, there is light rusting on several of the top and lower lateral bracing and sway frame members.

Surface Area Summary (From SMI Surface Area Records)

Top Chord	9,266 square feet
Lower Chord	8,557 square feet
Verticals	6,998 square feet
Diagonals	6,865 square feet
Floor Beams	4,169 square feet
Stringers	14,510 square feet
Top Lateral Bracing	2,312 square feet
Lower Lateral Bracing	4,570 square feet
Lower Struts	1,718 square feet
Sway Frames	3,910 square feet
Railing	5,300 square feet
Total Structural Steel	72,175 square feet

Paint Work Recommendation

On page 1 of this report it was noted that the full removal option is chosen if the total area of rust on the bridge exceeds 20% of the total surface area.

Abrasive blast cleaning will be required at almost all floorbeam locations, at lower chord locations in Span 3, at stringer lower flange edge locations in all Spans, and at several lateral bracing and sway frame member locations.

I think the total area that will require blast cleaning will be in the range of 15-20% of the total surface area. Thus, I recommend that the entire existing coating system be removed and the bridge be repainted with a 4-coat paint system.

Cost Estimate

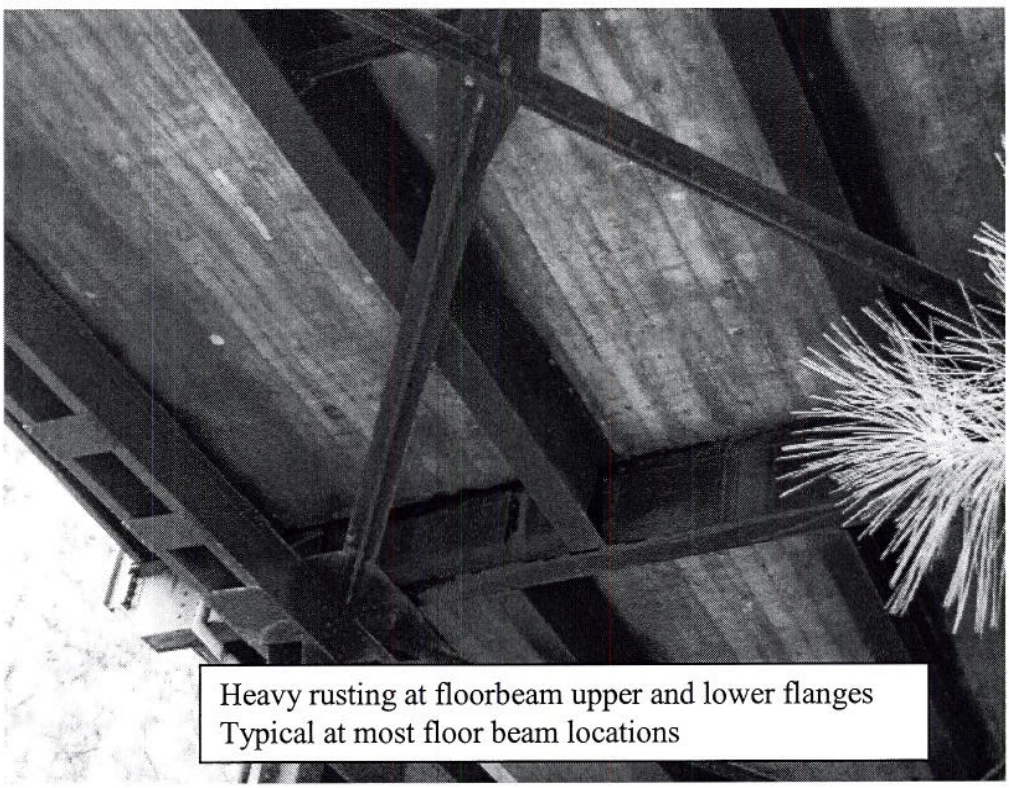
Full Prep/Full Paint (No. 93) cost approximately $35 per square foot.

Estimated cost for full paint/full prep on Lake Britton =

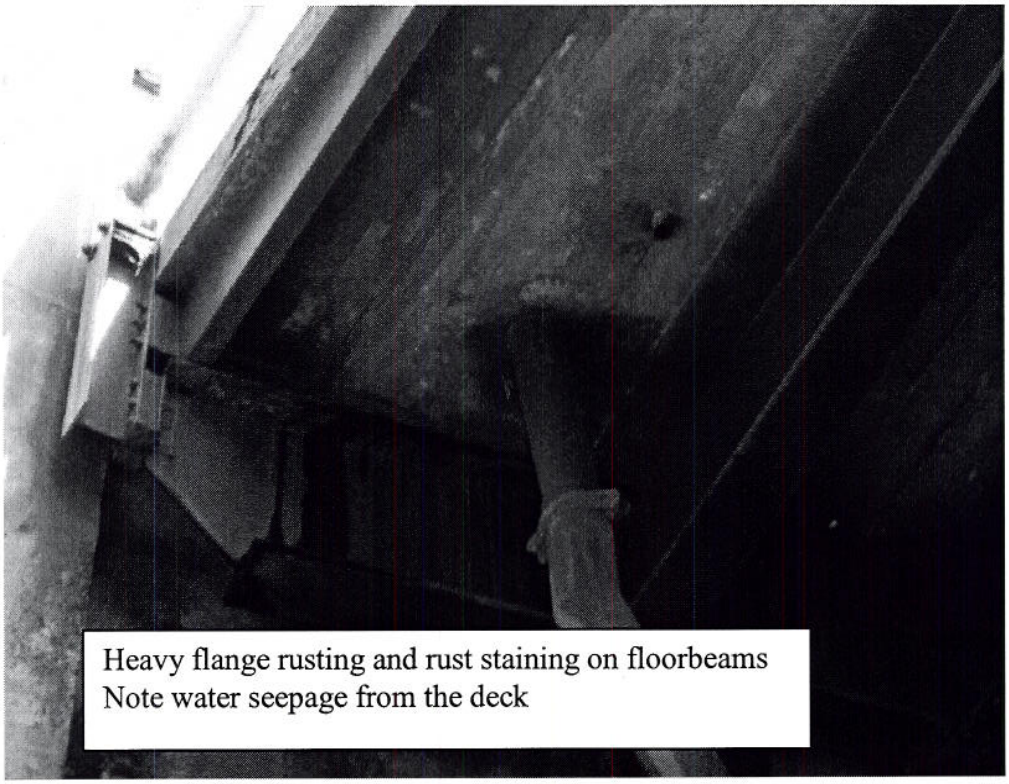
72, 175 square feet x $35/ sq. ft. = $2,526,125

The following pages show photos of the paint deterioration observed on 4/15/2008.

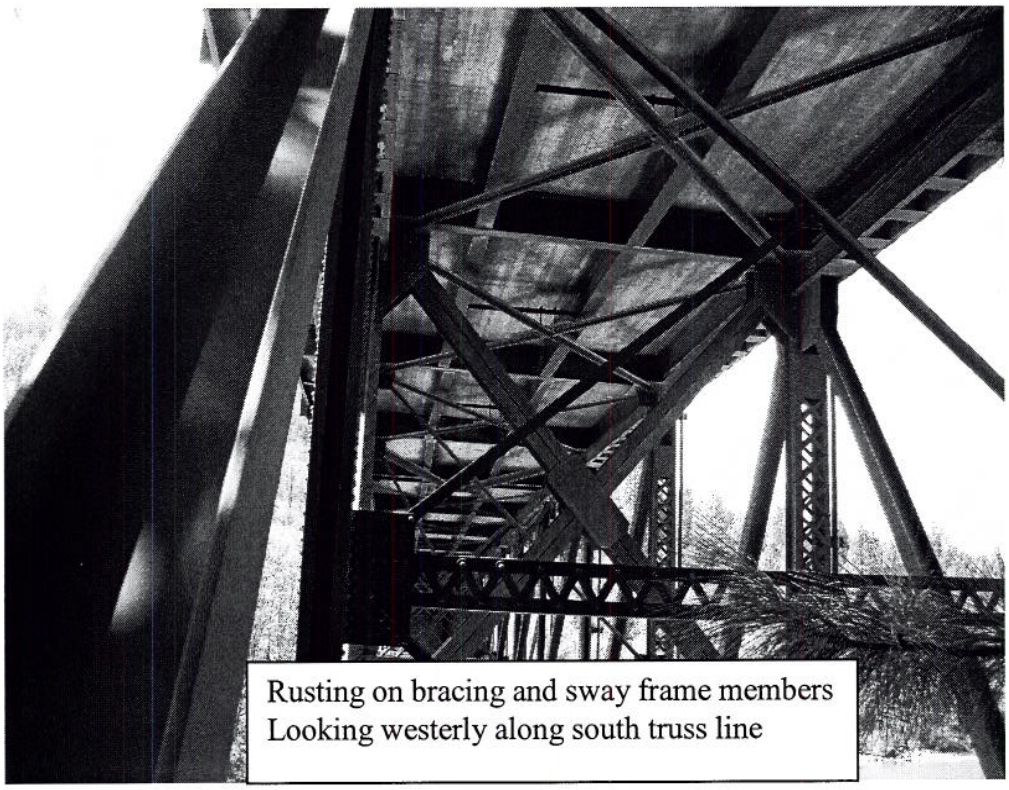
Rusting on bracing and sway frame members
Looking westerly along south truss line



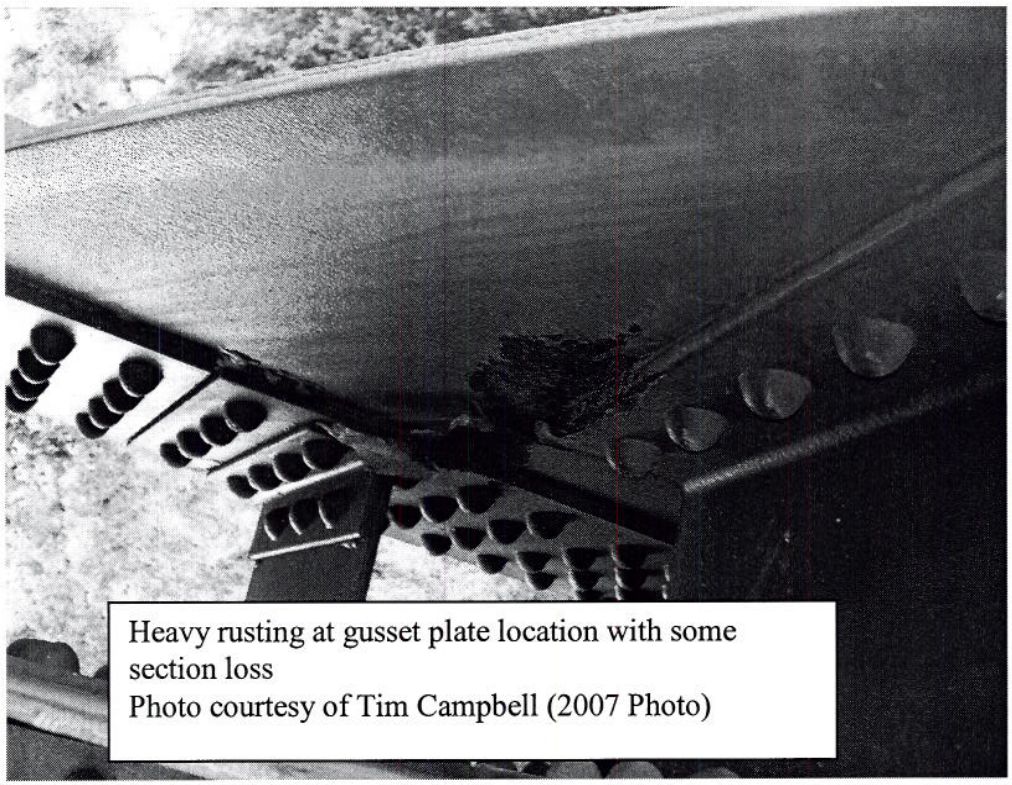
Heavy rusting at floorbeam upper and lower flanges
Typical at most floor beam locations



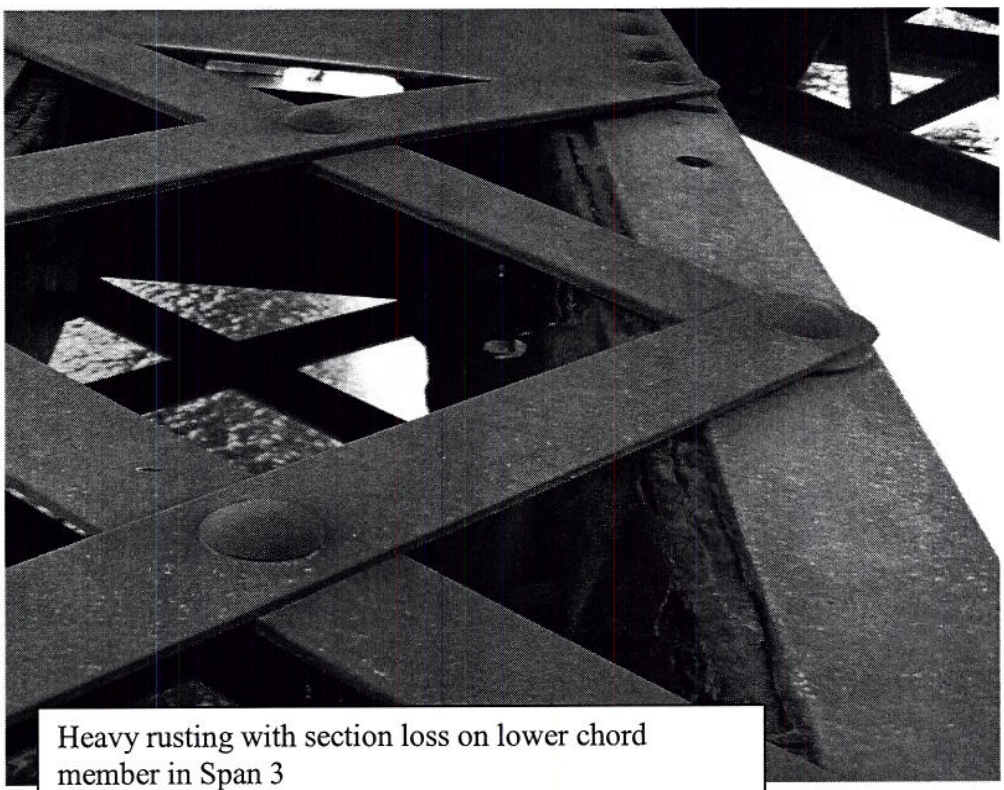
Heavy flange rusting and rust staining on floorbeams
Note water seepage from the deck



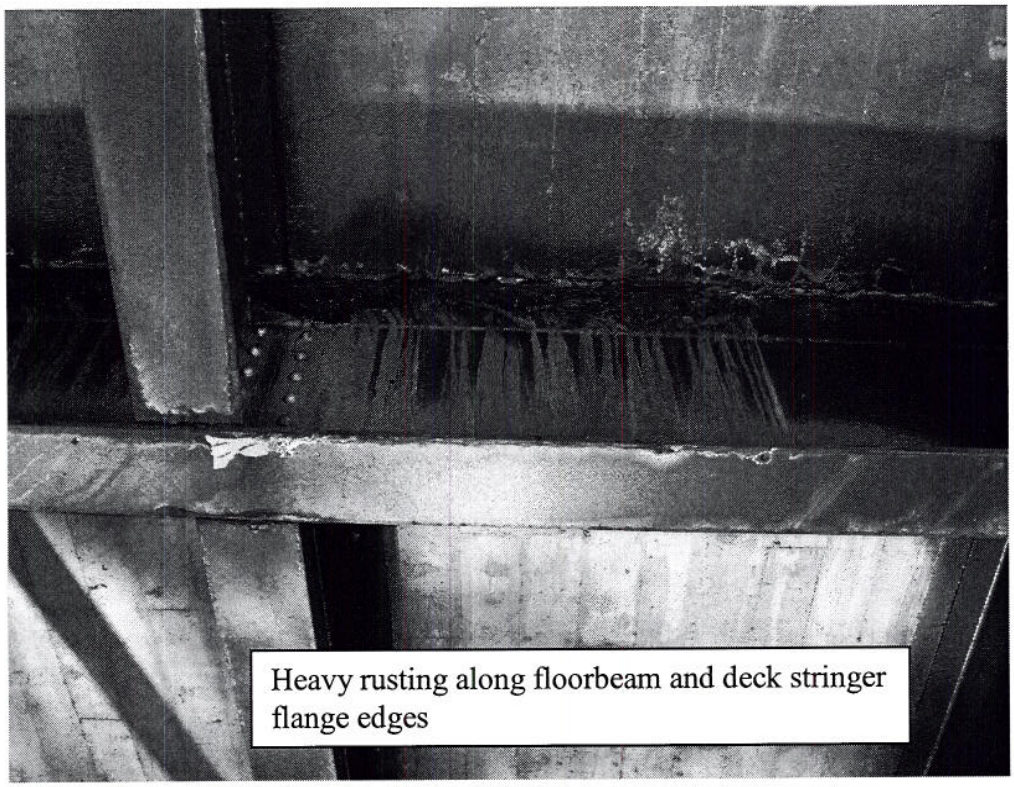
Rusting on bracing and sway frame members
Looking westerly along south truss line



Heavy rusting at gusset plate location with some section loss
Photo courtesy of Tim Campbell (2007 Photo)



Heavy rusting with section loss on lower chord member in Span 3
Photo courtesy of Tim Campbell (2007 Photo)



Heavy rusting along floorbeam and deck stringer flange edges