Friends of the Hylebos Wetlands

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April 9, 2003

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TUMWATER DESIGN

Neil Campbell
Washington Dept. of Transportation
WSDOT Tumwater Design Office
PO Box 47446
Olympia, WA 98504-7446

Dear Mr. Campbell:

The following are the comments of the Friends of the Hylebos Wetlands regarding the Draft Environmental Impact Statement (DEIS) prepared by the Washington State Department of Transportation (WSDOT) for the State Route 167 (SR-167) project. Previously, we have had one meeting with project staff to specifically discuss several concerns about the DEIS based on a preliminary review of the document. We have also submitted a letter to Pasco Bakotich, dated March 17, 2003, to memorialize the discussions at that meeting and to expand upon the ideas presented at that time. The comments in this letter are based upon a thorough review of the DEIS and include, but are not limited to ideas presented in the previous meeting and letter. G01-001

Friends of the Hylebos Wetlands is a non-profit, tax-exempt organization dedicated to conserving and restoring the Hylebos Creek Watershed and its native fish and wildlife populations. The proposed SR 167 project poses potential significant impacts, both positive and negative, to the health of the watershed and is therefore, a project of great interest and importance to the organization and its members.

1. Description of the affected environment and associated impacts

The DEIS falls substantially short of providing an informative description of environmental resources in the project area and presents a fragmented, inadequate assessment of project impacts. Several thematic concerns are pervasive throughout the analysis: G01-002

- The DEIS considers an insufficiently narrow suite of species, life-stages, habitat attributes and environmental functions (hereinafter, referred to collectively as "environmental receptors").

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RESPONSE G01-001

The WSDOT project team has had several meetings and discussions with you to ensure that the FOHW concerns are being considered in the FEIS. We will continue to work with you as the project moves forward.

RESPONSE G01-002

We sincerely appreciate the Friends of the Hylebos Wetlands commitment to collaborate closely with the project team, including the review of the revised discipline reports (water resources; wetlands; and wildlife, fisheries, and threatened and endangered species) which were updated to respond to comments. Based on your feedback over the last two years, we believe the FEIS addresses this comment, see sections 3.2, 3.3 and 3.4 of the FEIS.

- For those environmental receptors that are discussed, the descriptions of the current condition are cursory at best; provide few references to appropriate environmental benchmarks (e.g., historical conditions) or thresholds (e.g., biologically meaningful standards for water quality); and include almost no discussion of the combined effect of several distinct impact pathways. G01-003

- Impacts are not synthesized in any meaningful way that would permit the reader to appreciate the overall impact "message" for a particular portion of the project area (e.g., lower Hylebos Creek) or for a particular environmental receptor (e.g., juvenile Chinook salmon throughout the project area). G01-004

- The cumulative impacts analysis is decidedly inadequate in several respects and fails to follow the guidance provided by the Environmental Protection Agency on the subject (EPA, 1999). Further discussion of this follows on page 8 of this letter. G01-005

- On numerous occasions, the report refers to the lack of available information on specific topics. In most of these instances, the information in question is certainly available with adequate research of existing information resources. In other cases – considering the scale, cost and importance of the project and the multi-year planning process – it seems quite reasonable to assume that the information could easily have been collected directly by WSDOT. G01-006

Water Resources

Many of the thematic concerns identified above are reflected in the section describing the current condition and likely impacts to water resources in the project area. For ease of review, the comments below approximately follow the sequence of the sub-chapter in question, where appropriate.

The introductory section (p. 3-15) states that G01-007

> "soil densification below and adjacent to roadway embankments would have little impact because aquifers at or below 70 feet are the primary source of water in the study area, although test hole documentation consistently reported groundwater levels at depths of 2 to 5 feet beneath the local ground surface in the project area."

This statement is misleading. The conclusion of "little impact" may apply in part to the *consumptive* use of water, but the impacts to non-consumptive uses may be substantial. The shallow water table most likely implies a dynamic hyporrheic zone (i.e., the interface between ground and surface water) that may play a significant role in regulating water quantity, water quality and biotic diversity within surface waters in the project area.

With regard to flooding, the DEIS relies on aerial photos of the 1990 and 1996 events to estimate Flood Prone Areas (p. 3-16). However, discussion in the Wetlands Discipline Report includes mention of the flood of 1933 which had a measured flow in the Puyallup River that was roughly 25% greater than the 1996 event. While aerial photos may not be available for that event, it seems prudent to produce a spatial model of the likely extent of inundation using 1996 as the reference for current topography, but expanding the flows to reflect a known higher-flow event. This is particularly relevant as the Northwest is thought to be entering a 15-30 year cool/wet climate phase that may bring higher amounts of snow pack and precipitation. In addition, the impacts of human-induced global warming will be G01-008

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RESPONSE G01-003

Please see the response to G01-002.

RESPONSE G01-004

We met with the Friends of the Hylebos Wetlands in December of 2004 to discuss how to revise the discipline reports to address this comment. Based upon the additional guidance you provided, we revised our studies by ensuring the discipline report writers communicated with one another. In addition, the water resources; wetlands; and wildlife, fisheries, and threatened and endangered species sections of the FEIS have been reformatted to discuss the project area and impacts by sub-basin.

RESPONSE G01-005

Resources that were expected to experience substantial cumulative change were identified as critical resources and those sections were updated to include both an indirect and cumulative impact analysis. Critical resources for the project are water resources (section 3.2); wetlands (section 3.3); wildlife, fisheries, and threatened and endangered species (section 3.4); land use, socioeconomics, and environmental justice (section 3.11); farmland (section 3.12); and cultural resources (section 3.16).

RESPONSE G01-006

Additional data from these existing sources was analyzed and is discussed in section 3.2:

1) Federal Way continuous flow and temperature monitoring at one station in Hylebos;
2) Hydrologic analysis and modeling of Hylebos, Wapato, and Surprise Lake Drain as part of the RRP;
3) Puyallup Tribe data in general summary form for Hylebos and Wapato and through King County for East Hylebos;
4) King County data for East Hylebos.

RESPONSE G01-007

Section 3.2 of the FEIS was revised to more clearly address impacts to near surface groundwater and the deep aquifer and regional water supply issues.

RESPONSE G01-008

Section 3.2 was revised to include analysis of the draft updated FEMA floodplain maps. Based on our current analysis, significant encroachment into the floodplain as defined by 23 C.F.R. 650.105(q) will not occur.

expressed within the lifespan of this project. Global warming will likely produce warmer (but not necessarily drier) winters in the Pacific Northwest, increasing the likelihood of flooding due to rain-on-snow events. Estimates of global warming related changes to precipitation patterns are readily available from numerous sources, including the Climate Impacts Group at the University of Washington. G01-008

The DEIS incorrectly separates surface water areas into divisions that do not make hydrologic sense. For example, while it may be convenient to describe Surprise Lake Drain individually, it should be clearly described as a tributary to Hylebos Creek. This means that any impacts or purported benefits to Surprise Lake Drain – whether related to water quality, habitat restoration or hydrologic impacts - should be discussed in the biological, ecological and hydrological context of the broader Hylebos Creek watershed. The same can be said for Fife Ditch. The Ditch enters Hylebos Creek just upstream of its mouth at Hylebos Waterway. G01-009

The brief discussion of hydrology within the Hylebos Creek watershed emphasizes "flash discharges" and flood impacts. However, the report provides no information on the magnitude of these peak flows relative to any meaningful benchmarks, such as median monthly flows during the wet season, or likely pre-development hydrology. This makes it very difficult to assess whether project effects will exacerbate or ameliorate a particular hydrologic dysfunction. One useful metric for assessing hydrologic alteration is the degree of change from natural or historic conditions, e.g., the current versus historical ratio of monthly or annual peak flows to mean or median flows. G01-010

It is true that Hylebos Creek suffers from high flow related issues. However, the report fails to describe the recent development and possible effectiveness of stormwater detention facilities in the watershed that were designed to reduce peak-flows during storm events. Since 1991, the city of Federal Way has constructed 4 regional stormwater retention/detention ponds in the upper basin, totaling more than 400 acre-feet of stormwater storage capacity. This omission is but one example of the use of outdated information in the DEIS; most of the references in the section describing Hylebos Creek (and several other sections of the report) are 12-15 years old. G01-011

The DEIS mentions impacts to floodwater storage via the filling and hydrologic disconnection of wetlands in the Hylebos watershed, but provides no quantitative information about the loss of storage capacity or the percentage of effective wetland loss. The same can be said for total impervious surfaces, for which there are no estimates in the DEIS for the project area or specific watersheds. The impact of adding new impervious surfaces can only be properly assessed with accurate knowledge about current levels within the project area as a whole and within critical sub-areas, such as the flood-prone sections of lower Hylebos Creek. G01-012

There is no mention made in the DEIS about the level of dry-season low flows in Hylebos Creek or in any of the other area streams. Hylebos Creek suffers from very low flows during the late summer and fall, largely due to the loss of natural storage capacity throughout the watershed and the loss of wetlands in the lower reaches. Low flows exacerbate numerous water quality issues by elevating pollutant concentrations and water temperature, while also reducing the amount of available wetted habitat. The SR-167 project will destroy wetlands, reducing local water storage that is important for maintaining base-flows in the stream. Other possible disruptions to hydrologic continuity (e.g., soil compaction and subsequent impacts to shallow groundwater flow and storage) must also be considered. *The reduction of already low dry-season flows will likely have equally serious –* G01-013

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RESPONSE G01-009

Surprise Lake Drain is described as a tributary to Lower Hylebos Creek, and Fife Ditch is described to drain to Hylebos Creek near the crossing of SR 509 through a tide gate and pump station, see section 3.2.2 of the FEIS. The FEIS has been updated to better reflect impacts in the context of the broader Hylebos Creek watershed.

RESPONSE G01-010

The *Analysis of the SR-167 Extension and Riparian Restoration Proposal in the Hylebos Watershed - Hydrology, Hydraulics, and Geomorphology*, MGS 2004, includes modeling to quantify current and future floodplain depths/elevations, velocities, and channel shear stress. See the floodplain impact analysis in section 3.2.5.

RESPONSE G01-011

Please see the response to G01-010 and G01-006.

RESPONSE G01-012

Please see the response to G01-010.

RESPONSE G01-013

Although the Riparian Restoration Proposal (RRP) will not address low flow in Hylebos Creek during the late summer and fall, design of the RRP area can address factors such as stream temperature. In collaboration with stakeholders such as your agency, the RRP has been further described in sections 3.2, 3.3, 3.4, and 3.17 of the FEIS. Future design of the RRP will be coordinated with your agency through the RRP Technical Advisory Group, which FOHW is a member of.

and in some cases more serious - biological consequences for numerous species (e.g., juvenile salmon, mussels, other invertebrates) than will the exacerbation of high flows. These issues should be addressed in the final EIS. G01-013

The water quality data in the DEIS for Hylebos Creek and other streams is severely inadequate and out-of-date. The DEIS cites data published in 1990 and earlier (often collected in the early 80's) to describe current conditions! While it is important to include older, historical data, WSDOT should attempt to provide a realistic view of water quality in each of the area streams. It is impossible to evaluate the effect of increased pollutant loading or higher summer temperatures without an accurate assessment of current conditions. The SR-167 project has been underway for several years – it does not seem reasonable to suggest, for example, that "No water quality data are available for Surprise Lake Drain." The data could easily have been collected by WSDOT, or funding and equipment could have been provided to local watershed groups, such as the Friends of the Hylebos Wetlands, who would have gladly cooperated with WSDOT. This issue is particularly important in that WSDOT is proposing an ambitious stream relocation plan for the Hylebos as well as an extensive, experimental stormwater management approach based on riparian restoration and constructed wetlands. How can the effectiveness of these efforts be monitored without accurate baseline information? G01-014

We recommend that WSDOT immediately implement a comprehensive, continuing water quality monitoring program for area streams to accurately quantify current conditions while providing a baseline for future monitoring.

According to Table 3.2-3, clearing and grading for roadway construction will impact 311 acres. Roughly 175 of those acres are within the Hylebos Creek/Surprise Lake Drain watershed area. Apart from providing general statements about the potential impacts of sedimentation on ecological functions and flooding, the DEIS provides no analysis of potential construction-related sediment inputs to the stream and resulting impacts to associated biota or the flood conveyance capacity of the stream. This is particularly important for a project of this magnitude in that construction will not be limited to temporal "windows" that are designed to minimize impacts to fish and wildlife. G01-015

Operational impacts to surface waters are also inadequately described. The impacts for different streams are described inconsistently, making it very difficult to assess the overall project impact. For example, the DEIS estimates Total Suspended Solids (TSS) discharges to lower Hylebos Creek, but does not provide information for any other pollutants. The description of impacts to Wapato Creek, on the other hand, include TSS and five other pollutants.

According to the DEIS, TSS discharges from *treated* runoff to lower Hylebos Creek watershed and the Fife Ditch watershed are expected to increase by 10,908 kg and 5,398 kg per year, respectively. This is a substantial amount during one year, not to mention during the life of the project. However, the DEIS goes on to say that Best Management Practices (BMPs) and maintenance practices would prevent significant water quality impacts. First, there is no information provided regarding the background or current level of natural and/or anthropogenic TSS input to the watershed, or of current TSS concentrations during specific times of year. This makes it impossible to gauge the significance of additional inputs. Second, since the TSS-loading estimates are for treated runoff, please provide the assumed treatment effectiveness of the proposed treatment BMPs. Thirdly, stormwater impacts – by definition – occur sporadically rather than regularly. The DEIS should analyze the acute G01-016

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RESPONSE G01-014

The monitoring efforts in the Hylebos basin of Friends of the Hylebos Wetlands have been included as part of the analysis for water resource impacts. This long term monitoring program represents a collaborative effort between your group and WSDOT which will improve understanding of the water quality condition of Hylebos Creek near the project area. See section 3.2 of the FEIS.

RESPONSE G01-015

The wildlife, fisheries, and threatened and endangered species section 3.4.3 of the FEIS has been revised and includes an analysis of construction related sediment inputs to Hylebos Creek.

RESPONSE G01-016

Sections 3.2.5 and 3.2.7 of the FEIS have been revised and include analysis of six parameters of concern from highway runoff.

impacts of likely discharges on water quality and on seasonally vulnerable biota, such as incubating salmon eggs. G01-016

The project is expected to add roughly 110 acres of new impervious surface to the lower Hylebos Creek/Fife Ditch area, while reducing flood storage capacity by over 60 acre-feet. Again, no estimates are provided regarding the current flood storage capacity, except to show via photographs that flooding is a very serious problem in this area. It seems reasonable to expect that some type of combined hydraulic/hydrologic modeling exercise could be used to quantify floodplain impacts during events of various magnitudes. The Hylebos Creek relocation proposal is expected to counteract some of these flood storage losses, but the DEIS does not provide any quantitative estimates of the net impact. G01-017

Wetlands

The wetlands analysis suffers from several shortcomings. First, wetlands are described and analyzed as independent, isolated units, rather than as components of a broader hydrologic system. The description should attempt to convey the wetland system as it pertains to annual flow regimes, flooding, groundwater recharge/discharge, habitat connectivity and other key functions.

Second, the hydrologic connectivity of wetlands to each other and to surrounding water bodies should be discussed more rigorously. The DEIS refers to "several hydrologically isolated freshwater wetlands" (p.3-67), but does not indicate how isolation was determined. While it may be true that apparent surface connections are lacking, it seems highly improbable that wetlands located in or near a floodplain with mostly flat topography are not connected via shallow ground water (2-5 ft depth according to the DEIS) or seasonal surface water connections. Furthermore, the DEIS should distinguish between isolation due to prior anthropogenic disturbances and naturally isolated wetlands. G01-018

Third, as stated in our comments on the wetlands discipline report, the assessment of wetland functions is extremely cursory and biased toward physical values, such as flood flow alteration – and biased against any conceivable biological or ecological benefits, such as habitat. For example, the functions of 27 out of 39 wetlands for which functions were described are characterized as "flood flow alteration, sediment and heavy metals retention, and nutrient and toxicant removal". Only one wetland was identified as providing potential amphibian habitat, and none were identified as providing potential fish habitat, aquatic invertebrate habitat or aquatic bird habitat.

Fourth, wetland impacts are described simply as losses of wetland acreage and wetland buffers, without any assessment of the loss of wetland functions. This is a very simplistic viewpoint that underestimates the importance of wetlands. The DEIS should provide quantitative estimates of losses to specific wetland functions, such as nutrient and toxicant removal, heavy metals retention, habitat values and flood storage. The analysis is further weakened by the fact that neither the DEIS or the discipline report provides any estimate of the proportional loss of wetland acreage, i.e., the percentage of existing acreage that will be destroyed in each watershed. This issue again relates to one of our main thematic criticisms of the DEIS: the descriptions of existing conditions are severely inadequate, precluding an informed assessment of project impacts. G01-019

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RESPONSE G01-017

Please see responses to Comments G01-008 and G01-010.

RESPONSE G01-018

The wetlands analysis has been revised, and wetland impacts are described by sub-basin, see section 3.3.3 of the FEIS.

RESPONSE G01-019

Section 3.3.7 of the FEIS describes how the wetland functions and values will be replaced.

Fifth, the DEIS provides estimates of losses to wetland buffers, but does not specify what exactly is being estimated. It is not clear, for example, whether the analysis assumes some uniform buffer width around each wetland and simply estimated the loss of that acreage. The analysis does not provide any meaningful details, such as whether remaining portions of a specific wetland are left with reduced or absent buffers, and how such an impact is likely to affect wetland function. It seems reasonable to assume that a wetland without adequate buffers is less able to provide key functions, such as pollutant removal and wildlife habitat. G01-020

Finally, the wetland mitigation area lies along the Puyallup River, while a substantial portion of the wetland losses are within the Hylebos Creek watershed. While the mitigation is still occurring within the same, larger watershed (WRIA 10), the impacts to Hylebos Creek are not being locally mitigated. This problem emphasizes the urgent need to provide detailed plans for the riparian restoration and stream relocation proposals so that the net effect of the project can be properly assessed. G01-021

Wildlife, Fisheries and Threatened and Endangered Species

The wildlife and fisheries section suffers from many of the same types of problems as the wetlands and water resources sections: insufficient depth and breadth of analysis; simplistic characterization of the types of likely impacts; lack of analytical linkages between different categories of impacts (e.g., the impacts of specific water quality changes on particular species and/or life stages); and a general dearth of information regarding the status of species as well as current and historical habitat conditions in the area.

The suite of species that is discussed in the DEIS is extremely limited, particularly for aquatic organisms. No mention is made of non-salmonids; Hylebos Creek, for example is known to support freshwater mussels which are among the most sensitive types of aquatic organisms in terms of their susceptibility to degradation of water quality. G01-022

Western pearlshell freshwater mussels are known to reside in Hylebos Creek within the project area. Three general locations are known to us, near the Highway 99 crossing at the Golden Rule Motel, at the I-5 Bridge upstream of Porter Way and between Comet and Birch Streets on the West Hylebos. Since they are anchored in the stream bottom, freshwater mussels are particularly vulnerable to both construction and operational related impacts. Therefore, it is essential that the FEIS include a survey to identify existing mussel beds, assess the state of the creek's population and assess likely impacts to this vulnerable species. This is particularly important for areas where stream relocation is being considered, as mussels residing in those streams will need to be moved prior to channel decommissioning, or the creatures will perish.

For fish, the DEIS provides inadequate consideration of life history stages. The information on species utilization (including information provided in the discipline report) is largely limited to descriptions of known spawning areas. Spawning areas are often completely different from rearing or adult holding areas with different habitat attributes and life-stage requirements. G01-023

Fish habitat descriptions are extremely cursory and are in no way linked to any quantitative metrics or recognized threshold values (e.g., the NOAA Fisheries' "Properly Functioning Conditions"). Without the benefit of an accurate description of current conditions relative to meaningful benchmarks, it not possible to assess the combined impacts of project components or the potential benefits of mitigation and restoration. G01-024

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RESPONSE G01-020

Section 3.3.3 of theFEIS has a clarified discussion of wetland buffer impacts.

RESPONSE G01-021

The Conceptual Mitigation Plan, WSDOT, February 2005, identifies several potential mitigation sites within the Hylebos basin. This plan also includes information about the stream relocation proposals. A Net Environmental Benefits Analysis was also conducted to quantitatively estimate the benefits of the Riparian Restoration Proposal, see section 3.17 of the FEIS.

RESPONSE G01-022

Additional analysis of the western pearlshell freshwater mussels is included in section 3.4 of the FEIS. Also, please see the response to G01-002.

RESPONSE G01-023

The issues you have raised are currently being given further consideration in the Biological Assessment (BA) and ESA consultation process. New information will be provided to you when the BA process is complete.

RESPONSE G01-024

Please see updated tables 3.4-6 and 3.4-7.