Washington State Department of Transportation

Lynn Peterson
Secretary of Transportation

Transportation Building
310 Maple Park Avenue S.E.
P.O. Box 47300
Olympia, WA 98504-7300
360-705-7000
TTY: 1-800-833-6388
www.wsdot.wa.gov

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Ms. Hannah F. Hadley
U.S. Army Corps of Engineers
CENWS-EN-ER – P.O. Box 3755
Seattle, Washington 98124-3755

Sent via email to: skagit.river@usace.army.mil

Subject: WSDOT comments on the Draft Feasibility Report and Environmental Impact Statement for the Skagit River Flood Risk Management General Investigation (GI)

Dear Ms. Hadley:

The Washington State Department of Transportation (WSDOT) was pleased to review the Draft Feasibility Report and Environmental Impact Statement for the Skagit River Flood Risk Management General Investigation. We fully support the efforts of the U.S. Army Corps of Engineers (Corps) and Skagit County to create a plan that will reduce flood damage in the basin over the next 50 years.

We, along with many stakeholders in Skagit County, applaud the Corps' efforts to move this very important piece of work forward, particularly since we are engaged in one of 19 Climate Adaptation pilot projects occurring across the nation. Our adaptation work is funded by the U.S. Department of Transportation's Federal Highway Administration (FHWA). Your work and the accompanying data will prove very helpful as we integrate our transportation adaptation planning with the flood risk reduction strategies found in the Tentatively Selected Plan (TSP).

In order to make the Corps product as useful as possible, we offer comments organized into the following three general areas:

1. Inclusion of transportation infrastructure in the structure inventory and as part of the economic impacts due to damage or failure
2. Emergency/evacuation plans
3. Flood risk reduction and highway infrastructure relationships

1. Inclusion of transportation infrastructure in the structure inventory and as part of the economic impacts due to damage or failure

WSDOT: We appreciate the inclusion of transportation delays as part of the Economics Appendix Section 4.3. We request the Corps EIS or refinement of the TSP also include the cost of structural degradation to transportation infrastructure due to flood impacts including: Interstate 5 (I-5), all other state highways, and other

major public infrastructure as part of the structure inventory (or perhaps as another component to "Other Damage Categories").

Our top concern is maintaining the safe and reliable transport of people and goods throughout and through the basin (primarily north/south mobility from British Columbia Canada to central Puget Sound and points beyond).

State highways are infrastructure and should be accounted for in the "cost" side of the damage equation. Infrastructure is identified many times within the Draft Feasibility Report and Environmental Impact Statement:

- **Page 4:** *"Critical infrastructure in and around Mount Vernon and Burlington include I-5, Burlington Northern Santa Fe (BNSF) Railroad, State Routes 9, 20, and 536, numerous water and gas pipelines, light industry, and municipal infrastructure. There is also critical infrastructure in Sedro-Woolley includes State Routes 9 and 20 (critical local access routes)..."*
- **Page 10:** *"The purpose of the Federal action is to reduce flood risks, life safety threats, and damages in the Skagit River Basin as a result of flooding..." We recommend adding "including highway infrastructure."*
- **Page 13:** *"... critical regional infrastructure such as I-5 and State Routes 9 and 20, the BNSF railroad..."*
- **Page 22:** *"Critical Infrastructure in the Floodplain: Interstate 5 (I-5); BNSF Railroad; SR 20, SR 9, and SR 536..."*

We suggest including this list of critical state transportation infrastructure in:

- Table 3-2, page 24: Structures Inventory Under Existing Conditions
- Table 3-3, page 25: Value of Damageable Property
- Table 3-1, page 28, Appendix C: Structure Inventory Under Existing Conditions

We also recommend adding SR 11, county roads, and city streets in the inventory of structures.

It appears that the greatest risk to state highway infrastructure will be on SR 20 at Sterling, SR 9 in the Nookachamps, SR 11 as it crosses the Joe Leary Slough and I-5 between the new Burlington Levee and Bow Hill. We at WSDOT would like to continue assisting the Corps and Skagit County with these refinements. Also, WSDOT owns and operates drainage/stormwater infrastructure, which should be included in the flood flow return—post event drawdown.

Even though *"The CULI Alternative is the alternative that is the most cost effective, has the least real estate impacts, and has the least potential infrastructure impacts (3.9, TSP Recommendation, p-63"),* the cost-effectiveness of this alternative would be enhanced if highway, road, and streets were included in the comparison analysis.

In a recent WSDOT study (http://www.wsdot.wa.gov/projects/i5/sr534cookroadstudy/), the cost of improving I-5 through the Mount Vernon/Burlington urban area was over $1.5 billon. The existing asset value is unknown, but it will likely cost well over $1.0 billion to replace as it currently exists. Any significant flood impact would likely damage I-5 and its structures.

Finally, the GI study's goal is to …*"identify a plan that reduces flood risks and contributes to national economic development."* Transportation infrastructure is a proven vital component of the economy, as was demonstrated on May 23, 2013, when the I-5 Skagit River Bridge collapsed after being hit by an oversized load.

2. Emergency/Evacuation Plans

WSDOT: We request the Corps EIS or refinements to the TSP include WSDOT and the Washington State Patrol (WSP) in the emergency and evacuation plans.

The discussion of evacuations does not include WSDOT or WSP, both of which would be very involved (Chapter 3, p-21). And in the Non-Structural Components, there is no reference to creating a coordinated multi-jurisdictional evacuation plan (Chapter 3, p-51).

3. Flood risk reduction and highway infrastructure relationships

WSDOT: We at WSDOT would value continued partnership with the Corps and Skagit County in an effort to further the relationship among flood risk reduction and highway infrastructure resiliency and severe weather adaptation. The following are important issues to WSDOT that should be refined in the TSP to meet our goals for our adaptation work.

FHWA and WSDOT are exploring how to leverage studies like the Corps GI Study to improve the resiliency of our highways in coordination with local and federal efforts to reduce flood hazards. Our job is to be as prepared as possible. WSDOT's pilot project will:

- Prepare site-specific strategies to improve state transportation infrastructure.
- Evaluate options and (where possible) estimate the life cycle costs of options.
- Develop a plan of action to enhance community emergency response and personal and freight mobility during and post-flood.

(See more info at: http://www.wsdot.wa.gov/sustainabletransportation/adapting.htm)

Suggestions for TSP refinements:

1. It appears that the CULI does little to reduce the volume and velocity of water and its impact on the SR 9 corridor within the floodway—this may be an area of joint improvement that can help add resiliency to SR 9 and surrounding communities.
2. The Burlington Hill Cross Levee (BHCL) is good for the three-bridge corridor (reduces pressure), but will add to the likelihood of I-5 inundation from the Samish River to Chuckanut (SR 11). If Interstate 5 needs to be modified to increase resiliency, these plans should be coordinated with the Corps TSP.
3. The operations and maintenance of the "floodgates" that intersect SR 20, I-5, and SR 536 should be further defined in the TSP.
4. SR 11 has low-lying areas that could keep it closed for extended periods if it is flooded by water that is diverted through operation of the BHCL. In further refinements to the TPS, interior drainage and how pooled water would be evacuated after a flood event should be analyzed.

5. It appears that the levee expansion for Districts 12 & 17 will eliminate both Whitmarsh and Stewart roads. If there are opportunities to keep these roadways open, WSDOT should be a partner in that planning.
6. *"The increase in Sterling overflow could cause a ½ to ¾ ft. rise in 1% ACE flood elevations (in) the northern floodplain."* As the TSP is refined, the potential impacts to SR 20, SR 11 and I-5 should be determined.
7. Clarification should be included in the TSP with respect to the analysis of climate change (specifically, sea level rise) and how this affects both the Skagit River and tidal flooding beyond the boundary conditions used in the Skagit River hydraulics models.

Correction:

1. Chapter 3, Page 54, refers to SR 9 as Chuckanut Drive. However, SR 11 is Chuckanut Drive.

Again, thank you for the opportunity to comment on the Skagit River Flood Risk Management General Investigation Draft Feasibility Report. We look forward to continued progress on flood risk management and improved resiliency of our highways in Skagit County.

Sincerely,

Todd Harrison, P.E.

Assistant Regional Administrator
WSDOT – NW Region/Mount Baker Area

Megan White, P.E.

Environmental Services Director
WSDOT – Headquarters

CC: Linea Laird, Assistant Secretary – Engineering and Operations
Amy Scarton, Assistant Secretary – Community and Economic Development
Carol Lee Roalkvam, Environmental Policy Branch Manager
Todd Carlson, Planning and Engineering Services Manager