

Table 20.240.330(A)(1) Wetland Buffer Requirements

<u>Wetland Category</u>	<u>Buffer Width According to Habitat Score</u>			
	<u>Habitat Score</u>	<u>Habitat Score</u>	<u>Habitat Score</u>	<u>Habitat Score</u>
	<u>of 3 – 4</u>	<u>of 5</u>	<u>of 6 – 7</u>	<u>of 8 – 9</u>
<u>Category III (all)</u>	<u>60 ft</u>	<u>105 ft</u>	<u>165 ft</u>	<u>225 ft</u>
<u>Category IV (all)</u>	<u>40 ft (no change based on habitat scores)</u>			

Table 20.240.330(A)(2) Required Measures to Minimize Impacts to Wetlands
(Measures are required, where applicable to a specific proposal)

<u>Disturbance</u>	<u>Activities and Uses That Cause Disturbances</u>	<u>Required Measures to Minimize Impacts</u>
<u>Lights</u>	<ul style="list-style-type: none"> • <u>Parking lots</u> • <u>Warehouses</u> • <u>Manufacturing</u> • <u>Residential</u> 	<ul style="list-style-type: none"> • <u>Direct lights away from wetland.</u>
<u>Noise</u>	<ul style="list-style-type: none"> • <u>Manufacturing</u> • <u>Residential</u> 	<ul style="list-style-type: none"> • <u>Locate activity that generates noise away from wetland.</u> • <u>If warranted, enhance existing buffer with native vegetation plantings adjacent to noise source.</u> • <u>For activities that generate relatively continuous, potentially disruptive noise, such as certain heavy industry or mining, establish an additional 10 ft heavily vegetated buffer strip immediately adjacent to the outer wetland buffer.</u>
<u>Toxic runoff*</u>	<ul style="list-style-type: none"> • <u>Parking lots</u> • <u>Roads</u> • <u>Manufacturing</u> • <u>Residential areas</u> 	<ul style="list-style-type: none"> • <u>Route all new, untreated runoff away from wetland while ensuring wetland is not dewatered.</u> • <u>Establish covenants limiting use of pesticides and fertilizers within 150 ft of wetland.</u> • <u>Apply integrated pest management.</u>

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(Measures are required, where applicable to a specific proposal)

<u>Disturbance</u>	<u>Activities and Uses That Cause Disturbances</u>	<u>Required Measures to Minimize Impacts</u>
	<ul style="list-style-type: none"> • <u>Application of agricultural pesticides</u> • <u>Landscaping</u> 	
<u>Stormwater runoff</u>	<ul style="list-style-type: none"> • <u>Parking lots</u> • <u>Roads</u> • <u>Manufacturing</u> • <u>Residential areas</u> • <u>Commercial</u> • <u>Landscaping</u> 	<ul style="list-style-type: none"> • <u>Retrofit stormwater detention and treatment for roads and existing adjacent development.</u> • <u>Prevent channelized flow from lawns that directly enters the buffer.</u> • <u>Use low intensity development techniques (per PSAT publication on LID techniques).</u>
<u>Change in water regime</u>	<ul style="list-style-type: none"> • <u>Impermeable surfaces</u> • <u>Lawns</u> • <u>Tilling</u> 	<ul style="list-style-type: none"> • <u>Infiltrate or treat, detain, and disperse into buffer new runoff from impervious surfaces and new lawns.</u>
<u>Pets and human disturbance</u>	<ul style="list-style-type: none"> • <u>Residential areas</u> 	<ul style="list-style-type: none"> • <u>Use privacy fencing OR plant dense vegetation to delineate buffer edge and to discourage disturbance using vegetation appropriate for the ecoregion.</u> • <u>Place wetland and its buffer in a separate tract or protect with a conservation easement.</u>
<u>Dust</u>	<ul style="list-style-type: none"> • <u>Tilled fields</u> 	<ul style="list-style-type: none"> • <u>Use best management practices to control dust.</u>
<u>Disruption of corridors or connections</u>	-	<ul style="list-style-type: none"> • <u>Maintain connections to off-site areas that are undisturbed.</u> • <u>Restore corridors.</u>
<p><u>* These examples are not necessarily adequate for minimizing toxic runoff if threatened or endangered species are present at the site. Additional mitigation measures may be required</u></p>		

Table 20.240.330(A)(2) Required Measures to Minimize Impacts to Wetlands
(Measures are required, where applicable to a specific proposal)

<u>Disturbance</u>	<u>Activities and Uses That Cause Disturbances</u>	<u>Required Measures to Minimize Impacts</u>
<u>based on recommendation of a qualified professional, third party review, or State agency recommendations.</u>		

4. Increased Wetland Buffer Area Width. Buffer widths shall be increased, on a case-by-case basis as determined by the Director, when a larger buffer is necessary to protect the shoreline ecological functions provided by the wetland's functions and values. This determination shall be supported by a critical area report, prepared by a qualified professional at the applicant's expense, showing that it is reasonably related to protection of the functions and values of the wetland and the shoreline. The critical area report shall include, but not be limited to, the following criteria:

a. The wetland is used by a plant or animal species listed by the Federal government or the State as endangered, threatened, candidate, sensitive, monitored, or documented priority species or habitats, or the wetland is essential or outstanding habitat for those species or has unusual nesting or resting sites such as heron rookeries or raptor nesting trees; or

b. The adjacent land has slopes greater than 15 percent and is susceptible to severe erosion, and erosion-control measures will not effectively prevent adverse wetland impacts; or

c. The adjacent land has minimal vegetative cover. In lieu of increasing the buffer width where existing buffer vegetation is inadequate to protect the wetland functions and values, development and implementation of a wetland buffer restoration/enhancement plan in accordance with SMC 20.240.350 may be substituted.

5. Buffer averaging to improve wetland functions and values may be permitted when all of the following conditions are met:

a. The wetland has significant differences in characteristics that affect its habitat functions, such as a wetland with a forested component adjacent to a degraded emergent component or is a “dual-rated” wetland with a Category I area adjacent to a lower rated area;

b. The buffer is increased adjacent to the higher functioning area of habitat or more sensitive portion of the wetland and decreased adjacent to the lower functioning or less sensitive portion as demonstrated by a critical areas report from a qualified wetland professional;

c. The total area of the buffer after averaging is equal to the area required without averaging; and

d. The buffer at its narrowest point is never less than either three-fourths of the required width or 75 feet for Category I and II, 50 feet for Category III, and 25 feet for Category IV, whichever is greater.

6. Buffer averaging, through a shoreline variance consistent with 20.220.040, may be permitted when all of the following are met:

a. There are no feasible alternatives to the site design that could be accomplished without buffer averaging;

b. The averaged buffer will not result in degradation of the wetland’s functions and values as demonstrated by a critical areas report from a qualified wetland professional;

c. The total buffer area after averaging is equal to the area required without averaging; and

d. The buffer at its narrowest point is never less than either three-fourths of the required width or 75 feet for Category I and II, 50 feet for Category III, and 25 feet for Category IV, whichever is greater.

B. Measurement of Wetland Buffers. All buffers shall be measured perpendicular from the wetland boundary as surveyed in the field. The buffer for a wetland created, restored, or enhanced as compensation for approved wetland alterations shall be the same as the buffer required for the category of the created, restored, or enhanced wetland.

C. Buffers on Mitigation Sites. All mitigation sites shall have buffers consistent with the buffer requirements of this chapter. Buffers shall be based on the expected or target category of the proposed wetland mitigation site.

D. Buffer Maintenance. Except as otherwise specified or allowed in accordance with this chapter, wetland buffers shall be retained in an undisturbed or enhanced condition. In the case of compensatory mitigation sites, removal of invasive nonnative weeds is required for the duration of the required monitoring period.

E. Impacts to Buffers. Requirements for the compensation for impacts to buffers are outlined in SMC 20.240.350.

F. Overlapping Critical Area Buffers. If buffers for two contiguous critical areas overlap (such as buffers for a stream and a wetland), the wider buffer applies.

G. Allowed Wetland Buffer Uses. The following uses may be allowed within a wetland buffer in accordance with the review procedures of this chapter; provided such uses are not prohibited by any other applicable law and such uses are conducted in a manner so as to minimize impacts to the buffer and adjacent wetland:

1. **Conservation and Restoration Activities.** Conservation or restoration activities aimed at protecting the soil, water, vegetation, or wildlife.

2. **Passive Recreation.** Passive recreation facilities designed and in accordance with an approved critical area report, including:

a. Walkways and trails; provided, that those pathways are limited to minor crossings having no adverse impact on water quality. Pathways should be generally parallel to the perimeter of the wetland, located only in the outer 25 percent of the wetland buffer area, and located to avoid removal of significant trees. Pathways should be limited to pervious surfaces no more than five feet in width for pedestrian use only. Raised boardwalks utilizing nontreated pilings may be acceptable;

b. Wildlife viewing structures.

3. Educational and scientific research activities.

4. Normal and routine maintenance and repair of any existing public or private facilities within an existing right-of-way, provided, that the maintenance or repair does not increase the footprint or use of the facility or right-of-way.

5. The harvesting of wild crops in a manner that is not injurious to natural reproduction of such crops, and provided the harvesting does not require tilling of soil, planting of crops, chemical applications, or alteration of the wetland by changing existing topography, water conditions, or water sources.

6. Drilling for utilities/utility corridors under a buffer, with entrance/exit portals located completely outside of the wetland buffer boundary; provided, that the drilling does not interrupt the ground water connection to the wetland or percolation of surface water down through the soil column. Specific studies by a hydrologist are necessary to determine whether the ground water connection to the wetland or percolation of surface water down through the soil column is disturbed.

7. Enhancement of a wetland through the select removal of nonnative invasive plant species. Removal of invasive plant species shall be restricted to hand labor and handheld equipment unless permits from the appropriate regulatory agencies have been obtained for approved biological or chemical treatments. Not more than 1,500 square feet of area may be cleared, as calculated cumulatively over one year, on private property without a permit. All removed plant material shall be taken away from the site and disposed of appropriately. Plants that appear on the Washington State Noxious Weed Control Board list of noxious weeds or the King County Noxious Weed List shall be handled and disposed of according to a noxious weed control plan appropriate to that species. Revegetation with appropriate native species at natural densities is allowed in conjunction with removal of invasive plant species.

8. Stormwater Management Facilities. Stormwater management facilities are limited to stormwater dispersion outfalls, bioswales, and other low-impact facilities consistent with the adopted stormwater manual. Stormwater management facilities are not allowed in buffers of Category I or II wetlands. Facilities may be allowed within the outer 25 percent of the buffer of Category III or IV wetlands only; provided, that:

a. No other location is feasible; and

b. The location of such facilities will not degrade the functions or values of the wetland.

9. **Nonconforming Uses or Structures.** Repair and maintenance of nonconforming uses or structures, where legally established within the buffer, provided such uses or structures do not increase the degree of nonconformity, consistent with SMC 20.220.150.

10. **Development Proposals within Physically Separated and Functionally Isolated Wetland Buffers.** Consistent with the definition of “buffers” (SMC 20.20.012), areas that are functionally isolated and physically separated from wetland due to existing, legally established roadways, paved trails eight feet or more in width, or other legally established structures or paved areas eight feet or more in width that occur between the area in question and the wetland shall be considered physically isolated and functionally separated wetland buffers. Once determined by the Director, based on a submitted critical area report to be a physically separated and functionally isolated wetland buffer, development proposals shall be allowed in these areas.

H. **Signs and Fencing of Wetlands and Buffers.**

1. **Temporary Markers.** The outer perimeter of the wetland buffer and the clearing limits identified by an approved permit or authorization shall be marked in the field with temporary “clearing limits” fencing in such a way as to ensure that no unauthorized intrusion will occur. The marking is subject to inspection by the Director prior to the commencement of permitted activities during the preconstruction meeting required under SMC 20.50.330(E). This temporary marking and fencing shall be maintained throughout construction and shall not be removed until permanent signs, if required, are in place.

2. **Permanent Signs.** As a condition of any permit or authorization issued pursuant to this chapter, the Director may require the applicant to install permanent signs along the boundary of a wetland or buffer, when recommended in a critical area report or otherwise required by the provisions of this chapter.

a. Permanent signs shall be made of an enamel-coated metal face and attached to a metal post or another nontreated material of equal durability. Signs shall be posted at an interval of one per lot or every 50 feet, whichever is less, and shall be maintained by the property owner in perpetuity. The signs shall be worded consistent with the text specified in SMC 20.240.110 or with alternative language approved by the Director.

b. The provisions of subsection (H)(2)(a) of this section may be modified as necessary to assure protection of sensitive features.

3. **Fencing.** Fencing installed as part of a proposed activity or as required in this subsection shall be designed so as to not interfere with species migration, including fish runs, and shall be constructed in a manner that minimizes impacts to the wetland and associated habitat. Permanent fencing shall be required at the outer edge of the critical area buffer under the following circumstances; provided, that the Director may waive this requirement:

a. As part of any development proposal for subdivisions, short plats, multifamily, mixed use, and commercial development where the Director determines that such fencing is necessary to protect the functions of the critical area; provided, that breaks in permanent fencing may be allowed for access to permitted buffer uses (subsection G of this section);

b. As part of development proposals for parks where the adjacent proposed use is active recreation and the Director determines that such fencing is necessary to protect the functions of the critical area;

c. When buffer averaging is part of a development proposal; or

d. At the Director's discretion to protect the values and functions of a critical area as demonstrated in a critical area report. If found to be necessary, the Director shall condition any permit or authorization issued pursuant to this chapter to require the applicant to install a permanent fence at the edge of the habitat conservation area or buffer, when fencing will prevent future impacts to the habitat conservation area;

e. The applicant shall be required to install a permanent fence around the wetland buffer when domestic grazing animals, only as allowed under SMC 20.40.240, are present or may be introduced on site.

20.240.340 Wetlands – Critical area report requirements.

A. **Report Required.** If the Director determines that the site of a proposed development includes, is likely to include, or is adjacent to, a wetland, a wetland critical area report shall be required. Critical area report requirements for wetland areas are generally met through submission to the Director of one or more wetland critical area reports. In addition to the general

critical area report requirements of SMC 20.240.080, critical area reports for wetlands shall meet the requirements of this section. Critical area reports for two or more types of critical areas shall meet the report requirements for each relevant type of critical area.

B. Preparation by a Qualified Professional. Critical area reports for wetlands shall be prepared and signed by a qualified professional who is a certified wetland scientist or a noncertified wetland scientist with the minimum required experience, per SMC 20.20.042, in the field of wetland science and with experience preparing wetland delineation, impact assessments, and mitigation plans.

C. Third Party Review Required. Critical areas studies and reports on wetland areas shall be subject to third party review consistent with SMC 20.240.080(C) and in any of the additional following circumstances:

1. Compensatory mitigation is required for impacts to Category I, II, or III wetlands and or buffers; or
2. Compensatory mitigation is required for impacts to Category IV wetlands.

D. Minimum Report Contents for Wetlands. The written critical area report(s) and accompanying plan sheet(s) shall contain the following information, at a minimum:

1. The minimum report contents required per SMC 20.240.080(E);
2. Documentation of any fieldwork performed on the site, including field data sheets for delineations, rating system forms, baseline hydrologic data, site photos, etc.;
3. A description of the methodologies used to conduct the wetland delineations, ratings, or impact analyses including references;
4. **Site Plans.** A copy of the site plan sheet(s) for the project shall be included with the written report and shall include, at a minimum:
 - a. Maps (to scale) depicting delineated and surveyed wetland(s) and required buffers on site, including buffers for off-site critical areas that extend onto the project site; the development proposal; other critical areas; clearing and grading limits; areas of proposed impacts to wetlands and/or buffers (include square footage estimates); and

b. A depiction of the proposed stormwater management facilities and outlets (to scale) for the development, including estimated areas of intrusion into the buffers of any critical areas. The written report shall contain a discussion of the potential impacts to the wetland(s) associated with anticipated hydroperiod alterations from the project;

5. For each wetland identified on site and off site within 300 feet of the project site provide: the wetland rating, including a description of and score for each function, per wetland ratings (SMC 20.240.320(B)); required buffers (SMC 20.240.330); hydrogeomorphic classification; wetland acreage based on a professional survey from the field delineation (acreages for on-site portion and entire wetland area including off-site portions); Cowardin classification of vegetation communities; habitat elements; soil conditions based on site assessment and/or soil survey information; and to the extent possible, hydrologic information such as location and condition of inlet/outlets (if inlets/outlets can be legally accessed), estimated water depths within the wetland, and estimated hydroperiod patterns based on visual cues (e.g., algal mats, drift lines, flood debris, etc.). Provide acreage estimates, classifications, and ratings based on entire wetland complexes, not only the portion present on the proposed project site;

6. A description of the proposed actions, including an estimation of acreages of impacts to wetlands and buffers based on the field delineation and survey and an analysis of site development alternatives, including a no-development alternative;

7. An assessment of the probable cumulative impacts to the wetlands and buffers resulting from the proposed development;

8. A description of reasonable efforts made to apply mitigation sequencing pursuant to SMC 20.240.053(A) to avoid, minimize, and mitigate impacts to critical areas and a discussion of measures, including avoidance, minimization, and compensation, proposed to preserve existing wetlands and restore any wetlands that were degraded prior to the current proposed land-use activity;

9. A conservation strategy for habitat and native vegetation that addresses methods to protect and enhance on-site habitat and wetland functions; and

10. An evaluation of the functions of the wetland and adjacent buffer. Include reference for the method used and data sheets.

E. Additional Information. When appropriate due to the proposed impacts or the project area conditions, the Director may also require the critical area report to include:

1. Where impacts are proposed, mitigation plans consistent with the requirements of SMC 20.240.082 and the wetland mitigation performance standards and requirements of SMC 20.240.350;
2. A request for consultation with the Washington State Department of Fish and Wildlife (DFW), Washington State Department of Ecology (Ecology), local Native American Indian tribes, and/or other appropriate agency;
3. Copies of the joint aquatic resource permit application (JARPA) and related approvals, such as a hydraulic project approval (HPA) from the DFW, when applicable to the project; and
4. Detailed surface and subsurface hydrologic features both on and adjacent to the site.

20.240.350 Wetlands – Compensatory mitigation performance standards and requirements.

A. Requirements for Compensatory Mitigation.

1. Compensatory mitigation for alterations to wetlands shall be used only for impacts that cannot be avoided or minimized and shall achieve equivalent or greater shoreline ecological and biologic functions. Compensatory mitigation plans shall be consistent with Wetland Mitigation in Washington State – Part 2: Developing Mitigation Plans (Version 1), (Ecology Publication No. 06-06-011b, March 2006, or as revised).
2. Mitigation ratios shall be consistent with subsection E of this section.
3. Mitigation requirements may also be determined using the credit/debit tool described in “Calculating Credits and Debits for Compensatory Mitigation in Wetlands of Western Washington: Operational Draft” (Ecology Publication No. 10-06-011, February 2011, or as revised) consistent with subsection E of this section.

B. Compensating for Lost or Impacted Functions. Compensatory mitigation shall address the shoreline ecological functions and the wetland or wetland buffer functions and values affected by the proposed project, with an intention to achieve functional equivalency or

improvement of functions and values. The goal shall be for the compensatory mitigation to provide similar shoreline ecological functions and wetland functions and values as those lost, except when either:

1. The lost wetland provides minimal functions and values, and the proposed compensatory mitigation action(s) will provide equal or greater functions and values or will provide functions and values shown to be limiting within a watershed through a formal Washington State watershed assessment plan or protocol; or
2. Out-of-kind replacement of wetland type or functions and values will best meet watershed goals formally identified by the City, such as replacement of historically diminished wetland types.

C. Preference of Mitigation Actions. Methods to achieve compensation for wetland functions and values shall be approached in the following order of preference:

1. **Restoration.** Restoration of wetlands.
2. **Creation.** Creation (establishment) of wetlands on disturbed upland sites, such as those with vegetative cover consisting primarily of nonnative species. This should be attempted only when there is an adequate source of water and it can be shown that the surface and subsurface hydrologic regime is conducive to the wetland community that is anticipated in the design.
3. **Enhancement.** Enhancement of significantly degraded wetlands in combination with restoration or creation. Enhancement alone will result in a loss of wetland acreage and is less effective at replacing the functions and values lost. Enhancement should be part of a mitigation package that includes replacing the impacted area and meeting appropriate ratio requirements.
4. **Preservation.** Preservation of high-quality, at-risk wetlands as compensation is generally acceptable when done in combination with restoration, creation, or enhancement; provided, that a minimum of 1:1 acreage replacement is provided by reestablishment or creation. Preservation of high-quality, at-risk wetlands and habitat may be considered as the sole means of compensation for wetland impacts when the following criteria are met:

- a. Wetland impacts will not have a significant adverse impact on habitat for listed fish, or other ESA-listed species;
- b. There is no net loss of habitat functions within the watershed or basin;
- c. Mitigation ratios for preservation as the sole means of mitigation shall generally start at 20:1. Specific ratios should depend upon the significance of the preservation project and the quality of the wetland resources lost;
- d. The impact area is small (generally less than one-half acre) and/or impacts are occurring to a low-functioning system (Category III or IV wetland); and
- e. All preservation sites shall include buffer areas adequate to protect the habitat and its functions from encroachment and degradation.

D. Type and Location of Compensatory Mitigation. Unless it is demonstrated that a higher level of ecological functioning would result from an alternative approach, compensatory mitigation for ecological functions shall be either in kind and on site, or in kind and within the same stream reach, sub-basin, or drift cell (if estuarine wetlands are impacted). Compensatory mitigation actions shall be conducted within the same sub-drainage basin and on the site of the alteration, except when all of the following apply:

1. There are no reasonable opportunities on site or within the sub-drainage basin (e.g., on-site options would require elimination of high-functioning upland habitat), or opportunities on site or within the sub-drainage basin do not have a high likelihood of success based on a determination of the capacity of the site to compensate for the impacts. Considerations should include:

- a. Anticipated replacement ratios for wetland mitigation;
- b. Buffer conditions and proposed widths;
- c. Available water to maintain anticipated hydrogeomorphic classes of wetlands when restored; and
- d. Proposed flood storage capacity, and potential to mitigate riparian fish and wildlife impacts (such as connectivity);

2. Off-site mitigation has a greater likelihood of providing equal or improved wetland functions than the impacted wetland;

3. Off-site locations shall be in the same sub-drainage basin, unless watershed goals for water quality, flood storage or conveyance, habitat, or other wetland functions have been established by the City and strongly justify location of mitigation at another site; and

4. The design for the compensatory mitigation project needs to be appropriate for its location (i.e., position in the landscape). Therefore, compensatory mitigation should not result in the creation, restoration, or enhancement of an atypical wetland. An atypical wetland refers to a compensation wetland (e.g., created or enhanced) that does not match the type of existing wetland that would be found in the geomorphic setting of the site (i.e., the water source(s) and hydroperiod proposed for the mitigation site are not typical for the geomorphic setting). Likewise, it should not provide exaggerated morphology or require a berm or other engineered structures to hold back water. For example, excavating a permanently inundated pond in an existing, seasonally saturated or inundated wetland is one example of an enhancement project that could result in an atypical wetland. Another example would be excavating depressions in an existing wetland on a slope, which would require the construction of berms to hold the water.

E. Wetland Mitigation Ratios¹.

Table 20.240.350(G). Wetland mitigation ratios apply when impacts to wetlands cannot be avoided or are otherwise allowed consistent with the provisions of this chapter.

<u>Category and Type of Wetland²</u>	<u>Creation or Reestablishment (Area – in square feet)</u>	<u>Rehabilitation (Area – in square feet)</u>	<u>Enhancement (Area – in square feet)</u>	<u>Preservation (Area – in square feet)</u>
<u>Category I: Based on total score for functions</u>	<u>4:1</u>	<u>8:1</u>	<u>16:1</u>	<u>20:1</u>
<u>Category I: Mature forested</u>	<u>6:1</u>	<u>12:1</u>	<u>24:1</u>	<u>24:1</u>

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<u>Category I: Estuarine</u>	<u>Case-by-case</u>	<u>6:1</u>	<u>Case-by-case</u>	<u>Case-by-case</u>
<u>Category II: Based on total score for functions</u>	<u>3:1</u>	<u>6:1</u>	<u>12:1</u>	<u>20:1</u>
<u>Category III (all)</u>	<u>2:1</u>	<u>4:1</u>	<u>8:1</u>	<u>15:1</u>
<u>Category IV (all)</u>	<u>1.5:1</u>	<u>3:1</u>	<u>6:1</u>	<u>10:1</u>

¹ Ratios for rehabilitation and enhancement may be reduced when combined with 1:1 replacement through creation or reestablishment. See Table 1a or 1b, Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance – Version 1 (Ecology Publication No. 06-06-011a, March 2006, or as revised).

² Category and rating of wetland as determined consistent with SMC 20.240.320(B).

F. Buffer Mitigation Ratios. Impacts to buffers shall be mitigated at a 1:1 ratio. Compensatory buffer mitigation shall replace those buffer functions lost from development.

G. Mitigation Performance Standards. The performance standards in this section shall be incorporated into mitigation plans submitted to the City for impacts to wetlands. The following performance standards shall apply to any mitigations proposed within Category I, II, III and IV wetlands and their buffers. Modifications to these performance standards consistent with the guidance in Wetland Mitigation in Washington State – Part 2: Developing Mitigation Plans (Version 1) (Ecology Publication No. 06-06-011b, March 2006, or as revised) may be considered for approval by the Director as alternatives to the following standards:

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1. Plants indigenous to the region (not introduced or foreign species) shall be used.
2. Plant selection shall be consistent with the existing or projected hydrologic regime, including base water levels and stormwater event fluctuations.
3. Plants should be commercially available or available from local sources.
4. Plant species high in food and cover value for fish and wildlife shall be used.
5. Mostly perennial species should be planted.
6. Committing significant areas of the site to species that have questionable potential for successful establishment shall be avoided.
7. Plant selection shall be approved by a qualified professional.
8. The following standards shall apply to wetland design and construction:
 - a. Water depth shall not exceed six and one-half feet (two meters).
 - b. The grade or slope that water flows through the wetland shall not exceed six percent.
 - c. Slopes within the wetland basin and the buffer zone shall not be steeper than 3:1 (horizontal to vertical).
 - d. The wetland (excluding the buffer area) should not contain more than 60 percent open water as measured at the seasonal high water mark.
9. Substrate should consist of a minimum of one foot, in depth, of clean (uncontaminated with chemicals or solid/hazardous wastes) inorganic/organic materials.
10. Planting densities and placement of plants should be determined by a qualified professional and shown on the design plans.
11. The planting plan shall be approved by the City.
12. Stockpiling soil and construction materials should be confined to upland areas and contract specifications should limit stockpiling of earthen materials to durations in

accordance with City clearing and grading standards, unless otherwise approved by the City.

13. Planting instructions shall be submitted which describe placement, diversity, and spacing of seeds, tubers, bulbs, rhizomes, sprigs, plugs, and transplanted stock.

14. Controlled release fertilizer shall be applied (if required) at the time of planting and afterward only as plant conditions warrant as determined during the monitoring process.

15. An irrigation system shall be installed, if necessary, for the initial establishment period.

16. All construction specifications and methods shall be approved by a qualified professional and the City.

17. Construction management shall be provided by a qualified professional. Ongoing work on site shall be inspected by the City.

H. Compensatory Mitigation Plan. When a project involves wetland and/or buffer impacts, a compensatory mitigation plan shall be included as part of the required critical area report. Compensatory wetland mitigation plans shall meet the minimum requirements SMC 20.240.082 and demonstrate compliance with SMC 20.240.053. Full guidance can be found in Wetland Mitigation in Washington State – Part 2: Developing Mitigation Plans (Version 1) (Ecology Publication No. 06-06-011b, March 2006, or as revised). The mitigation plan shall meet the following additional standards:

1. Description of the existing wetland and buffer areas proposed to be impacted. Include acreage (or square footage), water regime, vegetation, soils, landscape position, surrounding land uses, and functions. Also describe impacts in terms of acreage by Cowardin classification, hydrogeomorphic classification, and wetland rating, based on wetland ratings (SMC 20.240.320(B));

2. Description of the compensatory mitigation site, including location and rationale for selection. Include an assessment of existing conditions: acreage (or square footage) of wetlands and uplands, water regime, sources of water, vegetation, soils, landscape position, surrounding land uses, and functions. Estimate future conditions in this location if the compensation actions are not undertaken (i.e., how would this site progress through natural succession);

3. A description of the proposed actions for compensation of wetland and upland areas affected by the project. Include overall goals of the proposed mitigation, including a description of the targeted functions, hydrogeomorphic classification, and categories of wetlands;
4. A description of the proposed mitigation construction activities, construction/installation notes, and timing of activities;
5. A discussion of ongoing management practices that will protect wetlands after the project site has been developed, including proposed monitoring and maintenance programs (for remaining wetlands and compensatory mitigation wetlands);
6. Proof of establishment of notice on title for the wetlands and buffers on the project site, including the compensatory mitigation areas; and
7. The scaled plan sheets for the compensatory mitigation shall contain, at a minimum:
 - a. Surveyed edges of the existing wetland and buffers, proposed areas of wetland and/or buffer impacts, location of proposed wetland and/or buffer compensation actions;
 - b. Existing topography, ground-profiled, at two-foot contour intervals in the zone of the proposed compensation actions if any grading activity is proposed to create the compensation area(s). Also existing cross-sections of on-site wetland areas that are proposed to be impacted and cross-section(s) (estimated one-foot intervals) for the proposed areas of wetland or buffer compensation;
 - c. Surface and subsurface hydrologic conditions, including an analysis of existing and proposed hydrologic regimes for enhanced, created, or restored compensatory mitigation areas. Also, illustrations of how data for existing hydrologic conditions were used to determine the estimates of future hydrologic conditions;
 - d. Conditions expected from the proposed actions on site, including future hydrogeomorphic types, vegetation community types by dominant species (wetland and upland), and future water regimes;

e. Required wetland buffers for existing wetlands and proposed compensation areas. Also, identify any zones where buffers are proposed to be reduced or enlarged outside of the standards identified in this chapter;

f. A plant schedule for the compensation area, including all species by proposed community type and water regime, size and type of plant material to be installed, spacing of plants, typical clustering patterns, typical plant installation details and notes, total number of each species by community type, timing of installation; and

g. Performance standards (measurable standards reflective of years post-installation) for upland and wetland communities, monitoring plan, contingency plan, and maintenance schedule, and actions. Standards for success shall be established based on the performance standards identified and the functions and values being mitigated based on the guidance in Wetland Mitigation in Washington State – Part 2: Developing Mitigation Plans (Version 1) (Ecology Publication No. 06-06-011b, March 2006, or as revised).

Subchapter 5.

Flood Hazard Areas

20.240.360 Flood hazard – Description and purpose.

A. A flood hazard area consists of the special flood hazard areas and protected areas as defined in Chapter 13.12 SMC Floodplain Management, which comprise the regulatory floodplain.

B. It is the purpose of these regulations to ensure that the City of Shoreline meets the requirements of the National Flood Insurance Program and maintains the City as an eligible community for Federal flood insurance benefits.

20.240.370 Flood hazard – Designation and classification.

Flood hazard areas shall be designated and classified pursuant to the requirements of the floodplain management regulations, Chapter 13.12 SMC, which include, at a minimum, all lands identified on the 100-year floodplain designations of the current Federal Emergency

Management Agency (FEMA) flood insurance rate map (FIRM) for King County as identified in SMC 13.12.300.

20.240.380 Flood hazard – Development limitations.

All development within designated flood hazard areas shall comply with Chapter 13.12 SMC, Floodplain Management, as now or hereafter amended, and is not further subject to the regulations of this chapter.

Subchapter 6.

Aquifer Recharge Areas

20.240.420 Aquifer recharge – Description and purpose.

A. Aquifer recharge areas consist of areas that provide a source of potable water and contribute to stream discharge during periods of low flow, as defined in Chapter 20.20 SMC.

B. The primary purpose of aquifer recharge area regulations is to protect aquifer recharge areas by providing for regulation of land use activities that pose a risk of potential aquifer contamination and to minimize impacts through the application of strict performance standards.

20.240.430 Aquifer recharge – Designation and classification.

A. Aquifer recharge areas shall be designated and classified based on the soil and ground water conditions and risks to surface water during periods of low hydrology. Classification depends on the combined effects of hydrogeological susceptibility to contamination and contaminant loading potential, and includes upland areas underlain by soils consisting largely of silt, clay or glacial till, upland areas underlain by soils consisting largely of sand and gravel, and wellhead protection areas and areas underlain by soils consisting largely of sand and gravel in which there is a predominantly downward or lateral component to ground water flow.

B. At the time of adoption of the amendments to the critical areas of the City's SMP, Ordinance 856, there were no identified critical aquifer recharge areas within the City of Shoreline.

20.80.440 Aquifer recharge – Alteration.

Subject to the required permits, the following land uses and activities shall require implementation of best management practices (BMPs) as established by the Department of Ecology:

A. Land uses and activities that involve the use, storage, transport or disposal of significant quantities of chemicals, substances or materials that are toxic, dangerous or hazardous, as those terms are defined by State and Federal regulations.

B. On-site community sewage disposal systems.

C. Underground storage of chemicals.

D. Petroleum pipelines.

E. Solid waste landfills.

F. Stormwater management, including infiltration, and ground water recharge.

20.80.450 Aquifer recharge – Performance standards and requirements.

Any uses or activities that seek to be located in an aquifer recharge area, as defined within this subchapter, that involve the use, storage, transport or disposal of significant quantities of chemicals, substances, or materials that are toxic, dangerous or hazardous, as those terms are defined by State and Federal regulations, shall comply with the following additional standards:

A. Underground storage of chemicals, substances or materials that are toxic, hazardous or dangerous is discouraged.

B. Any chemicals, substances or materials that are toxic, hazardous or dangerous shall be segregated and stored in receptacles or containers that meet State and Federal standards.

C. Storage containers shall be located in a designated, secured area that is paved and able to contain leaks and spills, and shall be surrounded by a containment dike.

D. Secondary containment devices shall be constructed around storage areas to retard the spread of any spills and a monitoring system should be implemented.

E. A written operations plan shall be developed, including procedures for loading/unloading liquids and for training of employees in proper materials handling.

F. An emergency response/spill clean-up plan shall be prepared and employees properly trained to react to accidental spills.

G. Any aboveground storage tanks shall be located within a diked containment area on an impervious surface. The tanks shall include overfill protection systems and positive controls on outlets to prevent uncontrolled discharges.

H. Development should be clustered and impervious surfaces limited where possible.

I. No waste liquids or chemicals of any kind shall be discharged to storm sewers.

J. All development shall implement best management practices (BMPs) for water quality, as approved by the City, including the standards contained within the adopted stormwater manual, such as biofiltration swales and use of oil-water separators, and BMPs appropriate to the particular use proposed.