
**CRITICAL AREAS REPORT AND CONCEPTUAL MITIGATION
PLAN**

**EASTSIDE MASONRY PRODUCTS PROPERTY
MONROE, WASHINGTON**

Prepared For:
ESMP, INC.

Prepared By:
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10 April 2019

**Critical Areas Report
and Conceptual Mitigation Plan**

**Eastside Masonry Products Property
Monroe, Washington**

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EXECUTIVE SUMMARY

- PROJECT NAME:** Eastside Masonry Products Property
- SITE LOCATION:** The Site is a 6.82-acre property located in Monroe, Washington. The Snohomish County Tax Parcel number is 28063500201900. The address is 16524 U.S. Route 2, Monroe, Snohomish County, Washington. The Public Land Survey System location of the Site is the SW1/4 of NW ¼ of Section 35 Township 28 Range 6 East, Willamette Meridian.
- CLIENT:** Tom Ederer
- PROJECT STAFF:** Bill Shiels, Principal; Ann Olsen, Senior Project Manager; David R. Teesdale, Senior Wetland Ecologist.
- FIELD SURVEY:** Initial site investigative work was performed by Kristen Numata and Jennifer Marriott in July 2016. Wetland delineation work was performed by Kristen Numata in April 2018. Further site reconnaissance work for the preparation of an innovative development design plan was performed by David R. Teesdale in December 2018.

DETERMINATION: One wetland was identified within the property's boundary. One stream (Cripple Creek) and one wetland were identified off-property to the north and west, respectively. Lake Tye, which is a Shoreline of the State, is located off-property to the south. The 200-ft buffer for the stream and the 200-ft shoreline setback for Lake Tye extend onto the subject property.

The stream buffer is mostly (approximately 95 percent) impacted by existing development (buildings, impervious surfaces, trash, and debris). The remaining buffer (the functional buffer area) is predominantly vegetated with non-native, invasive species.

PROPOSED PROJECT: The existing abandoned buildings, impervious surfaces, and attendant trash and debris will be removed from the property. Grading is proposed to provide a surface within the work area that drains to a centrally-located temporary stormwater pond. This pond will detain and treat stormwater prior to being released into a grass-lined swale that drains into Lake Tye. The proposed grading will ensure that no undetained or untreated stormwater leaves the site after demolition and grading work.

ASSESSMENT OF DEVELOPMENT IMPACTS: The site's current development is legally-nonconforming with respect to shoreline setbacks and critical area buffers. Therefore, the proposed demolition and grading plan will unavoidably impact both shoreline setback and critical area buffers. Critical areas outside of shoreline zones are regulated by City of Monroe Critical Areas code §20.05, while shoreline zone impacts are regulated by the City of Monroe's Shoreline Master Program. These two sets of regulations are not the same in dealing with impacts.

PROPOSED MITIGATION: Approximately 77,589 sf of the proposed demolition and grading plan will occur within the 200-ft shoreline management zone for Lake Tye. However, the setback/buffer for Lake Tye is 25-feet measured landward from the ordinary high water mark of Lake Tye. The proposed work is allowed within the shoreline management zone. Since there will be no impacts to or alterations of the Lake Tye shoreline setback/buffer, no mitigation will be required.

Impacts to the 200-ft buffer of the Type F water for Cripple Creek will be mitigated using Innovative Development Design. The proposed grading will leave an approximately 50-ft-wide area that will be restored and enhanced as buffer through the removal of all impervious surfaces, trash, debris, and non-native vegetation. The 50-ft-wide IDD buffer will then have its soil amended to provide for better-localized infiltration and will be replanted with a variety of native short trees, shrubs, and emergent plant species.

No tall trees will be planted due to the overhead high-voltage lines within Puget Sound Energy's property. Approximately 27,517 sf of restored and enhanced IDD buffer will be provided along Cripple Creek.

The remaining approximately 137,455 sf of stream buffer will be mitigated based on an evaluation of buffer functions. Using an in-house methodology for evaluating buffer function, we determined that the potential function and value of a buffer decreases with distance from the stream. We determined that the area of buffer between the IDD buffer and 100 feet from the edge of the critical area provides a roughly 20 percent increase in buffer function. Similarly, the area between 100 feet and 200 feet (the edge of the prescribed stream buffer) provides only a 5 percent increase in buffer function. Therefore, we have discounted the area between 50 and 100 feet by 20 percent (55,622 sf reduced by 20 percent to 11,124 sf) and the area between 100 feet and 200 feet by 5 percent (81,833 sf reduced by 5 percent to 4,092 sf). The total area of required buffer mitigation, therefore, is 15,216 sf. Mitigation for impacts to the stream buffer will be provided by purchasing credits at the Skykomish Habitat Mitigation Bank.

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- Appendix A:** Wetland Rating Form, *Washington State Department of Ecology Wetland Rating System for Western Washington, Version 2* (2004, revised in 2008), Talasaea Consultants, 2016 with Rating Figures
- Appendix B:** Buffer Functional Assessment White Paper
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CHAPTER 1. INTRODUCTION

1.1 Purpose of Report

This report is the result of a critical area study for the Eastside Masonry Products (ESMP) property (referred to hereinafter as the “Site”). The Site is located at 16524 U.S. Route 2 within the City of Monroe, Washington (**Figure 1**). The Client is planning to demolish three existing derelict buildings and grade the site in order to direct stormwater towards a centrally-located temporary stormwater pond. The purpose of this report is to identify, categorize, and describe existing site conditions, such as wetlands, streams, or other critical habitats and their respective buffers. This report has been prepared to comply with the requirements of Monroe Municipal Code 20.05.060 – Critical areas studies.

This report will provide and describe the following information:

- General property description;
- Methodology for critical areas investigation;
- Results of critical areas background review and field investigation;
- Regulatory review;
- Proposed impacts to sensitive areas; and
- Proposed mitigation requirements for the proposed development.

1.2 Statement of Accuracy

Wetland and stream characterizations and ratings were conducted by trained professionals at Talasaea Consultants, Inc., and adhered to the protocols, guidelines, and generally accepted industry standards available at the time the work was performed. The conclusions in this report are based on the results of analyses performed by Talasaea Consultants and represent our best professional judgment. To that extent and within the limitation of project scope and budget, we believe the information provided herein is accurate and true to the best of our knowledge. Talasaea does not warrant any assumptions or conclusions not expressly made in this report, or based on information or analyses other than what is included herein.

CHAPTER 2. PROPERTY DESCRIPTION

2.1 Property Location

The Site is a 6.82-acre property located in Monroe, Washington. The Snohomish County Tax Parcel number is 28063500201900 (**Figures 2** and **3**). The address is 16524 U.S. Route 2, Monroe, Snohomish County, Washington. The Public Land Survey System location of the Site is the SW1/4 of NW ¼ of Section 35 Township 28 Range 6 East, Willamette Meridian.

2.2 General Property Description

The topography of the Site is sloping from the north to the south, as well as east to west. The Site occurs south of U.S. Route 2. Property owned by Puget Sound Energy occurs along the northern boundary of the property, as well as a railroad right-of-way further north. Cripple Creek runs along the northern boundary of the property between the powerline easement and the railroad right-of-way. Lake Tye occurs along the

southern boundary of the site. The site is bound to the west by the City of Monroe city limits and to the east by Fryelands Boulevard.

The Site is developed with three buildings that are currently not in use. The site is approximately 95% covered with either concrete or gravel. The vegetation on the undeveloped portions of the Site is mostly invasive species, such as Himalayan blackberry (*Rubus armeniacus*), reed canarygrass (*Phalaris arundinacea*), white sweet-clover (*Melilotus alba*), tansy (*Tanacetum bipinnatum*), tansy ragwort (*Senecio jacobaea*), butterfly bush (*Buddleja davidii*), and Scot's broom (*Cytisus scoparius*).

CHAPTER 3. METHODOLOGY

The critical areas analysis of the Site involved a two-part effort. The first part consisted of a preliminary assessment of the Site and the immediate surrounding area using published environmental information. This information includes:

- 1) Wetland and soils information from resource agencies;
- 2) Critical Areas information from the City of Monroe and Snohomish County;
- 3) Orthophotography and LIDAR imagery; and,
- 4) Relevant studies completed or ongoing in the vicinity of the Site.

The second part consisted of site investigations where direct observations and measurements of existing environmental conditions were made. Observations included plant communities, soils, and hydrology. This information was used to help characterize the site and define the limits of critical areas onsite and offsite for regulatory purposes (see **Section 3.2 – Field Investigation** below).

3.1 Background Data Reviewed

Background information from the following sources was reviewed prior to field investigations:

- US Fish and Wildlife Service (USFWS), Wetlands Online Mapper (National Wetlands Inventory) (U.S. Fish and Wildlife Service 2018)(www.wetlandsfws.er.usgs.gov/wtlnds/launch.html);
- Natural Resources Conservation Service, Web Soil Survey (“Web Soil Survey - Home” 2018) (www.websoilsurvey.nrcs.usda.gov/app/);
- Snohomish County GIS Database (*Snohomish County GIS Database. December 01 2018*);
- City of Monroe Critical Areas Map (The Watershed Company 2008b);
- Washington Department of Fish and Wildlife (WDFW) Priority Habitat and Species (PHS) Database on the Web (“Priority Habitats and Species Database” 2018)(www.wdfw.wa.gov/mapping/phs/); and
- Orthophotography from Earth Explorer (“EarthExplorer” 2019.), and Google Earth (Google 2018).

3.2 Field Investigation

Initial site investigative work was performed by Talasaea in July 2016. Wetland delineation work was performed by Talasaea in April 2018. Further site reconnaissance

work for the preparation of an innovative development design plan was performed on December 2018.

Talasaesa Consultants utilized the routine wetland delineation approach described in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountain, Valleys, and Coast Regions* (U.S. Army Corps of Engineers 2010).

Plant species were identified according to the taxonomy of *Flora of the Pacific Northwest: An Illustrated Manual* (Hitchcock and Cronquist 2018). Taxonomic names were updated, and plant wetland status was assigned according to *North American Digital Flora: National Wetland Plant List, Version 2.4.0* (Lichvar et al. 2016). Wetland classes were determined using the U.S. Fish and Wildlife Service's system of wetland classification (Cowardin *et al.* 1979). Vegetation was considered hydrophytic within a suspected wetland area if greater than 50% of the dominant plant species had a wetland indicator status of facultative or wetter (i.e., facultative, facultative wetland, or obligate wetland).

Wetland hydrology was determined based on the presence of hydrologic indicators listed in the Corps' Regional Supplement. These indicators are separated into Primary Indicators and Secondary Indicators. To confirm the presence of wetland hydrology, one Primary Indicator or two Secondary Indicators must be demonstrated. Indicators of wetland hydrology may include, but are not necessarily limited to: drainage patterns, drift lines, sediment deposition, watermarks, stream gauge data and flood predictions, historical records, visual observation of saturated soils, and visual observation of inundation.

Soils on the site were considered hydric if one or more of the hydric soil indicators listed in the Corps' Regional Supplement were present. Indicators include the presence of organic soils, reduced, depleted, or gleyed soils, or redoximorphic features in association with reduced soils.

An evaluation of patterns of vegetation, soil, and hydrology was made along the interface of wetland and upland. Wetland boundary points were then determined from this information and marked with wire flags or surveyors' tape.

CHAPTER 4. RESULTS

This section describes the results of our in-house research and field investigations. For the purpose of this report, the term "vicinity" describes an area within 300 feet of the Site.

4.1 Analysis of Existing Information

The following sources provided information on site conditions based on data compiled from resource agencies and local government.

4.1.1 National Wetland Inventory

The National Wetland Inventory maps no wetlands or other features on the Project Site (**Figure 4**). However, three features are mapped in the vicinity of the Site: Palustrine Scrub-Shrub Seasonally Flooded (PSSC), Palustrine Emergent Persistent Seasonally Flooded Excavated (PEM1Cx), and Riverine Intermittent Streambed Seasonally Flooded (R4SBC).

4.1.2 Natural Resources Conservation Service

The NRCS maps two types of soil in the entirety of the Project Site: Puget silty clay loam and terric medisaprists, nearly level (**Figure 5**). The National Technical Committee on Hydric Soils includes both of these soil types as hydric soil.

4.1.3 Snohomish County GIS Database

Snohomish County maps one fish-bearing stream (Cripple Creek) just north of the property between the Puget Sound Energy property and the railroad right-of-way (**Figure 6**).

4.1.4 City of Monroe Critical Areas Map

The City of Monroe Critical Areas Map shows one Type 1 and one Type 3 (Cripple Creek) stream on or in the vicinity of the Site (**Figure 7**). The Type 1 stream appears to be the outline of Lake Tye and not an actual stream.

4.1.5 WDFW Priority Habitat and Species (PHS) on the Web

WDFW PHS did not map any priority habitats on the Site. However, WDFW does map both coho (*Oncorhynchus kisutch*) and bull trout (*Salvelinus malma*) as occurring in Cripple Creek. Also, Lake Tye is shown to have usage by bull trout, fall chum, coho, odd-year pink salmon, winter steelhead, and fall chinook. Finally, Lake Tye is mapped as having waterfowl concentrations.

4.1.6 StreamNet and SalmonScape Databases

StreamNet and SalmonScape map the following species as occurring in Cripple Creek:

Table 1. List of Anadromous Fish Species

Common Name	Scientific Name	StreamNet Results	SalmonScape Results
Spring Chinook	<i>Oncorhynchus tshawytscha</i>	Not Present	Not Present
Summer Chinook		Not Present	Not Present
Fall Chinook		Not Present	Modeled Presence
Coho	<i>O. kisutch</i>	Migration Only	Documented Presence
Summer Steelhead	<i>O. mykiss</i>	Not Present	Not Present
Winter Steelhead		Not Present	Modeled Presence
Sockeye	<i>O. nerka</i>	Not Present	Not Present
Chum	<i>O. keta</i>	Not Present	Modeled Presence
Pink	<i>O. gorbuscha</i>	Not Present	Modeled Presence
Bull Trout	<i>Salvelinus malma</i>	Not Present	Presumed Presence

4.2 Analysis of Existing Conditions – Project Site

One wetland (Wetland A) was identified just off property to the northwest and one wetland (Wetland B) at the Site’s southwestern corner (**Figure 2**). Cripple Creek extends along the northern boundary of the Site. Lake Tye is located south of the Site. A summary of critical areas, ratings, and required buffers are provided in **Table 2**.

Table 2. Critical Areas Regulatory Summary

Critical Area	Cowardin Classification	DOE Category	Standard Buffer MMC	Buffer Reduction of 25% MMC
Wetland A	PEM	III	60 feet	45 feet
Wetland B	PEM	IV	50 feet	37.5 feet

Critical Area	Cowardin Classification	DOE Category	Standard Buffer MMC	Buffer Reduction of 25% MMC
Cripple Creek			200 feet	150 feet
Lake Tye	PUBHx	III	NA*	NA*

*The critical area buffer for Lake Tye stops at the edge of the paved trail.

4.2.1 Wetland A

All of Wetland A occurs off-site, but its standard buffer extends onto the Site. Wetland A is a palustrine emergent wetland that is estimated to be about 3,490 square feet (0.08 acres) in size. This wetland collects water from runoff from the Property, as well as overflow from Cripple Creek.

Vegetation within the wetland is dominated by reed canarygrass and Himalayan blackberry, with red alder (*Alnus rubra*) and black cottonwood (*Populus balsamifera var trichocarpa*) comprising the tree coverage along the edges of the wetland.

Wetland A was rated using the Washington State Department of Ecology’s Wetland Rating System for Western Washington (2014) (**Appendix A**). The wetland scored 7 points for Improving Water Quality, 7 points for Hydrologic functions, and 5 points for Habitat functions. The Total Score of Functions is 19, which satisfies the criteria for characterization as a Category III wetland. Category III wetlands within the City of Monroe with a habitat score of 5 have a 60-foot standard buffer.

4.2.2 Wetland B

Wetland B is located in a shallow depression at the Site’s southwestern corner. We suspect (but were not able to confirm) that this wetland should drain to a ditch on the west side of a paved trail (approximately 16 feet from the Site’s western property line). Standing water within the wetland was roughly the same elevation as the water within the ditch to the west, suggesting some sort of connection exists between the two features. A Pacific Northwest Pipeline easement passes through this wetland. Hydrology for this wetland appears to be captured stormwater runoff from the Site and surrounding trail system.

Wetland B is predominantly vegetated with reed canarygrass, with cattail (*Typha latifolia*) growing in the consistently ponded portions of the wetland.

Wetland B was rated using the Washington State Wetland Rating System for Western Washington (Hruby 2014) (**Appendix A**). It scored 6 points for Improving Water Quality, 6 points for Hydrologic functions, and 3 points for Habitat functions. The Total Score for Functions is 15, which satisfies the criteria for characterization as a Category IV wetland. Category IV wetlands within the City of Monroe have a 40-foot standard buffer.

4.2.3 Cripple Creek

Cripple Creek has its headwaters approximately 5,000 feet northeast of the Site. It flows in a south-southwesterly direction through forested lands and old pasture lands prior to passing under U.S. 2 and the Burlington Northern railroad right-of-way. Cripple Creek does not flow onto the Site. It does, however, parallel the Site’s northern boundary within the railroad right-of-way, flowing in a northwesterly direction. The creek

occurs in a highly channelized ditch approximately five to six feet below the regular grade of the Site. Cripple Creek is identified as a fish-bearing water by the City of Monroe (Type 3), and a Type F water by Snohomish County, Washington Department of Fish and Wildlife, and StreamNet.org. The minimum buffer width for a Type 3 stream in the City of Monroe is 200 feet, measured landward from the stream's ordinary high water mark (OHWM).

The current condition of the creek buffer is very poor. The vegetated portion of the buffer adjacent to the Site (based on the current development footprint) ranges from less than 10 feet to 56 feet. The remainder of the buffer is paved or developed with buildings. We refer to the vegetated portion of a buffer as the functional buffer width for the purposes of evaluating buffer functions.

4.2.4 Lake Tye

Lake Tye is a multi-purpose stormwater facility that was constructed to provide both fill material for the Fryelands Business Park to raise it out of the 100-year floodplain and stormwater detention. The resultant area of excavation that resulted in the formation of Lake Tye is a combination of stormwater detention, flood storage, and community park. The resultant lake is approximately 37 acres in size, which satisfies the requirements to be considered a shoreline of the State of Washington. All activities within 200-ft of the OHWM of Lake Tye are regulated by the City of Monroe's Shoreline Management program.

Lake Tye occurs off-site to the south and is surrounded by a paved walking path. Vegetation around the lake is highly disturbed and is dominated by reed canarygrass and Himalayan blackberry. One swale occurs along the middle of the north end of the lake, but does not appear to be actively managed.

Since Lake Tye is surrounded by paved trails, its required 25-ft setback/buffer extends only to the edge of the trails and not onto the Site. However, the 200-foot Shoreline Management Zone for Lake Tye does extend onto the Site.

CHAPTER 5. REGULATORY REVIEW

5.1 City of Monroe

The Site is located within the City of Monroe; therefore, the wetlands are regulated under Monroe Municipal Code (MMC) Chapter 20.05 Critical areas ("Monroe Municipal Code" 2019). Wetlands were rated using the *Washington State Wetland Rating System for Western Washington* (2014) (MMC 20.05.030). Wetland rating datasheets are provided in **Appendix A**. The rating of the wetlands determines the appropriate buffer width requirements as specified under MMC 20.05.080D.

5.2 State and Federal Regulations

Wetlands are subject to applicable State and Federal regulations. Wetland impacts are regulated at the Federal level by Sections 404 and 401 of the Clean Water Act (United States 1974). The U.S. Army Corps of Engineers (Corps) is responsible for administering compliance with Section 404 via the issuance of Nationwide or Individual Permits for any fill or dredging activities within wetlands under Corps jurisdiction. Any project that is subject to Section 404 permitting is also required to comply with Section

401 Water Quality Certification and Coastal Zone Management Consistency. Determination of Section 404 compliance and Coastal Zone Management Consistency is administered by the Washington State Department of Ecology (WDOE). No dredging or filling of wetlands is proposed for the current site development plan since no wetlands exist on the Site. Therefore, the project will not need to apply for any Section 404 Nationwide or Individual Permits, or Section 401 Water Quality Certification.

CHAPTER 6. PROPOSED PROJECT

6.1 Proposed Project

The Client proposes to demolish all the existing buildings on the Site and grade the area to provide temporary stormwater detention and treatment (**Figure 8**). The existing buildings and associated debris will be removed from the Site. Filling and grading will raise the elevation of the Site by up to eight feet in the southeastern corner. The proposed fill will be contoured so that all stormwater falling onto the Site will drain to the center to be collected in a temporary sedimentation pond (see **Section 6.2**).

The limits of grading will be defined by installation of silt fencing and construction fencing. At no point will the proposed grading exceed the boundaries of the Site.

West Consultants, Inc. evaluated the proposed fill to see if the action increased the flood levels on properties within the 100-year flood plain of the Snohomish River during base flood discharge (West Consultants, 14 July 2016). It was their determination that the proposed project would not result in any increase in flood levels during base flood discharges.

6.2 Stormwater Treatment

Stormwater will be managed onsite by creating a temporary sedimentation pond in roughly the center of the Site. The pond will be approximately six feet below the final grade of the Site. Treated stormwater will flow through a temporary 12-inch CPEP (approximately 185 ft long) to a bioswale associated with the northern end of Lake Tye. A 1% grade will allow stormwater to flow slowly to the temporary sedimentation pond without causing rilling or mobilization of soil. No untreated stormwater will be allowed to leave the Site and enter any critical areas (stream, wetlands, or Lake Tye).

CHAPTER 7. IMPACT ANALYSIS

There will be no direct impacts to any critical areas on- or off-site resulting from the proposed demolition and grading plan. Impacts to critical area buffers and the shoreline management zone will be unavoidable since the Site is approximately 75 percent encumbered by buffers and shoreline setbacks. Of the area of the Site contained within critical area buffers or shoreline setbacks, only 7 percent is vegetated. The remaining 93 percent is impervious surfaces. The portion of the proposed demolition and grading that is not encumbered with critical area buffers or shoreline setback is long and relatively narrow, making it impracticably shaped for viable future development. The total area of impact is approximately 215,043 sf. Approximately 77,588 sf of this impact will occur within the 200-ft shoreline management zone for Lake Tye. The remaining

137,455 sf of impact is encroachment within the 200-ft Type F stream buffer for Cripple Creek.

The two areas of impact must be treated using different codes: the stream buffer impact will be mitigated using Innovative Development Design (IDD) per MCC 016720.05.050.C.3, while the shoreline management zone encroachment will be mitigated using the requirements of the City of Monroe's shoreline master program (§20.05 Appendix A).

7.1 Impacts to Stream Buffer

It will not be possible to demolish the existing structures or grade the site for stormwater management without impacting the 200-ft Type F buffer for Cripple Creek.

Approximately 164,972 sf of stream buffer will be impacted as a result of the proposed demolition and grading. A substantial portion of this buffer is already degraded by legal, non-conforming land uses (paving and buildings) and provides no value in terms of protection and habitat support to Cripple Creek.

7.2 Impacts within Shoreline Management Zone

Approximately 77,588 sf of the proposed demolition and grading will occur within the 200-ft Shoreline Management Zone for Lake Tye. However, the required setback/buffer for Lake Tye is only 25-ft measured landward from the ordinary high water mark. At no point does this setback extend onto the Site.

Any work within the shoreline management zone on the Site must meet the general water quality and fill requirements as described in the City of Monroe's Shoreline Master Program (August 2008). The requirements are provided verbatim below in Times New Roman text. A discussion on how the proposed project meets these requirements follows immediately below each bullet item in *italic Times New Roman text*.

“City of Monroe Shoreline Master Program – 2008 (The Watershed Company 2008a)

Chapter 3 – General Provisions
Section M. Water Quality

3. Regulations

All shoreline development, both during and after construction, shall avoid or minimize ecological impacts, including any increase in surface runoff, through control, treatment, and release of surface water runoff so that the receiving water quality and shoreline properties and features are not adversely affected. Control measures include, but are not limited to, catch basins or settling ponds, oil interceptor drains, grassy swales, planted buffers, fugitive dust controls, or best available technologies as directed by the City.

The proposed project will implement a TESC plan to define the area of work and to prevent untreated and undetained stormwater from leaving the Site. The TESC plan will utilize best available technologies, such as silt fences, straw bales, temporary stormwater ponds, check dams, or any other best management practice (BMP) approved by the City

of Monroe and the Washington Department of Ecology. The work area shall be periodically watered during dry season work to prevent fugitive dust emissions. Rock pads or wheel washing structures will be installed to ensure that work vehicles leaving the Site do not transport soils offsite on their tires.

All development shall adhere to all required setbacks, buffers, and standard in this Shoreline Master Program. (Refer to Shoreline Use Provisions, Environment Designation Provisions, and the Critical Areas Regulations in Appendix A for specific limits.)

The required setback/buffer for Lake Tye is 25-ft measured landward from the OHWM. This setback/buffer does not extend onto the Site at any point. Additionally, there will be no impacts to Wetland B or its buffer, which are located within the shoreline management zone. The proposed demolition and grading plan will not affect any critical areas or their buffers within the shoreline management zone.

All development shall conform to local, state, and federal water quality regulations, provided the regulations do not conflict with this Shoreline Master Program. Where there is a conflict, provisions most protective of the natural ecology shall apply. The City of Monroe adopts the latest version of the Department of Ecology *Stormwater Management Manual for Western Washington* to regulate stormwater discharge and management.

The proposed demolition and grading plan will conform to all required water quality regulations. The purpose of the proposed fill is to create topographical conditions whereby all stormwater falling onto the demolition and grading area will flow inward towards a temporary stormwater pond and not directly to any critical area or buffer. The site currently does allow some untreated and undetained stormwater to flow offsite into critical areas and their associated buffer.

The above regulations apply to the Tye Stormwater Facility environment and its associated Aquatic environment only as they are consistent with maintaining the primary purpose of the human-made Tye Stormwater Facility, collecting and treating stormwater runoff from existing and future developments within its catchment area. Any loss of ecological functions must be mitigated.”

The proposed demolition and grading plan will not alter the primary purpose of the Tye Stormwater Facility. All stormwater collected within the demolition and grading area will be detained and treated prior to release into an existing grass-lined swale connected to Lake Tye.

“Fill policies

- 1) Fill should be located, designed, and constructed to protect shoreline ecological functions and ecosystem-wide processes and public access to the shoreline.

A paved path exists between Lake Tye and the Site. All demolition and grading work will occur on the Site and within a demarcated construction limit boundary. The

worksite will be bounded by silt fencing and other stormwater BMPs. There will be no impacts to the shoreline setback/buffer for Lake Tye or its ecological functioning.

- 2) Where permitted, fills should be the minimum necessary to provide for the proposed use and should be permitted only when tied to a specific development proposal that is permitted by the Master Program. Speculative fill is prohibited.

The proposed demolition and grading plan is designed to create a site topography after removal of the existing buildings that will direct all stormwater on the Site to a temporary stormwater pond. The temporary stormwater pond will detain, treat, and slowly release stormwater collected onsite to a grass-lined swale that drains into Lake Tye. The desired slope of the graded area will be no greater than one percent leading to the temporary stormwater pond. Increasing the slope of the site by adding additional fill would increase the slope leading to the temporary stormwater pond and could result in increased erosion or rilling of the fill material.

- 3) Fills landward of the ordinary high water mark should be permitted only when necessary to accommodate uses listed as permitted in Chapter 2.c (Shoreline Use and Modification Matrix) of the Master Program, and when significant impacts can be avoided or mitigated.

The proposed demolition and grading plan will not require any modification of the 25-ft shoreline setback/buffer for Lake Tye or require the addition of fill material waterward of the ordinary high water mark of Lake Tye.

- 4) Fills waterward of the ordinary high water mark should be discouraged and only allowed through a Conditional Use Permit when necessary to facilitate water-dependent uses consistent with the Master Program, for necessary river crossings, and for projects beneficial to the environment.

See response to Item #3 above.

- 5) The perimeter of fills should be designed to avoid or eliminate erosion and sedimentation impacts, both during initial fill activities and over time.

The proposed fill will not exceed the limits of the construction footprint, as defined onsite by construction fencing and silt fencing. The fill will be hydroseeded after completion of demolition and grading work to help stabilize the soil and prevent erosion and sedimentation.

- 6) Mitigation for Wetland impacts must be implemented pursuant to the Critical Areas Regulations contained in Appendix A.

Not applicable. There will be no direct impacts to any onsite wetlands or streams within the shoreline management zone resulting from the proposed demolition and

grading plan.

- 7) Fills should not adversely impact navigation.”

Not applicable. No fill will be placed within a navigable water.

The following regulations apply to fill material placed within the shoreline zone. The regulations are provided verbatim in Times New Roman text. Our responses to each numbered item follow immediately in *italic Times New Roman text*.

“Fill Regulations

- 1) Applications for fills shall include the following:
- Proposed use of the fill area;
 - Physical, chemical, and biological characteristics of the fill material;
 - Source of the fill material;
 - Method of placement and compaction;
 - Location of fill relative to natural and/or existing drainage patterns;
 - Location of the fill perimeter relative to the floodway;
 - Perimeter erosion control and stabilization means;
 - Type of surfacing and runoff control devices; and
 - Location of wetlands and other sensitive areas.

The proposed use of the fill is to provide positive drainage towards a temporary stormwater pond to be constructed in the center of the Site. The proposed fill will prevent untreated and undetained stormwater from flowing offsite and into sensitive areas (Cripple Creek, wetlands, and Lake Tye). Currently, stormwater is able to leave the site untreated and undetained.

- 2) Fill waterward of the ordinary high water mark shall be permitted as a conditional use only:
- In conjunction with a water-dependent use permitted under this Master Program.
 - In conjunction with a bridge, utility, or navigational structure for which there is a demonstrated public need and where no feasible upland sites, design solutions, or routes exist.
 - As part of an approved restoration project; or
 - For fishing or wildlife habitat enhancement projects.

Not applicable. No fill will be placed waterward of the ordinary high water mark on Lake Tye.

- 3) Pier or pile supports shall be utilized in preference to fills. Fills for approved road development in floodplains or wetlands shall be permitted only if pile or pier supports are proven structurally infeasible.

Not applicable. Development will not occur within any aquatic lands.

- 4) Fills shall only be permitted in conjunction with a specific development already permitted by the Master Program or proposed simultaneously as part of a Conditional Use Permit application.

The proposed demolition and grading plan will be appropriately permitted by the City of Monroe.

- 5) Speculative fills are prohibited.

The proposed fill is necessary to create a site topography that directs stormwater runoff towards a centrally-located temporary stormwater pond. This pond will detain and treat stormwater prior to release into an existing grass-lined swale that drains into Lake Tye.

- 6) Fills shall be permitted only where it is demonstrated that the proposed action will not:
a) Result in significant adverse impacts to water quality, fish and/or wildlife habitat.

The proposed fill is meant to prevent significant adverse impact to water quality, fish habitat, or wildlife habitat by collecting, detaining, and treating stormwater runoff prior to being released into a grass-lined swale that drains into Lake Tye.

- b) Result in significant adverse impacts to natural drainage and current patterns or floodwater capacities.

The Site currently does not detain or treat any stormwater onsite. There should be no significant adverse impacts to natural drainages or floodplain capacities (Lake Tye was created to provide flood capacity for the business development located east of Fryelands Boulevard).

- 7) Where fills are permitted, the fill shall be the minimum necessary to accommodate the proposed use.

The proposed demolition and grading plan will be the minimum necessary to remove all existing onsite buildings and debris and to create a shallow gradient from the edges of the proposed work area to the temporary stormwater pond. Any additional fill material placed within the work area would likely increase the possibility of sediment mobilization and rilling of the fill material.

- 8) Fill shall be designed, constructed, and maintained to prevent, minimize, and control all material movement, erosion, and sedimentation for the affected area. Fill perimeters shall be designed and constructed with silt curtains, vegetation, retaining walls, or other mechanisms to prevent material movement. In addition the sides of the fill shall be appropriately sloped to prevent erosion and sedimentation, both during initial fill activities and afterwards.

The area of work onsite will be surrounded by both construction fencing and silt fencing. The final grade of the edges of the fill will be within the silt fence boundary. At the

conclusion of the proposed site grading work, the Site will be hydroseeded to help stabilize soils and slopes. The silt fencing will not be removed until the property is redeveloped.

- 9) Fill materials shall be clean sand, gravel, soil, rock, or similar material. Use of polluted dredge spoils and sanitary fill materials are prohibited. The developer shall provide evidence that the material has been obtained from a clean source prior to fill placement.

The fill material will be locally-sourced, free of contaminants, and of a texture sufficient to prevent future erosion or rilling. The particulars of the fill material (source and cleanliness) will be provided to the City of Monroe prior to onsite any grading work.

- 10) Fills shall be designed to allow surface water penetration into aquifers, if such conditions existed prior to the fill.”

Not applicable. The site is currently developed and composed of mostly impermeable surfaces. There is no existing ability to provide aquifer recharge onsite. The proposed demolition and grading plan will not alter the Site’s ability to recharge aquifers.

CHAPTER 8. CONCEPTUAL MITIGATION PLAN

8.1 Mitigation Details

The Site provides a challenge for mitigation since there will be little to no ability to provide onsite mitigation. Most of the mitigation for proposed buffer and shoreline impacts will be provided by purchasing credits at the Skykomish Habitat Mitigation Bank located on the Skykomish River in the City of Monroe. Some offsite buffer will occur on a powerline easement located along the Site’s northern boundary and on City-owned property adjacent to the Site’s northwestern corner. The remainder of the mitigation will occur through the purchase of mitigation credits at the aforementioned mitigation bank.

8.2 Mitigation Sequencing

All agencies involved require that a sequence of actions be taken for proposals that will impact wetlands. This is referred to as mitigation sequencing. It is administered under the Washington State Environmental Policy Act (SEPA) administered by DOE and adopted by the City of Monroe, as well as under Section 404 of the Federal Clean Water Act, administered by the Corps. The mitigation sequencing requirements are:

1. Avoiding the impact altogether by not taking a certain action or parts of actions.

During the site planning process, every effort was undertaken to avoid and minimize adverse impacts to critical areas and their buffers to the maximum extent practicable while still allowing the necessary demolition and site grading work, the latter of which includes preventing untreated and undetained stormwater from leaving the Site.

2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation.

Since the site is mostly encumbered by critical area buffers and the shoreline zone, it will not be possible to avoid impacting the buffers. Impacts will be minimized to that which is necessary to meet the demolition and grading goals and will be contained within a delineated boundary, all of which occur in areas formerly developed as ESMP.

3. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.

It will not be possible to repair, rehabilitate, or restore the affected environment onsite. A portion of the currently degraded buffer for Cripple Creek located offsite in the power line easement will be rehabilitated by removal of impervious surfaces and non-native, invasive species and replanting with a variety of low-growing shrubs and emergent vegetation. Offsite wetland buffer may also be enhanced by removal of existing debris, impervious surfaces, and non-native vegetation and replanting with native trees, shrubs, and emergent vegetation.

4. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.

There will be no further impacts to critical areas buffers or the shoreline zone at the completion of the proposed demolition and grading work. The Site will be maintained until the site is redeveloped. Additional impacts to critical area buffers or shoreline zone resulting from future site development will be addressed at the time of project permitting for such new development.

5. Compensating for the impact by replacing or providing substitute resources or environments.

As stated in Item #3 above, there will be no opportunity to mitigate for buffer or shoreline setback impacts onsite. Therefore, most of the offsite mitigation will be provided by purchasing mitigation credits at the Skykomish Habitat Mitigation Bank.

8.3 Conceptual Stream Buffer Mitigation Plan

Cripple Creek is required to have a 200-ft standard buffer measured landward off of the stream's OHWM. This buffer may be reduced by up to 25 percent through buffer reduction with enhancement or by buffer averaging. Either method would allow a minimum buffer width of 150 feet. Buffer averaging requires that the area of reduced buffer be offset by adding buffer elsewhere on the site to offset the reduction. Neither of these two mechanisms will provide the necessary relief from buffer requirements in order to implement the proposed demolition and grading plan. The current area of the site unencumbered by stream buffer or shoreline setback is approximately 64,088 sf and averages approximately 61 feet wide with a minimum width of approximately 39.5 ft. A 25 percent reduction in buffer width would provide only 40,764 sf of additional area onsite. This increase in area is still insufficient to allow for the proposed demolition and grading plan, which seeks to remove all buildings and impervious surfaces within the

200-ft stream buffer. The relief from buffer-induced constraints on this site can be provided by utilizing Innovative Development Design as allowed under §20.05.050.C.3, which states:

- 3) “Innovative Development Design. An applicant may request approval of an innovative design that addresses buffer treatment in a manner that deviates from the standards for wetland, stream, fish and wildlife habitat conservation area buffers contained in this chapter under the following circumstances:
 - a) Where the applicant is proposing to redevelop a previously developed site on which existing lawfully established structures or impervious surface encroach in to the buffers otherwise required by this chapter for wetlands, streams, or fish and wildlife habitat conservation areas, the director may reduce the required buffer to the boundary or boundaries of the lawfully established existing structures or impervious surfaces on the project property; provided, that the director finds that:
 - i) Within the reduced buffer area, the applicant will use innovative design to improve the condition of the buffer consistent with the standards for the applicable critical area(s) set forth in this chapter;
 - ii) In addition, the applicant will provide compensatory mitigation (on site, off-site, or through mitigation banks) that provides functions and values equivalent to those that would have been provided had the project conformed to the standard buffer set forth in this chapter; and
 - iii) The innovative design will not be materially detrimental to the public health, safety or welfare or injurious to other properties or improvements located outside of the subject property.
 - b) The applicant shall prepare a critical areas study consistent with MMC 20.05.060 demonstrating the innovative development design complies with the standards in this subsection. All applicants for innovative designs are encouraged to consider measures prescribed in guidance documents, such as watershed conservation plans or other similar conservation plans, and low impact stormwater management strategies that address wetlands, fish and wildlife habitat conservation areas or buffer protection consistent with this section.
 - c) Where an applicant proposes to reduce the standard wetland, stream, fish and wildlife habitat conservation area buffers set forth in this chapter using innovative development design under this section, the other provisions of this chapter, including provisions regarding buffer reduction or modifications shall not apply.”

The proposed demolition and grading plan will seek to reduce the 200-ft buffer for Cripple Creek to a consistent 50-ft, well-vegetated buffer, leaving approximately 137,455 sf of buffer impact. The proposed 50-ft buffer will be enhanced through removal of all impervious surfaces, trash, debris, and non-native invasive vegetation. Soil will be amended to improve infiltration and water quality treatment ability. Finally, the entire 50-ft buffer will be replanted with a variety of native shrubs and herbaceous

plant species (no trees area proposed due to the existence of overhead high-voltage power lines).

The approximately 137,455 sf area of buffer impacted through the proposed buffer width reduction will need to be mitigated through the purchase of credits at the Skykomish Habitat Mitigation Bank. It is our contention, however, that mitigating for the entire approximately 137,455 sf area is not warranted due to existing site topography, existing site conditions, and a reduction in the ability of a buffer to provide functions and values with increasing distance from the critical area being protected.

The 200-ft buffer for Cripple Creek can be segregated into two categories based on levels of disturbance using the concept of a *functional buffer width*. The functional buffer is that buffer area that actually provides buffer functions (i.e., water quality improvements, hydrology, and habitat). In essence, the functional buffer is relatively intact, undisturbed, and vegetated. The quality of the vegetation is not important in this case, just that the vegetation exists and provides some water quality and habitat functioning.

As stated earlier in **Section 2.2**, the site is comprised of approximately 95% impervious surfaces. The area of the functional buffer corresponds to a narrow strip of vegetation along the northern property boundary and contained within the PSE easement. This area is estimated to be approximately 42,596 sf in size out of the total 200-ft buffer area of 137,455 sf (approximately 31 percent of the total 200-ft buffer area). Of this approximately 42,596 sf of functional buffer, only 2,940 sf occurs within the area of proposed work.

A major component of developing an innovative development design concept is the need to address and evaluate existing and proposed buffer functions and values. However, there is currently no known methodology for evaluating buffer functions. Therefore, Talasaea has developed a methodology for evaluating buffer functions largely based upon the current 2014 Wetland Rating System for Western Washington. This methodology is discussed in greater detail in a white paper provided in **Appendix B**. Buffer evaluation worksheets are provided in **Appendix C**. The following provides the results of our buffer analysis.

In order to determine relative buffer functions, we established ten transects on a GIS map of the site to help analyze the functions of the existing buffer in order to provide a comparison of functional lift based on three mitigation scenarios (**Figure 9**). These scenarios are:

1. The full 200-ft Type F stream buffer is provided,
2. A reduced 100-ft stream buffer is provided, and
3. The proposed IDD buffer.

For all buffer mitigation analyses, it is assumed that the 50-ft buffer being provided will be fully restored or enhanced by removal of impervious surfaces, trash, debris, and replanted with a variety of native trees and shrubs. Two different sets of analyses were provided for the ten transects. One set assumes that no soil amendments will be provided. This is potentially unrealistic due to the amount of impervious surfaces that

will need to be removed for each of the three buffer width scenarios. The second set assumes that the predominantly clayey soil existing on the site will be amended with quality topsoil to provide a predominantly silty soil. We are providing the results of the analyses involving soil amendment in **Table 3**.

Table 3. Stream Buffer Functional Analysis Results

Transect	Existing Condition Score*	Mitigation Score (IDD)	Mitigation Score with 100-ft buffer	Mitigation Score with 200-ft buffer	Functional Lift IDD	Functional Lift 100ft Buffer	Functional Lift 200ft Buffer	Percent Increase between IDD and 100ft	Percent Increase between IDD and 200ft	Percent Increase between 100ft and 200ft
A	6	23	24	25	283%	300%	317%	4%	9%	4%
B	6	19	24	25	217%	300%	317%	26%	32%	4%
C	4	19	20	21	375%	400%	425%	5%	11%	5%
D	4	19	20	21	375%	400%	425%	5%	11%	5%
E	1	19	24	25	1800%	2300%	2400%	26%	32%	4%
F	1	19	24	25	1800%	2300%	2400%	26%	32%	4%
G	1	19	24	25	1800%	2300%	2400%	26%	32%	4%
H	1	19	24	25	1800%	2300%	2400%	26%	32%	4%
J	4	19	24	25	375%	500%	525%	26%	32%	4%
K	6	19	24	25	217%	300%	317%	26%	32%	4%
Average Percent Lift					904%	1140%	1193%	20%	25%	4%

*Scores for buffer function range between 0 and 41. See **Appendix E** for the buffer functional evaluation worksheets.

Based on the results of our analyses of the transects, the proposed 50-ft IDD buffer for the Type F stream will provide an approximately 904% lift in buffer functions compared to existing site conditions. Increasing the Type F stream buffer to 100 feet would only provide an approximately 20% increase in buffer function compared to the proposed 50-ft IDD buffer. Increasing the Type F stream buffer to 200 feet would only provide an additional approximately 5% increase in buffer function compared to the proposed 50-ft IDD buffer.

We are proposing, therefore, that the area of offsite buffer mitigation required should reflect the relative additional value of each of the buffer widths. The 100-ft buffer only provides 20% more functional value compared to the IDD wetland buffer. Therefore, we are proposing that the approximately 53,622 sf area between the IDD buffer and the 100-ft buffer edge requiring mitigation be reduced to 11,124 sf (20% of the 100-ft buffer area). Similarly, the 200-ft buffer area only provides an additional 5% lift in functional value compared to the IDD buffer. Therefore, we are proposing that the approximately 81,833 sf area between the outer edge of the 100-ft buffer and the edge of the 200-ft buffer requiring mitigation be reduced to approximately 4,092 sf (5% of the 200-ft buffer area). The total area of the value-adjusted buffer that will need offsite mitigation is approximately 15,216 sf (11,124 sf of discounted 100-ft buffer area plus 4,092 sf of

discounted 200-ft buffer). The mitigation for the proposed reduction of the 200-ft stream buffer will entail purchasing no less than 15,216 in mitigation credits at the Skykomish Habitat Mitigation Bank.

The proposed buffer reduction and mitigation strategy meet the requirements of the innovative development design code as follows:

- 3) Where the applicant is proposing to redevelop a previously developed site on which existing lawfully established structures or impervious surface encroachment into the buffer otherwise required by this chapter for wetlands, streams, or fish and wildlife habitat conservation areas, the director may reduce the required buffer to the boundary or boundaries of the lawfully established existing structure or impervious surface on the project property, provided that the director finds that:
 - a) Within the reduced buffer area, the applicant will use innovative design to improve the condition of the buffer consistent with the standards for the applicable critical area(s) set forth in this chapter.

The proposed innovative design to improve the condition of the stream buffer utilizes a combination of advanced stormwater treatment, buffer restoration and enhancement, and a new approach towards evaluating buffer functions based on existing and proposed buffer conditions. The buffer functional assessment model evaluates the ability of a buffer to provide water quality improvements, controlled hydrologic inputs, and the relative value of the buffer in providing habitat for aquatic and terrestrial animal species.

The proposed site demolition and grading plan will remove all existing impervious surfaces, buildings, and associated trash and debris. Prevention of undetained and untreated stormwater is the overarching goal of the demolition and grading plan. The proposed grading and fill will create an onsite topography that gently slopes towards a centrally-located temporary stormwater pond. This will ensure that no untreated or undetained stormwater leaves the site and impacting adjacent critical areas. Detained and treated stormwater will be released to an existing grass-lined swale that discharges into Lake Tye.

The functional analysis of the various buffer widths shows that the proposed IDD buffer, a 100-ft-wide buffer, and the standard 200-ft-wide buffer for the Type F stream each provides a marked increase in functional value compared to existing site conditions. However, increasing the width of the stream buffer appears to provide incrementally smaller improvements to buffer functions with increasing buffer widths. The 100-ft stream buffer provides approximately 20% more functional value compared to the proposed IDD buffer width. Expanding the buffer to the standard 200-ft width only provides an additional 5% increase in functional value compared to the IDD buffer width. Therefore, we are proposing that the area of compensatory buffer mitigation be adjusted based on the percent increase in functional value (i.e., the area of the 100-ft buffer addition requiring mitigation should be 20 percent of the 100-ft buffer addition area and the area of

the 200-ft buffer addition requiring mitigation should be 5% of the 200-ft buffer addition area).

- b) In addition, the applicant will provide compensatory mitigation (on-site, off-site, or through mitigation banks) that provides functions and values equivalent to those that would have been provided had the project conformed to the standard buffer set forth in this chapter;

The approximately 27,134 sf IDD buffer will be restored and enhanced through removal of impervious surfaces, removal of non-native plant species, providing soil amendments, and replanting with a variety of native shrubs (trees will likely not be allowed within the powerline easement). The total offsite compensatory mitigation being proposed (which does not include the restoration and enhancement of the approximately 27,134 sf IDD buffer area) for the site is 15,216 sf. This is the sum of 20% of the 100-ft buffer area outside of the IDD buffer (approximately 11,124 sf) and 5% of the area between the 200-ft buffer and 100-ft buffer (approximately 4,092 sf). Mitigation for the proposed buffer reduction will occur at the Skykomish Mitigation Bank, located along the Skykomish River in the City of Monroe.

and

- c) The innovative design will not be materially detrimental to the public health, safety or welfare or injurious to other properties or improvements located outside the subject property.

The subject property is currently developed with an abandoned building surrounded by impervious surfaces, trash, and left-over concrete products. There are no impedances to untreated and undetained stormwater flowing offsite and into a fish-bearing stream. The building and associated debris represent a danger to public health and safety since there is currently little to no fencing preventing unauthorized access to the property.

The proposed redevelopment plan and IDD mitigation will remove the existing building, trash, and left-over concrete products, thus addressing public health and safety issues. The proposed redevelopment plan will not require impacting any offsite properties (the Skykomish Mitigation Bank notwithstanding), nor will it lead to detrimental impacts to off-site properties in the future. Rather, controlled detention and release of stormwater runoff from the site will likely reduce the amplitude of flows in the stream by preventing undetained stormwater runoff. The controlled release of clean stormwater, coupled with improved streambank vegetation, should help improve the value of fish habitat adjacent to and downgradient of the site.

- 4) The applicant shall prepare a critical areas study consistent with MMC 20.05.060 demonstrating the innovative development design complies with the standards in this subsection. All applicants for innovative designs are encouraged to consider measures prescribed in guidance documents, such as watershed conservation plans

or other similar conservation plans, and low impact storm water (*sic*) management strategies that address wetlands, fish and wildlife habitat conservation areas or buffer protection consistent with this section.

This report is intended to address Item 4 above.

- 5) Where an applicant proposes to reduce the standard wetland, stream, fish and wildlife habitat conservation area buffers set forth in this chapter using innovative development design under this section, the other provisions of this chapter, including provisions regarding buffer reduction or modifications, shall not apply.”

*The proposed IDD buffer mitigation plan will adequately provide buffer functions and values to protect stream resources and will be demonstrated to significantly improve those functions compared to existing site conditions. We also understand that the proposed IDD plan is only for those impacts that are outside of the 200-ft shoreline management zone for Lake Tye. Any impacts to critical areas or their associated buffers that are within the 200-ft shoreline zone will be mitigated in accordance with City of Monroe shoreline regulations, as discussed in **Section 7.1**.*

CHAPTER 9. SUMMARY

The Eastside Masonry Products property (ESMP) is an approximately 297,334 sf parcel located southwest of the intersection of Frylands Boulevard and State Route 2 in the City of Monroe, Washington. The property is developed with abandoned factory buildings, drive aisles, and considerable amounts of trash and debris. The Client is proposing to demolish the existing buildings, remove existing impervious surfaces, trash, and debris, and regrade the site to direct stormwater towards a centrally-located temporary stormwater pond. The proposed grading plan will prevent untreated and undetained stormwater from leaving the Site and entering adjacent critical areas (untreated and undetained stormwater is currently not prevented from impacting adjacent critical areas).

The Site has critical areas encumbrances from two sources: 1) a 200-ft buffer extending landward from the ordinary high water mark of Cripple Creek (which is located off-property to the north), and 2) a 200-ft shoreline setback off of the ordinary high water mark of Lake Tye (which is located off-property to the south). These two areas fall under different regulatory sections. The stream buffer falls under the City of Monroe’s critical areas code, §20.05. The shoreline setback falls under the City of Monroe’s Shoreline Master Program. Innovative development design is allowed under the City of Monroe’s critical areas code. It is not allowed under the City of Monroe’s Shoreline Master Program.

The proposed demolition and grading plan will unavoidably impact approximately 137,445 sf of stream buffer, with approximately 77,589 sf of proposed work occurring in the 200-ft shoreline management zone for Lake Tye. There will be no impacts to the 25-ft setback/buffer for Lake Tye, which is measured landward from the ordinary high water mark. Unavoidable impacts to the stream buffer will be mostly mitigated through purchasing of credits at the Skykomish Habitat Mitigation Bank. The remaining impacts to the stream buffer will occur adjacent to the Site on properties owned by PSE and the

City of Monroe (it will not be possible to provide mitigation for all stream buffer impacts on or adjacent to the Site).

Mitigation for impacts to the 200-ft stream buffer will fall under the provisions of innovative development design. The innovative development design must provide similar functions and values for the mitigated buffer compared to providing the full buffer width. The proposed buffer width will be approximately 50-ft wide for a total buffer reduction of approximately 150 feet.

We contend that the functions provided by a buffer decrease in proportion to the distance from the critical area. However, no known methodology currently exists that allows for the evaluation or analysis of existing and proposed buffer functions. To that end, Talasaea has developed a draft methodology that is based, in part, on the Washington Department of Ecology's *Wetland Rating System for Western Washington* (2014).

We evaluated the functioning of the existing buffer and three buffer mitigation concepts. We determined that buffer function does appear to decrease in value with increasing distance from the critical area. From this analysis, we determined that the area of buffer between the proposed IDD buffer and 100 feet from the critical area provides only a 20 percent increase in function. Similarly, the area of buffer between 100 feet and 200 feet provides only a 5 percent increase in buffer function. We used these percentages to modify the buffer mitigation requirements for impacts to the 200-ft stream buffer. The total area of buffer mitigation required, based on our analysis, is approximately 15,216 sf.

CHAPTER 10. REFERENCES

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FIGURES

- Figure 1** – Vicinity Map and Driving Directions
- Figure 2** – Existing Conditions Map
- Figure 3** – Site Aerial
- Figure 4** – National Wetland Inventory
- Figure 5** – NRCS
- Figure 6** – Snohomish County GIS
- Figure 7** – City of Monroe Critical Areas and Buffers
- Figure 8** – Demolition and Grading Plan
- Figure 9** – Buffer Evaluation Transects Map
- Figure 10** – Conceptual Mitigation Overview Plan

APPENDIX A

Wetland Rating Form, *Washington State Department of Ecology Wetland Rating System for Western Washington, Version 2* (2004, Revised In 2008), Talasaea Consultants, 2016 with Rating Figures

APPENDIX B

BUFFER FUNCTIONAL ANALYSIS WHITE PAPER

APPENDIX C

BUFFER FUNCTIONAL ANALYSIS WORKSHEETS

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