FACET

Critical Areas Ordinance Update

Gap Analysis

CITY OF MEDINA

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Prepared for:

City of Medina
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1. INTRODUCTION

With passage of the Growth Management Act (GMA) in 1990, local jurisdictions throughout Washington State, including the City of Medina, were required to develop policies and regulations to designate and protect critical areas. Critical areas are defined in the GMA and the Revised Code of Washington (RCW) 36.70A.030(11) to include wetlands, areas with a critical recharging effect on aquifers used for potable water, fish and wildlife habitat conservation areas, frequently flooded areas, and geologically hazardous areas. The GMA requires local jurisdictions to periodically review and evaluate their adopted critical areas policies and regulations.

The City of Medina last completed a comprehensive update of its critical areas policies and regulations in 2015 and is now required to complete a periodic update. According to the Washington Administrative Code (WAC) 365-195-915, jurisdictions are required to incorporate "best available science" (BAS) into their critical areas policies and regulations to ensure adequate protection is achieved. Any deviations from science-based recommendations must be identified, assessed, and explained. In addition, jurisdictions must give "special consideration" to conservation or protection measures necessary to preserve or enhance anadromous fisheries. A BAS review for this code update has been prepared as a separate document (Facet 2025).

The City of Medina's critical areas policies are contained in the Natural Environment Element of the City of Medina Comprehensive Plan (Comprehensive Plan). Critical areas regulations are currently codified within Chapter 16.50 of Subtitle 16.5 *Environment* of Title 16 - Unified Development Code (UDC) of the Medina Municipal Code (MMC).

This gap analysis is a review of the current critical areas regulations with an evaluation of the gaps in consistency between the existing regulations and BAS or state law. This analysis also includes recommendations for improvements to general aspects of the critical areas ordinance (CAO) such as clarity, consistency, and ease of use. The primary intention of this gap analysis is to help guide the update of the City's critical areas policies and regulations.

1.1 Report Structure

The recommendations for updating the City's existing critical areas regulations are provided in Sections 2 through 5. Section 2 outlines the general provisions applicable to all critical areas, while Sections 3 through 5 address the specific types of critical areas in Medina, organized according to the structure of the current code[1]. Each section contains a summary table of recommendations followed by a detailed analysis of the existing code, potential gaps, and recommendations.

[1] Medina does not have critical aquifer recharge areas nor frequently flooded areas as part of its CAO

2. GENERAL PROVISIONS (MMC 16.50.010–.070)

This section addresses general provisions applicable to all types of critical areas as described in MMC 16.50.010-.070. A summary of recommended updates is provided in Table 1.

Table 1. Purpose and general provisions review summary.

Code Section	Title	Review Comment and Recommendations	Reason for Recommendation
MMC 16.50.010	Purpose.	No comments or recommendations	N/A
MMC 16.50.020	General Provisions.	No comments or recommendations	N/A
MMC 16.50.030	Applicability.	No comments or recommendations	N/A
MMC 16.50.040	Exemptions, existing structures, trams, and limited exemptions.	1. Revise section title. 2. Review emergency response exemption criteria. 3. Review regulations for legally existing structures. 4. Allow off site mitigation. 5. Review public and private nonmotorized trails exemption criteria. 6. Review removal of invasive or noxious plants exemption criteria. 7. Review hazard tree removal exemption criteria.	1. Clarity 2. WDFW RMZ Checklist recommendation 3. Clarity 4. BAS 5. WDFW RMZ Checklist recommendation 6. WDFW RMZ Checklist recommendation 7. WDFW RMZ Checklist recommendation
MMC 16.50.050	Relief from critical areas regulations.	No comments or recommendations	N/A
MMC 16.50.060	General requirements.	1. Recommend using consistent terminology. 2. Consider requiring use of native plant stock. 3. Review mitigation monitoring period.	1. Clarity 2. BAS 3. BAS
MMC 16.50.070	Critical areas reports.	1. Update definition of "qualified professional" in Definitions Chapter, MMC 16.12. 2. Require assessment of direct and indirect impacts.	1. BAS 2. BAS

2.1 Exemptions, Existing Structures, Trams, and Limited Exemptions (MMC 16.50.040)

2.1.1 Revise Section Title

As trams are not discussed in this section, the City should consider removing this item from the title.

2.1.2 Emergency Response (MMC 16.50.040(A)(1))

The emergency exception provision in MMC 16.50.040(A)(1) could be revised to outline that landowners may be required to modify, remove or restore any emergency repair work. See recommended edits to MMC 16.50.040(A)(1) in underlined text below:

> *1. Emergency actions necessary to prevent an immediate threat to public health, safety or welfare, or that pose an immediate risk of damage to private property and that require action in a time frame too short to allow compliance with this chapter, provided:*
>
> > *a. Immediately after the emergency action is completed, the owner shall notify the city of these actions within fourteen (14) days; and*
> >
> > *b. The owner shall fully restore and/or mitigate any impacts to critical areas and buffers in accordance with an approved critical area report and mitigation plan.*
> >
> > *c. Emergency actions shall use reasonable methods to address the emergency with the least possible impact on the critical area. Emergency response measures shall not include the construction of new permanent structures where none previously existed. In instances where the director determines that a new protective structure constitutes an appropriate response to the emergency, such structure shall either be removed upon abatement of the emergency condition or shall be subject to the acquisition of all permits that would have been required in the absence of an emergency. The director shall determine if the action taken was within the scope of the emergency actions allowed in this subsection.*

2.1.3 Existing Structures (MMC 16.50.040(B))

This section below under MMC 16.50.040(B) should be reviewed for clarity:

> *B. Existing structures.*
>
> *1. Existing structures may be maintained, repaired and remodeled provided there is no further intrusion into a critical area or its buffer.*
>
> *2. All new construction must conform to the requirements of this chapter except as provided for single-family residences in subsection (C)(1) of this section.*
>
> *3. Structures damaged or destroyed due to disaster (including nonconforming structures) may be rebuilt in like kind.*

The City should consider referencing the Nonconformity Chapter, MMC 16.36, or establish that the structure must be legally existing.

Update to clarify city review process for retention of existing legally established structures, both primary and nonprimary. Consider providing limits for abandoned structures. Clarify requirements for sites where previous structures have been demolished. Review nonconforming sites provision for alignment with current code administration with a focus on retaining equivalent or greater critical area functions.

2.1.4 Off Site Mitigation (MMC 16.50.040(C)(1)(d))

The City could consider revising the criteria for this limited exemption to require appropriate mitigation, so off site mitigation would be an option. Washington State Department of Ecology's (Ecology's) latest wetland guidance for CAO updates, Publication 22-06-014 finalized in October 2022, no longer supports that on-site, in kind mitigation is always the best option depending on the site-specific conditions.

2.1.5 Public and Private Nonmotorized Trails (MMC 16.50.040(C)(3))

To align with the recommendations included in the Washington State Department of Fish and Wildlife (WDFW) Riparian Management Zone (RMZ) Checklist, this exemption language could incorporate additional criteria for public and private nonmotorized trails: *impacts and disturbances must be minimized to the extent practicable, informed by Priority Habitats and Species data and management recommendations*.

2.1.6 Removal of Invasive or Noxious Plants (MMC 16.50.040(C)(4)(a))

This vegetation removal exception could be revised to include the following criteria: use of only Ecology-approved aquatic herbicides and adjuvants, avoid use of hazardous substances, and avoid soil compaction.

2.1.7 Hazard Tree Removal (MMC 16.50.040(A)(4)(b))

To align with the recommendations included in the WDFW RMZ Checklist, this exemption language could be improved by specifying the following:

- *Require that the method of hazard tree removal not adversely affect riparian ecosystem functions to the extent practicable*
- *Include emphasis on avoidance and minimization of damage to remaining trees and vegetation within the critical area or its associated buffer*

2.2 General Requirements (MMC 16.50.060)

2.2.1 Use Consistent Terminology

Throughout the code, the terms "director" and "city manager" are both used. It is recommended to choose one to use throughout the code.

2.2.2 Planting Plan (MMC 16.50.060(D)(7)(d))

It is considered a best management practice for restoration activities to use native plant species appropriate to the site for revegetation of disturbed or degraded areas. This is also a strategy to manage climate change impacts to wetlands, as use of native plant stock grown under local conditions can increase resilience under climate stressors. While it is likely the policy employed in practice, the mitigation requirements under MMC 16.50.060(D), except Subsection 16.50.060(D)(7)(d)(iii), do not currently include a specific requirement for use of native species. The City could consider adding this requirement as a general requirement for mitigation planting plans.

2.2.3 Mitigation Monitoring Period (MMC 16.50.060(D)(8)(d))

Recommend requiring performance standard monitoring for a period of at least five (5) years for critical areas and ten (10) or more years for wetlands with scrub-shrub or forested vegetation communities in alignment with Ecology's model ordinance (Ecology Publication No. 22-06-014).

2.3 Critical Areas Report (MMC 16.50.070)

2.3.1 Qualified Professional (MMC 16.50.070(A)(1))

The current code defines "qualified professional" under MMC 16.12.180 as:

> *Qualified professional means a person with experience and training in the applicable critical area. A qualified professional must have obtained a B.S. or B.A. or equivalent degree in biology, engineering, environmental studies, fisheries, geomorphology or related field, and two years of related work experience.*
>
> *1. A qualified professional for streams and fish and wildlife habitat conservation areas or wetlands must have a degree in biology or related field and relevant professional experience.*
>
> *2. A qualified professional for a geologic hazard must be a professional engineer or geologist, licensed in the State of Washington.*

The City should include a definition of a qualified wetland professional consistent with the definition found in Ecology's model ordinance (Ecology Publication No. 22-06-014) below:

> *Qualified wetland professional: A person with professional wetland experience that meets the following criteria:*
>
> > *(a) A Bachelor of Science or Bachelor of Arts or equivalent degree in hydrology, soil science, botany, ecology, resource management, or related field, or four years of full-time work experience as a wetland professional may substitute for a degree, and*
> >
> > *(b) At least two additional years of full-time work experience as a wetland professional; including delineating wetlands, preparing wetland reports, conducting function assessments, and developing and implementing mitigation plans, and*

(c) Completion of additional wetland-specific training programs. This could include a more comprehensive program such as the University of Washington Wetland Science and Management Certificate Program or individual workshops on topics such as wetland delineation, function assessment, mitigation design, hydrophytic plant or hydric soil identification.

A person certified as a Professional Wetland Scientist through the Society of Wetland Scientists professional certification program meets the above criteria

Additionally, the description for a professional qualified to perform a geotechnical report and geotechnical assessment could be improved, per the Washington State Department of Commerce (Commerce) Critical Areas Handbook (2023):

RCW 18.220.010 identifies the different types of geology licenses in Washington State: licensed geologists (LGs), licensed engineering geologists, and geotechnical engineers.

2.3.2 Direct and Indirect Impacts (MMC 16.50.070(B)(6))

In addition to cumulative impacts, the critical areas report should include a section to assess both direct and indirect impacts of the proposed activity.

3. WETLANDS (MMC 16.50.080)

This section addresses code applicable to wetlands as described in MMC 16.50.080. A summary of recommended updates is provided in Table 2.

Table 2. Wetlands review summary.

Code Section	Title	Review Comment and Recommendations	Reason for Recommendation
MMC 16.50.080(A)	Designation.	Revise reference to federal wetland delineation manual.	BAS
MMC 16.50.080(B)	Wetland ratings.	Update wetland rating publication reference.	BAS
MMC 16.50.080(C)	Wetland rating categories.	Omit descriptions of wetland categories.	BAS
MMC 16.50.080(D)	Mapping.	No comments or recommendations	N/A
MMC 16.50.080(E)	Development standards.	Review buffer width tables per Ecology guidance.	BAS
MMC 16.50.080(x)	Buffer width increase.	New section for buffer width increase.	BAS

Code Section	Title	Review Comment and Recommendations	Reason for Recommendation
MMC 16.50.080(F)	Wetland buffer reduction.	Remove buffer reduction options.	BAS
MMC 16.50.080(G)	Wetland buffer reduction incentive options.	Review for compliance with Ecology Publication No. 22-06-014 and update for wetland minimization measures.	BAS
MMC 16.50.080(H)	Averaging of wetland buffer width.	Review buffer averaging criteria.	BAS
MMC 16.50.080(I)	Wetland buffer averaging and wetland buffer reduction.	No comments or recommendations	N/A
MMC 16.50.080(x)	Allowed buffer uses.	New section for allowed buffer uses.	BAS
MMC 16.50.080(J)	Buffers for mitigation shall be consistent.	No comments or recommendations	N/A
MMC 16.50.080(K)	Buffer conditions shall be maintained.	Provide more details on standard buffer condition requirements.	BAS
MMC 16.50.080(x)	Functionally disconnected buffer	New section for disconnected functional buffer.	BAS
MMC 16.50.080(L)	Temporary markers.	No comments or recommendations	N/A
MMC 16.50.080(M)	Permanent signs.	No comments or recommendations	N/A
MMC 16.50.080(N)	Fencing.	No comments or recommendations	N/A
MMC 16.50.080(O)	Additional mitigation measures.	1. Update Guidance on Wetland Mitigation publication. 2. Provide clarity on impacts of wetland mitigation. 3. Provide methods of compensatory mitigation. 4. Update mitigation ratio tables. 5. Review allowance to decrease replacement ratio. 6. Include credit/debit method. 7. Update programmatic mitigation allowances.	1. BAS 2. BAS 3. BAS 4.BAS 5. BAS 6. BAS 7. BAS
MMC 16.50.080(x)	Additional report requirements.	New section for additional report requirements for projects that may affect wetlands or wetland buffers.	BAS

3.1 Designation (MMC 16.50.080(A))

The current code includes a reference to WAC 173-22-035 that requires the use of approved federal manuals and regional supplements. Wetlands are determined by the 1987 *Corps of Engineers Wetland Delineation Manual* by the U.S. Corps of Engineers (USACE) and the 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)*. We recommend that the City codify the requirement for these manuals to be used in wetland delineations and adopt all additional revised versions of the manuals.

3.2 Wetland Ratings (MMC 16.50.080(B))

It is recommended to update this section with the most recent version of the wetland rating system, *Wetland Rating System for Western Washington: 2014 Update, Version 2.0* (Hruby and Yahnke 2023). The current Ecology Publication Number is 23-06-009. We recommend updating this publication reference and having this code adopt all additional revised versions of the rating system. This current rating system version is very similar to the prior 2014 publication. Changes were focused on clarifications, formatting improvements, updated website links, and annotations. Revisions are not considered significant, which is why it is labeled as version 2.0 of the 2014 update. The city attorney will review this proposed language for compliance with state law.

3.3 Wetland Rating Categories (MMC 16.50.080(C))

The descriptions for the types of wetlands under MMC Table 16.50.080(C): Wetland Categories may not be inclusive of every scenario. It is recommended to consider omitting these descriptions and relying on the wetland rating system.

3.4 Development Standards (MMC 16.50.080(E))

Ecology's latest wetland guidance for CAO updates, Publication 22-06-014 finalized in October 2022, provides three BAS based options for wetland buffer tables. The code's current buffer widths are displayed below in Table 3.

Table 3. Current wetlands buffers from MMC Table 16.50.080(E)

Wetland Category	Buffer width if wetland scores less than 5 habitat points	Buffer width if wetland scores 5 habitat points	Buffer width if wetland scores 6—7 habitat points	Buffer width if wetland scores 8—9 habitat points
Category I	100 feet	140 feet	220 feet	300 feet
Category II	100 feet			
Category III	80 feet			Not applicable
Category IV	50 feet	Not applicable		

Ecology's preferred option, Option 1 (Table 4), provides the most flexibility and site-specific buffers. Under Option 1 there are two different variations- the reduced variation only allowable through provision of a habitat corridor and implementation of minimization measures to reduce the level of impact from the adjacent land use.

Use of the variation with the lowest buffer widths under Option 1, shown in Table 4, requires the implementation of minimization measures shown in Table 5. Such measures are not currently in the code. Table 5 is not a complete list of measures, nor is every measure required, but every effort should be made to implement as many measures as applicable and practicable, as determined by City staff. If an applicant chooses not to apply the applicable minimization measures, then an approximately 33% increase in the width of all buffers is required, see Table 6. Note that for wetlands that score 6 points or more for habitat function (as determined by the 2014 Wetland Rating System rating forms), to use the reduced widths in Table 4, the protection of a wildlife corridor of at least 100 feet wide is also required between the wetland and certain other protected areas (specified in the Ecology 2022 CAO guidance). If a corridor cannot be provided, then the non-reduced (33% increase) buffer would be required for those higher functioning wetlands.

Ecology also provides an option to use graduated buffer widths in the July 2018 *Appendix 8-C of Wetlands in Washington State, Volume 2* (Ecology Publication No. 05-06-008). The current code uses a mixed step-wise and graduated scale approach. Instead of "N/A," the City could consider placing a buffer width in the boxes where they have decided not to scale up the established width.

Table 4. Ecology Buffer Option 1 (wetland buffer width requirements, in feet, if Table 5 is implemented and a habitat corridor is provided)

Category of Wetland	Habitat Score 3-5 points (corridor not required)	Habitat Score 6-7 points	Habitat Score 8-9 points	Buffer width based on special characteristics
Category I or II: Based on rating of functions (and not listed below)	75	110	225	NA
Category I: Bogs and Wetlands of High Conservation Value	NA	NA	225	190
Category I: Interdunal	NA	NA	225	NA
Category I: Forested	75	110	225	NA
Category I: Estuarine and wetlands in coastal lagoons	NA	NA	NA	150
Category II: Interdunal	NA	NA	NA	110

Category of Wetland	Habitat Score 3-5 points (corridor not required)	Habitat Score 6-7 points	Habitat Score 8-9 points	Buffer width based on special characteristics
Category II: Estuarine and wetlands in coastal lagoons	NA	NA	NA	110
Category III: All types except interdunal	60	110	225	NA
Category III: Interdunal	NA	NA	NA	60
Category IV: All types	40	40	40	NA

Table 5. Impact minimization measures

Examples of disturbance	Activities and uses that cause disturbances	Examples of measures to minimize impacts
Lights	• Parking lots • Commercial/industrial • Residential • Recreation (e.g., athletic fields) • Agricultural buildings	• Direct lights away from wetland • Only use lighting where necessary for public safety and keep lights off when not needed • Use motion-activated lights • Use full cut-off filters to cover light bulbs and direct light only where needed • Limit use of blue-white colored lights in favor of red-amber hues • Use lower-intensity LED lighting • Dim light to the lowest acceptable intensity
Noise	• Commercial • Industrial • Recreation (e.g., athletic fields, bleachers, etc.) • residential • Agriculture	• Locate activity that generates noise away from wetland • Construct a fence to reduce noise impacts on adjacent wetland and buffer • Plant a strip of dense shrub vegetation adjacent to wetland buffer
Toxic runoff	• Parking lots • Roads • Commercial/industrial • Residential areas • Application of pesticides • Landscaping • Agriculture	• Route all new, untreated runoff away from wetland while ensuring wetland is not dewatered • Establish covenants limiting use of pesticides within 150 ft. of wetland • Apply integrated pest management (These examples are not necessarily adequate for minimizing toxic runoff if threatened or endangered species are present at the site.)
Stormwater runoff	• Parking lots • Roads	• Retrofit stormwater detention and treatment for roads and existing adjacent development

Examples of disturbance	Activities and uses that cause disturbances	Examples of measures to minimize impacts
	• Residential areas • Commercial/industrial • Recreation • Landscaping/lawns • Other impermeable surfaces, compacted soil, etc.	• Prevent channelized or sheet flow from lawns that directly enters the buffer • Infiltrate or treat, detain, and disperse new runoff from impervious surfaces and lawns
Pets and human disturbance	• Residential areas • Recreation	• Use privacy fencing • Planet dense native vegetation to delineate buffer edge and to discourage disturbance • Place wetland and its buffer in a separate tract • Place signs around the wetland buffer every 50-200 ft., and for subdivisions place signs at the back of each residential lot • When platting new subdivisions, locate greenbelts, stormwater facilities, and other lower-intensity uses adjacent to wetland buffers
Dust	• Tilled fields • Roads	• Use best management practices to control dust

Table 6. Ecology Buffer Option 1 (without minimization measures and a habitat corridor is not provided)(wetland buffer width requirements, in feet)

Category of Wetland	Habitat Score 3-5 points (corridor not required)	Habitat Score 6-7 points	Habitat Score 8-9 points	Buffer width based on special characteristics
Category I or II: Based on rating of functions (and not listed below)	100	150	300	NA
Category I: Bogs and Wetlands of High Conservation Value	NA	NA	300	250
Category I: Interdunal	NA	NA	300	NA
Category I: Forested	100	150	300	NA
Category I: Estuarine and wetlands in coastal lagoons	NA	NA	NA	200
Category II: Interdunal	NA	NA	NA	150

Category of Wetland	Habitat Score 3-5 points (corridor not required)	Habitat Score 6-7 points	Habitat Score 8-9 points	Buffer width based on special characteristics
Category II: Estuarine and wetlands in coastal lagoons	NA	NA	NA	150
Category III: All types except interdunal	80	150	300	NA
Category III: Interdunal	NA	NA	NA	80
Category IV	NA	NA	NA	50

Ecology Buffer Option 2 is based on category and the level of impact from the adjacent proposed or existing land use. This option necessitates inclusion of a table with levels of impacts from proposed land use types.

Table 7. Ecology Buffer Option 2

Wetland Category	Land Use Impact		
	Low	Moderate	High
I	150 ft	225 ft	300 ft
II	150 ft	225 ft	300 ft
III	75 ft	110 ft	150 ft
IV	25 ft	40 ft	50 ft

Finally, Ecology Buffer Option 3 is based solely on the category of wetland. It is the simplest to administer; however, it is the least flexible and differs the most from the system in the current code. We do not recommend Option 3 for Medina.

Table 8. Ecology Buffer Option 3

Wetland Category	Buffer
I	300 ft
II	300 ft
III	150 ft
IV	50 ft

Additional details and examples can be found in the following guidance documents:

- The 2022 Ecology document *Wetland Guidance for Critical Areas Ordinance (CAO) Updates, Western and Eastern Washington* (Ecology 2022), which is intended as an update to the 2016/2018 document.
- The 2018 appendix *Wetlands in Washington State – Volume 2, Appendix 8-C* (Granger et al. 2005, Revised July 2018).

3.5 Buffer Width Increase (MMC 16.50.080(x))

The City could consider including provisions for buffer width increases. The following language, adapted from Ecology's model ordinance (Ecology Publication No. 22-06-014), could be added:

> *Increased Wetland Buffer Width. Buffer widths shall be increased by 33 percent as determined by the* [director] *when a wider buffer is necessary to protect wetland functions and values. This determination shall be supported by appropriate documentation showing that it is reasonably related to protection of the functions and values of the wetland. The documentation shall include but not be limited to the following criteria:*
>
> *a. The wetland is used by a state or federally listed plant or animal species. These species would be those listed under WAC 220-610-010, 50 CFR 17-11, 50 CFR 17-12, or other state or federal regulations.*
>
> *b. The wetland has critical habitat; or a priority area for a priority species as defined by WDFW; or Wetlands of High Conservation Value as defined by the Washington Department of Natural Resources' Natural Heritage Program.*
>
> *c. The adjacent land is susceptible to severe erosion, and erosion-control measures will not effectively prevent adverse wetland impacts.*
>
> *d. The adjacent land has minimal vegetative cover.*
>
> *e. The land has slopes greater than 30 percent.*

Ecology's model ordinance recommends a case-by-case approach to buffer increases under certain circumstances, including minimal vegetative cover (Ecology Publication No. 22-06-014). Some neighboring jurisdictions have applied set buffer width increases. For example, City of Kirkland applies a 33 percent increase to buffers that are not densely vegetated with native trees, shrubs and groundcover plants and are not planted to meet that standard (KZC 90.55). City of Issaquah requires development proposals to employ rehabilitation or enhancement of degraded buffer areas when more than 25 percent of the buffer is invasive/nonnative vegetation or native tree/shrub covers less than 25 percent of the buffer area (IMC 18.802.220.G).

3.6 Wetland Buffer Reduction (MMC 16.50.080(F))

Administrative buffer reductions to widths lower than standard buffers are no longer considered to be BAS or state policy (Ecology 2022). We recommend that Medina remove buffer reduction allowances through administrative permitting channels as referenced below in the current code (MMC 1650.080(F) and (G)):

> *F. Wetland buffer reduction. The wetland buffer widths in Table 16.50.080(E) may be reduced by up to a maximum of 25 percent provided:*
>
> > *1. The amount of reduction is based on voluntary employment of incentive-based action measures set forth in subsection (G) of this section;*
> >
> > *2. A critical areas report prepared by a professional with expertise in wetlands and approved by the city using the best available science determines a smaller area can be adequate to protect the wetland functions and values based on site-specific characteristics;*
> >
> > *3. The mitigation provided will result in a net improvement of the wetland and buffer functions;*
> >
> > *4. Any remaining wetland buffer areas on the property not subject to the reduction, but are degraded, are revegetated with native plants; and*
> >
> > *5. A five-year monitoring and maintenance program is provided.*
>
> *G. Wetland buffer reduction incentive options. Table 16.50.080(G) provides incentive options that may be employed to reduce a wetland buffer width as allowed in subsection (F) of this section. Where multiple options for an action are prescribed in the table, only one option under that action may be applied.*

Current BAS does not support additional buffer reductions beyond the habitat corridor/minimization measures reduction to reduce the level of impact from adjacent land use, as discussed above under Option 1 only (Table 4). Additionally, Ecology's current buffer recommendations are based on a buffer that is already well vegetated. If the existing buffer area is not currently vegetated in a manner to provide the necessary buffer function, then the buffer area should be planted, or the buffer width should be increased. Reducing buffer area in circumstances where buffers are already degraded will result in a high-risk approach to protecting wetland function. Rather, Ecology recommends that buffer reductions should be tied to reducing the impacts from the adjacent land use, such as provided by Option 2 (Table 7). Further reductions would not generally be supported.

3.7 Wetland Buffer Reduction Incentive Options (MMC 16.50.080(G))

The City should consider removing the buffer reduction incentive options and in compliance with Ecology's 2022 guidance (Publication No. 22-06-014), consider incorporating the most recent wetland minimization and avoidance measures into Table 16.50.080(G), see Table 5.

3.8 Averaging of Wetland Buffer Width (MMC 16.50.080(H))

The City should consider implementing buffer width averaging as an alternative to administrative buffer reductions. It is recommended that Medina consider the model wetland regulations of Ecology's Publication No. 22-06-014 and adopt similar criteria. This guidance allows buffer averaging, if 1) to improve the protection of wetland functions or 2) it is the only way to allow for reasonable use of a parcel. In addition, the buffer averaging regulations in MMC 16.50.080(H)(4) do not impose restrictions on the minimum width of a buffer. The habitat buffer averaging referenced below in MMC 16.50.080(H) could be revised:

> MMC 16.50.080(H)
> *Averaging of wetland buffer width. The city may allow the wetland buffer width around the boundaries of the wetland to be averaged provided:*
>
> > *1. The proposal results in a net improvement of wetland, habitat and buffer function;*
> >
> > *2. The proposal includes revegetation of the averaged buffer using native plants, if needed;*
> >
> > *3. The total area contained in the buffer of each wetland on the development proposal site is not decreased;*
> >
> > *4. The wetland buffer width is not reduced by more than 25 percent in any one location; and*
> >
> > *5. A critical areas report meeting the requirements set forth in MMC 16.50.070 indicates the criteria in this subsection are satisfied.*

Ecology's (2022) model ordinance:

> *Buffer averaging to improve wetland protection 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 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 area report from a qualified wetland professional.

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

d. The buffer at its narrowest point is never less than either 75 percent 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

Averaging to allow reasonable use of a parcel may be permitted when all of the following are met:

a. No feasible alternatives to the site design 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 area report from a qualified wetland professional.

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

d. The buffer at its narrowest point is never less than either 75 percent 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.

See the draft code amendments for the suggested code change.

3.9 Allowed Buffer Uses (MMC 16.50.080(x))

Ecology Publication No. 22-06-014 recommends jurisdictions consider the following activities as allowed buffer uses, 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 wetland:

1. Conservation or restoration activities aimed at protecting the soil, water, vegetation, or wildlife.

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

a. Walkways and trails, provided that they are limited to minor crossings having no adverse impact on water quality. They should be generally parallel to the perimeter of the wetland, located only in the outer twenty-five percent (25%) of the wetland buffer area, and located to avoid removal of significant [as defined in ordinance], old growth, or mature trees. They should be limited to pervious surfaces no more than five (5) feet in width and designed 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 alter 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 would be disturbed.

7. Enhancement of a wetland buffer through the removal of non-native, invasive plant species. Removal of invasive plant species shall be restricted to hand removal. All removed plant material shall be taken away from the site and appropriately disposed of. Plants that appear on the Washington State Noxious Weed Control Board list of noxious weeds should 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. Repair and maintenance of legally established non-conforming uses or structures, provided they do not increase the degree of nonconformity.

3.10 Buffer Conditions Shall be Maintained (MMC 16.50.080(K))

Some modification and additional detail to this section would improve clarity and better align with BAS recommendations. BAS buffer recommendations are based on the assumption that the buffer is well vegetated with native species appropriate to the ecoregion. This is not currently stated in the code. If the buffer does not consist of vegetation adequate to provide the necessary protection, then either the buffer area should be planted, or the buffer width should be increased. Ecology suggests the following language be added in the description of required standard buffer widths to ensure a buffer condition that is adequate to protect the wetland resource:

The standard buffer widths assume that the buffer is vegetated with a native plant community appropriate for the ecoregion. If the existing buffer is unvegetated, sparsely vegetated, or vegetated with invasive species that do not perform needed functions, the buffer should either be planted to create the appropriate plant community or the buffer should be widened to ensure that adequate functions of the buffer are provided.

The City may also consider specifying that wetland buffers shall be undisturbed as well as retained in their natural condition.

3.11 Functionally Disconnected Wetland Buffer

The current code does not clarify provisions around existing structures and uses that may cause functionally disconnected buffers. Ecology Publication No. 22-06-014 recommends the following language:

> *Buffers may exclude areas that are functionally and effectively disconnected from the wetland by an existing public or private road or legally established development, as determined by the Director. Functionally and effectively disconnected means that the road or other significant development blocks the protective measures provided by a buffer. Significant developments shall include built public infrastructure such as roads and railroads, and private developments such as homes or commercial structures. The Director shall evaluate whether the interruption will affect the entirety of the buffer. Individual structures may not fully interrupt buffer function. In such cases, the allowable buffer exclusion should be limited in scope to just the portion of the buffer that is affected. Where questions exist regarding whether a development functionally disconnects the buffer, or the extent of that impact, the Director may require a critical area report to analyze and document the buffer functionality.*

3.12 Additional Mitigation Measures (MMC 16.50.080(O))

3.12.1 Update Guidance on Wetland Mitigation in Washington State Publication (MMC 16.50.080(O)(1))

It is recommended to update this section with the most recent version of the interagency guidance on wetland mitigation, *Wetland Mitigation in Washington State–Part 1: Agency Policies and Guidance (Version 2)* (Ecology, USACE, and EPA 2021). The current Ecology Publication Number is 21-06-003. The code should also incorporate *Wetland Mitigation in Washington State – Part 2: Developing Mitigation Plans (Version 1)* (Ecology, USACE, and EPA 2006), Ecology publication number 06-06-011b.

3.12.2 Net gain in wetland or buffer functions (MMC 16.50.080(O)(2))

The current code under MMC 16.50.080(O)(2) provides the following:

> *Wetland or wetland buffer mitigation actions shall not result in a net loss of wetland or buffer area except when the lost wetland or buffer area provides minimal functions and the mitigation action(s) results in a net gain in wetland or buffer functions as determined by a site-specific function assessment.*

This code section could be improved by specifying that mitigation sequencing is required and mitigation replacement ratios or the credit-debit method must be used to determine loss and gain in function.

3.12.3 Compensatory Mitigation Methods

The current code allows creation or reestablishment and enhancement as types of mitigation. The City could consider providing allowances for additional mitigation types. These terms should be defined in the mitigation requirements code section as they each have specific criteria that must be met. Alternatively, they could be defined in a separate definitions chapter and referenced in the wetlands section, or the code could reference the definitions in one of the wetland guidance documents where these terms are defined, such as the interagency guidance from Ecology, USACE, and EPA Publication No. 21-06-003 (2021) and Ecology Publication No. 22-06-014. In order of preference, see compensatory mitigation methods and their definitions from the Ecology Publication No. 22-06-014 below:

> *1. Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions and environmental processes to a former or degraded wetland. Restoration is divided into two categories:*
>
> > *a. Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions and environmental processes to a former wetland. Re-establishment results in rebuilding a former wetland and results in a gain in wetland area and functions. Example activities could include removing fill, plugging ditches, or breaking drain tiles to restore a wetland hydroperiod, which in turn will lead to restoring wetland biotic communities and environmental processes.*
> >
> > *b. Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions and environmental processes to a degraded wetland. Rehabilitation results in a gain in wetland function but does not result in a gain in wetland area. The area already meets wetland criteria, but hydrological processes have been altered. Rehabilitation involves restoring historic hydrologic processes. Example activities could involve breaching a dike to reconnect wetlands to a floodplain or return tidal influence to a wetland.*
>
> *2. Establishment (Creation): The manipulation of the physical, chemical, or biological characteristics of a site to develop a wetland on an upland where a wetland did not previously exist at an upland site. Establishment results in a gain in wetland area and functions. An example activity could involve excavation of upland soils to elevations that will produce a wetland hydroperiod and hydric soils by intercepting groundwater, and in turn supports the growth of hydrophytic plant species.*
>
> > *a. If a site is not available for wetland restoration to compensate for expected wetland and/or buffer impacts, the* [director] *may authorize establishment of a wetland and buffer upon demonstration by the applicant's qualified wetland professional that:*

i. The hydrology and soil conditions at the proposed mitigation site are conducive for sustaining the proposed wetland and that establishment of a wetland at the site will not likely cause hydrologic problems elsewhere;

ii. Adjacent land uses and site conditions do not jeopardize the viability of the proposed wetland and buffer (e.g., due to the presence of invasive plants or noxious weeds, stormwater runoff, noise, light, or other impacts); and

iii. The proposed wetland and buffer will eventually be self-sustaining with little or no long-term maintenance.

iv. The proposed wetland would not be established at the cost of another high-functioning habitat (i.e., ecologically important uplands).

3. Preservation (Protection/Maintenance). The removal of a threat to, or preventing the decline of, wetlands by an action in or near those wetlands. This term includes activities commonly associated with the protection and maintenance of wetlands through the implementation of appropriate legal and physical mechanisms such as recording conservation easements and providing structural protection like fences and signs. Preservation does not result in a gain of aquatic resource area or functions but may result in a gain in functions over the long term. Preservation of a wetland and associated buffer can be used only if:

a. The [director] *determines that the proposed preservation is the best mitigation option;*

b. The proposed preservation site is under threat of undesirable ecological change due to permitted, planned, or likely actions that will not be adequately mitigated under existing regulations;

c. The area proposed for preservation is of high quality or critical for the health and ecological sustainability of the watershed or sub-basin. Some of the following features may be indicative of high-quality sites:

i. Category I or II wetland rating (per 020.B of this Section).

ii. Rare or irreplaceable wetland type [e.g, peatlands, mature forested wetland, estuaries, vernal pools, alkali wetlands] or aquatic habitat that is rare or a limited resource in the area.

iii. The presence of habitat for threatened or endangered species (state, federal, or both).

iv. Provides biological and/or hydrological connectivity to other habitats.

v. Priority sites identified in an adopted watershed plan.

d. Permanent preservation of the wetland and buffer shall be provided through a legal mechanism such as a conservation easement or tract held by an appropriate natural land resource manager/land trust.

e. The [director] *may approve another legal and administrative mechanism in lieu of a conservation easement if it is determined to be adequate to protect the site.*

4. Enhancement. The manipulation of the physical, chemical, or biological characteristics of a wetland to heighten, intensify, or improve specific wetland function(s). Enhancement is undertaken for specified purposes such as water quality improvement, flood water retention, or wildlife habitat. Enhancement results in the gain of selected wetland function(s) but may also lead to a decline in other wetland function(s). Enhancement does not result in a gain in wetland area. Enhancement activities could include planting vegetation, controlling non-native or invasive species, and modifying site elevations to alter hydroperiods in existing wetlands.

Applicants proposing to enhance wetlands and/or associated buffers shall demonstrate how the proposed enhancement will increase the wetland and/or buffer functions, how this increase in function will adequately compensate for the impacts, and how existing wetland functions at the mitigation site will be protected.

3.12.4 Update Wetland Mitigation Ratios

The City should consider incorporating the wetland mitigation replacement ratios for each method of compensatory mitigation. The City could consider revising MMC Table 16.50.080(O) shown in Table 9 with replacement ratios consistent with Ecology Publication No. 22-06-014 in Tables 10 and 11 below.

Table 9. Current wetland mitigation ratios from MMC Table 16.50.080(O)

Wetland Category	Reestablishment or Creation	Enhancement as Mitigation
Category I	6:1	16:1
Category II	3:1	12:1
Category III	2:1	8:1
Category IV	1.5:1	6:1

Table 10. Compensation ratios for permanent impacts to wetlands

Category of impacted wetland (based on score for function)	Re-establishment or creation	Rehabilitation	Preservation	Enhancement
Category I	4:1	8:1	16:1	16:1
Category II	3:1	6:1	12:1	12:1
Category III	2:1	4:1	8:1	8:1
Category IV	1.5:1	3:1	6:1	6:1

Table 11. Compensation ratios for unavoidable permanent impacts to wetlands with special characteristics

Category of impacted wetland (based on special characteristics)	Re-establishment or creation	Rehabilitation	Preservation	Enhancement
Category I forested	6:1	12:1	24:1	24:1
Bogs	NA	NA	24:1	NA
Wetlands of High Conservation Value	Consult with WA DNR	Consult with WA DNR	24:1	Consult with WA DNR
Category I Estuarine wetlands	3:1 (re-establishment only)	6:1	12:1	Limited circumstances (case by case)
Category II Estuarine wetlands	4:1 (re-establishment only)	8:1	16:1	Limited circumstances (case by case)
Category I Interdunal wetlands	4:1	8:1 (limited circumstances)	16:1	Not considered an option
Category II Interdunal wetlands	2:1	4:1 (limited circumstances)	8:1	Not considered an option
Category III and IV Interdunal wetlands	1.5:1	3:1 (limited circumstances)	6:1	Not considered an option
Category I Wetlands in coastal lagoons	4:1 (re-establishment only)	8:1	16:1	Not considered an option
Category II Wetlands in coastal lagoons	3:1 (re-establishment only)	6:1	12:1	Not considered an option

These ratios apply to direct wetland impacts; however, there are no stated mitigation ratios for impacts to wetland buffers. Medina should consider applying standardized buffer mitigation ratios for various types of vegetation cover. Since these instances result in a net loss of total buffer area, it is important for wetland functions that mitigation is adequate to replace lost functions. It is recommended that mitigation ratios are 1:1 or greater. Ratios greater than 1:1 may be necessary to account for temporal loss, loss of buffer area, risk of failure, and to ensure no net loss of ecological function.

3.12.5 Review Decreased Replacement Ratio (MMC 16.50.080(O)(6)(c))

The current code allows an administrative decreased replacement ratio (MMC 16.50.080(O)(6)(c)). For consistency with Ecology Publication No. 22-06-014, the City should include the following criteria that must be met:

> *Reductions in replacement ratios are appropriate under the following circumstances:*
>
> *• Documentation by a qualified wetland specialist (see Appendix 8-H) demonstrates that the proposed mitigation actions have a very high likelihood of success based on prior experience*
>
> *• Documentation by a qualified wetland specialist demonstrates that the proposed actions for compensation will provide functions and values that are significantly greater than the wetland being affected*
>
> *• The proposed actions for compensation are conducted in advance of the impact and are shown to be successful*
>
> *• In wetlands where several HGM classes are found within one delineated boundary, the areas of the wetlands within each HGM class can be scored and rated separately and the ratios adjusted accordingly, if all of the following apply:*
>
> > *– The wetland does not meet any of the criteria for wetlands with "Special Characteristics" as defined in the rating system*
> >
> > *– The rating and score for the entire wetland is provided along with the scores and ratings for each area with a different HGM class.*
> >
> > *– Impacts to the wetland are all within an area that has a different HGM class from the one used to establish the initial category*
> >
> > *– The proponents provide adequate hydrologic and geomorphic data to establish that the boundary between HGM classes lies at least 50 feet outside of the footprint of the impacts*

3.12.6 Add Allowance for Mitigation Based on the Credit-Debit Method

To give regulators and applicants a functions-based alternative to set mitigation ratios, Ecology has developed a tool called the credit-debit method. This method, like the Ecology wetland rating form, is a peer-reviewed rapid assessment tool. The credit-debit approach may be used to calculate functional gain of the proposed mitigation and functional loss due to proposed wetland impacts. This generates acre-points that can be compared in a balance sheet. Depending on specific site conditions, this may result in less or more mitigation than would be required under the standard mitigation ratio guidance. The City may want to consider adding language that would allow, as an alternative to the mitigation ratios, mitigation based on the credit-debit tool described in *Calculating Credits and Debits for Compensatory Mitigation in Wetlands of Western Washington: Final Report* (Hruby 2012).

3.12.7 Wetland Mitigation Banks (MMC 15.60.080(O)(7))

The City should consider updating this section to a more general term, programmatic mitigation. Programmatic mitigation consists of approved third-party sponsors mitigation such as mitigation banks and fee in-lieu programs which the current code allows. Approved options can be described under that heading.

Also, third-party mitigation credits needed should be documented in a bank use plan to document how credit needs were calculated.

3.13 Additional Report Requirements *(MMC 16.50.080(x))*

This is a new section the City could consider adding to the code. The current code's reporting requirements may not be consistent with the most recent guidance from Ecology, specific to wetlands.

The Ecology (2022) guidance provides the following language:

> *Minimum Standards for Wetland Reports. The written report and the accompanying plan sheets shall contain the following information, at a minimum:*
>
> *1. The written report shall include at a minimum:*
>
> > *a. The name and contact information of the applicant; the name, qualifications, and contact information of the primary author(s) of the report; a description of the proposal; identification of all the local, state, and/or federal wetland-related permit(s) required for the project; and a vicinity map for the project.*
> >
> > *b. A statement specifying the accuracy of the report and all assumptions made and relied upon.*
> >
> > *c. Documentation of any fieldwork performed on the site, including field data sheets for delineations, rating system forms, baseline hydrologic data, etc.*

d. A description of the methodologies used to conduct the wetland delineations, wetland ratings, and impact analyses, including references.

e. Identification and characterization of all critical areas, water bodies, shorelines, floodplains, and buffers on or adjacent to the proposed project area. For areas off the project site, estimate conditions within 300 feet of the project boundaries using all reliable available information.

f. For each wetland identified on site and within 300 feet of the project boundary, provide the completed wetland rating, per Section 020.B of this Chapter; required buffers; hydrogeomorphic classification; wetland area based on the field delineation (area for on-site portion and estimate entire wetland area including off-site portions); Cowardin classifications; 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 inlets/outlets, estimated water depths within the wetland, and estimated hydroperiod patterns based on visual cues (e.g., algal mats, drift lines, flood debris, etc.). Provide area estimates, classifications, and ratings based on entire wetland units, not only the portion present on the proposed project site.

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

h. An assessment of the probable cumulative impacts to the wetlands and buffers resulting from the proposed development, considering past development and potential future development.

i. A description of how mitigation sequencing has been followed, pursuant to Section 070.A, Mitigation Sequencing, of this Chapter.

j. An evaluation of the functions of the wetland and its buffer, including references for the method used and data sheets.

k. A discussion of the potential impacts to the wetland(s) associated with any anticipated hydroperiod alterations from the project.

2. The site plan sheet(s) shall include, at a minimum:

a. Maps (to scale) depicting delineated and mapped wetlands and required buffers on site, including buffers for off-site wetlands that extend onto the project site; the development proposal; other critical areas and their buffers; grading and clearing limits; and areas of proposed impacts to wetlands and/or buffers (include square footage or acreage).

b. A depiction of the proposed stormwater management facilities and outlets (to scale) for the development, including estimated areas of intrusion into wetland buffers.

To provide specificity around the procedures following an expired wetland report, it is recommended to clarify that a new delineation or review is required for a proposal within a wetland delineated greater than 5 years ago.

4. GEOLOGICALLY HAZARDOUS AREAS (MMC 16.50.090)

This section addresses code applicable to geologically hazardous areas as described in MMC 16.50.090. A summary of recommended updates is provided in Table 12.

Table 12. Geologically hazardous areas review summary.

Code Section	Title	Review Comment and Recommendations	Reason for Recommendation
MMC 16.50.090(A)	*Designation.*	No comments or recommendations	N/A
MMC 16.50.090(B)	Specific hazard areas—Designation.	No comments or recommendations	N/A
MMC 16.50.090(C)	Mapping.	Update mapping resources.	BAS
MMC 16.50.090(D)	Additional report requirements.	No comments or recommendations	N/A
MMC 16.50.090(E)	*Geotechnical assessment.*	No comments or recommendations	N/A
MMC 16.50.090(F)	*Geotechnical or critical area report.*	No comments or recommendations	N/A
MMC 16.50.090(G)	*Seismic hazard areas geotechnical reporting.*	No comments or recommendations	N/A
MMC 16.50.090(H)	General development standards.	No comments or recommendations	N/A
MMC 16.50.090(I)	Specific development standards.	No comments or recommendations	N/A

4.1 Mapping (MMC 16.50.090(C))

A Liquefaction Susceptibility Map of King County issued by Washington Department of Natural Resources (DNR) dated September 2004, is source of data for liquefaction hazards. DNR provides all liquefaction data in a web application called the Washington Geologic Information Portal.[2]

5. FISH AND WILDLIFE HABITAT CONSERVATION AREAS (MMC 16.50.100)

This section addresses code applicable to fish and wildlife habitat conservation areas as described in MMC 16.50.100. A summary of recommended updates is provided in Table 13.

Table 13. Fish and wildlife habitat conservation areas review summary.

Code Section	Title	Review Comment and Recommendations	Reason for Recommendation
MMC 16.50.100(A)	*Applicability.*	Update WAC references.	BAS
MMC 16.50.100(B)	Water typing.	Consider updating water typing system.	BAS
MMC 16.50.100(C)	Mapping.	1. Update salmonid mapping sources. 2. Recommend updating map resources.	1. BAS 2. BAS
MMC 16.50.100(D)	Initial fish and wildlife habitat assessment.	No comments or recommendations	N/A
MMC 16.50.100(E)	*Habitat assessment.*	Recommend using consistent terminology.	Clarity
MMC 16.50.100(F)	General development standards.	Require on-site sewage systems to be located outside of FWHCAs.	WDFW RMZ Checklist recommendation

[2] https://geologyportal.dnr.wa.gov/2d-view#wigm?-13617550,-13599205,6040741,6049445?Surface_Geology,500k_Surface_Geology,Map_Units

Code Section	Title	Review Comment and Recommendations	Reason for Recommendation
MMC 16.50.100(G)	Buffers.	1. Review WDFW's Riparian Management Zone (RMZ) approach to stream protection. Consider an update of buffer widths to align more closely with the RMZ guidance. 2. Review administrative buffer reduction standards in alignment with RMZ approach.	1. BAS 2. BAS
MMC 16.50.100(H)	Permitted activities in stream buffers.	Update references.	BAS
MMC 16.50.100(I)	Signs and fencing.	No comments or recommendations	N/A
MMC 16.50.100(J)	*Subdivision and short subdivision.*	No comments or recommendations	N/A

5.1 *Applicability* (MMC 16.50.100(A))

5.1.1 Update WAC References

The following references should be updated:

- WAC 232-12-014 was recodified under WAC 220-610-010
- WAC 232-10-011 was recodified under WAC 220-200-100

5.2 Water Typing (MMC 16.50.100(B))

Consider updating stream water typing designations to align with the DNR water typing system under WAC 222-16-030 from the current system shown in Table 14. At a minimum, the City should consider designating waters as Type F, Type Np, and Type Ns. The BAS review for this code update further details DNR's water typing system (Facet 2025).

Table 14. Current code's stream water type table (MMC Table 16.50.100(B)) in comparison to DNR water typing (WAC 222-16-030)

Current Water Typing	Current Designation Criteria	DNR Water Typing
Type 1 Stream	Segments of streams that are at least seasonally utilized by fish for spawning, rearing or migration. Stream segments which are fish passable from Lake Washington are presumed to have at least seasonal fish use. Fish passage should be determined using the best professional judgment of a qualified professional.	Type F

Type 2 Stream	Perennial non-fish-bearing streams. Perennial streams do not go dry any time during a year of normal rainfall. However, for the purpose of stream typing, Type 2 streams include the intermittent dry portions of the perennial channel below the uppermost point of perennial flow. If the uppermost point of perennial flow cannot be identified with simple, nontechnical observations, then the point of perennial flow should be determined using the best professional judgment of a qualified professional.	Type Np
Type 3 Stream	Segments of natural waters that are not classified as Type 1 or 2 streams. These are seasonal, non-fish-bearing streams in which surface flow is not present for a significant portion of a year of normal rainfall and are not located downstream from any Type 2 or higher stream.	Type Ns

5.3 Mapping (MMC 16.50.100(C))

5.3.1 Presence of Salmonids (MMC 16.50.100(C)(1)(b))

MMC 16.50.100(C)(1)(b) states that salmonid presence should be determined by data from the "Habitat Limiting Factors Reports" compiled by the Washington Conservation Commission. Stream conditions and barriers have changed since this map was produced. We recommend that salmonid presence also include all streams mapped by the Statewide Washington Integrated Fish Distribution (SWIFD)[3] database. In this database, presence is either documented or modeled as gradient accessible and meeting fish habitat criteria under WAC 222-16-030. Also, any other valid source of information which may confirm salmonid presence should be evaluated and considered by the City.

5.3.2 Additional Mapping Sources

The Washington Department of Natural Resources Natural Heritage Program[4] also provides lists and locations of high-quality ecosystems and rare plants. Accordingly, referencing this important resource as a critical area map is recommended.

5.4 Habitat Assessment (MMC 16.50.100(E)(4))

Recommend using the consistent term, habitat assessment, and remove reference to a habitat management plan.

[3] https://geo.wa.gov/datasets/wdfw::statewide-washington-integrated-fish-distribution/explore?location=47.629856%2C-122.231072%2C13.73

[4] https://experience.arcgis.com/experience/174566100f2a47bebe56db3f0f78b5d9/

5.5 General Development Standards (MMC 16.50.100(F))

Similar to the geologically hazardous areas section and for consistency with the WDFW RMZ Checklist, the code should include the following prohibited activity: *On-site sewage disposal systems, including drain fields and infiltration drainage systems, shall be prohibited within fish and wildlife habitat conservation areas and related buffers.*

5.6 Buffers (MMC 16.50.100(G))

5.6.1 Site Potential Tree Height

It is recommended to review WDFW's most recent publication, *Riparian Ecosystems, Volume 2: Management Recommendation*s (Rentz et al. 2020), and the recommendations for riparian protections summarized in the *Best Available Science Review, Critical Areas Ordinance Update, City of Medina,* Section 7.4.2 (Facet 2025). The current code's method to protect FWHCAs using fixed widths based on water type is not consistent with the recommendation described in the WDFW RMZ guidance (Rentz et al. 2020), which emphasizes potential variable buffer widths depending upon site potential tree height (SPTH). Current regulatory buffers would result in a range of 25-100 feet depending on stream type and reduction incentive options applied. Whereas WDFW riparian protection recommendations are based on soil type and dominant SPTH after 200 years of growth, $SPTH_{200}$. Under this $SPTH_{200}$ approach, WDFW no longer recommends using a stream classification system based on fish use. All streams are recognized as performing important functions and $SPTH_{200}$ model seeks to achieve full ecological function.

Riparian buffer recommendations under $SPTH_{200}$ range from approximately 100 feet to 231 feet in the City of Medina based on the WDFW $SPTH_{200}$ Mapping Tool[5]. Site-specific exceptions may occur where the $SPTH_{200}$ is less than 100 feet, in which case a minimum 100-foot buffer is recommended to provide adequate biofiltration and infiltration of runoff for water quality protection from most pollutants, but also in consideration of other habitat-related factors including shade and wood recruitment. RMZ buffer recommendations presume the area is densely vegetated with native plants.

As a part of the CAO update, we recommend that the City consider WDFW's recommended RMZ approach to stream classifications and buffer widths, including whether to incorporate the $SPTH_{200}$ Mapping Tool as part of stream buffer protection standards. Current BAS on water quality buffer functions must also be considered. We recommend reviewing water quality buffer functions along with stormwater management regulations. In general, urban settings are limited by surrounding land uses; review of buffer widths should be paired with consideration of requirements to enhance ecological functions. The City must review the BAS-based recommendations and determine the best regulatory approach for the City. While WDFW does recommend utilizing the $SPTH_{200}$ model, jurisdictions have

[5] https://wdfw.maps.arcgis.com/apps/MapJournal/index.html?appid=35b39e40a2af447b9556ef1314a5622d

also pursued alternative, more predictive approaches that are still in alignment with BAS and providing sufficient protection of riparian areas.

As described in the BAS Report (Facet 2025), WDFW recommends the RMZ to be designated as a FWHCA, while many jurisdictions designate this as a riparian protection area.

5.6.2 Buffer Reduction

To align with the recommendations contained within Rentz et al. (2020), the City should consider removing the administrative buffer reductions, referenced below in MMC 16.50.100(G)(3), Reduction of stream buffer widths, and in MMC Table 16.50.100(G)(3): Stream Buffer Reduction Incentive Options:

> *3. Reduction of stream buffer widths. The director may allow the standard buffer width to be reduced by up to the listed minimum buffer width in Table 16.50.100(G)(2) provided:*
>
> > *a. A critical area report and mitigation plan approved by the city, and the best available science applied on a case-by-case basis, determine that a smaller area is adequate to protect the habitat functions and values based on site-specific characteristics and the proposal will result in a net improvement of stream and buffer functions;*
> >
> > *b. A plan for mitigating buffer-reduction impacts is prepared using selected incentive-based mitigation options in Table 16.50.100(G)(3);*
> >
> > *c. Where a substantial portion of the remaining buffer is degraded, revegetation with native plants in the degraded portions shall be included in the remaining buffer area;*
> >
> > *d. A five-year monitoring and maintenance plan shall be included;*
> >
> > *e. Incentive options may be accumulatively applied to allow a reduction allowance not to exceed 50 percent of the standard buffer width and Table 16.50.100(G)(2); and*
> >
> > *f. Where multiple options for an action are prescribed in the Table 16.50.100(G)(3), only one option under that action may be applied.*

5.7 Permitted Activities in Stream Buffers (MMC 16.50.100(H))

The reference in MMC 16.50.100(H)(3)(d) to the *National Marine Fisheries Service Anadromous Salmonid Passage Facility Design*, February 2008 was amended in 2022 and should be updated accordingly.

6. REFERENCES

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