

Memorandum Date: August 11, 2006  
Order Date: August 30, 2006

W. S. E. 2.

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**TO:** Board of County Commissioners  
**DEPARTMENT:** Public Works  
**PRESENTED BY:** Sonny Chickering, County Engineer  
**AGENDA ITEM TITLE:** ORDER/IN THE MATTER OF LOAD POSTING THE GREEN CREEK ROAD BRIDGE AT MP 0.23 (A LOCAL ACCESS ROAD)

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I. **MOTION**

THAT THE ORDER BE APPROVED REVISING THE GREEN CREEK ROAD BRIDGE LOAD POSTING TO 38 TONS FOR TYPE 3-3 VEHICLES.

II. **AGENDA ITEM SUMMARY**

Based on the recent emergency and temporary replacement of the Green Creek Road Bridge (railroad car bridge) at MP 0.23 across the Long Tom River, a load rating was undertaken. The load rating was performed in conformance to ODOT methodology and indicates the bridge should be load posted at 38 tons for type 3-3 vehicles.

III. **BACKGROUND/IMPLICATIONS OF ACTION**

A. **Board Action and Other History**

Pursuant to Order Number 06-2-22-17, the Board imposed a 3-ton weight limit on the bridge. Under Order Number 06-3-15-2, the Board authorized an emergency and temporary replacement of the Green Creek Road Bridge at MP 0.23, designating the work as a single project only and waiving certain road design standards. Lane County hired a consultant, Otak, Inc., to provide a detailed engineering assessment of the structural capacity of the primary components of the railroad car bridge and related site conditions. Otak has completed their analysis and is recommending that the operating load rating for this bridge be posted at 38 tons for type 3-3 vehicles.

B. **Policy Issues**

Pursuant to ORS 368.031(2), the Department of Public Works is authorized to investigate complaints and inquiries related to conditions on Local Access Roads and to take appropriate action as necessary to protect public safety, including

research to determine the status of roads, placement of appropriate signage and/or barricades if warranted, advising the Board when necessary for direction as to how to proceed, and seeking removal of road hazards at the owner's expense pursuant to ORS 368.261 through 368.281 or Lane Code 15.210(11).

**C. Board Goals**

This project addresses the County Goal of Contributing to “appropriate community development in the area of transportation infrastructure” and furthers the goal of promoting public safety within Lane County.

**D. Financial and/or Resource Considerations**

Since there are to be no assessments for the benefiting property owners, money will need to be expended from the Operations and Maintenance portion of the County Road Fund, for load posting signs.

**E. Analysis**

As directed by Board Order 06-3-15-2, the Board authorized emergency replacement of the Green Creek Road Bridge (Bridge 18751) at M.P. 0.23, designating the work as a single project only, and waiving certain road design standards. Green Creek Road is a Local Access Road in the Elmira area of Lane County, and it crosses the Long Tom River at approximate MP 0.23. The rail flatcar bridge that was replaced was not maintained by Lane County, but was inspected under the Federal National Bridge Inventory System (NBIS) program at the direction of the Oregon State Bridge Engineer. Said inspection revealed deterioration and damage in the load-carrying members of the bridge as well as scouring of the earth embankment supporting the bridge.

The State recommended bridge closure; but under the above mentioned order, the Board directed staff to investigate the costs of replacing the bridge in-kind with a reconditioned railroad flatcar bridge to accommodate loads up to a maximum of 27 tons to allow fire and life safety emergency vehicles to cross. The fire and life safety needs of the adjacent residents caused the Board to deem the poor condition of the existing bridge an emergency, and the expenditure of funds was partially based on public safety considerations.

Our bridge consultant performed the load rating using ODOT-approved software and long-hand calculations of the railroad flatcar. The load rated vehicles included the National Bridge Inventory System truck load of HS15, and Oregon legal permit truck Types 3, 3S2, and 3-3 Units, which are the load designations the County uses in their review of permit loads. The following is a summary of the primary components of the railroad car bridge and related site conditions

assumed for the load rating:

- Two 33-inch deep primary steel wide-flange beams located near the center of the bridge.
- Primary transverse diaphragm beams with intermediate channel members between transverse members.
- End to end length of 67 feet, with maximum span of 65.5 feet
- Longitudinal 3-inch S steel members supporting the timber deck and supported by transverse steel members.
- Transverse 3 x 12 No. 2 Douglas Fir timber deck planks.
- Running planks installed to distribute load, full length of deck.
- Road approach work to ensure reasonably smooth vehicle impact loads.

Results of the ODOT methodology load rating show that the bridge can support a typical truck configuration for log hauling (40 ton) and the weight of 27 ton requested by Lane County Fire District #1. The bridge specifications and components will be forwarded to the Oregon Department of Transportation for inclusion in their upcoming bridge inspection cycle.

#### **F. Alternatives/Options**

1. Approve the Order authorizing the revised load posting for the Green Creek Road Bridge at MP 0.23.
2. Decline to approve the Order and direct staff otherwise.

#### **IV. TIMING/IMPLEMENTATION**

The revised load posting will become effective as soon as appropriate signage can be installed.

#### **V. RECOMMENDATION**

Option 1 is recommended.

#### **VI. FOLLOW-UP**

The bridge will be posted by County Public Works contingent on approval of this Order.

**VII. ATTACHMENTS**

Order

Exhibit A – Revised Weight Limit  
Posting for the Green Creek Road Bridge at MP 0.23

IN THE BOARD OF COUNTY COMMISSIONERS OF LANE COUNTY  
STATE OF OREGON

ORDER NO. \_\_\_\_\_

(ORDER/IN THE MATTER OF LOAD POSTING  
(THE GREEN CREEK ROAD BRIDGE AT MP  
0.23 (A LOCAL ACCESS ROAD))

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**WHEREAS**, Green Creek Road is a Local Access Road in the Elmira area of Lane County; and

**WHEREAS**, the bridge was inspected under the Federal NBIS program and was recommended to be closed; and

**WHEREAS**, the Board, by Order Number 06-2-22-17 imposed a 3-ton limit on the bridge; and

**WHEREAS**, the Board, by Order Number 06-3-15-2, did order and authorize an emergency and temporary replacement of the Green Creek Road Bridge at MP 0.23, designating the work as a single project only, and waiving certain road design standards; and

**WHEREAS**, a reconditioned railroad car 67 feet in length was installed by the County Public Works Department in accordance with Order No. 06-6-7-11, which stipulated that the reconditioned railroad flatcar accommodate loads up to a maximum of 27 tons to allow fire and life safety emergency vehicles to cross; and

**WHEREAS**, the County hired its own engineering consultant, Otak, Inc., to perform a load rating analysis of the reconditioned railroad flatcar, using approved ODOT load rating methodology; and

**WHEREAS**, based on a staff analysis of the Otak report, the County Engineer has concurred with the Otak report; **NOW THEREFORE**,

**IT IS ORDERED** that the County Engineer's recommendation to post the Green Creek Road Bridge at MP 0.23 be authorized as shown on Exhibit A, attached to this Board Order.

DATED this \_\_\_\_\_ day of \_\_\_\_\_, 2006.

\_\_\_\_\_  
Bill Dwyer, Chair  
Lane County Board of Commissioners

1750427  
8-18-06  
*Bill Dwyer*

**WEIGHT  
LIMIT**



**38 TONS**

**OR12-5b**