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Article X. Streams and Lakes – Designation and Rating

18.55.400 Designation and rating of streams and lakes.

A. Stream and Lake Classifications. Streams and lakes shall be designated ~~Type 1, Type 2, Type 3, and Type 4~~ Type S, Type F, Type Np, and Type Ns according to the following criteria ~~in this section~~ identified in WAC 222-16-030.

1. ~~Type 1S streams~~ Waters are those ~~streams~~ segments of natural waters identified as “shorelines of the State” under Chapter 90.58 RCW, including the Sammamish River and the main stem of Swamp Creek, as well as Lake Washington.

~~2. Type 2 streams~~ are those ~~streams~~ that are:

~~a. Natural streams that have perennial (year round) flow and are used by salmonid fish; or~~

~~b. Natural streams that have intermittent flow and are used by salmonid fish.~~

~~3. Type 3 streams~~ are those ~~streams~~ that are:

~~a. Natural streams that have perennial flow and are used by fish other than salmonids; or~~

~~b. Natural streams that have intermittent flow and are used by fish other than salmonids.~~

4. Type 4 *streams* are those natural ~~streams~~ with perennial or intermittent flow that are not used by fish.

2. Type F Waters means segments of *natural waters* other than Type S Waters, which are within the *bankfull widths* of defined channels and periodically inundated areas of their associated wetlands, or within lakes, ponds, or impoundments having a surface area of 0.5 acre or greater at seasonal low water and which in any case contain fish habitat.

3. Type Np Waters means all segments of *natural waters* within the *bankfull width* of defined channels that are perennial nonfish habitat streams. Perennial streams are flowing waters that do not go dry any time of a year of normal rainfall and include the intermittent dry portions of the perennial channel below the uppermost point of perennial flow.

4. Type Ns Waters means all segments of *natural waters* within the *bankfull width* of the defined channels that are not Type S, F, or Np Waters. These are seasonal, nonfish habitat streams in which surface flow is not present for at least some portion of a year of normal rainfall and are not located downstream from any stream reach that is a Type Np Water. Ns Waters must be physically connected by an above-ground channel system to Type S, F, or Np Waters.

B. Presumption of fish use: Waters having any of the following characteristics are presumed to contain suitable *fish habitat*, and therefore are a Type F water:

1. Stream segments having a defined *channel width* of 2 feet or greater within the *bankfull width* and having a *channel gradient* of 16 percent or less;

2. Stream segments having a defined *channel width* of 2 feet or greater within the *bankfull width* and having a *channel gradient* greater than 16 percent and less than or equal to 20 percent, and having greater than 50 acres in contributing basin size based on hydrographic boundaries;

3. Ponds or impoundments having a surface area of less than 1 acre at *seasonal low water* and having an outlet to a fish stream;

4. Ponds or impoundments having a surface area greater than 0.5 acre at *seasonal low water*.

BC. Ditches. Ditches are artificial drainage features created in uplands through purposeful human action, such as irrigation and drainage ditches, grass-lined swales, and canals. Purposeful creation must be demonstrated through documentation, photographs, statements and/or other evidence. Ditches are excluded from regulation as *streams*, unless they are used by *native species of* fish. Drainage setbacks are required as per the *City's* surface water runoff policy (Chapter [13.35](#) KMC).

D. Lakes and ponds, which terms can be used interchangeably and are loosely differentiated in common use by the larger size of lakes, are surface water bodies distinguished from wetlands by the presence of deep water, typically 2 meters (6.6 feet) or greater.

E. Lakes, ponds and impoundments deliberately designed and created from dry sites, such as canals, detention facilities, wastewater treatment facilities, farmponds, temporary construction ponds (of less than three years duration), and landscape amenities, are not regulated by this chapter unless they are used by native fish. Purposeful creation must be demonstrated through documentation, photographs, statements and/or other evidence. However, lakes, ponds and impoundments intentionally created from dry areas as mitigation for a critical areas impact are regulated by this chapter.

FB. Stream and Lake Buffers.

~~A1. Establishment of Stream Buffers.~~ The establishment of *buffer* areas shall be required for all *development proposals* and activities in or adjacent to *streams and lakes*. The purpose of the *buffer* shall be to protect the integrity, function, and value of the *stream or lake* and provide habitat for heron and other wildlife. *Buffers* shall be protected during construction by placement of a temporary barricade, on-site notice for construction crews of the presence of the *stream or lake*, and implementation of appropriate *erosion* and sedimentation controls. ~~Native vegetation removal or disturbance is not allowed in established buffers.~~

~~Required buffer widths shall reflect the sensitivity of the stream or the risks associated with development and, in those circumstances permitted by these regulations, the type and intensity of human activity and site design proposed to be conducted on or near the critical area.~~

- ~~4.~~ The following *buffers* are established for *streams and lakes* to protect *functions and values*, including heron habitat:

Stream Type	Buffer Width (Feet)
Type 4S - and Swamp Creek, Lake Washington and Sammamish River Little Swamp Creek	450 See KMC 16.65.020
Type F – Little Swamp Creek	150
Type 2 F (other waterbodies used by or containing habitat suitable for salmonid fish)	100
Type 3 F (waterbodies used by or containing habitat suitable for fish other than salmonids)	50

<i>Stream Type</i>	<i>Buffer Width (Feet)</i>
Type 4Np or Ns	25
Any type stream restored from a pipe	25

2. Measurement of ~~Stream~~-Buffers. ~~Stream b~~Buffers shall be measured perpendicularly from the ordinary high water mark.

~~7. Building Setback. A building setback is required from the edge of the buffer per KMC 18.55.270.~~

3. Increased ~~Stream~~-Buffer Widths. The city manager shall require increased buffer widths in accordance with the recommendations of a qualified professional and the best available science on a case-by-case basis when a larger buffer is necessary to protect stream or lake functions and values based on site-specific characteristics. This determination shall be based on one or more of the following criteria:

- a. A larger buffer is needed to protect other critical areas or their functions;
- b. The buffer has a slope greater than 30 percent or is susceptible to erosion and standard erosion-control measures will not prevent adverse impacts to the stream or lake. The buffer should be measured from the toe of the slope. In such cases, the buffer shall be increased to include the slope or the standard buffer shall be drawn from the top of the slope, whichever provides greater protection.

Article XI. Streams and Lakes – Additional Report Requirements

18.55.410 Critical areas report.

Requirements for critical areas reports for streams and lakes are available from the city manager.

Article XII. Streams and Lakes – ~~Performance Standards~~ Allowed Uses and Alterations

18.55.415 – Allowed Uses

~~5~~A. Buffer Conditions Shall Be Maintained. Except as otherwise specified or allowed in accordance with this chapter and Title 16 KMC (Shoreline Management), stream and lake buffers shall be retained in an undisturbed condition.

~~B~~. Native vegetation removal or disturbance is not allowed in established buffers.

~~6~~C. Buffer Uses. The following uses may be permitted within a stream or lake buffer in accordance with the review procedures of this chapter and Title 16 KMC (Shoreline Management), provided they are not

prohibited by any other applicable law and they are conducted in a manner so as to minimize impacts to the *buffer* and adjacent *stream* or lake:

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

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

~~(1)a.~~ Private walkways and trails; provided, that those pathways that are generally parallel to the perimeter of the *stream* or lake shall be located in the outer 25 percent of the *buffer* area;

~~(2)~~ Walkway and trail surfaces in buffers shall be made of pervious materials and shall be a maximum of 5 feet wide except that public multipurpose trails may be of impervious materials if they meet all other requirements, including water quality;

b. Public walkways and trails; provided, that those pathways are located and designed based on existing site-specific conditions to minimize native vegetation removal, and are part of an approved public park or trail plan. The trail proposal shall be accompanied by a plan demonstrating that the ecological functions of the overall required buffer area on a project site would be improved. Walkway and trail surfaces in buffers shall be made of pervious materials except that public multipurpose trails may be of impervious materials if they meet all other requirements, including water quality. In order to allow for a waterfront promenade area along the inner harbor area of the Downtown Waterfront shoreline environment on Lake Washington, public access improvements may extend to the water's edge.

c. Walkways and trails proposed in stream and lake buffers by private parties as part of subdivisions, multifamily development, or commercial or institutional uses may be allowed subject to subsection C.2.b, if they will be accessible to the general public, identified with visible signage, and are recorded on title. Providing connectivity to existing City or regional trail systems or completing or contributing to a trail linkage identified in the City's Parks, Recreation and Open Space Plan or Walkways & Waterways Plan is encouraged.

~~d.(3)~~ Wildlife viewing structures; and

~~e.(4)~~ Fishing access areas; and

f. Interpretive and other signs, benches, railings, and similar accessories to passive recreation that do not require significant ground disturbance, native vegetation removal, or concrete foundations.

G3. Stormwater Management Facilities. Stormwater dispersion outfalls and bioswales Grass-lined swales and dispersal trenches may be located in the outer 25 percent of the *buffer* area. All other surface water management facilities are not allowed within the *buffer* area.

7. Building *Setback*. A building *setback* is required from the edge of the *buffer* per KMC 18.55.270.

18.55.420 Performance standards – General Alterations.

A. Establishment of *Stream Buffers*. The establishment of *buffer* areas shall be required for all *development proposals* and activities in or adjacent to *streams*. The purpose of the *buffer* shall be to protect the integrity, function, and value of the *stream* and provide habitat for heron and other wildlife. *Buffers* shall be protected during construction by placement of a temporary barricade, on-site notice for construction crews of the presence of the *stream*, and implementation of appropriate *erosion* and *sedimentation* controls. *Native vegetation* removal or disturbance is not allowed in established *buffers*.

Required *buffer* widths shall reflect the sensitivity of the *stream* or the risks associated with *development* and, in those circumstances permitted by these regulations, the type and intensity of human activity and site design proposed to be conducted on or near the *critical area*.

B. *Stream Buffers*.

1. The following *buffers* are established for *streams* to protect *functions and values*, including heron habitat:

Stream Type	Buffer Width (Feet)
Type 1 and Little Swamp Creek	150
Type 2	100
Type 3	50
Type 4	25

2. Measurement of *Stream Buffers*. *Stream buffers* shall be measured perpendicularly from the *ordinary high water mark*.

3. Increased Stream Buffer Widths. The city manager shall require increased buffer widths in accordance with the recommendations of a qualified professional and the best available science on a case-by-case basis when a larger buffer is necessary to protect stream functions and values based on site-specific characteristics. This determination shall be based on one or more of the following criteria:

a. A larger buffer is needed to protect other critical areas;

b. The buffer has a slope greater than 30 percent or is susceptible to erosion and standard erosion control measures will not prevent adverse impacts to the stream. The buffer should be measured from the toe of the slope. In such cases, the buffer shall be increased to include the slope or the standard buffer shall be drawn from the top of the slope, whichever provides greater protection.

A. Modification of Standard Buffer.

1. The City may approve a modification of the minimum required buffer in cases where an improved right-of-way, associated with a legally established roadway, transects the stream or lake buffer. The buffer may be reduced to match the edge of the right-of-way closest to the stream or lake if the portion of the buffer on the other side of the roadway meets the following criteria:

a. Does not provide additional protection to the proposed development from flooding or other hazard, or to the lake or stream; and

b. Provides insignificant biological, geological or hydrological buffer functions relating to the other portion of the buffer adjacent to the lake or stream.

Improved rights-of-way are those that are maintained out of necessity as a cleared, graded, paved, mowed or otherwise altered surface to allow for access, maintenance, or safety.

2. The City may approve a modification of the minimum required buffer width where the proposed development or use is isolated from the critical area and its contiguous buffer by an existing legally-established building, detached garage, accessory dwelling unit, commercial parking area, retaining wall over six (6) feet in height, or similar structure. The modification may not be requested for such improvements as fences, sheds, patios, decks, driveways, or other similar structures and impervious surfaces. For the buffer modification to be approved, the applicant must demonstrative conclusively in a critical area report that all of the following criteria are met:

a. The existing legal improvement between the proposed development or use and the stream or lake creates a substantial barrier to buffer function;

b. The isolated section of buffer does not provide additional protection of the critical area from the proposed development; and

c. The isolated section of buffer does not provide significant hydrological, water quality, and wildlife buffer functions relating to the portion of the buffer adjacent to the critical area.

7. ~~Building Setback.~~ A building setback from the buffer edge is required per KMC ~~18.55.270.~~

4B. *Buffer Reduction with Enhancement.* Standard buffer widths for degraded buffers of Type F, Ns, or Np waters may be reduced a maximum of 25 percent of the standard width through a combination of buffer enhancement and low impact development strategies. The applicant shall demonstrate that through enhancing the buffer and use of low impact development strategies the reduced buffer will function at a higher level than the standard buffer. Type S buffers and setbacks may only be reduced as outlined in KMC 16.60.030 or under the Shoreline Variance requirements of KMC 16.75.030. ~~Buffers may be reduced in the following manner according to stream type:~~

The following table describes the maximum buffer reduction and minimum buffer width when a degraded buffer is enhanced:

Stream Type	Maximum Buffer Reduction	Minimum Buffer Width (Feet)
Type S - Swamp Creek, Lake Washington and Sammamish River	See KMC 16.60.030 or 16.75.030	
Type F - Type 1 and Little Swamp Creek	25 percent	112.5 feet
Type F (other waterbodies used by or containing habitat suitable for salmonid fish) Type 2	25 percent	75 feet
Type F (waterbodies used by or containing habitat suitable for fish other than salmonids) Type 3	25 percent	37.5 feet
Type Np or Ns Type 4	25 percent	18.75 feet

<i>Stream Type</i>	Maximum Buffer Reduction	Minimum Buffer Width (Feet)
<u>Any type stream restored from a pipe</u>	<u>25 percent</u>	<u>18.75 feet</u>

A1. Prior to approval of a reduced *buffer*, a *critical areas* application shall meet all of the decisional criteria listed below. A reduced *buffer* will be approved in a degraded *stream* or *lake* *buffer* only if:

- (1)a.** It will provide an overall improvement in water quality;
- (2)b.** It will provide an overall *enhancement* to fish, wildlife, or their habitat;
- (3)c.** It will provide a net improvement in drainage and/or stormwater detention capabilities;
- (4)d.** It will not lead to unstable earth conditions or create an *erosion* hazard;
- (5)e.** It will not be materially detrimental to any other property or the *City* as a whole; and
- (6)f.** All exposed areas are stabilized with *native vegetation*, as appropriate.

b2. As part of the *buffer* reduction request, the *applicant* shall submit a *buffer enhancement* plan prepared by a *qualified professional* and fund a review of the plan by the *City's wetland/critical areas* consultant. The plan shall assess the habitat, water quality, stormwater detention, ground water recharge, shoreline protection, and *erosion* protection functions of the *buffer*; assess the effects of the proposed modification on those functions; and address the six criteria listed in subsection **(F)(4)(c)B.1** of this section.

5. Buffer Conditions Shall Be Maintained. Except as otherwise specified or allowed in accordance with this chapter, *stream buffers* shall be retained in an undisturbed condition.

6. Buffer Uses. The following *uses* may be permitted within a *stream buffer* in accordance with the review procedures of this chapter, provided they are not prohibited by any other applicable law and they are conducted in a manner so as to minimize impacts to the *buffer* and adjacent *stream*:

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

~~b. Passive Recreation. Passive recreation facilities designed in accordance with an approved critical areas report, including:~~

~~(1) Walkways and trails; provided, that those pathways that are generally parallel to the perimeter of the stream shall be located in the outer 25 percent of the buffer area;~~

~~(2) Walkway and trail surfaces shall be made of pervious materials except that public multipurpose trails may be of impervious materials if they meet all other requirements, including water quality;~~

~~(3) Wildlife viewing structures; and~~

~~(4) Fishing access areas.~~

~~c. Stormwater Management Facilities. Grass-lined swales and dispersal trenches may be located in the outer 25 percent of the buffer area. All other surface water management facilities are not allowed within the buffer area.~~

~~7. Building Setback. A building setback is required from the edge of the buffer per KMC 18.55.270.~~

C. Stream Crossings. Stream crossings may be allowed and may encroach on the otherwise required stream buffer if:

1. All crossings are designed using the most recent version of Washington Department of Fish and Wildlife's *Water Crossing Design Guidelines* (Barnard and others, 2013, or as revised), prioritizing use bridges or other construction techniques which do not disturb the stream bed or bank, except that bottomless culverts or other appropriate methods demonstrated to provide fisheries protection may be used for Type 2 or 3F streams if the applicant demonstrates that such methods and their implementation will pose no harm to the stream nor inhibit migration of fish;
2. All crossings are constructed during the summer low flow and are timed to avoid stream disturbance during periods when use is critical to salmonids;
3. Crossings do not occur over salmonid spawning areas unless the City determines that no other possible crossing site exists;
4. Bridge piers or abutments are not placed within the Federal Emergency Management Agency (FEMA) floodway or below the ordinary high water mark;
5. Crossings do not diminish the flood-carrying capacity of the stream;

6. Underground utility crossings are laterally drilled and located at a depth of four feet below the maximum depth of scour for the *base flood* predicted by a civil engineer licensed by the State of Washington. Temporary bore pits to perform such crossings may be permitted within the *stream buffer* established in this chapter; and
7. Crossings are minimized and serve multiple purposes and properties whenever possible.

D. *Stream Relocations.*

1. *Stream* relocations may be allowed only for:

- a. All Type F, Type Np, and Type Ns streams types as part of a public project for which a public agency and utility exception is granted pursuant to this chapter; or
- b. Type 3 or 4F streams with fish use other than salmonids, Np or Ns streams for the purpose of enhancing resources in the *stream* if:

(1) Appropriate floodplain protection measures are used; and

- c. The location occurs on-site except that relocation off-site may be allowed if the *applicant* demonstrates that any on-site relocation is impracticable, the *applicant* provides all necessary easements and waivers from affected property owners and the off-site location is in the same drainage *sub-basin* as the original *stream*.

2. For any relocation allowed by this section, the *applicant* shall base the design on the most recent version of the multi-agency *Stream Habitat Restoration Guidelines (Cramer, 2012 or as revised)*, and demonstrate, based on information provided by a civil engineer and a qualified *biologist*, that:

- a. The equivalent *base flood* storage volume and function will be maintained;
- b. There will be no adverse impact to local ground water;
- c. There will be no increase in velocity;
- d. There will be no interbasin transfer of water;
- e. There will be no increase in the sediment load;
- f. There is an overall increase in habitat function and value for *salmonids* and other fish;
- g. Requirements set out in the *mitigation* plan are met;

h. The relocation conforms to other applicable laws; and

i. All work will be carried out under the direct supervision of a qualified *biologist*.

E. *Stream or Lake Enhancement/Restoration*. *Stream or lake enhancement and restoration* not associated with any other *development proposal* may be allowed if:

1. ~~a~~ Accomplished according to a plan *consistent with the most recent version of the multi-agency Stream Habitat Restoration Guidelines (Cramer, 2012 or as revised)* for its design, implementation, maintenance and *monitoring* prepared by a civil engineer and a qualified *biologist* and carried out under the direction of a qualified *biologist*.

F. ~~Minor Stream Restoration~~. ~~A minor stream restoration project for fish habitat enhancement may be allowed if:~~

~~24.~~ The project results in a *net* increase in *stream or lake functions and values*;

~~2.~~ The *restoration* is sponsored by a *public agency* with a mandate to do such work;

3. The *enhancement or restoration* is not associated with *mitigation* of a specific *development proposal*; *and*

4. The *enhancement or restoration* is limited to removal of non-*native vegetation* and *enhancement of riparian vegetation*, placement of rock weirs, log controls, spawning gravel and other specific *salmonid* habitat improvements;

~~5.~~ The *restoration* only involves the use of hand labor and *light equipment*; or the use of helicopters, cranes, or aerial equipment which deliver supplies to the project *site*; provided, that they have no contact with *critical areas* or their *buffers*; *and*

~~6.~~ The *restoration* is performed under the direction of a qualified *biologist*.

18.55.430 Performance standards – Mitigation requirements.

A. *Stream or Lake Mitigation*. *Mitigation* of adverse impacts to *aquatic or riparian* habitat areas shall result in equivalent *functions and values* on a per function basis, be located as near to the *alteration* as feasible, and be located in the same *subdrainage basin* as the impacted habitat *unless mitigation will be implemented via a City-approved in-lieu fee program or mitigation bank*. *See also KMC 18.55.200, 18.55.210 and 18.55.220.*

B. *Alternative Mitigation for Stream Areas.* The performance standards set forth in this section may be modified at the City's discretion if the applicant demonstrates that greater habitat functions, on a per function basis, can be obtained in the affected *subdrainage basin* as a result of alternative *mitigation measures*.

B. *Advance Mitigation.* Mitigation for projects with pre-identified impacts to streams, lakes or their buffers may be constructed in advance of the impacts if the mitigation is implemented according to federal rules, state policy on advance mitigation, and state water quality regulations.

C. *Alternative Mitigation Plans.* The *city manager* may approve alternative critical areas mitigation plans that are based on best available science, such as priority restoration plans that achieve restoration goals identified in the SMP. Alternative mitigation proposals shall provide an equivalent or better level of protection of critical area functions and values than would be provided by the strict application of this chapter and shall contain all of the standard components of a mitigation plan. The *city manager* shall consider the following for approval of an alternative mitigation proposal:

1. The proposal uses a watershed approach consistent with the joint U.S. Environmental Protection Agency and U.S. Army Corps of Engineers *Compensatory Mitigation for Losses of Aquatic Resources* (33 CFR Part 33, April 2008).
2. Creation or enhancement of a larger system of natural areas and open space is preferable to the preservation of many individual habitat areas.
3. There is clear potential for success of the proposed mitigation at the proposed mitigation site.
4. Mitigation in a different sub-basin is justified based on regional needs or functions and values; the replacement ratios may not be reduced or eliminated unless the reduction results in a preferred environmental alternative.

D. *Mitigation Banking.*

1. Credits from a mitigation bank may be approved for use as compensation for unavoidable impacts to aquatic habitats when:
 - a. The bank is certified under state rules;
 - b. The *city manager* determines that the mitigation bank provides appropriate compensation for the authorized impacts; and
 - c. The proposed use of credits is consistent with the terms and conditions of the certified bank instrument.

2. Accounting methods for quantifying project impacts and the necessary compensation shall be consistent with methods specified in the certified bank instrument.
3. Credits from a certified mitigation bank may be used to compensate for impacts located within the service area specified in the certified bank instrument. In some cases, the service area of the bank may include portions of more than one adjacent drainage basin.

E. *In Lieu Fee Programs.* To aid in the implementation of off-site mitigation, the City may develop an in-lieu fee (ILF) program or allow participation in an ILF program, such as King County's Mitigation Reserves Program. ILF programs shall be developed and approved through a public process and be consistent with federal rules, state policy on in-lieu fee mitigation, and state water quality regulations. An approved ILF program sells compensatory mitigation credits to permittees whose obligation to provide compensatory mitigation is then transferred to the in-lieu program sponsor, a governmental or non-profit natural resource management entity. Credits from an approved in-lieu-fee program may be used when paragraphs 1-6 below apply:

1. The city manager determines that it would provide environmentally appropriate compensation for the proposed impacts.
2. The mitigation will occur on a site identified using the site selection and prioritization process in the approved ILF program instrument.
3. The proposed use of credits is consistent with the terms and conditions of the approved ILF program instrument.
4. Land acquisition and initial physical and biological improvements of the mitigation site shall be completed within three years of the credit sale. A one-year extension to this requirement may be granted by the *city manager* if the need for additional mitigation because of possible temporal loss is evaluated and addressed.
5. Projects using ILF credits shall have debits associated with the proposed impacts calculated by the applicant's qualified stream or lake scientist using the method consistent with the credit assessment method specified in the approved instrument for the ILF program.
6. Credits from an approved ILF program may be used to compensate for impacts located within the service area specified in the approved ILF instrument.