



**Memorandum**

**Date:** October 19, 2011

**To:** Paul Krawczyk and Marina Arakelyan  
City of Bellevue Department of Transportation

**From:** Ken Oswell and Kenneth Loen  
Parsons Brinckerhoff

**Subject:** Critical Areas Technically Feasible Alternatives Analysis Letter Report  
for the NE 4<sup>th</sup> Street/120<sup>th</sup> Avenue NE Corridor Project

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**CRITICAL AREA IMPACTS – TECHNICAL FEASIBILITY ANALYSIS**

**Applicable Land Use Codes**

Pursuant to the *Bellevue City Code (BCC)*, as codified by *Land Use Code (LUC) 20.25H Critical Areas Overlay District*, the project is required to meet certain performance criteria as a result of impacts to identified critical areas.

**Critical Area Types**

LUC 20.25H identifies requirements related to impacts to the following Critical Areas (bold indicates Critical Areas addressed by this memo):

1. **Streams**
2. **Wetlands**
3. Shorelines
4. **Geologic hazard areas**
5. Habitat associated with species of local importance
6. Areas of special flood hazard

For reasons described below, this technical feasibility analysis will only address the following critical areas: Streams, Wetlands, and Geological Hazard Areas (specifically, Steep Slopes).

**Allowable Uses**

Allowable uses for all critical areas *except habitat areas* are outlined by LUC 20.25H.055. The NE 4<sup>th</sup> Street/120<sup>th</sup> Avenue NE Corridor Project falls within the allowable use identified as “New or expanded public rights-of-way, private roads, access easements and driveways.” The LUC defines sets of performance standards that must be met, which vary for streams, wetlands, shorelines, geologic hazard areas, and areas of special flood hazard.

October 19, 2011

Page 2 of 12

Allowable uses for habitat critical areas are defined by LUC 20.25H.050.B.1, which states that all uses allowable by zoning may be undertaken in habitat critical areas, so long as the performance standards of LUC 20.25H.160 are met. Those standards do not reference a requirement for a technical feasibility analysis, so habitat associated with species of local importance will not be addressed by this memo. Habitat impacts and mitigation related to the project are detailed in the *Significant Tree Reconnaissance Letter Report for the NE 4<sup>th</sup> Street/120<sup>th</sup> Avenue NE Corridor Project (Shannon and Wilson, October 2011)*.

### **Performance Standard Requiring Technical Feasibility Analysis**

Subsection LUC 20.25H.055.C.2.a requires that a determination of technically feasible alternatives be prepared in order to demonstrate that no technically feasible alternative with less impact exists for streams, wetlands, shorelines, geologic hazard areas, and areas of special flood hazard. However, the NE 4<sup>th</sup> Street/120<sup>th</sup> Avenue NE Corridor Project has no impacts to shorelines or areas of special flood hazard, so those two types of critical areas will not be addressed by this memo. Furthermore, the project impacts only the sub-category of "steep slopes" in the geologic hazard areas category, so all further references to geologic hazard areas in this memo will refer specifically to steep slope critical areas.

The purpose of this memo, therefore, is to meet the requirement of LUC 20.25H.055.C.2.a to provide a technical feasibility analysis with respect to project impacts on stream, wetland, and steep slope critical areas. These critical areas along the NE 4<sup>th</sup> Street/120<sup>th</sup> Avenue NE corridor are described below and shown on Figure 1. Further information concerning wetland and stream impacts can be found in the *NE 4<sup>th</sup> Street/120<sup>th</sup> Avenue NE Corridor Project, Wetland and Stream Delineation Technical Report (Revised Draft)(Shannon and Wilson, June 2011)*.

### **STREAMS**

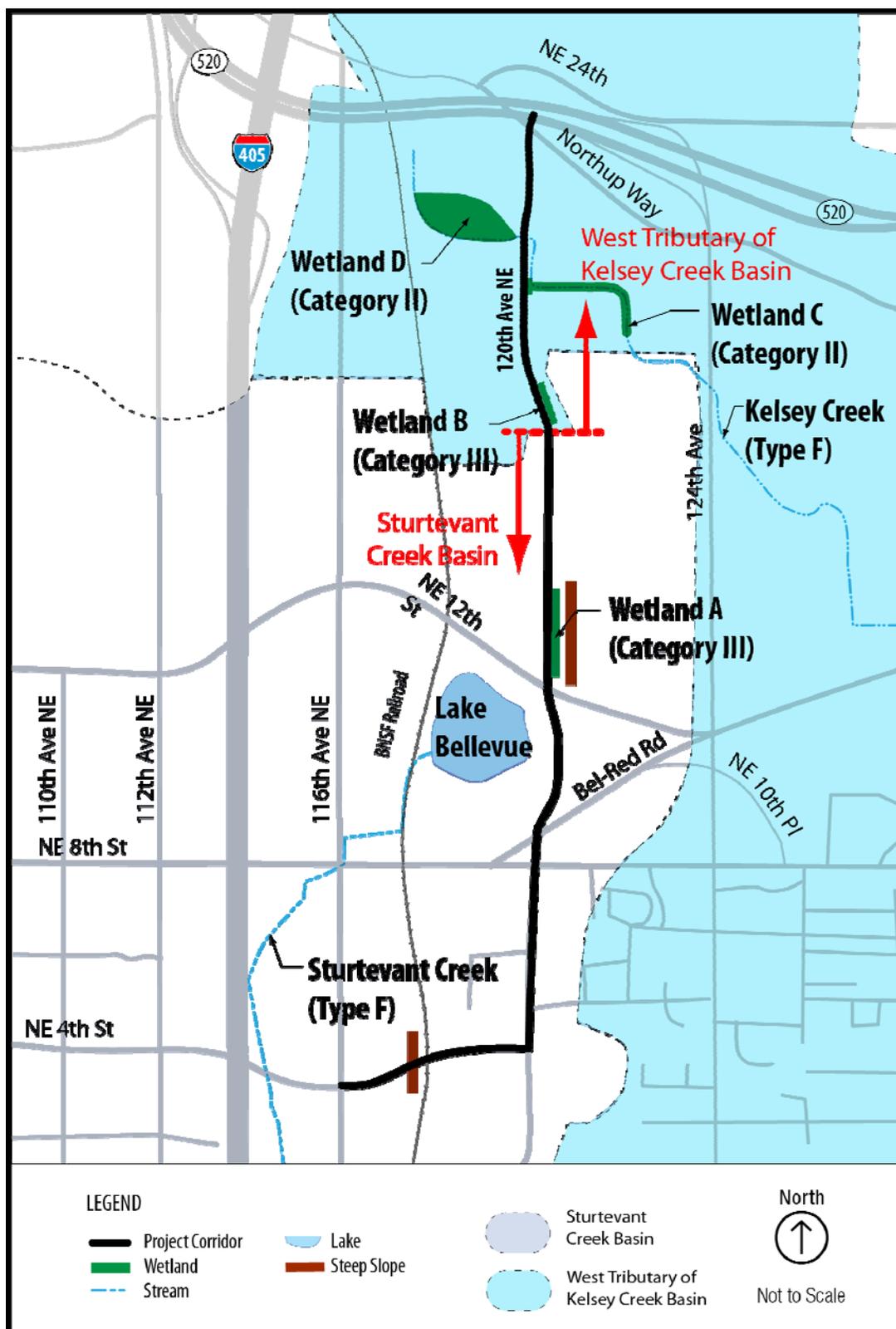
#### **Stream Location 1: West Tributary of Kelsey Creek Crossing 120<sup>th</sup> Avenue NE, South of Northup Way**

The West Tributary of Kelsey Creek originates in Wetland D where it flows within a 5-foot-wide active channel with a bed comprised of 6 inches of silt. The tributary currently crosses perpendicularly beneath 120th Avenue NE through a buried 36-inch corrugated metal pipe to a manhole on the east side of the street. One other smaller culvert from the northwest also conveys water to this manhole. The tributary exits the manhole to the south in a second buried 36-inch corrugated metal pipe that runs parallel to 120th Avenue NE for approximately 250 feet and then daylights and outfalls into Wetland C adjacent to the roadway. Shortly after the outfall, the stream turns east and flows away from the project through Wetland C. The active channel in Wetland C is approximately 4 feet wide with a bed comprised of sand and well-rounded gravels. As the stream exits the second 36-inch pipe, the ordinary high water mark for the stream fans out above the banks of the active channel and adjacent portions of Wetland C (as shown in Figure 1).

October 19, 2011

Page 3 of 12

Figure 1. NE 4<sup>th</sup> Street/120<sup>th</sup> Avenue NE Corridor Project Critical Areas Map



October 19, 2011

Page 4 of 12

### Analysis:

Widening of 120<sup>th</sup> Avenue NE is one of the infrastructure needs identified for the Bel-Red Subarea in the City of Bellevue Comprehensive Plan (Comp Plan). The transportation

improvements identified in the Comp Plan are intended to produce an integrated network of streets necessary to provide the transportation service needed to achieve the Comp Plan goals and objectives for the Bel-Red Subarea. Not widening 120<sup>th</sup> Avenue NE or shifting improvements to another corridor would compromise the functionality of the street system to provide the required service. There is no technically feasible alternative to widening 120<sup>th</sup> Avenue NE that would have less impact on this stream, for reasons described below.

The preferred roadway alignment for 120th Ave NE closely follows the centerline of the existing two-lane roadway. The widened roadway would have four lanes with a 10-foot bike trail and two variable width planter strips on the west side, a 5-foot planter on the east side, and 8-foot sidewalks on both sides.

The Preferred Alternative for widening 120<sup>th</sup> Avenue NE was chosen to minimize impacts to the stream crossing. The project proposes to widen 120<sup>th</sup> Avenue NE where it passes over the West Tributary of Kelsey Creek (and between Wetlands C and D as described below). As noted in the *Alternatives Evaluation and Screening Technical Report (Parsons Brinckerhoff, 2011)*, symmetrical widening of the roadway about the centerline of the existing roadway is preferred in this area for a variety of reasons such as favorable roadway geometry and not having to demolish an occupied building on the Granger property, and this alignment also works to minimize impacts between critical areas. Shifting the alignment to reduce impacts on one of the wetlands or stream would increase impacts on the other critical areas. The alignment as currently proposed impacts Wetland D's buffer but does not directly impact Wetland D. This is advantageous because Wetland D is considered the highest functional wetland in the project area.

### Mitigation:

In order to mitigate stream impacts, the existing 36-inch storm sewer pipes and manhole would be replaced with two, open-bottom box culverts; one under 120th Avenue NE, and the second under a private driveway on the east side of 120th Avenue NE situated on the Safeway Property. Between the two box culverts, the stream would be conveyed along the east side of the roadway in a new open channel constructed with the project, and would tie in with the existing stream channel at the outlet of the second box culvert. The box culverts would be designed for the hydraulic flows and to be fish-passable, as well as to allow wildlife crossings, if possible.

All work for the stream crossing shall comply with all applicable City of Bellevue Codes and Standards and shall be conducted to minimize disturbance of the stream and stream buffer, including disturbance of vegetation and soils. It is anticipated that the stream enhancement features proposed for the project, including open-bottom box culverts, creating a reach of new open channel, and associated restoration and new plantings, would provide adequate mitigation for the stream and buffer impacts to satisfy the requirements of LUC 20.25H.210.

October 19, 2011

Page 5 of 12

## **WETLANDS**

### **Wetland Location 1: Wetland A**

Wetland A is a Category III wetland located within the Wright Runstad property just north of NE 12<sup>th</sup> Street along the east side of 120<sup>th</sup> Avenue NE. The project proposes to widen the existing two-lane roadway along the entire length of Wetland A to five lanes with a 5-foot bike lane, 5-foot planter and 8-foot sidewalk on each side.

#### Analysis:

Widening of 120<sup>th</sup> Avenue NE is one of the infrastructure needs identified for the Bel-Red Subarea in the City of Bellevue Comprehensive Plan (Comp Plan). The transportation improvements identified in the Comp Plan are intended to produce an integrated network of streets necessary to provide the transportation service identified by the Comp Plan goals and objectives for the Bel-Red Subarea. Not widening 120<sup>th</sup> Avenue NE or shifting improvements to another corridor would compromise the functionality of the street system to provide the required service. There is no technically feasible alternative to widening 120<sup>th</sup> Avenue NE that would have less impact on this wetland without creating additional SEPA impacts, for reasons described below.

The preferred roadway alignment immediately north of NE 12<sup>th</sup> Street is configured to match the alignment south of NE 12<sup>th</sup> Street. South of NE 12<sup>th</sup> Street, the preferred alignment for 120<sup>th</sup> Avenue NE recommended in the *Alternatives Evaluation and Screening Technical Report (2011)* is to shift the existing roadway centerline far enough to the east to minimize the need to over excavate the load-sensitive, highly compressible (peaty) soils underlying the Lake Bellevue properties and extending close to the west edge of the existing two-lane roadway. In order to maintain roadway continuity with this easterly alignment south of NE 12<sup>th</sup> Street without compromising safety and design criteria, the alignment south of NE 12<sup>th</sup> Street would be extended straight through the NE 12<sup>th</sup> Street intersection, resulting in an unavoidable impact to all of Wetland A immediately north of NE 12<sup>th</sup> Street.

Efforts to align the roadway widening south of NE 12<sup>th</sup> Street to be centered about the existing roadway centerline, or to shift it even farther west, to avoid impacts to Wetland A would result in the need to over excavate the peat to build the proposed roadway fills and retaining walls, or to bridge over this area. Either of these options would result in greater construction and long-term maintenance risks and disproportionately high cost compared to the value of this Category III wetland.

#### Mitigation:

The NE 7th Street to NE 12th Street construction stage will impact 325 sf of Wetland A's buffer. This area equals less than two percent of Wetland A's total buffer and consists of grass, weedy shrubs, and a portion of a dirt or gravel pull-out/parking area along 120th Avenue NE. This buffer is considered to be poor-quality buffer that does not provide much functional value for protecting the wetland. Therefore, it is our opinion that this loss of 325 sf of wetland buffer is negligible and will not cause irreparable harm to Wetland A.

To mitigate for the buffer impact, we propose to enhance 325 sf of Wetland D's buffer by removing blackberries and installing native shrubs and trees along the southern boundary.

October 19, 2011

Page 6 of 12

This mitigation would require an easement on the Granger property. The City would also require monitoring and achievement of performance standards based on BCC.

This mitigation would occur in the West Tributary of Kelsey Creek subbasin rather than in the Sturtevant Creek subbasin where the wetland buffer impact is occurring. However, we recommend this mitigation strategy because: (a) it would be inappropriate and counterproductive to enhance the remaining buffer of Wetland A since it will be cleared and filled during the NE 12th Street to NE 16th Street construction stage, and (b) no suitable wetland buffer creation or enhancement sites have currently been identified in the Sturtevant Creek subbasin.

With the construction of NE 112th Street to NE 16th Street, approximately 8,260 sf of Wetland A will be impacted. The following table quantifies the City's wetland mitigation requirements, and the Corps and Ecology wetland mitigation options, for the proposed Wetland A impacts.

### Wetland A - Wetland Mitigation Requirements

| Impacted Area    | Impact Area (sf) | Bellevue R/C (sf) | U.S. Army Corps of Engineers/Department of Ecology Options (one required) |         |                       |                      |        |
|------------------|------------------|-------------------|---|---------|-----------------------|----------------------|--------|
|                  |                  |                   | R/C (sf)  | RH (sf) | R/C and RH (sf)       | R/C and E (sf)       | E (sf) |
| Wetland A        | 8,260            | 16,520            | 16,520  | 33,040  | 8,260 R/C + 16,520 RH | 8,260 R/C + 33,040 E | 66,080 |
| Wetland A Buffer | 20,693           | 20,693            | None specified  |         |                       |                      |        |

*Wetland Replacement Ratios Source: Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance (Version 1) (published by Ecology in 2006)*

*E = Wetland Enhancement; R/C = Wetland Re-establishment or Creation; RH = Wetland Rehabilitation*

Based on Ecology's Wetland Rating System for Western Washington, Wetland A has high water-quality functions, low hydrologic functions, and moderate habitat functions. To compensate for the wetland water-quality functions that will be lost, the wetland mitigation would need to be located in an area that receives untreated stormwater runoff. To compensate for the hydrologic functions, the wetland mitigation would also need to be located in an area that drains to a river or stream that has flooding problems. The wetland mitigation would need to establish persistent vegetation by removing invasive species and/or installing native plants. The wetland mitigation also would need to create or restore areas of ponding in a wetland to slow down stormwater flow, to allow sediments to fall out of the water, and to reduce flooding and erosion downstream.

October 19, 2011

Page 7 of 12

To mitigate for the habitat functions lost, the wetland mitigation area should have a minimum of two vegetation classes and include a variety of native species to emphasize species diversity. To mitigate for the known pileated woodpecker habitat in Wetland A, snags and native tree species should be installed in the mitigation area to provide immediate and future habitat for this species. Other potential ways to increase habitat function that may be used are to enhance existing wetlands, or create new wetlands, with different hydrologic regimes (e.g., permanently ponded areas, seasonally ponded areas, saturated-only areas, etc.), create habitat features (e.g., install woody debris, plant thin-stemmed emergent plants for amphibian habitat), and perform the wetland mitigation adjacent or near to other wetlands and/or a stream, if possible.

Because Wetland A will be cleared and filled during the NE 12th Street to NE 16th Street construction stage, on-site buffer mitigation is not recommended. Therefore, to mitigate for Wetland A buffer impacts, a minimum of 20,693 sf of wetland buffer will need to be enhanced around an existing wetland and/or be set aside around a new wetland creation area. The buffer should be dominated by native vegetation and be protected from clearing or mowing.

#### **Wetland Locations 2, 3, and 4: Wetlands B, C, and D**

Wetland B is a Category III wetland located north of NE 16<sup>th</sup> Street along the east side of 120<sup>th</sup> Ave NE. The project proposes to widen the existing 2-lane roadway past Wetland B to four lanes with a 10-foot bike trail and a variable width planter strip on the west side, a 5-foot planter on the east side, and 8-foot sidewalks on both sides.

Wetlands C and D are both Category II wetlands. Wetland C is located on the east side of 120<sup>th</sup> Avenue NE where the existing West Tributary of Kelsey Creek outfalls from the existing 36" storm sewer pipe that parallels the roadway. Wetland D is located on the west side of 120<sup>th</sup> Avenue NE where the existing West Tributary to Kelsey Creek enters the existing 36" storm sewer pipe that conveys the creek flows beneath the roadway. The project proposes to widen the 2-lane roadway past Wetlands C and D to four lanes with a 10-foot bike trail and a variable width planter strip on the west side, a 5-foot planter on the east side, and 8-foot sidewalks on both sides.

Impacts to the buffers of these wetlands are minimal.

#### **Analysis – Wetland B:**

The preferred roadway alignment for 120<sup>th</sup> Avenue NE widening recommended in the *Alternatives Evaluation and Screening Technical Report (2011)* closely follows the centerline of the existing roadway. Symmetrical widening of the roadway about the centerline of the existing roadway would impact Wetland B in its entirety. Any shift in the alignment to avoid or minimize impacts to Wetland B would result in other issues such as additional right-of-way take from the IP Eat property on the west, parking loss within the IP Eat property, an undesirable and potentially less safe alignment that has multiple curves in close proximity to each other, and close proximity of the roadway to the building on the IP Eat property.

The *Alternatives Evaluation and Screening Technical Report (2011)* determined that an alignment that would completely avoid impacts to Wetland B was not preferred. The key points of that recommendation are summarized in Table 1 below.

October 19, 2011

Page 8 of 12

**Table 1. Wetland B Impact Issues**

| ISSUE  | PREFERRED ALIGNMENT   | SHIFT ALIGNMENT WEST TO AVOID IMPACTS TO WETLAND B   |
|--|---|--|
| <b>Roadway Alignment</b>                       | Roadway alignment meets 35 mph design criteria and is situated close to the existing roadway centerline for symmetrical widening. | Roadway alignment meets 35 mph design but is shifted 27.5 feet west of the existing roadway centerline, introducing an additional reverse curve in close proximity, thereby increasing the risk of crashes during low visibility and wet weather conditions. |
| <b>Impacts to Parking</b>                      | Loss of an estimated 3 customer parking spaces on International Paper site.   | Loss of an estimated 10 out of an estimated 20 customer parking spaces (~50%).<br><br>Loss of an estimated 30 employee parking spaces (~35%).  |
| <b>Impacts to Landscaping &amp; Recreation</b> | □ Impacts to mature shrubs, trees, and landscaping along the entire east property line of International Paper property.           | Increased Impacts to mature shrubs, trees, and landscaping along the entire frontage and in the vicinity of the buildings situated within the International Paper property.  |
| <b>Impacts to Building</b>                     | Back edge of sidewalk would be approximately a minimum of 48 feet from the closest point along the International Paper Building.  | Back edge of sidewalk would be approximately a minimum of 11 feet from the closest point along the International Paper building. Proximity would likely require that steps to front entrance be modified.  |

The potential cost to compensate adjacent property owners on the west side of the project for extensive right-of-way and parking impacts would be disproportionately high in comparison to the value of the size and function of this Category III wetland. This, along with safety concerns resulting from deviations to engineering standards, drove the decision to locate the alignment along the route identified by the project.

#### Analysis – Wetlands C and D:

Widening of 120<sup>th</sup> Avenue NE is one of the infrastructure needs identified for the Bel-Red Subarea in the City of Bellevue Comprehensive Plan (Comp Plan). The transportation improvements identified in the Comp Plan are intended to produce an integrated network of streets necessary to achieve the Comp Plan goals and objectives for the Bel-Red subarea. Not widening 120<sup>th</sup> Avenue NE or shifting improvements to another corridor would compromise the functionality of the street system to provide the required service. There is no technically feasible alternative to widening 120<sup>th</sup> Avenue NE that would have less impact on

October 19, 2011

Page 9 of 12

these wetlands, for reasons described below and also summarized in the previous stream impacts discussion.

The project proposes to widen 120<sup>th</sup> Avenue NE where it passes between these wetlands. As noted in the *Alternatives Evaluation and Screening Technical Report (2011)*, symmetrical widening of the roadway about the centerline of the existing roadway is preferred in this area for a variety of reasons such as favorable roadway geometry and not having to demolish an occupied building on the Granger property, and would also work to minimize impacts to these wetlands. Any shifts in the alignment to reduce impacts on one of the wetlands would increase impacts on the other.

The alignment as currently proposed impacts Wetland D's buffer but does not directly impact Wetland D. This is because the proposed roadway alignment is also constrained on the west by an existing building situated in the northeast corner of the same property (Granger) that is largely occupied by Wetland D. This is advantageous, however, because Wetland D is likely the highest functional wetland in the project area.

#### Mitigation – Wetlands B, C, and D:

The following table quantifies the City's wetland mitigation requirements, and the Corps and Ecology wetland mitigation options, for the proposed Wetlands B, C, and D wetland and/or wetland buffer impacts.

#### **Wetlands B, C, and D - Wetland Mitigation Requirements**

| Impacted Area    | Impact Area (sf) | Bellevue | U.S. Army Corps of Engineers/Department of Ecology Options (one required) |         |                      |                      |        |
|------------------|------------------|----------|---|---------|----------------------|----------------------|--------|
|                  |                  | R/C (sf) | R/C (sf)  | RH (sf) | R/C and RH (sf)      | R/C and E (sf)       | E (sf) |
| Wetland B        | 4,510            | 9,020    | 9,020   | 18,040  | 4,510 R/C + 9,020 RH | 4,510 R/C + 18,040 E | 27,060 |
| Wetland C        | 280              | 840      | 840   | 1,680   | 280 R/C + 1,120 RH   | 280 R/C + 2,240 E    | 3,360  |
| Wetland B Buffer | 8,915            | 8,915    | None specified  |         |                      |                      |        |
| Wetland C Buffer | 3,045            | 3,045    | None specified  |         |                      |                      |        |
| Wetland D Buffer | 2,195            | 2,195    | None specified  |         |                      |                      |        |

*Wetland Replacement Ratios Source: Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance (Version 1) (published by Ecology in 2006)*

October 19, 2011

Page 10 of 12

*E = Wetland Enhancement; R/C = Wetland Re-establishment or Creation; RH = Wetland Rehabilitation*

Wetland impacts are proposed for Wetlands B and C. Based on Ecology's Wetland Rating System for Western Washington, Wetland B is a depressional system has moderate water quality functions, moderate hydrologic functions, and low habitat functions. Wetland C is a riverine system that has high water-quality functions, high hydrologic functions, and moderate habitat functions.

To compensate for wetland impacts in the West Tributary of Kelsey Creek subbasin, the project will need to create, restore, or enhance both a depressional wetland and a riverine wetland. This mitigation will be conducted on one or more sites, but both types of wetlands will need to part of the wetland mitigation.

To compensate for the wetland water-quality functions that will be lost, the wetland mitigation will be located in an area that receives untreated stormwater runoff. To compensate for the hydrologic functions, the wetland mitigation would also need to be located in an area that drains to a river or stream that has flooding problems. The wetland mitigation would need to establish persistent vegetation by removing invasive species and/or installing native plants. The wetland mitigation also will need to create or restore areas of ponding in a wetland to slow down stormwater flow, to allow sediments to fall out of the water, and to reduce flooding and erosion downstream.

To mitigate for the habitat functions lost, the wetland mitigation area will have a minimum of two vegetation classes and include a variety of native species to emphasize species diversity. Snags and large woody debris should be installed in the wetland mitigation site to mitigate for the snags and downed trees present in Wetland C. Other potential ways to increase habitat function that may be utilized are to enhance existing wetlands, or create new wetlands, with different hydrologic regimes (e.g., permanently ponded areas, seasonally ponded areas, saturated-only areas, etc.) and to create habitat features in the mitigation site (e.g., plant overhanging vegetation over a stream and/or plant thin-stemmed emergent plants in seasonally ponded areas for amphibian habitat).

To mitigate for buffer impacts, a minimum of 14,155 sf of wetland buffer will need to be enhanced around an existing wetland and/or be set aside around a new wetland creation area. Wetland B's buffer consists mainly of grass and weedy shrub species; however, the buffers of Wetlands C and D are forested. Therefore, the buffer mitigation area will be planted with native vegetation, include a forested component, and be protected from clearing or mowing.

### ***STEEP SLOPE AREAS***

#### **Steep Slope Location 1: Proposed NE 4<sup>th</sup> Street Crossing the Western Embankment of the ex-BNSF Railroad Corridor.**

##### Analysis:

There is no existing roadway infrastructure at this location. The new NE 4<sup>th</sup> Street extension would be created by a new roadway alignment that extends east and west between 116<sup>th</sup>

October 19, 2011

Page 11 of 12

Avenue NE and 120<sup>th</sup> Avenue NE. The project proposes to construct five lanes with a 5- to 6-foot bike lane, 4-foot planter and 8-foot sidewalk on each side.

The steep slope on the western embankment of the ex-BNSF railroad corridor extends north and south within the project area, well beyond the limits of all feasible alignments for NE 4<sup>th</sup> Street. The new NE 4<sup>th</sup> Street alignment must traverse the steep slope at some location within the project area and, therefore, there must be some impact to the steep slope.

The proposed alignment minimizes the necessary impacts to the steep slope by crossing the slope at an angle near perpendicular, creating the smallest impact area possible. The roadway would be built on retained fill as it crosses the steep slope, thus eliminating the need for large fill embankments that would further impact the steep slope. The project would also include walls at the top of the slope for the sole purpose of preventing additional fill material from spilling back on the steep slope, thus further minimizing the steep slope impacts.

Therefore, there is no technically feasible alternative for constructing the NE 4<sup>th</sup> Street extension that has less impact on steep slopes.

#### Mitigation:

All impacts to the steep slope would be mitigated through the use of landscape enhancements at a nearby location per City of Bellevue codes and standards.

#### **Steep Slope Location 2: East Side of Proposed 120<sup>th</sup> Ave NE Street Along the Wright Runstad Property, North of NE 12<sup>th</sup> Street.**

#### Analysis

There is a steep embankment that rises approximately 20 feet high from the roadway surface along the east side of 120<sup>th</sup> Ave NE behind Wetland A (mentioned above). The project proposes to widen the existing 3-lane/2-lane roadway that parallels the toe of this slope to five lanes with a 5-foot bike lane, 5-foot planter and 8-foot sidewalk on each side. The roadside grading for the proposed widening would require sliver cuts into the toe of this slope and construction of retaining walls.

The preferred roadway alignment immediately north of NE 12<sup>th</sup> Street is configured to match the alignment south of NE 12<sup>th</sup> Street. South of NE 12<sup>th</sup> Street, the preferred alignment for 120<sup>th</sup> Avenue NE recommended in the *Alternatives Evaluation and Screening Technical Report (2011)* is to shift the existing roadway centerline far enough to the east to eliminate or at least minimize the need to over excavate the load-sensitive, highly compressible (peaty) soils underlying the Lake Bellevue properties and extending close to the west edge of the existing two-lane roadway. In order to maintain roadway continuity with this easterly alignment south of NE 12<sup>th</sup> Street without compromising safety and design criteria, the alignment south of NE 12<sup>th</sup> Street would be extended straight through the NE 12<sup>th</sup> Street intersection, resulting in unavoidable impacts along the toe of this slope immediately north of NE 12<sup>th</sup> Street. As the alignment continues north from NE 12<sup>th</sup> Street, it can be brought back to the centerline of the existing roadway to balance impacts to properties on both side of the roadway. However, this shift cannot occur quickly enough to avoid impacts to this critical slope without compromising City design standards. All of the areas of steep slope impacts

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*October 19, 2011*

*Page 12 of 12*

anticipated here are also located within Wetland A's buffer. Alternative project alignments considered for south of NE 12<sup>th</sup> Street that might have reduced the steep slope impacts north of NE 12<sup>th</sup> Street would have substantially higher cost and undesirable risk for construction and long-term road maintenance based on the high potential for unstable soils underlying the other alternatives.

Mitigation:

Mitigation for impacts to the steep slope behind Wetland A would be covered by the mitigation provided for impacts to the underlying Wetland A and Wetland A's buffer noted above.