

Department of Public Services

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GRAYS HARBOR COUNTY

STATE OF WASHINGTON

November 10, 2014

TO: BOARD OF COUNTY COMMISSIONERS

FROM: RUSSEL D. ESSES, P.E.
COUNTY ROAD ENGINEER

RE: ELMA-PORTER FLOOD MITIGATION PROJECT
R-70-09889-37-00

I am attaching the Hydraulic Modeling and Analysis performed by our Consultant-Watershed Science and Engineering for your review.

Watershed Science and Engineering studied these five (5) areas and concluded the following:

- 1.) **Wakefield Road Bridge Alternatives Analysis** – None of the alternatives investigated provided a significant reduction in upstream water levels.
- 2.) **Porter Creek Road Culvert** – A culvert could be designed to alleviate overtopping for the 10-year and 20- year flood events. A 100 foot long bridge would be required for the 100 year flood event.
- 3.) **Dunlap Road Bridge Expansion** – There is a very slight water surface reduction at the 2-year flood event and insignificant water surface reductions at higher flows.
- 4.) **Sediment Removal in Main Channel Downstream of Wakefield Road Bridge** – Water level reductions resulting from the removal of the sediment island in the main channel downstream of the Wakefield Road Bridge are small. A project to remove this sediment would also be difficult and expensive to permit.
- 5.) **Preventing Backflow Through Highway 12 Culverts** – Preventing backwater through the Highway 12 culverts could reduce or eliminate this backwater flooding. However, some flooding might still occur due to local drainage being unable to discharge from the north to the south when the Chehalis River water levels are high.

Staff agrees with the conclusions and recommends that the county does not proceed with the design phase for these five (5) studied areas. The benefits are small compared to the costs.

Recommended,

Russell D. Esses, P.E.
County Road Engineer

ACCEPTED and APPROVED this 10th day of November, 2014.

BOARD OF COUNTY COMMISSIONERS
GRAYS HARBOR COUNTY, WASHINGTON

ATTEST:

Donna McCallum
Clerk of the Board Date

Frank Gordon, Chairman

Herb Welch, Commissioner

Wes Cornier, Commissioner