Purpose

As part of the update to its critical areas regulations, the City of Burien must consider best available science (BAS) in revising and developing regulations that protect the functions and values of its critical areas. In 2014 the Washington State Department of Ecology published new BAS-based recommendations for wetland buffer regulations. The purpose of this document is to present and discuss two options for revisions to the City's wetland buffer regulations for consideration by the Planning Commission.

Current regulations (BMC 19.40.310(B)) Wetlands – Performance standards: Buffers

Table 1. Current wetland buffer widths

Wetland Category *	Standard Wetland Buffer (feet)
Category 1	200
Category 2	100
Category 3	50
Category 4	30

* Wetland Categories in the table above are based on the descriptions in BMC 19.40.300(4) and are not equivalent to the Ecology Wetland Rating System Categories cited in the options below.

Options for revisions to wetland buffer regulations

The following options for revisions all come from BAS-based guidance from Ecology, and all use the 2014 Wetland Rating System for Western Washington (2014 wetland rating system) (Ecology publication 14-06-029). In addition to wetland category, the Washington State Department of Ecology (Ecology) recommends using wetland habitat score and/or land use intensity to establish buffer widths.

Option A

This option reflects the most current guidance from Ecology, and was recommended in a comment from Ecology received by the City on March 10, 2015.

This approach comes from Ecology's *Guidance for Small Cities* (2012), *Buffer Requirements for Western Washington* table. Ecology updated the table in December 2014 for use with the current wetland rating system. In developing their guidance, Ecology assumed that land uses for small cities would be moderate-to-high intensity in most cases. As a result, buffers are established based on wetland category and habitat score, and do not consider land use intensity (see Table 2). Instead, Ecology recommends requiring impact-minimizing measures to provide further protection against land use impacts (see Table 3 below). As a result of these protective measures, the buffers in this option are overall smaller than in the rest of the options. If an applicant chooses not to apply the required measures, a 33% increase in the width of all buffers is required (which makes up for the difference in buffer widths between this option and option B).

Table 2. Buffer widths based on wetland category and habitat score[1]

Wetland Category	Buffer width if wetland scores 3-4 habitat points	Additional buffer width if wetland scores 5 habitat points	Additional buffer width if wetland scores 6-7 habitat points	Additional buffer width if wetland scores 8-9 habitat points
Category I	75 ft	add 30 ft	add 90 ft	add 150 ft
Category II	75 ft	add 30 ft	add 90 ft	add 150 ft
Category III	60 ft	add 45 ft	add 105 ft	add 165 ft
Category IV	40 ft			

[1] To incorporate habitat score range differences between the 2004 and updated 2014 Wetland Rating System for Western Washington (Ecology publication 14-06-029), Ecology re-issued the *Buffer Requirements for Western Washington* table in December 2014. Table 2 above is a simplified version of Ecology's updated wetland buffer recommendations.

Table 3. Required measures to minimize impacts to wetlands.[2]

Disturbance	Required Measures to Minimize Impacts
Lights	• Direct lights away from wetland
Noise	• Locate activity that generates noise away from wetland • If warranted, enhance existing buffer with native vegetation plantings adjacent to noise source • For activities that generate relatively continuous, potentially disruptive noise, such as certain heavy industry or mining, establish an additional 10' heavily vegetated buffer strip immediatel adjacent to the outer wetland buffer
Toxic runoff	• Route all new, untreated runoff away from wetland while ensuring wetland is not dewatered • Establish covenants limiting use of pesticides within 150 feet of wetland • Apply integrated pest management
Stormwater runoff	• Retrofit stormwater detention and treatment for roads and existing adjacent development • Prevent channelized flow from lawns that directly enters the buffer • Use Low Intensity Development techniques (per PSAT publication on LID techniques)
Change in water regime	• Infiltrate or treat, detain, and disperse into buffer new runoff from impervious surfaces and new lawns
Pets and human disturbance	• Use privacy fencing OR plant dense vegetation to delineate buffer edge and to discourage disturbance using vegetation appropriate for the ecoregion • Place wetland and its buffer in a separate tract or protect with a conservation easement
Dust	• Use best management practices to control dust
Disruption of corridors or connections	• Maintain connections to offsite areas that are undisturbed • Restore corridors or connections to offsite habitats by replanting

[2] Measures are required, where applicable to a specific proposal.

Considerations for Option A

- Buffer widths are based on existing wetland conditions with an emphasis on habitat functions and values.
- The buffer width for each wetland category varies by habitat score, divided into four scales: low (3-4), medium (5), medium-high (6-7), and high (8-9).
- Option A provides an incentive for applicants to incorporate impact minimization measures into their site plans.
- Option A provides flexibility for applicants.
- Buffer widths may be narrower under this option, relative to Option B.
- Option A aligns with the most recent guidance from Ecology.

Option B

This option is also taken from Ecology's 2005 *Wetlands in Washington State, Volume 2 – Protecting and Managing Wetlands*, Appendix 8C. Buffers are established based on wetland category as well as both habitat score and land use intensity. This option is therefore both the most flexible and the most complex.

Table 4. Buffer widths based on wetland category, habitat score, and land use impact.

Wetland Category	Habitat Score	Land Use Intensity		
		Low	Moderate	High
Category I	8-9	150 ft	225 ft	300 ft
	5-7	75 ft	110 ft	150 ft
	3-4	50 ft	75 ft	100 ft
Category II	8-9	150 ft	225 ft	300 ft
	5-7	75 ft	110 ft	150 ft
	3-4	50 ft	75 ft	100 ft
Category III	5-7	75 ft	110 ft	150 ft
	3-4	40 ft	60 ft	80 ft
Category IV	N/A	25 ft	40 ft	50 ft

Types of proposed land use that can result in high, moderate, and low levels of impacts to adjacent wetlands:

- High: Commercial, urban, industrial, institutional, retail, residential (> 1 unit/acre); high-intensity agriculture, high-intensity recreation
- Moderate: Residential (1 unit/acre or less), moderate-intensity open space (parks with biking, jogging, etc.), moderate-intensity agriculture, paved trails, logging roads, utility corridors or rights-of-way
- Low: Forestry, low-intensity open space (hiking, preservation, etc.), unpaved trails, utility corridors without a maintenance road and little or no vegetation management.

Local governments are encouraged to create land-use designations consistent with these examples that are consistent with/based on local zoning.

Considerations for Option B

- Buffer widths are based on existing wetland conditions, habitat functions, and the proposed land use intensity.
- The buffer width for each wetland category varies by habitat score, divided into three scales: low (3-4), medium (5-7), and high (8-9).
- Most projects would be considered moderate- or high-intensity land use. The low-intensity land use would not apply to most permit applications; including it here makes the table more complex. Additionally, land use intensity is typically determined by zoning and fundamental project objectives.
- Applicants wouldn't receive credit for impact minimization measures under Option B.
- Buffers may be wider under Option B, relative to Option A.