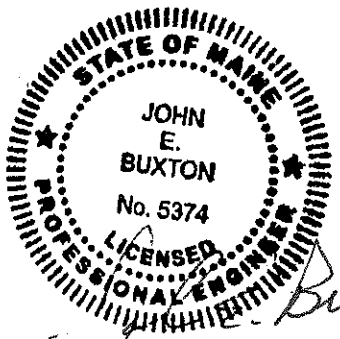
Appendix 9

Posting: Brunswick-Topsham, Frank J. Wood #2016 memo (August 15, 2016)

State of Maine

16 State House Station
Augusta, ME 04333-0016

Maine Department of
Transportation



Memorandum

To: Joyce Taylor, Chief Engineer
From: James A. Foster, Bridge Posting Committee
Date: August 15, 2016

Subject: Posting: Brunswick-Topsham, Frank J Wood #2016

The Bridge Posting Committee met on August 15, 2016, with John Buxton, Ben Foster, Jeff Folsom, Wayne Frankhauser, Jim Foster, Joshua Simpson, Chester Kolota and Steve Hunnewell in attendance. Frank J Wood Bridge carries US 201 and Maine Route 24 over the Androscoggin River. The road is a federal highway with a highway corridor priority (HCP) classification equal to "3". The average annual daily traffic count (AADT) is 19,256 with 5 percent heavy trucks. The abutment to abutment detour length is 3.9 miles, and the bypass detour is 1 mile.

Frank J Wood Bridge is a three span steel riveted through truss on concrete abutments and piers. It has a concrete filled grid deck and a bituminous wearing surface. The bridge has a total structure length of 815 feet, and a bridge width (curb/curb) of 30 feet. The bridge was constructed in 1931. The bridge deck was replaced in 1972, and the bridge was later rehabilitated in 1985. More recently, the substructure was rehabilitated, and the bridge rail and curbs were improved, in 2006. As per the bridge June 16, 2016 bridge inspection: the bridge deck and superstructure dropped from (NBI=5) fair condition, to (NBI=4) poor condition as a result on ongoing deterioration. The substructure rating remained at (NBI=6) satisfactory condition with minor deterioration. In regards to scour, Scour Critical Item 113 indicates (8) "stable".

The bridge load rating was updated based on field measurements obtained on August 1 and 2, 2016. This analysis indicated a weight posting limit of 25 tons. However, due to an ongoing rapid deterioration of the structural steel, particularly in the vicinity of floor beam ends and connection plates, immediate repairs will be required in order to maintain the 25 ton posting over the next few years. Therefore, the posting committee recommends that the bridge be posted for a 25 ton limit, and that necessary repairs be implemented as soon as practical.

SUMMARY OF LRFR BRIDGE RATING –
As-Inspected Load Rating–

VEHICLE TYPE		RF	RT (TONS)	POSTING LOAD (TONS)
HL-93	INVENTORY	0.51	18.36	
	OPERATING	0.66	23.76	
HL-93 Modified	INVENTORY			
	OPERATING			
CONFIGURATION 1		0.82	41.00	37.14
CONFIGURATION 2		0.74	34.78	29.54
CONFIGURATION 3		0.70	30.80	25.14
CONFIGURATION 4		0.72	31.68	26.40
CONFIGURATION 5		0.73	32.12	27.03
CONFIGURATION 6		0.68	25.81	20.60
CONFIGURATION 7		0.85	25.08	23.18
CONFIGURATION 8		1.34	25.06	OK

Condition Ratings (6/16/2016 Inspection Report): Deck = 4 Poor, Superstructure = 4 Poor, Substructure = 6 Satisfactory

Repair History: Bridge Deck Replacement 1972
Bridge Rehabilitation 1985
Bridge Substructure Rehabilitation 2006
Bridge Rail and Curb Improvements 2006

- **Recent & Historical Inspection Reports**: This bridge was identified for preservation in the 2004 Maine Historic Bridge Management Plan
- **Design Loading:** HS-20
- **Presence of fracture critical members:** Yes
- **Presence of fatigue prone details:** Yes
- **Detour:** 1 mile bypass, 3.9 miles abutment to abutment
- **Volume of heavy truck traffic:** 5%

cc: Jeff Folsom, Bridge Program
Wayne Frankhauser, Jr., Bridge Program
John Buxton, Bridge Maintenance
Ben Foster, Bridge Maintenance
Josh Simpson, Bridge Maintenance
Steve Landry, Traffic Engineering
Steve Hunnewell, Traffic Engineering
Chip Kelley, Traffic Engineering
Chester Kolota, Bridge Management