

W. S. A.

**AGENDA COVER MEMO**

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DATE: February 28, 2006

TO: Lane County Board of Commissioners

DEPT.: Public Works

PRESENTED BY: Sonny Chickering  
County Engineer

AGENDA ITEM TITLE: IN THE MATTER OF AUTHORIZING EMERGENCY REPLACEMENT OF THE GREEN CREEK ROAD (BRIDGE 18751) AT APPROXIMATE M.P. 0.23, DESIGNATING THE WORK AS A SINGLE PROJECT ONLY, AND WAIVING CERTAIN ROAD DESIGN STANDARDS.

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I. MOTION

THAT THE ORDER BE APPROVED AUTHORIZING EXPENDITURE OF COUNTY ROAD FUNDS IN AN AMOUNT NOT TO EXCEED \$35,000.00 FOR MATERIALS AND CONSTRUCTION PLUS \$30,000.00 FOR ENGINEERING AND ROAD MAINTENANCE COSTS FOR A TOTAL OF \$65,000.00 TO REPLACE THE GREEN CREEK ROAD BRIDGE OVER THE LONG TOM RIVER AT APPROXIMATE M.P. 0.23.

II. ISSUE OR PROBLEM

Pursuant to Order 06-2-22-17 on February 22, 2006, the Board imposed a 3-ton weight limitation on the Green Creek Road Bridge, based on the adjacent residents' continuing need for access to their homes. The Oregon State Bridge Engineer and Public Works Director had recommended closure. The Board also directed Public Works Staff to investigate the cost of replacing the existing bridge in-kind (using a rehabilitated railroad flatcar), using County forces, and to report back with estimated costs and timelines for accomplishing the needed work. The replacement bridge should allow at least a 27-ton load

rating to accommodate fire and life safety vehicles. Staff was also directed to look into alternate sources of funding to pay for the needed replacement.

### III. DISCUSSION

#### A. Background

Green Creek Road is a Local Access Road (LAR) that intersects with the east line of Knight Road at approximate MP 2.925, about midway between Warthen Road and West Sheffler Road, northwest of Elmira. The road extends easterly from Knight Road a distance of 0.797 miles and crosses the Long Tom River at about MP 0.23.

The existing bridge is a salvaged railroad flatcar that has been in service for approximately 35 years. The flatcar is 60 feet in length, and the two ends of the span rest only on native embankment material. This bridge had formerly been rated for a 22-ton loading, but section loss in the superstructure and recent scouring around the embankments have caused the State Bridge Engineer to recommend that the bridge be closed. The Public Works Director closed the bridge on February 16<sup>th</sup>. The Board rescinded this action and imposed a 3-ton weight restriction on the bridge on February 22, 2006, in recognition of the residents' need for access to their homes, and for emergency access for light vehicles.

#### B. Analysis

Based on the State Bridge Engineer's report and a County forces visual inspection of the bridge, it has been determined that repairs to the existing bridge are not feasible. County staff has sought out sources for replacement flatcars and has located a firm in Lebanon, Oregon which can supply and deliver a replacement bridge for \$19,266. The dimensions of the bridge would be 67 feet in length with a 12-foot wide running surface.

The additional length of the replacement bridge when compared to the existing bridge will allow either prefabricated or poured-in-place abutments to be placed without having to work in the water, and will eliminate the need for permitting for the actual bridge replacement, other than Lane County Flood Plain and Riparian permits. Needed bank stabilization will require, however, permitting from the Division of State Lands and the Corps of Engineers, and will have to be completed under "non-emergency" conditions in the normal in-water work period from July 1 to September 30, 2006. Bank stabilization is proposed only on the east end of the bridge. Channel work and stabilization upstream on the westerly end of the bridge is not included, as it does not pose an immediate threat to the bridge and is clearly outside the public right-of-way. Failure to stabilize the channel upstream (on the west side) could jeopardize the bridge in the future. This work is beyond that authorized by the Board. The responsibility for this work will fall to someone other than the County at a future date.

Additional costs connected with the replacement of this bridge will be for crane service, labor and equipment charges. There will also be costs associated with obtaining any necessary removal/fill, riparian and flood plain permits. Total construction costs are estimated to be approximately \$50,000.00. Allowing approximately 30% for contingencies brings the total to \$65,000.00.

Because the bridge supplier is estimating a 4-5 week lead-time to obtain the treated lumber for the bridge deck and curb blocking, and will still need additional time to prepare and deliver the flatcar, it is estimated that the replacement bridge should be in place within approximately 65 days after Board approval. Other preparatory work such as utility relocation can be done while the flatcar is being prepared and while awaiting issuance of the needed Lane County permits.

ORS 368.031 provides that counties may expend County funds on Local Access Roads (LARs) only if it determines that the work is an emergency or if:

- (a) the County Road Official recommends the expenditure
- (b) the public use of the road justifies the expenditure
- (c) the County governing body enacts an Order or Resolution authorizing the work and designating the work to be either a single project or a continuing program.

This work is deemed to be an emergency due to the continuing need for access for the 7 dwelling units on the east side of the river, and because the temporary 3-ton weight limit will not allow fire and life safety vehicles to cross safely, and because further bank erosion could cause the bridge to collapse. The Public Works Director recommends the work, subject to waiver of State and County design standards by the Board. By replacing the bridge in-kind, the bridge will not be built to normal Lane County and State of Oregon construction standards. It will deviate from standards with regard to:

- (a) roadway width (LC 15.706(4) specifies an 18-foot width for this class of road.)
- (b) AASHTO Bridge Design Manual standards addressing bridge foundation design and construction, embankment protection, approach and bridge railing design, load capacity, floodplain clearance, and design for resistance to drift and high water forces.

The new flatcar bridge should be considered a temporary emergency replacement only. It will be constructed to serve the access needs of the residents and will provide for a loading of at least 27 tons to allow for fire truck and emergency services access. The work is intended to be a single project rather than part of a continuing program of County maintenance.

The attachments provide a more detailed analysis of the proposed project and address the proposed scope of the work to be done, the timelines for accomplishing the work and the estimated total costs to be incurred.

Financing options that have been investigated in connection with this project are:

(a) Federal Emergency Management Agency disaster funding. Linda Cook, Lane County Emergency Services Coordinator, has reported that the total damage from the January storm events has not reached the \$1,000,000 threshold which would trigger eligibility for projects of this type.

(b) Highway Bridge Replacement and Rehabilitation bridge funding. It appears that funding a permanent replacement bridge under this program would be at least 1-2 years in the future only if the current bridge remains in place. The replacement bridge would need to be built to state and federal standards and there would be a local match of approximately 10%, almost as much as the cost of the flatcar replacement bridge currently proposed. Ironically, the interim flatcar bridge replacement would put a permanent replacement bridge much further down in the priority ranking under the Highway Bridge Replacement and Rehabilitation program, and would likely cause at least a 5-6 year delay in constructing a permanent bridge replacement. If the Board wishes to pursue HBRR funding, it should direct staff to expand funds for a bridge inspection, load rating and application process. It should also determine who will provide the local match.

(c) Expenditure of County Road Funds and assessment of the project costs to the benefiting owners as required by and pursuant to Lane Code 15.636(3). Certain homeowners over the age of 62 may meet the requirements under ORS 311.701 for a deferral on the amount due under the assessment lien. The deferral provisions of LC 15.636(5) (large frontage lots) do not appear to apply in this case, as none of the properties are capable of being divided into four or more lots. The amount of assessment to each landowner with legal access to Green Creek Road would be approximately \$5,500.00, based on a total of 12 benefitted properties, and including engineering and administration.

Repayment of the assessment liens would be over a period of 10 years, and the rate of interest would be prime plus 3%. The prime rate is currently 7.5 % per annum.

(d) Expenditure of County Road Funds without reimbursement by local property owners.

### C. Alternatives/Options

1. Approve the Order authorizing the expenditure of County Road Funds to replace the Green Creek Road Bridge, designating the work to be a single project and not a continuing program and waiving certain Road Standards. Authorize the assessment of project costs including engineering and Road Maintenance staff costs including overhead to the benefiting properties pursuant to Lane Code 16.636(3) and authorize the Director of Public Works to prepare a Director's Report including the costs of the work and the estimated costs to be assessed to each benefiting property as specified in

ORS 371.625. Direct staff as to the basis to be used for levying the assessments to the benefiting properties, whether by amount of frontage along the Local Access Road, evenly among the property owners or based on the amount of acreage benefited.

2. Decline to approve the Order and direct staff to pursue a permanent bridge replacement using Highway Bridge Replacement and Rehabilitation funding, with local property owners providing the necessary local matching funds. It would be necessary to construct channel stabilization (only) in order to maintain the viability of the existing bridge foundation, and to maintain the current 3-ton posted loading.

3. Approve Order, but do not assess pursuant to L.C 16.636(3)

D. Recommendations

Alternative No. 1 is recommended.

E. Timing

If authorized, Pubic Works staff will immediately order the required materials and begin preparing the site for installation of the replacement flatcar bridge. A deposit has been made on the replacement flatcar.

IV. IMPLEMENTATION/FOLLOW-UP

The Director of Pubic Works will prepare a Director's report including the total estimated project costs and estimated assessments, and present the report to the Board for acceptance.

V. ATTACHMENTS

- I. Scope
- II. Schedule
- III. Budget

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

**ORDER**

**(IN THE MATTER OF AUTHORIZING  
(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.**

**WHEREAS**, Green Creek Road is a Local Access Road (LAR) in the Elmira area of Lane County which crosses the Long Tom River at approximate M.P. 0.23; and

**WHEREAS**, said bridge is not maintained by Lane County, but has been inspected under the Federal NBIS program at the direction of the Oregon State Bridge Engineer; and

**WHEREAS**, said inspection revealed deterioration and damage in the load-carrying members of the bridge as well as severe scouring of the earth embankments supporting the bridge; and

**WHEREAS**, on February 15, 2006, the State Bridge Engineer has recommended that the bridge be closed until foundation repairs could be made; and

**WHEREAS**, the Public Works Director closed the bridge on February 16, 2006; and

**WHEREAS**, per Order No. 06-2-22-17, the Board imposed a reduced weight limit of 3 tons to accommodate the access needs of adjacent residents until the needed repairs can be made; and

**WHEREAS**, the Board further directed staff to investigate the costs of replacing the bridge in-kind with a reconditioned railroad flatcar to accommodate loads up to a maximum of 27 tons to allow fire and life safety emergency vehicles to cross, and to report to the Board regarding the costs of said replacement using County forces, the timing for accomplishing the repairs, and any alternate sources of funding that may be available; and

**WHEREAS**, based on the project scope, cost data and time schedule provided by staff, it is estimated that a non-county standard replacement railroad flatcar bridge can be installed at a cost not to exceed \$35,000.00 for materials and construction plus \$30,000.00 for engineering and road maintenance staff costs and can be completed within 65 days after the Board approval and direction; and

**WHEREAS**, ORS 368.031 provides that counties may expend county funds on Local Access Roads if the work is an emergency or if the county road official recommends the expenditure, the public use of the road justifies the expenditure and the county governing body enacts an Order or Resolution authorizing the work and designating the work to be either a single project or a continuing program; and

**WHEREAS**, the fire and life safety needs of the adjacent residents have caused the Board to deem the poor condition of the existing bridge an emergency, and the Public Works Director recommends the expenditure based on public safety considerations, and waiver of State and County standards, **NOW THEREFORE**

**BE IT ORDERED**, that the Lane County Public Works Department is authorized to expend Road Funds in an amount not to exceed \$65,000.00 total, including staff costs to replace the above-referenced bridge and that the expenditure shall be considered as a single project and not as a continuing program; and

**BE IT ORDERED**, that in light of the emergency condition at the existing bridge, and expense to replace the bridge with one that meets standards, the Board waives Lane County and State of Oregon construction standards, including:

(a) roadway width (L.C. 15.706(4) specifies and an 18-foot width for this class of road)

(b) AASHTO Bridge Design Manual standards for bridge foundation design and construction, embankment protection, approach and bridge railing design, load capacity, floodplain clearance, and resistance to drift and high water forces; and

**BE IT ORDERED**, the new substandard flatcar bridge shall be considered a temporary emergency replacement only, and the work done shall include bank stabilization only at the easterly embankment of the bridge, and any bank stabilization at the west bank of the bridge will need to be undertaken and paid for by others; **AND BE IT**

**RESOLVED**, that the cost of the improvements be assessed to the benefiting properties in accordance with the Lane County Special Assessment Policy as outlined in Lane Code 15.636 (3), which states that when the Board determines the public interest requires improvement to a bridge on a Local Access Road, the direct cost of bridge improvement or replacement shall be assessed to the specially benefiting property owners on a uniform basis as determined by the Board; and in accordance with ORS 371.640, which states that the total cost may include the costs of engineering and administration; **AND BE IT**

**ORDERED**, that the Director of Public Works Department investigate the proposed improvements and present a report to the Board of County Commissioners including the total cost of the improvements and the estimated amount to be assessed to each benefiting property as specified in ORS 371.625.

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

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Chair,  
Lane County Board of Commissioners

## ATTACHMENT I – SCOPE OF WORK

Green Creek Road Bridge – M.P. 0.23  
Bridge Number 18751  
March 2006

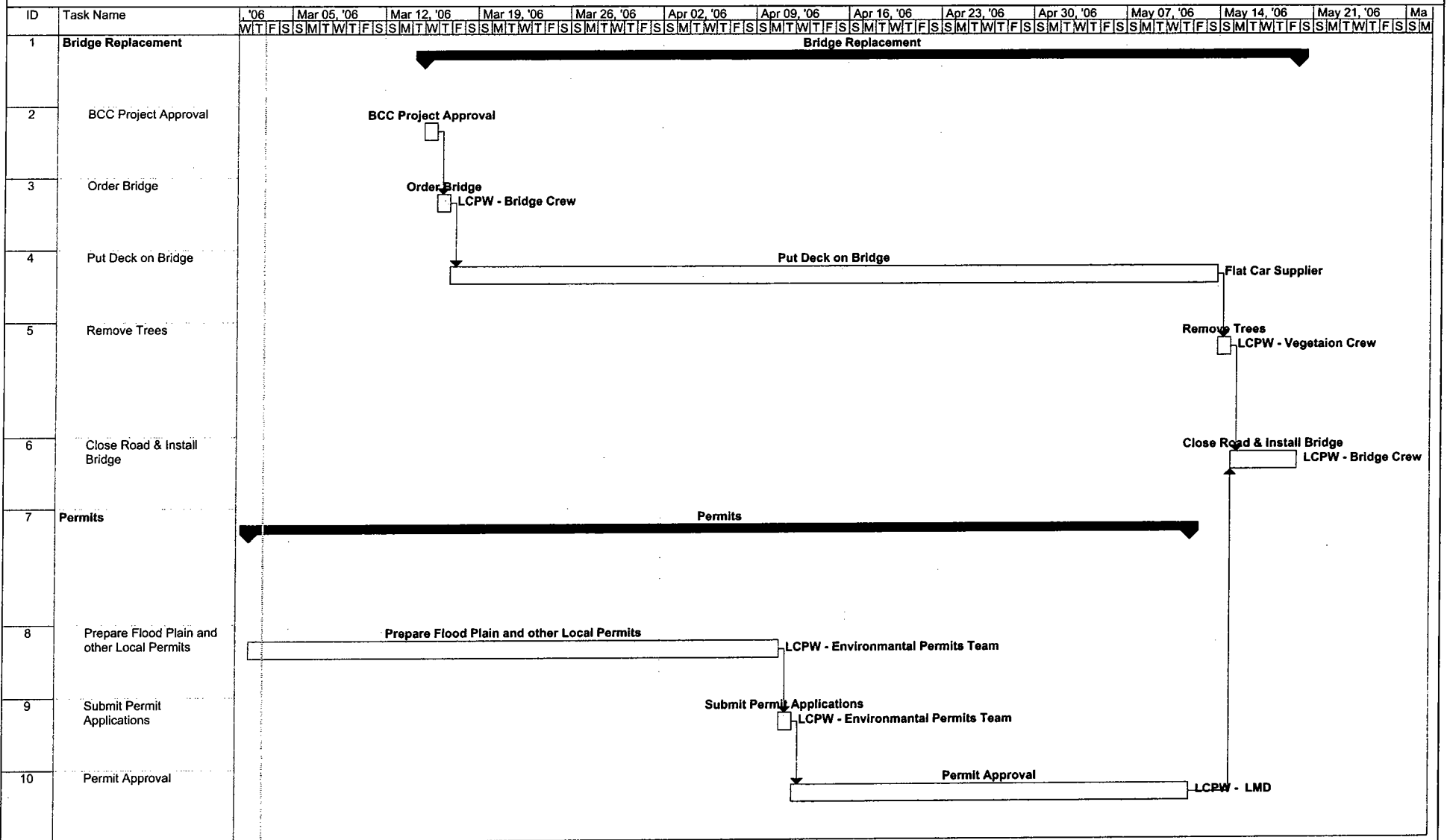
The major items of work to be performed as part of this project include, but are not limited to, the following:

- Place orders for: 12-foot wide roadway x 67-foot long railroad flatcar bridge superstructure to accommodate at least 27-ton vehicular capacity; abutment concrete and reinforcement materials, roadway aggregate and rock riprap material; vegetation replacement including native tree and shrub stock.
- Prepare and submit necessary project permitting including Department of State Lands, Corps of Engineers, and LMD Floodplain and riparian area permits.
- Provide public notice and coordination with affected residents concerning proposed construction schedule and alternatives for residents' access during construction.
- Prepare site for construction activities including removal of minimal amount of streamside vegetation; remove existing railroad flatcar bridge utilizing rental crane service equipment, receipt of project permitting approvals and guarantee of new bridge component delivery. Perform demolition and remove existing flatcar bridge from site.
- Construct new temporary bridge foundations, place new railroad flatcar bridge superstructure, and place minimal roadway aggregate materials to match new bridge approaches. Construction planned so as to limit vehicular roadway closure to 5 days maximum, with 1 day maximum pedestrian access restrictions occurring on the day of new superstructure installation.
- Perform minimal channel protection under the new bridge superstructure during the in-water work period; furnish and install large size riprap streambank protection on the northeast corner just upstream of the bridge, from the toe of the channel embankment to the top of bank. Bank stabilization at the westerly embankment of the bridge is specifically not included. It is recommended that this work be undertaken and paid for by others to protect the westerly embankment from scouring in the future.
- Purchase, install and maintain limited replacement riparian vegetation, according to the project permitting requirements.
- Obtain a load rating, using ODOT procedures, by a registered professional engineer.



# Attachment 2

## Emergency Replacement of the Green Creek Road Bridge (Bridge 18751) at M.P. 0.23 Bridge Replacement Phase





## ATTACHMENT III – ESTIMATED BUDGET

Green Creek Road Bridge – M.P. 0.23  
Bridge Number 18751  
March 2006

### I. Materials and Construction

	<u>MATERIALS</u>	<u>TOTAL</u>
• Rail Car		\$ 18,226.00
• Poured In-Place Abutments		\$ 3,000.00
• Shipping		<u>\$ 1,000.00</u>
	Sub Total	\$ 22,226.00
	<u>CRANE &amp; OPERATOR</u>	
• Total Crane Costs		<u>\$ 5,000.00</u>
	Sub Total	\$ 5,000.00
	<u>RENTAL EQUIPMENT &amp; CONCRETE PUMP TRUCK</u>	
• Takeushi Trackhoe (GVW 3,406 lbs)		\$ 650.00
• Concrete Pump Truck		<u>\$ 363.50</u>
	Sub Total	\$ 1,013.50
	Sub Total This Section	\$ 28,239.50
	30% Contingency	\$ 8,471.85
	Grand Total This Section	\$ 36,711.35

### II. Engineering and Road Maintenance Costs

	<u>COUNTY LABOR &amp; EQUIPMENT</u>	<u>TOTAL</u>
• Excavation For Abutments		\$ 1,817.38
• Vegetation Removal		\$ 2,406.06
• Removal & Demolition Of Existing Bridge & Placing Of The New Structure		\$ 6,027.41
• Rock Roadway At Bridge Ends, Crane Pad & Rock Scour Hole		\$ 4,069.33
• Utility Coordination		\$ 500.00
• Preparation and Processing of Assessments (if needed)		\$ 3,400.00
• R/W Mgr. Staff Time		\$ 750.00
• Engineering/Permits Staff Time		\$ 2,500.00
• Environmental Permit Fees		<u>\$ 1,000.00</u>
	Sub Total This Section	\$ 22,470.18
	30% Contingency	\$ 6,741.05
	Grand Total This Section	\$ 29,211.23
	Total Sections I & II	\$ 65,922.58
	Total Estimated Cost With Contingency	\$ 65,000.00