MITIGATION BANK USE AND CONCEPTUAL MITIGATION PLAN

CAMAS BUSINESS CENTER

OCTOBER 2021

Soundview Consultants
Environmental Assessment
Planning + Land Use Solutions

MITIGATION BANK USE AND CONCEPTUAL MITIGATION PLAN

CAMAS BUSINESS CENTER

OCTOBER 8, 2021

PROJECT LOCATION
4707 AND 4723 NW LAKE ROAD
CAMAS, WASHINGTON, 98607

PREPARED FOR
BJORN BRYNESTAD
PANATTONI DEVELOPMENT COMPANY, INC.
1821 DOCK STREET
SUITE 100
TACOMA, WASHINGTON 98402

PREPARED BY
SOUNDVIEW CONSULTANTS LLC
2907 HARBORVIEW DRIVE
GIG HARBOR, WASHINGTON 98335
(253) 514-8952

Soundview Consultants
Environmental Assessment
Planning + Land Use Solutions

Executive Summary

Soundview Consultants LLC (SVC) has been assisting Panattoni Development Company Inc. (Applicant) with a wetland and fish and wildlife habitat assessment and environmental planning to support the proposed Camas Business Center industrial development on a 74.06-acre site located at 4707 & 4723 Northwest Lake Road in the City of Camas, Washington. The subject property consists of two tax parcels situated in the Southeast ¼ of Section 29, Township 02 North, Range 03 East, W.M (Clark County Tax Parcel Numbers 176155000, and 176170000).

SVC performed an investigation and assessment of potentially regulated wetlands, streams, and other fish and wildlife habitat conservation areas on the subject property and publicly accessible areas within 300 feet of the site in December 2020, with follow-up investigations in April 2021. Using current methodology, SVC identified four potentially regulated wetlands (Wetlands A - D) on the subject property, and one potentially regulated stream (Offsite Stream Z) offsite to the west of the subject property. Wetland A is classified as Category III wetland with 4 total habitat points, and subject to a standard 80-foot buffer based on proposed high intensity land use per Camas Municipal Code (CMC) 16.53.040.B.2 Table 16.53.040-1. Wetland B is classified as a Category III wetland with 5 total habitat points and subject to a standard 120-foot buffer per CMC 16.53.040.B.2 Table 16.53.040-3. Wetland C is classified as a Category IV wetland and is likely exempt from buffer regulations per Camas Municipal Code (CMC) 16.53.010.C.2.a due to its isolated location in the landscape and small size (less than 4,350 square feet). Wetland D is classified as a Category III wetland with 6 total habitat points and subject to a standard 135-foot buffer per CMC 16.53.040.B.2 Table 16.53.040-3. Offsite Stream Z is likely a Type F stream with no known salmonid presence in accordance with Washington Department of Fish and Wildlife (WDFW) SalmonScape data and subject to a standard 75-foot buffer per CMC 16.61.040.D. The stream buffer is not anticiapted to project onto the subject property. No other potentially regulated wetlands or fish and wildlife habitat conservation areas were identified within 300 feet of the subject property. Please see the *Wetland and Fish and Wildlife Habitat Assessment Report* (SVC, 2021) for additional details.

The Applicant proposes industrial development of the subject property to create a business center that includes three buildings, internal access roads, parking and loading areas, utilities, and stormwater facilities. The proposed project was carefully designed to avoid and minimize impacts to the identified critical areas by utilizing the developable upland areas onsite, and direct impacts to the larger, higher functioning wetlands (Wetlands A, B, and D) onsite and offsite Stream Z are avoided entirely. However, complete avoidance is not possible due to the spatial requirements to support an industrial facilities and associated infrastructure and the encumbrance of the identified wetlands and associated buffers on the central portions of the subject property. The project has undergone several design revisions to minimize impacts, including reducing the number of proposed buildings, reducing the size and orientation of the proposed buildings, and reducing the size of the proposed stormwater facilities. No other feasible option in design would result in less impacts to the identified critical areas while allowing for reasonable development of the subject property. As such, the project requires the necessary and unavoidable total fill of one low-functioning Category IV wetland (Wetland C) on the subject property to meet the associated infrastructure demands for the three industrial buildings. The proposed project will implement minimization measures to reduce the impacts of the proposed high intensity land use and reduce the buffers of Wetlands A, B, and D as allowed pursuant to CMC 16.53.050.C.1.a. The proposed parking areas will encroach on reduced wetland buffers by 3,703 square feet, and buffer averaging is proposed to offset these encroachments per CMC 16.53.050.C.2.

13,485 square feet of additional buffer area will be protected via the proposed buffer averaging, providing a net gain of 9,782 square feet of buffer. 64,095 square feet of temporary buffer grading impacts will be restored through replanting with native trees, shrubs, and groundcovers. The proposed native replacement plantings are anticipated to result in a net gain of existing ecological functions when compared to the existing buffers that are degraded by non-native, invasive species. To minimize temporary impacts, all appropriate best management practices (BMPs) and temporary erosion and sediment control (TESC) measures including installing silt fencing between construction activities and the remaining wetlands and associated buffer areas onsite will be implemented throughout the course of construction.

Compensatory mitigation for the total fill of the small, low-functioning Category IV wetland (Wetland C) is proposed to be provided through the purchase of 0.061 acre-credits from the TMB as allowed under CMC 16.53.050.D.5.a and state and federal guidance. The overarching goals of the TMB are to improve hydrologic, water quality, and habitat functions and provide a self-sustaining, diverse forest, scrub-shrub, and emergent wetland and stream complex. TMB verified in email correspondence that while no mitigation bank credits are currently available, the release of additional credits is anticipated in late 2021 or early 2022. Onsite compensatory mitigation is not possible due to the spatial requirements of the mitigation area and associated buffers that would be required which would impact the development feasibility of the site. Offsite, permittee-responsible mitigation was considered, but no suitable mitigation sites were available in the area during the planning phase of this project. As such, mitigation bank use was determined to be the most ecologically feasible option that meets the needs of the project and will likely provide a higher level of ecological lift than onsite or offsite, in-kind permittee-responsible mitigation. Overall, these actions will likely result in a net increase in ecological functions within the Salmon-Washougal watershed (Water Resource Inventory Area 28) when compared to the existing degraded conditions of the wetland proposed to be impacted.

The table below identifies the onsite critical areas and summarizes the potential regulatory status by local, state, and federal agencies.

Feature Name	Size/Length Onsite	Category/ Type[1]	Regulated Under CMC 16.53 & 16.61	Regulated Under RCW 90.48	Regulated Under Clean Water Act
Wetland A	56,558 sf	III	Yes	Yes	Likely
Wetland B	32,343 sf	III	Yes	Yes	Likely
Wetland C	3,167 sf	IV	Yes	Yes	Not Likely
Wetland D	9,074 sf	III	Yes	Yes	Assumed
Offsite Stream Z	N/A (Offsite)	F	Yes	Yes	Likely

1. Wetlands classified according to Washington State Department of Ecology (WSDOE) wetland rating system for western Washington (Hruby, 2014); streams classified according Washington Department of Natural Resources (DNR) Water Typing System and CMC 16.61.040.

Table of Contents

Chapter 1. Introduction 1
1.1 Background 1
1.2 Project Description 1
1.3 Onsite Existing Conditions 3
Chapter 2. Regulatory Considerations 7
2.1 Local Critical Area Requirements 7
2.2 State and Federal Considerations 14
Chapter 3. Conceptual Mitigation Plan 16
3.1 Purpose and Need 16
3.2 Avoidance and Minimization of Impacts 16
3.3 Description of Unavoidable Impacts 17
3.4 Impacted Wetland Functions 17
3.5 Mitigation Strategy 18
3.6 Approach and Best Management Practices 20
3.7 Goals, Objectives, and Performance Standards 21
3.8 Plant Materials and Installation 21
3.9 Maintenance & Monitoring Plan 23
3.10 Reporting 24
3.11 Contingency Plan 24
Chapter 4. Closure 26
Chapter 5. References 1

Figures

Figure 1. Project Location. 3

Tables

Table 1. Wetland Summary 5
Table 2. Summary of Wetland Impacts 17
Table 3. Replacement Ratios and Calculation of Bank Credits Required 20

Appendices

Appendix A – Conceptual Mitigation Drawings
Appendix B - Proximity of Subject Property to Terrace Mitigation Bank Service Area
Appendix C – Qualifications

Chapter 1. Introduction

1.1 Background

Soundview Consultants LLC (SVC) has been assisting Panattoni Development (Applicant) with a wetland and fish and wildlife habitat assessment and environmental planning to support the proposed industrial development of a 74.06-acre site located at 4707 & 4723 Northwest Lake Road in the City of Camas, Clark County, Washington. The subject property consists of two tax parcels that are situated in the Southeast ¼ of Section 29, Township 02 North, Range 03 East, W.M (Clark County Tax Parcel Numbers 176155000, and 176170000).

Using current methodology, SVC identified four potentially regulated wetlands (Wetlands A - D) on the subject property, and one potentially regulated stream (Offsite Stream Z) offsite to the west of the subject property. Wetland A is classified as Category III wetland with 4 total habitat points, and subject to a standard 80-foot buffer based on proposed high intensity land use per Camas Municipal Code (CMC) 16.53.040.B.2 Table 16.53.040-1. Wetland B is classified as a Category III wetland with 5 total habitat points and subject to a standard 120-foot buffer based on the proposed high intensity land use per CMC 16.53.040.B.2 Table 16.53.040-3. Wetland C is classified as a Category IV wetland and is likely exempt from buffer regulations per CMC 16.53.010.C.2.a due to its isolated location in the landscape and small size (less than 4,350 square feet). Wetland D is classified as a Category III wetland with 6 total habitat points and subject to a standard 135-foot buffer based on the proposed high intensity land use per CMC 16.53.040.B.2 Table 16.53.040-3. Offsite Stream Z is likely a Type F stream with no known salmonid presence in accordance with Washington Department of Fish and Wildlife (WDFW) SalmonScape data and subject to a standard 75-foot buffer per CMC 16.61.040.D. The stream buffer is not anticiapted to project onto the subject property. No other potentially regulated wetlands or fish and wildlife habitat conservation areas were identified within 300 feet of the subject property.

This Mitigation Bank Use and Conceptual Mitigation Plan describes the rationale for purchasing credits at the Terrace Mitigation Bank (TMB) to compensate for wetland impacts from the proposed project and was prepared following agency guidance on preparing mitigation plans and the use of mitigation banks including: the Interagency Review Team for Washington State Guidance Paper on *Using Credits from Mitigation Banks: Guidance to Applicants on Submittal Contents for Bank Use Plans* (2020), Washington State's Mitigation Banking Statutes (RCW 90.84 and WAC 173-700), the Washington State Department of Ecology's (WSDOE) *Wetland Mitigation in Washington State, Versions 1 and 2* (2006 and 2021) and , and the U.S. Army Corps of Engineers (USACE) *Compensatory Mitigation for Losses of Aquatic Resources* (33 C.F.R. § 332)(2008). In addition, this plan describes the use of buffer reduction and averaging as allowed under CMC 16.53.050.C.1 and 16.53.050.C.2 and restoration of temporary buffer impacts.

1.2 Project Description

The Applicant proposes industrial development of the subject property to create a business center that includes three buildings, internal access roads, parking and loading areas, utilities, and stormwater facilities. The proposed project was carefully designed to avoid and minimize impacts to the identified critical areas by utilizing the developable upland areas onsite, and direct impacts to the larger, higher functioning wetlands (Wetlands A, B, and D) onsite and offsite Stream Z are avoided entirely.

However, complete avoidance is not possible due to the spatial requirements to support an industrial facilities and associated infrastructure and the encumbrance of the identified wetlands and associated buffers on the central portions of the subject property. The project has undergone several design revisions to minimize impacts, including reducing the number of proposed buildings, reducing the size and orientation of the proposed buildings, and reducing the size of the proposed stormwater facilities. No other feasible option in design would result in less impacts to the identified critical areas while allowing for reasonable development of the subject property. As such, the project requires the necessary and unavoidable total fill of one low-functioning Category IV wetland (Wetland C) on the subject property to meet the associated infrastructure demands for the three industrial buildings. The proposed project will implement minimization measures to reduce the impacts of the proposed high intensity land use and reduce the buffers of Wetlands A, B, and D as allowed pursuant to CMC 16.53.050.C.1.a. The proposed parking areas will encroach on reduced wetland buffers by 3,703 square feet, and buffer averaging is proposed to offset these encroachments per CMC 16.53.050.C.2. 13,485 square feet of additional buffer area will be protected, exceeding the 1:1 requirements for buffer averaging. 64,095 square feet of temporary buffer grading impacts will be restored through replanting with native trees, shrubs, and groundcovers. The proposed native replacement plantings are anticipated to result in a net gain of existing ecological functions when compared to the existing buffers that are degraded by non-native, invasive species. To minimize temporary impacts, all appropriate best management practices (BMPs) and temporary erosion and sediment control (TESC) measures including installing silt fencing between construction activities and the remaining wetlands and associated buffer areas onsite will be implemented throughout the course of construction.

Compensatory mitigation for the total fill of the small, low-functioning Category IV wetland (Wetland C) is proposed to be provided through the purchase of mitigation bank credits from the TMB as allowed under CMC 16.53.050.D.5.a and state and federal guidance. Onsite compensatory mitigation is not possible due to the spatial requirements of the mitigation area and associated buffers that would be required which would impact the development feasibility of the site. Offsite, permittee-responsible mitigation was considered, but no suitable mitigation sites were available in the area during the planning phase of this project. As such, mitigation bank use was determined to be the most ecologically feasible option that meets the needs of the project and will likely provide a higher level of ecological lift than onsite or offsite, in-kind permittee-responsible mitigation. Overall, these actions will likely result in a net increase in ecological functions within the Salmon-Washougal watershed (Water Resource Inventory Area 28) when compared to the existing degraded conditions of the wetland proposed to be impacted.

1.3 Onsite Existing Conditions

1.3.1 Landscape Setting

The subject property is located in a mixed light-commercial and residential setting in the City of Camas. The parcels are undeveloped and sparsely forested, and currently used as grazing land for cattle (Figure 2). A single-family residence and associated infrastructure including a driveway, detached garage, and equipment storage shed/barn is located on the southern portion of the subject property. The site is bounded by commercial buildings to the north, undeveloped land and commercial buildings to the east, Northwest Lake Road to the south, and a golf course and commercial properties to the west. Topography onsite is generally flat with a slight downwards slope from to south to north. Elevation ranges from approximately 295 feet above mean sea level (amsl) on the southern portion of the site to approximately 244 feet amsl on the northern portion of the site. A topographic map is provided in Appendix B1. The subject property is located within Water Resource Inventory Area (WRIA) 28 – Salmon-Washougal.

Figure 1. Project Location.

1.3.2 Soils

The NRCS Soil Survey of Clark County, Washington identifies four soil series on the subject property: Cove silty clay loam, thin solum 0 to 3 percent (CwA), Hesson clay loam 0 to 8 percent slopes (HcB),

Hesson clay loam 8 to 20 percent slopes (HcD), and Powell silt loam 0 to 8 percent slopes (PoB). Below is a detailed description of each soil series.

Cove silty clay loam, thin solum, 0 to 3 percent (CwA)
According to the survey, Cove silty clay loam, thin solum, 0 to 3 percent (CwA) is part of the Cove series of soils mapped by the NRCS in Clark County. The Cove series consists of deep, very poorly drained soils that were formed in water-laid deposits in old lakes and ponds. The CwA soils occur in low, wet basins and depressions on terraces in the central part of the county. A typical soil profile is a silty clay loam for the first 10 inches of depth and is a very dark grayish brown. From 10 to 14 inches, the soil is a dark-gray silty loam. Immediately below, is an extremely firm, black clay layer about 7 inches thick. The underlying material to a depth of about 60 inches is and olive-colored silt laom. Cove silty clay loam, thin solum, 0 to 3 percent slopes, is listed as hydric on the Clark County Hydric Soils List (NRCS, N.d.).

Hesson clay loam, 0 to 8 percent slopes (HcB)
According to the survey, Hesson clay loam, 0 to 8 percent slopes (HcB) is part of the Hesson series of soils mapped by the NRCS in Clark County. The Hesson series consists well-drained soils in mostly level to gently rolling terrain. Parent material is deeply weathered, old alluvium that consists of varying amounts of gravel. Annual precipitation typically varies between 50 and 60 inches. In a typical profile, the surface layer is a dark reddish-brown clay loam about 4 inches thick. Below this layer is a friable, dark reddish-brown clay loam about 10 inches thick. A reddish-brown clay to a depth of about 91 inches. The Hesson clay loam, 0 to 8 percent slopes (HcB) is listed as non-hydric on the Clark County Hydric Soils List (NRCS, N.d.).

Hesson clay loam, 8 to 20 percent slopes (HcD)
According to the survey, this soil is similar to the Hesson clay loam 0 to 8 percent except the surface layer is generally, 1 to 2 inches thinner, and up to 4 inches thinner where erosion has been active. The Hesson clay loam, 8 to 20 percent slopes (HcD) is listed as non-hydric on the Clark County Hydric Soils List (NRCS, N.d.).

Powell silt loam, 0 to 8 percent slopes (PoB)
According to the survey, the Powell series is a moderately, well-drained, medium textured soil found in rolling terrains. The annual precipitation is typically around 50 inches. Powell soils are used for row crops, hay production, pasture and timber. The Powell silt loam, 0 to 8 percent slopes (PoB) surface layer is dark brown silt loam to a depth of about 17 inches. Below the surface layer is a friable, mottled, grayish-brown silt loam about 6 inches thick. The following layer, to a depth of approximately 22 inches is a dark yellowish-brown silt loam that is firm, and mottled brown heavy silt loam in the lower part. Below this layer to a depth of approximately 63 inches is a firm, mottled, dark-brown heavy silt loam. The Powell silt loam, 0 to 8 percent slopes (PoW) is listed as non-hydric on the Clark County Hydric Soils List (NRCS, N.d.)

1.2.3 Vegetation
Vegetation on the subject property generally consists of an actively grazed pasture, with partially forested areas on the west and northern portions of the property. The grazed areas on the property exhibited evidence of disturbance and heavily compacted soils from cattle activity. Vegetation in these areas consisted of common pasture grasses including tall fescue (*Schedonorus arundinaceus*), common velvetgrass (*Holcus lanatus*), orchard grass (*Dactylis glomerata*), Kentucky bluegrass (*Poa pratensis*), and soft rush (*Juncus effusus*). The forested portion of the site is generally dominated by a canopy of Oregon

ash (*Fraxinus latifolia*), with smaller amounts of Douglas fir (*Psuedotsuga menziesii*), oneseed hawthorn (*Crataegus monogyna*), and hardhack (*Spiraea douglasii*). Non-native, invasive species were prevalent throughout the site, including Himalayan blackberry (*Rubus armeniacus*) (particularly in the north and northwest portions of the property), reed canarygrass (*Phalaris arundinacea*), and bird's-foot trefoil (*Lotus corniculatus*).

1.2.4 Wetlands

SVC identified and delineated four wetlands (Wetlands A - D) on the subject property. The identified wetlands contained indicators of wetland hydrology, hydric soils, and a predominance of hydrophytic vegetation according to current wetland delineation methodology. Table 2 summarizes the wetlands identified during the site investigations.

Table 1. Wetland Summary

Wetland	Predominant Wetland Classification / Rating				Wetland Size Onsite (sq ft)	Standard Buffer Width (feet)
	Cowardin[1]	HGM[2]	WSDOE[3]	City of Camas[4]		
A	PFOC	Depressional	III	III	56,558	80
B	PFO/EMBC	Slope	III	III	32,343	120
C	PEMB	Slope	IV	IV	3,167	N/A[5]
D	PFO/SS/EMBC	Depressional	III	III	9,074	135

Notes:
1. Cowardin et al. (1979); Federal Geographic Data Committee (2013); class based on vegetation: PFO = Palustrine Forested, PSS = Scrub-Shrub, PEM = Palustrine Emergent. Modifiers for Water Regime: B = Seasonally Saturated, C = Seasonally Flooded.
2. Brinson, M. M. (1993).
3. Current WSDOE rating (Hruby, 2014).
4. Current WSDOE rating system (Hruby, 2014) per CMC 16.53.020.B.
5. Exempt per CMC 16.53.010.C.2.a

Wetland A

Wetland A is 56,558 square feet (1.30 acres) in size and is located on the northern portion of the subject property. Hydrology for Wetland A is provided by direct precipitation, a seasonally high water table, and surface runoff from adjacent uplands. A culvert is located on the west end of the wetland and reduces the storage capacity of the wetland. Wetland vegetation is dominated by an overstory of Oregon ash, with an understory of oneseed hawthorn, hardhack, and shortawn foxtail (*Alopecurus aequalis*). Non-native, invasive species observed in Wetland A include Himalayan blackberry, reed canarygrass, meadow foxtail, and bird's-foot trefoil. Wetland A is a Palustrine Forested, Seasonally Flooded (PFOC) wetland. Wetland A is a Category III depressional wetland with a habitat score of 4 points under current WSDOE wetland rating methodology (Hruby, 2014).

Wetland B

Wetland B is 32,343 square feet (0.74 acre) in size and is located on the western portion of the subject property, extending offsite to the west. Hydrology for Wetland B is provided by direct precipitation, a seasonally high-water table, and surface runoff from adjacent uplands. A culvert provides hydraulic connectivity between Wetland A and Wetland B. Wetland vegetation is dominated by an overstory of

Oregon ash, with an understory dominated by tall fescue and Kentucky bluegrass, and non-native, invasives Himalayan blackberry, reed canarygrass, and bird's-foot trefoil. Wetland B is a Palustrine Forested/Emergent, Seasonally Flooded/Seasonally Saturated (PFO/EMBC) wetland. Wetland B is a Category III slope wetland with a habitat score of 5 points under current WSDOE wetland rating methodology (Hruby, 2014).

Wetland C

Wetland C is 3,167 square feet (0.07 acre) in size and located on the eastern portion of the subject property. Hydrology for Wetland C is provided by direct precipitation, a seasonally high water table, and surface runoff from adjacent uplands. Wetland vegetation is dominated by soft rush, with smaller amounts of common velvetgrass, Kentucky bluegrass, and tall fescue. Wetland C is a Palustrine, Emergent, Seasonally Saturated (PEMB) wetland. Wetland C is a Category IV slope wetland under current WSDOE wetland rating methodology (Hruby, 2014).

Wetland D

Wetland D is approximately 9,074 square feet (0.21 acre) in size and located in the northwestern corner of the subject property. Hydrology for Wetland B is provided by direct precipitation, a seasonally high water table, and surface runoff from adjacent uplands. Wetland vegetation is dominated by an overstory of Oregon ash with an understory consisting of hardhack, oneseed hawthorn, soft rush, and fringed willow herb (*Epilobium ciliatum*), as well non-native invasive species including Himalayan blackberry, rambler rose (*Rosa multiflora*), bull thistle (*Cirsium vulgare*), reed canarygrass, tall fescue, and bird's foot trefoil. Wetland D is a Palustrine Forested/Scrub-shrub/Emergent, Seasonally Flooded/Seasonally Saturated (PFO/SS/EMBC) wetland. Wetland D is a Category III depressional wetland with a habitat score of 6 points under current WSDOE wetland rating methodology (Hruby, 2014).

1.2.5 Excavated Farm Pond

An excavated farm pond was identified on the south-central portion of the subject property during the site investigations. The farm pond was located in the middle of an actively grazed cattle pasture and utilized by livestock. The farm pond exhibited sharp edges typical of artificially excavated features rather than natural wetland conditions. The farm pond is slightly elevated relative to the surrounding land suggesting the banks are occasionally built up and reinforced. Topography in this area of the site slopes downgradient from east to west. An elevated dirt road/trail bisects the property in a north south direction and acts as an impoundment of overland storm flows, creating surface water in the farm pond during the rainy season. Therefore, the farm pond was determined to be an artificially and intentionally created feature for use by cattle based on land use, the presence of a road, and geomorphic positioning. Per CMC 16.53.010.C.2.b, *wetlands created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, stormwater facilities, farm ponds, and landscape amenities,* shall be exempt from wetland regulations. As such, the farm pond is likely considered a non-regulated feature by the City of Camas.

Chapter 2. Regulatory Considerations

The site investigations in December 2020 and April 2021 identified and delineated four potentially regulated wetlands (Wetlands A-D) onsite the subject property as well as one offsite stream (Offsite Stream Z) within 300 feet of the subject property. No other potentially regulated wetlands, waterbodies, priority fish and wildlife habitat, or priority species were identified on or within 300 of the subject property during the site investigations.

2.1 Local Critical Area Requirements

2.1.1 Buffer Standards

CMC 16.53.020.B describes wetland categorizations with reference to the *Washington State Wetlands Rating System for Western Washington-Revised – Washington State Department of Ecology Publication No. 04-06-029, published August 2014* (Hruby, 2014). Category IV wetlands are typically more disturbed, smaller, and/or more isolated in the landscape than Category I, II, or III wetlands. Category IV wetlands provide low levels of functions and score less than 16 out of 27 points on the *Revised Washington State Wetland Rating System for Western Washington* (Hruby, 2014). Category III wetlands have generally been disturbed in some ways and are often less diverse or more isolated from other natural resources in the landscape than Category II wetlands. Category III provide moderate levels of functions and score between 16 to 19 points on the *Revised Washington State Wetland Rating System for Western Washington* (Hruby, 2014).

Wetland A is classified as Category III wetland with 4 total habitat points, and subject to a standard 80-foot buffer based on proposed high intensity land use per CMC 16.53.040 Table-3. Wetland B is classified as a Category III wetland with 5 total habitat points and subject to a standard 120-foot buffer based on the proposed high intensity land use. Wetland C is classified as a Category IV wetland and is likely exempt from buffer regulations per CMC 16.53.010.C.2.a. Wetland D is classified as a Category III wetland with 6 total habitat points and subject to a standard 135-foot buffer.

Offsite Stream Z is likely a Type F stream with no known salmonid presence in accordance with Washington Department of Fish and Wildlife (WDFW) SalmonScape data and subject to a standard 75-foot buffer per CMC 16.61.040.D. The stream buffer is not anticipated to project onto the subject property.

2.1.2 Mitigation Sequencing

The proposed industrial development will result in the total fill of on low-functioning Category IV wetland (Wetland C) and will reduce and average the buffers of Wetlands A, B, and D onsite. Per CMC 16.51.170, Applicant must demonstrate that reasonable efforts have been examined with the intent to mitigation impacts to critical areas following the preferred sequencing under CMC 16.51.170. The mitigation sequencing is as follows:

A. Avoiding the impact altogether by not taking a certain action or parts of an action (usually by either finding another site or changing the location on the site).

The proposed project was carefully designed to avoid and minimize impacts to the identified critical areas by utilizing the developable upland areas onsite, and direct impacts to Wetlands

A, B, and D and offsite Stream Z are avoided entirely. However, complete avoidance is not possible due to the spatial requirements to support the proposed business center and associated infrastructure, and the encumbrance of the identified wetlands and associated buffers on the central portions of the subject property. In order to accommodate the purpose and need for industrial development that will support job growth in the City of Camas and greater Clark County area, the project requires the necessary and avoidable total fill of one low-functioning Category IV wetland (Wetland C) on the subject property. Additionally, the project requires the reduction of the buffers of Wetlands A, B, and D with additional averaging of Wetlands A and B buffers as allowed pursuant to CMC 16.53.050.C.1.a and 16.53.050.C.2 to provide necessary parking and stormwater infrastructure for the proposed development. Temporary buffer impacts are required to support site grading as allowed under CMC 16.53.050.C.5.

B. *Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps, such as project design, developable area configuration, relocation, or timing, to avoid or reduce impacts.*

As described above, the total fill of Wetland C is unavoidable and necessary to support the proposed business center and associated infrastructure. The project has undergone several design revisions to minimize impacts to the greatest extent feasible including reducing the number of proposed buildings, reducing the size and orientation of the proposed buildings and changing the location and size of the proposed stormwater facilities to avoid direct impacts to Wetlands A, B, and D. No other feasible option in design would result in less impacts to critical areas while allowing for reasonable development of the subject property due to the encumbrance of the identified wetlands and associated buffers on the central portions of the subject property. Minimization measures will be implemented to reduce the impacts of the proposed high intensity land use; this reduction in impacts will result in reduced buffers for Wetlands A, B, and D as allowed per CMC 16.53.050.C.1.a. Temporary impacts during construction will be minimized through the use of best management practices (BMPs) and temporary erosion and sediment control (TESC) measures such as silt fencing between project activities and the remaining critical areas and associated buffers onsite.

C. *Minimizing or eliminating the hazard by restoring or stabilizing the hazard area through engineered or other methods.*

No hazard or hazard areas exist onsite. Any soils disturbed following construction will be seeded with a grass-seed mix to stabilize and restore soils to pre-construction conditions which will prevent hazards associated with increased erosion.

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

The remaining Wetlands A, B, and D and associated buffer areas onsite will be protected via a critical areas tract, conservations easement, or other protective mechanism acceptable by the City of Camas to limit development in perpetuity. In addition, a split-rail fence and critical areas signage will be placed around the preserved wetlands and associated buffer areas post-development to limit intrusion into the areas as required per CMC 16.51.210.

E. Compensating for the impact to critical areas by replacing, enhancing, or providing substitute resources or environments.

The necessary and unavoidable total fill one low-functioning, Category IV wetland (Wetland C) will be compensated for through the purchase of mitigation bank credits from the TMB. The TMB consists of a 113.04-acre site focused on restoring portions of the Orchards Peat Area, an area classified as historical peat marsh. The overarching goals of the TMB are to improve hydrologic, water quality, and habitat functions and provide a self-sustaining, diverse forest, scrub-shrub, and emergent wetland and stream complex. Mitigation banks provide large-scale mitigation that create high functioning wetlands with longer-term maintenance and management than typical permittee-responsible mitigation projects. Full compensatory mitigation onsite is not possible due to the spatial requirements of the mitigation area and associated buffers which will impact the development feasibility of the site. As such, the use of a wetland mitigation bank was determined to be the best strategy that will result in a net gain in ecological functions within the greater Salmon-Washougal watershed.

F. Monitoring the hazard or other required mitigation and taking remedial action when necessary.

The onsite buffer restoration areas will be maintained and monitored for a period of up to 5 years per CMC 16.51.180.D to ensure the success of temporary buffer impact restoration.

G. Rectifying the impact to critical areas by repairing, rehabilitating, or restoring the affected environment to the historical conditions, or the conditions existing at the time of the initiation of the project.

The proposed temporary buffer impacts will be fully restored by replanting impacted areas with native trees, shrubs, and groundcovers. The proposed buffer restoration is anticipated to result in a net gain of ecological functions when compared to the existing buffers that are degraded by non-native invasive species. The proposed parking and loading areas will encroach into the reduced buffers of Wetlands A and B; these encroachments are proposed to be offset via buffer averaging as allowed per CMC 16.53.050.C.2. The proposed buffer areas to be added via buffer averaging will be greater than the areas that will be impacted, exceeding full rectification of those impacts.

2.1.3 Standards for Activities in Wetlands

In addition to mitigation sequencing and requirements that are applicable to all critical areas identified in CMC Chapter 16.51, the following sequencing listed under CMC 16.53.050.D.1 must be addressed for activities permitted within in wetlands:

a. Avoid impacts to wetlands unless the responsible official finds that:
- *i. For Categories I and II wetlands, avoiding all impact is not in the public interest or will deny all reasonable economic use of the site;*
- *ii. For Categories III and IV wetlands, avoiding all impact will result in a project that is either:*
  - *A. Inconsistent with the city of Camas comprehensive plan;*
  - *B. Inconsistent with critical area conservation goals; or*
  - *C. Not feasible to construct.*

The proposed project includes impacts to one Category IV wetland (Wetland C) onsite. The proposed project will increase job opportunities within the City of Camas consistent with the goals of the City's comprehensive plan to support a diverse range of employment opportunities and support industrial development in the Grass Valley planning area. The project has undergone all reasonable measures to avoid impacts to the onsite critical areas possible (see part A of the mitigation sequencing described under section 2.1.2 above), and any further reduction in the size or scope of the project to avoid impacts would impact the economic feasibility of the project. The wetland proposed to be impacted is a small, slope wetland located within an actively grazed pasture and provides limited water quality, hydrologic, and habitat functions onsite and within the greater Salmon-Washougal watershed. The purchase of mitigation bank credits from the TMB is proposed to compensate for the total fill of Wetland C and will provide a net lift in ecological functions in the watershed when compared to the existing degraded conditions onsite.

b. Minimize impacts to wetlands if complete avoidance is infeasible. The responsible official must find that the applicant has limited the degree or magnitude of impact to wetlands by using appropriate technology and by taking affirmative steps to reduce impact through efforts such as:

- *i. Seeking easements or agreements with adjacent land owners or project proponents where appropriate;*
- *ii. Seeking reasonable relief that may be provided through application of other city zoning and design standards;*
- *iii. Site design; and*
- *iv. Construction techniques and timing.*

The proposed project has undergone all reasonable measures to minimize impacts to onsite wetlands to the greatest extent feasible, including reducing the number of proposed buildings, reducing the size and orientation of the proposed buildings, and reducing the scale of parking areas and the proposed stormwater facilities (See Part B of the mitigation sequencing described under section 2.1.2 above). These design iterations have minimized wetland impacts by enabling the preservation of Wetlands A, B, and D, which occupy a significant portion of the northern half of the site. The proposed development is consistent with the zoning of the subject property (light industrial / business parks). BMPs and TESC measures will be implemented throughout the duration of the proposed project to minimize impacts to the remaining wetlands (Wetlands A, B, and D) onsite.

c. Compensate for wetland impacts that will occur, after efforts to minimize have been exhausted. The responsible official must find that:

- *i. The affected wetlands are restored to the conditions existing at the time of the initiation of the project;*
- *ii. Unavoidable impacts are mitigated in accordance with this subsection; and*
- *iii. The required mitigation is monitored and remedial action is taken when necessary to ensure the success of mitigation activities.*

Compensatory mitigation for the total fill of Wetland C onsite will be provided through the purchase of mitigation bank credits from the TMB, consistent with CMC 16.53.050.D.5. The purchase of mitigation bank credits will provide a net lift in ecological functions within the Salmon-Washougal watershed when compared to the existing degraded condition of Wetland C onsite.

Per CMC 16.53.050.D.2, wetland mitigation for unavoidable impacts shall be located using the following prioritization:

a. *On-Site. Locate mitigation according to the following priority:*
    i. *Within or adjacent to the same wetland as the impact;*
    ii. *Within or adjacent to a different wetland on the same site;*

Onsite compensatory mitigation for the total fill of Wetland C is not possible due to the spatial requirements of the mitigation area, which will impact the development of the site. The proposed use of the TMB will support higher functioning wetlands than could be created onsite.

b. *Off-Site. Locate mitigation within the same watershed or use an established wetland mitigation bank; the service area determined by the mitigation bank review team and identified in the executed mitigation bank instrument;*

Compensatory mitigation for the total fill of Wetland C will be provided through the purchase of mitigation bank credits from the TMB, located approximately 3.5 miles northwest of the subject property. The subject property is within the mitigation bank's established service area (Attachment B).

c. *In-Kind. Locate or create wetlands with similar landscape position and the same hydro-geomorphic (HGM) classification based on a reference to a naturally occurring wetland system; and*

The wetland areas created at the TMB mitigation site consist of forested, scrub-shrub, and emergent wetland habitats located in a similar landscape to the wetland proposed to be impacted. Wetland C is a degraded slope wetland located within a pasture actively grazed by cattle. As such, the purchase of mitigation bank credits from the TMB will provide in-kind mitigation that results a net lift in wetland functions when compared to the existing degraded conditions associated with Wetland C onsite.

2.1.4 Wetland Buffer Reduction and Averaging

The project proposes to reduce the buffers of Wetlands A, B, and D and to further average the buffers of Wetlands A and B to provide adequate parking and storm water facilities to support the proposed development. Wetland buffer reduction is permitted pursuant to CMC 16.53.050.C.1.a. Per CMC 16.53.050.C.1.a, the buffer widths recommended for proposed land uses with high-intensity impacts to wetlands can be reduced to those for moderate-intensity impacts if both of the following criteria are met:

i. *A relatively undisturbed, vegetated corridor at least one hundred feet wide is protected between the wetland and any other priority habitats that are present as defined by the Washington State Department of Fish and Wildlife; and*

Wetlands A and B are approximately 15 feet apart on the central portion of the subject property, and the corridor between the two wetlands will be maintained for habitat accessibility. Wetland D is greater than 300 feet north of Wetland B on the northwest corner of the subject property. The existing buffers of Wetland B and D will be connected through the protection of additional buffer area between these two wetlands.

ii. Measures to minimize the impacts of the land use adjacent to the wetlands are applied, such as infiltration of stormwater, retention of as much native vegetation and soils as possible, direction of noise and light away from the wetland, and other measures that may be suggested by a qualified wetland professional.

Stormwater from the proposed development will be conveyed to a stormwater pond/facility east of Wetland D which will detain and treat stormwater from the proposed development. Lights and noise from the proposed development will be directed away from the wetlands where feasible. Native vegetation and soils will be retained to the greatest extent possible, however the buffers of Wetlands A, B, and D are largely degraded by non-native invasive Himalayan blackberry (*Rubus armeniacus*). Native plants, including trees and shrubs, will be planted in temporarily impacted buffer areas to provide a net gain in buffer functions.

Per CMC 16.53.050.C.2, averaging buffers is allowed in conjunction with any of the other provisions for reductions in buffer width provided that the minimum buffer widths of CMC 16.53.050.C.1(c) are adhered to. CMC 16.53.050.C.1(c) states that buffer width reductions may be added provided that minimum buffer widths are never less than 75 percent of the required buffer width for Category I and II wetlands, less than 50 feet for Category III wetlands, and 25 feet for Category IV wetlands. The proposed buffer averaging reductions to the Category III Wetlands A and B will maintain at least 50-foot-wide buffers for these two wetlands.

The following criteria are required for buffer averaging:

a. The total area contained in the buffer after averaging is no less than that contained within the buffer prior to averaging;

The proposed project requires a 3,703-square-foot intrusion of parking and loading areas into the reduced wetland buffers. 13,486 square feet of additional buffer is proposed to be protected through buffer averaging, resulting in a net buffer gain of 9,783 square feet.

b. Decreases in width are generally located where wetland functions may be less sensitive to adjacent land uses, and increases are generally located where wetland functions may be more sensitive to adjacent land uses, to achieve no net loss or a net gain in functions;

The proposed buffer decreases will be located adjacent to parking and loading areas near Wetlands A and B. The proposed buffer increases will be located adjacent to the same parking and loading areas as well as along the northwest boundary of the subject property in order to provide contiguous buffer that surrounds Wetlands A, B, and D.

d. The averaged buffer, at its narrowest point, shall not result in a width less than seventy-five percent of the required width, provided that minimum buffer widths shall never be less than fifty feet for all Category I, Category II, and Category III wetlands, and twenty-five feet for all Category IV wetlands; and

Wetlands A and B are Category III wetlands that require a 60-foot reduced buffer and 90-foot reduced buffer respectively. The proposed buffer averaging avoids decreasing buffers beyond 75 percent of the required buffer width and preserves at least 50 feet of buffer width for these Category III wetlands.

d. Effect of Mitigation. If wetland mitigation occurs such that the rating of the wetland changes, the requirements for the category of the wetland after mitigation shall apply.

No wetland mitigation is proposed.

2.1.5 Mitigation Bank Use

The project proposes the purchase of mitigation bank credits from the TMB in order to compensate for the necessary, unavoidable total fill of one low-functioning Category IV wetland (Wetland C) onsite. Per CMC 16.53.050.D.5.a., projects proposing the purchase of credits from a wetland mitigation bank must comply with the following requirements:

i. Credits from a wetland mitigation bank may be approved for use as compensation for unavoidable impacts to wetland when:

A. The bank is certified under state rules;

The TMB was certified for use under state rules as of March 2017.

B. The administrator determines that the wetland mitigation bank provides appropriate compensation for the authorized impacts; and

The necessary and unavoidable total fill of Wetland C onsite will be compensated through the purchase of mitigation bank credits from the TMB. Onsite compensatory mitigation is not possible due to the spatial requirements of the mitigation area, which will impact the development of the site. The use of a mitigation bank will likely provide a higher level of ecological lift than small onsite or offsite, in-kind permittee-responsible mitigation, especially with the established resources for maintenance and monitoring over a longer term to ensure the success of mitigation actions. As such, the use of a mitigation bank will result in a net gain in ecological functions within the Salmon-Washougal watershed over the existing degraded condition of the wetland that will be impacted.

C. The proposed use of credits is consistent with the terms and conditions of the certified bank instrument.

The purchase of credits will be consistent with the terms and conditions of the certified bank instrument.

ii. Replacement ratios for projects using bank credits shall be consistent with replacement ratios specified in the certified bank instrument.

Impacts to the low-functioning Category IV wetland (Wetland C) onsite will be compensated at the 0.85:1 ratio specified in the TMB Mitigation Bank Instrument (MBI).

iii. Credits from a certified wetland mitigation bank may be used to compensate for impacts located within the service area specified in the certified bank instrument. In some cases, the service area of the bank may include portions of more than one adjacent drainage basin for specific wetland functions.

The subject property is located approximately 3.5 miles southeast of the Terrace Mitigation Bank site and is within the service area specified for the TMB.

2.2 State and Federal Considerations

In a December 2, 2008 memorandum from the Environmental Protection Agency (EPA) and USACE, joint guidance is provided that describes waters that are to be regulated under section 404 of the CWA (USACE, 2008). This memorandum was amended on February 2, 2012 where the EPA and USACE issued a final guidance letter on waters protected by the CWA.

The 2012 guidance describes the following waters where jurisdiction would be asserted: 1) traditional navigable waters, 2) interstate waters, 3) wetlands adjacent to traditional navigable waters, 4) non-navigable tributaries of traditional navigable waters that are relatively permanent meaning they contain water at least seasonally (e.g. typically three months and does not include ephemeral waters), and 5) wetlands that directly abut permanent waters. The regulated waters are those associated with naturally occurring waters and water courses and not artificial waters (i.e. stormwater pond outfalls).

The 2012 memorandum further goes on to describe waters where jurisdiction would likely require further analysis: 1) Tributaries to traditional navigable waters or interstate waters, 2) Wetlands adjacent to jurisdictional tributaries to traditional navigable waters or interstate waters, and 3) Waters that fall under the "other waters" category of the regulations.

In addition, the 2012 guidance identifies thirteen waters or areas where jurisdiction will not be asserted: 1) Wet areas that are not tributaries or open waters and do not meet the agencies regulatory definition of "wetlands", 2) Waters excluded from coverage under the CWA by existing regulations, 3) Waters that lack a "significant nexus: where one is required for a water to be jurisdictional, 4) Artificially irrigated areas that would revert to upland if the irrigation ceased, 5) Artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing, 6) Artificial reflecting pools or swimming pools excavated in uplands, 7) Small ornamental waters created by excavating and/or diking dry land to retain water for primarily aesthetic reasons, and puddles, 8) Water-filled depressions created incidental to construction activity, 9) Groundwater, including groundwater drained through subsurface drainage systems, 10) Erosional features (gullies and rills), 11) Non-wetland swales, 12) Ditches that are excavated wholly in uplands, drain only uplands or non-jurisdictional waters, and have no more than ephemeral flow, and 13) Ditches that do not contribute flow, either directly or through other waterbodies, to a traditional navigable water, interstate water, or territorial sea.

As a tributary to a traditionally navigable water, Offsite Stream Z Creek is likely regulated by USACE as WOTUS. Wetlands A and B likely contribute surface waters to Offsite Stream Z and are likely regulated as an adjacent wetlands. Wetlands C and D are likely non-jurisdictional waters as they do not have surface water connections to Offsite Stream Z, they do not contain direct surface water connection to any traditional navigable water or a tributary to a traditional navigable water and are also not considered "adjacent" wetlands. However, the project will assume jurisdiction of Wetland D to expedite the review process.

The proposed project will require complete fill of Wetland C. Once an approved jurisdictional determination is obtained from the USACE confirming the non-jurisdictional status of the identified wetland, an Administrative Order will be sought from WSDOE for the required wetland fill.

All identified wetlands (Wetlands A-D) and stream (Offsite Stream Z) are likely to be regulated as waters of the state by WSDOE under RCW 90.48.

Chapter 3. Conceptual Mitigation Plan

The proposed compensatory mitigation actions for the project attempt to strike a balance between achieving project goals as well as a positive result in terms of ecological lift. In general, joint USACE and EPA rules have been established that require more careful mitigation planning efforts utilizing a watershed approach in site selection, establishment of enforceable performance standards, and preference for use of mitigation banks or ILF's wherever possible (USACE & EPA, 2008). The proposed wetland impacts and compensatory mitigation actions attempt to closely adhere to these rules while also utilizing the best available science (Granger et al., 2005; Hruby et al., 2009; Sheldon et al., 2005; and WSDOE, 2006). This chapter presents the mitigation details for the proposed development project of the business center.

3.1 Purpose and Need

The purpose of the proposed project is to provide a business center in the City of Camas to support the local economy by providing new jobs and new services to the area. The project is consistent with local zoning designations and the economic goals outlined in the City's comprehensive plan.

3.2 Avoidance and Minimization of Impacts

The proposed project was carefully designed to avoid and minimize impacts to the identified critical areas by utilizing the developable upland areas onsite, and direct impacts to the larger, higher functioning wetlands (Wetlands A, B, and D) onsite and offsite Stream Z are avoided entirely. However, complete avoidance is not possible due to the spatial requirements to support an business center and associated infrastructure and the encumbrance of the identified wetlands and associated buffers on the central portions of the subject property. The project has undergone several design revisions to minimize impacts, including reducing the number of proposed buildings, reducing the size and orientation of the proposed buildings, and reducing the size of the proposed stormwater facilities. No other feasible option in design would result in less impacts to the identified critical areas while allowing for reasonable development of the subject property. As such, the project requires the necessary and unavoidable total fill of one low-functioning Category IV wetland (Wetland C) on the subject property to meet the associated infrastructure demands for the three industrial buildings. The proposed project will implement minimization measures to reduce the impacts of the proposed high intensity land use and reduce the buffers of Wetlands A, B, and D as allowed pursuant to CMC 16.53.050.C.1.a. The proposed parking areas will encroach on reduced wetland buffers by 3,703 square feet, and buffer averaging is proposed to offset these encroachments per CMC 16.53.050.C.2. 13,485 square feet of additional buffer area will be protected, providing a net gain of 9,782 square feet of buffer. 64,095 square feet of temporary buffer grading impacts will be restored through replanting with native trees, shrubs, and groundcovers. To minimize temporary impacts, all appropriate BMPs and TESC measures including installing silt fencing between construction activities and the remaining wetlands and associated buffer areas onsite will be implemented throughout the course of construction.

3.3 Description of Unavoidable Impacts

The total fill of one small, low-functioning Category IV wetland (Wetland C) is necessary and unavoidable to accommodate the purpose and need of the proposed business center and the necessary infrastructure to support operations. The proposed unavoidable impacts are summarized in Table 2 below.

Table 2. Summary of Wetland Impacts

Impacted Wetland	WSDOE Rating[1]	Cowardin Class[2]	HGM Class[3]	Impact Type	Impact Area (sq. ft.)
Wetland C	IV	PEMB	Slope	Direct (fill)	3,167 SF
				Direct Total	**3,167 SF**

Notes:

1. WSDOE rating according to Washington State wetland rating system for Western Washington – Revised (Hruby, 2014).
2. Cowardin et al. (1979); Federal Geographic Data Committee (2013); class based on vegetation: PEM = Palustrine Emergent; Modifiers for Water Regime or Special Situations: B = Seasonally Saturated.
3. Brinson, M. M. (1993).

3.4 Impacted Wetland Functions

The proposed project will result in the total fill of one small, low functioning Category IV wetland (Wetland C) onsite. A wetland function impact analysis is provided below.

- **Water Quality:** The wetland proposed to be filled is a slope wetland that exhibit seasonal saturation. In general, Wetland C has some potential to improve water quality leaving the site due to its low-grade slope and the presence of land uses upslope of the wetland that generate excess pollutants. However, this function is limited as the wetland is located within portions of the site that are actively grazed by cattle and lacks persistent, ungrazed vegetation to filter sediment and pollutants.

  Water quality functions associated with Wetland C will be improved through the purchase of mitigation bank credits from the TMB. Wetlands created by the TMB will be larger and provide increased plant structure and areas of ponding to improve filtration when compared to the existing degraded wetland onsite. Overall, these actions will result in a net increase in water quality functions in the Salmon-Washougal watershed.

- **Hydrologic:** The primary sources of hydrology for Wetland C direct precipitation, surface sheet flow from adjacent uplands, and a seasonally high groundwater table. Opportunity for Wetland C to provide hydrologic functions is low due to its small size and lack of storage capacity, and a lack of dense, uncut rigid vegetation which limits the wetland's capacity to reduce runoff velocities during heavy rain events. However, Wetland C is located 150 feet downslope of land uses that generate excess runoff and is located in a landscape with surface flooding issues further down gradient from the wetland. As such, Wetland C has a minor potential to reduce flow velocities associated with downstream erosion.

  Hydrologic functions associated with Wetland C will be improved through the purchase of mitigation credits from the TMB. Wetlands created by the TMB will be larger and will provide increased plant structure that will provide increased storage depth and improve flood attenuation

when compared to the existing wetland onsite. Overall, these actions will result in a net increase in hydrologic functions within the Salmon-Washougal watershed.

- **Habitat:** Wetland C provides very minimal habitat functions due to its low vegetation species richness, low habitat interspersion, and a limited amount of species habitat features or priority habitats in proximity to the wetland. Additionally, this habitat is largely inaccessible due to surrounding industrial, commercial, residential, and high-intensity recreational (Camas Meadows Golfcourse) developments. Due to the low-functioning habitat conditions, the proposed wetland fill will result in limited habitat removal.

  Overall, habitat functions associated with Wetland C will be replaced and improved through the purchase of mitigation bank credits from the TMB. Wetlands at the TMB include forested, scrub-shrub, and emergent wetland habitat areas in a connected corridor. Additionally, restoration actions at the TMB have incorporated special habitat features including woody debris and standing snags. These actions provide increased plant structure and diversity and increased habitat complexity which provide browse, cover, and forage for small mammals and in turn provides prey for raptors and other larger mammals. As such, the purchase of mitigation credits from the TMB will result in a net increase in habitat functions within the Salmon-Washougal watershed.

3.5 Mitigation Strategy

Compensatory mitigation for the total fill of the small, low-functioning Category IV wetland (Wetland C) is proposed to be provided through the purchase of mitigation bank credits from the TMB as allowed under CMC 16.53.050.D.5.a and state and federal guidance. The overarching goals of the TMB are to improve hydrologic, water quality, and habitat functions and provide a self-sustaining, diverse forest, scrub-shrub, and emergent wetland and stream complex. Mitigation banks provide large-scale mitigation that create high functioning wetlands with longer-term maintenance and management than typical permittee-responsible mitigation projects. Onsite compensatory mitigation is not possible due to the spatial requirements of the mitigation area and associated buffers that would be required which would impact the development feasibility of the site. Offsite, permittee-responsible mitigation was considered, but no suitable mitigation sites were available in the area during the planning phase of this project. As such, mitigation bank use was determined to be the most ecologically feasible option that meets the needs of the project and will likely provide a higher level of ecological lift than onsite or offsite, in-kind permittee-responsible mitigation. Onsite temporary buffer impacts will be restored by replanting impacted areas with native trees, shrubs, and groundcovers. Overall, these actions will likely result in a net increase in ecological functions within the Salmon-Washougal watershed when compared to the existing degraded conditions of the wetlands proposed to be impacted.

3.5.1 Mitigation Bank Use

The identified wetland (Wetland C) provides limited critical wetland functions due to its small and active cattle grazing onsite, which has degraded the wetland condition. Therefore, full wetland compensation is better provided elsewhere, through a consolidated mitigation program that has greater potential to provide valuable wetland functions as well as the landscape potential to maintain those functions.

3.5.2 Site Selection Rationale

Onsite permittee-responsible mitigation is not possible due to the spatial area required for the mitigation area with adequate associated buffers. Off-site permittee-responsible wetland mitigation has been carefully considered; however, no suitable mitigation sites were available in the area during the planning phase of this project. In addition, for small wetlands, permittee-responsible mitigation is not as ecologically beneficial due to the size of the wetland created and lack of watershed benefits when compared to purchasing wetland bank credits. Invasive species management may also be a limiting factor for permittee-responsible mitigation. These problematic issues can easily be alleviated through mitigation bank programs where the mitigation is done on a large scale and the benefits of the purchased credits provide watershed scale benefits, with longer term maintenance and management then permittee-responsible mitigation. As such, the purchase of mitigation bank credits from the TMB will provide the best mitigation solution that will result in an ecological lift when compared to the degraded condition of the wetlands proposed to be filled.

Joint USACE and EPA rules (USACE & EPA, 2008) and interagency guidance (WSDOE & USACE 2006; Hruby et al., 2009) have been established that require more careful mitigation planning efforts utilizing a watershed approach in site selection, establishment of enforceable performance standards, and preference for use of mitigation banks wherever possible. The subject property is currently located within the TMB's service area, thus allowing for the proposed project to utilize the approved mitigation banking program for compensatory mitigation within the same watershed as project impacts. Refer to Appendix B for the Mitigation Bank Service Area map. The TMB consists of a 113.04-acre site focused on restoring portions of the Orchards Peat Area, an area classified as historic peat marsh. The overarching goals of the TMB are to improve hydrologic, water quality, and habitat functions at the TMB site; and provide a self-sustaining, diverse forest, scrub-shrub, and emergent wetland and stream complex that will not require continued maintenance. The purchase of mitigation banking credits will allow for the proposed project to achieve no net loss of aquatic resource functions.

The TMB, administered by Terrace Mitigation Bank, LLC creates a comprehensive, equitable, and consistent program to ensure successful mitigation actions. Oversight of this mitigation banking program is provided by an Interagency Review Team (IRT) that includes representatives from the USACE, WSDOE, tribes, and other federal, state, and local regulatory agencies.

3.5.3 Proposed Mitigation Credits

The proposed project will result in 3,167 square feet of permanent direct impacts to one low-functioning, Category IV wetland (Wetland C) on the subject property. Utilizing the 0.85:1 impact to mitigation ratio for Category IV wetland impacts described in the TMB Mitigation Banking Instrument (Terrace Mitigation Bank LLC, 2017), this equates to 0.061-acre credits to be purchased. Table 3 below summarizes the replacement ratios and calculation of bank credits required for the TMB.

Table 3. Replacement Ratios and Calculation of Bank Credits Required

Feature	WSDOE Rating[1]	Mitigation Ratio (Credits Needed per Acre of Impacted Wetland)[2]	Permanent Impact Area (sq. ft.)/(acre)	Bank Credits Needed (acre-credits)
Wetland C	IV	0.85:1	3,167/0.072	0.061
Direct Total			**3,167/0.072**	**0.061**

Notes:
1. WSDOE rating according to Washington State wetland rating system for Western Washington – Revised (Hruby, 2014).
2. Credit calculation methods are derived from the TMB MBI document (Terrace Mitigation Bank LLC, 2017).

3.5.4 Credit Purchase or Transfer Timing

Negotiations of terms of the mitigation bank credit purchase will be made with the IRT with preliminary approvals of the proposed project by the City of Camas, after formal approval of the Bank Use Plan by all appropriate agencies. Proof of credit purchase and transfer will be provided to regulatory agencies via a Statement of Sale from the Applicant. Prior to any impacts to wetlands, the Statement of Sale will be provided to the appropriate state or federal agency and the City of Camas.

3.5.5 Temporary Buffer Impact Restoration

Restoration of temporary buffer replanting disturbed areas with native vegetation to improve habitat functions and critical area protection provided by the site. A diverse assortment of native trees, shrubs, and groundcover will be established to provide browse, cover, and nesting for small mammals, which in turn provide prey for raptors and other mammals. The native plant structure also has the potential to improve filtration and flood attenuation, which will improve hydrology and quality of water leaving the project site. In addition, the establishment of dense vegetation within the wetland buffers will provide increased screening between the remaining wetlands and the proposed development. Overall, the onsite wetland buffer restoration actions will improve ecological functions when compared to the existing degraded condition of the wetland buffers proposed to be reduced.

The non-compensatory restoration of temporary buffer impacts will include, but may not be limited to the following recommendations:

- Restore the onsite wetland buffer areas as shown in Appendix C;
- An approved native seed mix will be used to seed the temporary buffer impact areas;
- Maintain and control invasive plants annually, at a minimum, or more frequently if necessary. Maintenance to reduce the growth and spread of invasive plants is not restricted to chemical applications but may include hand removal, if warranted;
- Provide dry-season irrigation as necessary to ensure native plant survival;
- Direct exterior lights away from the critical areas wherever possible; and
- Place all activities that generate excessive noise (e.g., generators and air conditioning equipment) away from the wetlands where feasible.

3.6 Approach and Best Management Practices

Restoration of temporary buffer impacts should occur immediately after grading is complete. TESC measures will be implemented that consists of high-visibility fencing (HVF) installed around native

vegetation along the modified perimeter of the buffer, silt fencing between the graded areas and undisturbed buffer, plastic sheeting on stockpiled materials, and seeding of disturbed soils. These TESC measures should be installed prior to the start of development or restoration actions and actively managed for the duration of the project.

All equipment staging and materials stockpiles should be kept out of the critical areas and associated buffers, and the area will need to be kept free of spills and/or hazardous materials. All fill material and road surfacing should be sourced from upland areas onsite or from approved suppliers and will need to be free of pollutants and hazardous materials. Construction materials along with all construction waste and debris should be effectively managed and stockpiled on paved surfaces and kept free of the remaining critical areas. Following completion of the development, the entire site should be cleaned and detail graded using hand tools wherever necessary, and TESC measures will need to be removed.

3.7 Goals, Objectives, and Performance Standards

The goals and objectives for the proposed buffer restoration actions are based on providing habitat and protection Wetlands A, B, and D, and providing supplementary water quality and hydrological functions. The goals and objectives of the restoration actions are as follows:

Goal 1 – Restore temporarily impacted buffer areas (64,095 square feet).

> ***Objective 1.1*** – Establish dense cover of native trees, shrubs, and grasses and forbs within the buffer to create diverse horizontal and vertical vegetation structure and improve wildlife habitat.
>
> > **Performance Standard 1.1.1** – By the end of Year 5, the buffer restoration areas will have at least 1 species of native trees and 3 species of native shrubs (native volunteer species can be included) present. To be considered, the native species must make up at least 5 percent of the vegetation class.
> >
> > **Performance Standard 1.1.2** – Minimum native woody species cover in the enhancement areas will be a minimum 30 percent total cover at the end of Year 3 and 50 percent at the end of Year 5. Native recruits may be counted towards areal cover totals.
> >
> > **Performance Standard 1.1.3** – Non-native invasive plants will not make up more than 20 percent total cover in any growing season during the monitoring period following Year 1.

3.8 Plant Materials and Installation

3.8.1 Plant Materials

All plant materials to be used for buffer enhancement actions will be nursery grown stock from a reputable, local source. Only native species are to be used; no hybrids or cultivars will be allowed. Plant material provided will be typical of their species or variety; if not cuttings they will exhibit normal,

densely developed branches and vigorous, fibrous root systems. Plants will be sound, healthy, vigorous plants free from defects, and all forms of disease and infestation.

Container stock shall have been grown in its delivery container for not less than six months but not more than two years. Plants shall not exhibit rootbound conditions. Under no circumstances shall container stock be handled by their trunks, stems, or tops. Seed mixture used for hand or hydroseeding shall contain fresh, clean, and new crop seed mixed by an approved method. The mixture is specified in the plan set.

All plant material shall be inspected by the qualified Project Scientist upon delivery. Plant material not conforming to the specifications below will be rejected and replaced by the planting contractor. Rejected plant materials shall be immediately removed from the site.

Fertilizer will be in the form of Agroform plant tabs or an approved like form. Mulch will consist of sterile wheat straw for seeded areas (if necessary) and clean recycled wood chips approximately 1/2 inch to 1 inch in size and 1/2 inch thick for woody plants. The mulch material may be sourced from non-invasive woody materials sourced from the land clearing activities.

3.8.2 Plant Scheduling, Species, Size, and Spacing

Plant installation should occur as close to conclusion of the clearing and grading activities as possible to limit erosion and limit the temporal loss of function provided by the wetland buffers. All planting should occur between September 1 and May 1 to ensure plants do not dry out after installation, or temporary irrigation measures may be necessary. All planting will be installed according to the procedures detailed in the following subsections using the species and densities outlined in the plan set in Appendix C.

3.8.3 Quality Control for Planting Plan

All plant material shall be inspected by a qualified Project Scientist upon delivery. Plant material not conforming to the specifications above will be rejected and replaced by the planting contractor. Rejected plant materials shall be immediately removed from the site. Under no circumstances shall container stock be handled by their trunks, stems, or tops.

The landscape contractor shall provide the responsible Project Scientist with documentation of plant material that includes the supplying nursery contact information, plant species, plant quantities, and plant sizes.

3.8.4 Product Handling, Delivery, and Storage

All seed and fertilizer should be delivered in original, unopened, and undamaged containers showing weight, analysis, and name of manufacturer. This material should be stored in a manner to prevent wetting and deterioration. All precautions customary in good trade practice shall be taken in preparing plants for moving. Workmanship that fails to meet industry standards will be rejected. Plants will be packed, transported, and handled with care to ensure protection against injury and from drying out. If plants cannot be planted immediately upon delivery they should be protected with soil, wet peat moss, or in a manner acceptable to the responsible Project Scientist. Plants, fertilizer, and mulch not installed immediately upon delivery shall be secured on the site to prevent theft or tampering. No

plant shall be bound with rope or wire in a manner that could damage or break the branches. Plants transported on open vehicles should be secured with a protective covering to prevent windburn.

3.8.5 Preparation and Installation of Plant Materials

The planting contractor shall verify the location of all elements of the enhancement plan with the responsible Project Scientist prior to installation. The responsible Project Scientist reserves the right to adjust the locations of landscape elements during the installation period as appropriate. If obstructions are encountered that are not shown on the drawings, planting operations will cease until alternate plant locations have been selected by and/or approved by the Project Scientist.

Circular plant pits with vertical sides will be excavated for all container stock. The pits should be at least 1.5-times the width of the rootball, and the depth of the pit should accommodate the entire root system.

Broken roots should be pruned with a sharp instrument and rootballs should be thoroughly soaked prior to installation. Set plant material upright in the planting pit to proper grade and alignment. Water plants thoroughly midway through backfilling and add Agroform tablets. Water pits again upon completion of backfilling. No filling should occur around trunks or stems. Do not use frozen or muddy mixtures for backfilling. Form a ring of soil around the edge of each planting pit to retain water and install a four- to six-inch layer of mulch around the base of each container plant.

3.8.6 Temporary Irrigation Specifications

While the native species selected for enhancement actions are hardy and typically thrive in northwest conditions and the proposed actions are planned in areas with sufficient hydroperiods for the species selected, some individual plants might perish due to dry conditions. Therefore, irrigation or regular watering may be provided as necessary for the duration of the first two growing seasons, two times per week while the native plantings become established. If used, irrigation will be discontinued after two growing seasons. Frequency and amount of irrigation will be dependent upon climatic conditions and may require more or less frequency watering than two times per week.

3.8.7 Invasive Plant Control and Removal

Invasive species onsite to be removed include Himalayan blackberry, and any listed noxious weeds or other invasive species. These species can also be found nearby; therefore, to ensure these species do not expand following the restoration actions, spot treatment of any other invasive vegetation should be performed again each fall prior to leaf senescence for a minimum of three years.

3.9 Maintenance & Monitoring Plan

Conceptual Maintenance and Monitoring Plans are described below in accordance with CMC 16.53.050.E.3.d. The Applicant is committed to compliance with the conceptual mitigation plan and overall success of the project. As such, the Applicant will continue to maintain the project, keeping the site free from non-native invasive vegetation and trash.

The wetland buffer restoration plan will require continued monitoring and maintenance to ensure the actions are successful. Therefore, the project site will be monitored for a period of five years with formal inspections by a qualified Project Scientist. Monitoring events will be scheduled at the time of construction, 30 days after planting, during the growing season for Year 1, and annually in Years 2, 3,

and 5. Closeout assessment will also be conducted in Year 5 to ensure the restoration area was established.

Monitoring will consist of percent cover measurements at permanent monitoring stations, walk-through surveys to identify invasive species presence and dead or dying enhancement plantings, photographs taken at fixed photo points, wildlife observations, and general qualitative habitat and wetland function observations.

To determine percent cover, observed vegetation will be identified and recorded by species and an estimate of areal cover of dominant species within each sampling plots. Circular sample plots, approximately 30 feet in diameter (706 square feet), are centered at each monitoring station. The sample plots encompass the specified wetland areas and terminate at the observed wetland boundary. Trees and shrubs within each 30-foot diameter monitoring plot are then recorded to species and areal cover. Herbaceous vegetation is sampled from a 10-foot diameter (78.5 square feet) within each monitoring plot, established at the same location as the center of each tree and shrub sample plot. Herbaceous vegetation within each monitoring plot is then recorded to genus and includes an estimate of percent areal cover. A list of observed tree, shrub, and herbaceous species including percent areal cover of each species or genus and wetland status is included within the monitoring report.

3.10 Reporting

Following each monitoring event, a brief monitoring report detailing the current ecological status of the restoration actions, measurement of performance standards, and management recommendations will be prepared and submitted to the City within 90 days of each monitoring event to ensure full compliance with the buffer restoration plan. The monitoring reports from events at the time of construction and 30 days after planting may be combined.

3.11 Contingency Plan

If monitoring results indicate that performance standards are not being met, it may be necessary to implement all or part of the contingency plan. Careful attention to maintenance is essential in ensuring that problems do not arise. Should any portion of the site fail to meet the success criteria, a contingency plan will be developed and implemented with City approval. Such plans are adaptive and should be prepared on a case-by-case basis to reflect the failed restoration characteristics. Contingency plans can include additional plant installation, erosion control, and plant substitutions including type, size, and location. The Contingency measures outlined below can also be utilized in perpetuity to maintain the wetland and buffers associated with the proposed project site.

Contingency/maintenance activities may include, but are not limited to:

1. Using plugs instead of seed for emergent vegetation coverage where seeded material does not become well-established;
2. Replacing plants lost to vandalism, drought, or disease, as necessary;
3. Replacing any plant species with a 20 percent or greater mortality rate after 2 growing seasons with the same species or native species of similar form and function;
4. Spot treat non-native invasive plant species; and
5. Removing all trash or undesirable debris from the wetland and buffer areas as necessary.

3.12 Critical Area Protective Measures

Per CMC 16.53.240, long-term protection of the wetland buffer enhancement area shall be provided by placement in a separate tract on which development is prohibited or by execution of an easement dedicated to the public agency, a conservation organization, land trust, or similarly preserved through a permanent protective mechanism acceptable to the city. The location and limitations associated with the critical areas and associated buffers shall be shown on the face of the deed or plat applicable to the property and shall be recorded with the Clark County recording department.

3.13 Performance and Monitoring Security

Pursuant to CMC 16.51.250, a performance security (bond) and performance monitoring security in accordance with CMC 16.53.050.J is required to assure that all actions approved under this Mitigation Plan are satisfactorily and completed in accordance with the mitigation plan, performance standards, and regulatory conditions of approval. Prior to final inspection, a maintenance and warranty security (bond) shall be obtained in an amount equal to 125 percent of the total fair market cost of construction/installation labor and materials. A bond quantity worksheet will be prepared during the Final Mitigation Plan.

Chapter 4. Closure

The findings and conclusions documented in this report have been prepared for specific application to this project. They have been developed in a manner consistent with that level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in the area. Our work was also performed in accordance with the terms and conditions set forth in our proposal. The conclusions and recommendations presented in this report are professional opinions based on an interpretation of information currently available to us and are made within the operation scope, budget, and schedule of this project. No warranty, expressed or implied, is made. In addition, changes in government codes, regulations, or laws may occur. Due to such changes, our observations and conclusions applicable to this project may need to be revised wholly or in part.

Chapter 5. References

Brinson, M. M. 1993. *A hydrogeomorphic classification for wetlands, Technical Report WRP-DE-4*. U.S. Army Engineer Waterways Experiment Station. Vicksburg, Mississippi.

Camas Municipal Code (CMC). 2021. *Title 16 – Environment – Critical Areas.* https://library.municode.com/wa/camas/codes/code_of_ordinances?nodeId=TIT16EN_CRAR. Current through May 28, 2021.

City of Camas. 2016. *Camas 2035 – A Comprehensive Plan to Guide Future Growth and Development for the City of Camas.* Website: https://www.cityofcamas.us/com-dev/page/comprehensive-plan. Adopted June, 2016.

Cowardin, L.M. V. Carter, F. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States.* U.S. Fish and Wildlife Service. Washington D.C.

Federal Geographic Data Committee. 2013. *Classification of wetlands and deepwater habitats of the United States.* FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, DC.

Granger, T., T. Hruby, A. McMillan, D. Peters, J. Rubey, D. Sheldon, S. Stanley, and E. Stockdale. 2005. *Wetlands in Washington State - Volume 2: Guidance for Protecting and Managing Wetlands.* Washington State Department of Ecology. Publication #05-06-008. Olympia, Washington. April 2005.

Hitchcock, C.L. & A. Cronquist, Ed. by D. Giblin, B. Ledger, P. Zika, and R. Olmstead. 2018. Flora of the Pacific Northwest, 2nd Edition. U.W. Press and Burke Museum. Seattle, Washington.

Hruby, T., K. Harper, and S. Stanley. 2009. *Selecting Wetland Mitigation Sites Using a Watershed Approach.* Washington State Department of Ecology. Publication #09-06-032.

Hruby, T. 2014. Washington State Wetland Rating System for Western Washington: 2014 Update. (Publication #14-06-029). Olympia, WA: Washington Department of Ecology.

McGee, Dale A. 1972. *Soil Survey of Clark County Area, Washington.* Soil Conservation Service United States Department of Agriculture, Soil Conservation Service, in cooperation with the Washington Agricultural Experiment Station. Natural Resource Conservation Service.

Munsell® Color, 2000. *Munsell® Soil Color Charts.* New Windsor, New York.

NRCS. N.d. Soil Data Access Hydric Soils List (Soil Data Access Live). Website: https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1316620.html.

Sheldon, D., T. Hruby, P. Johnson, K. Harper, A. McMillan, T. Granger, S. Stanley, and E. Stockdale. 2005. *Wetlands in Washington State - Volume 1: A Synthesis of the Science.* Washington State Department of Ecology. Publication #05-06-006. Olympia, Washington. March 2005.

Soundview Consultants (SVC). 2021. *Wetland and Fish and Wildlife Habitat Assessment Report – Camas Business Center*. October 8, 2021.

U. S. Army Corps of Engineers (USACE). 2008. *Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States*. EPA/USACE. December 2, 2008.

USACE and U.S. Environmental Protection Agency (EPA). 2008. Compensatory Mitigation for Losses of Aquatic Resources; Final Rule. Federal Register. Volume 73, Number 70 (33 CFR Parts 325 & 332, 40 CFR Part 230).

USACE. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0*), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-3. Vicksburg, MS: U.S. Army Engineer Research and Development Center. Vicksburg, Mississippi.

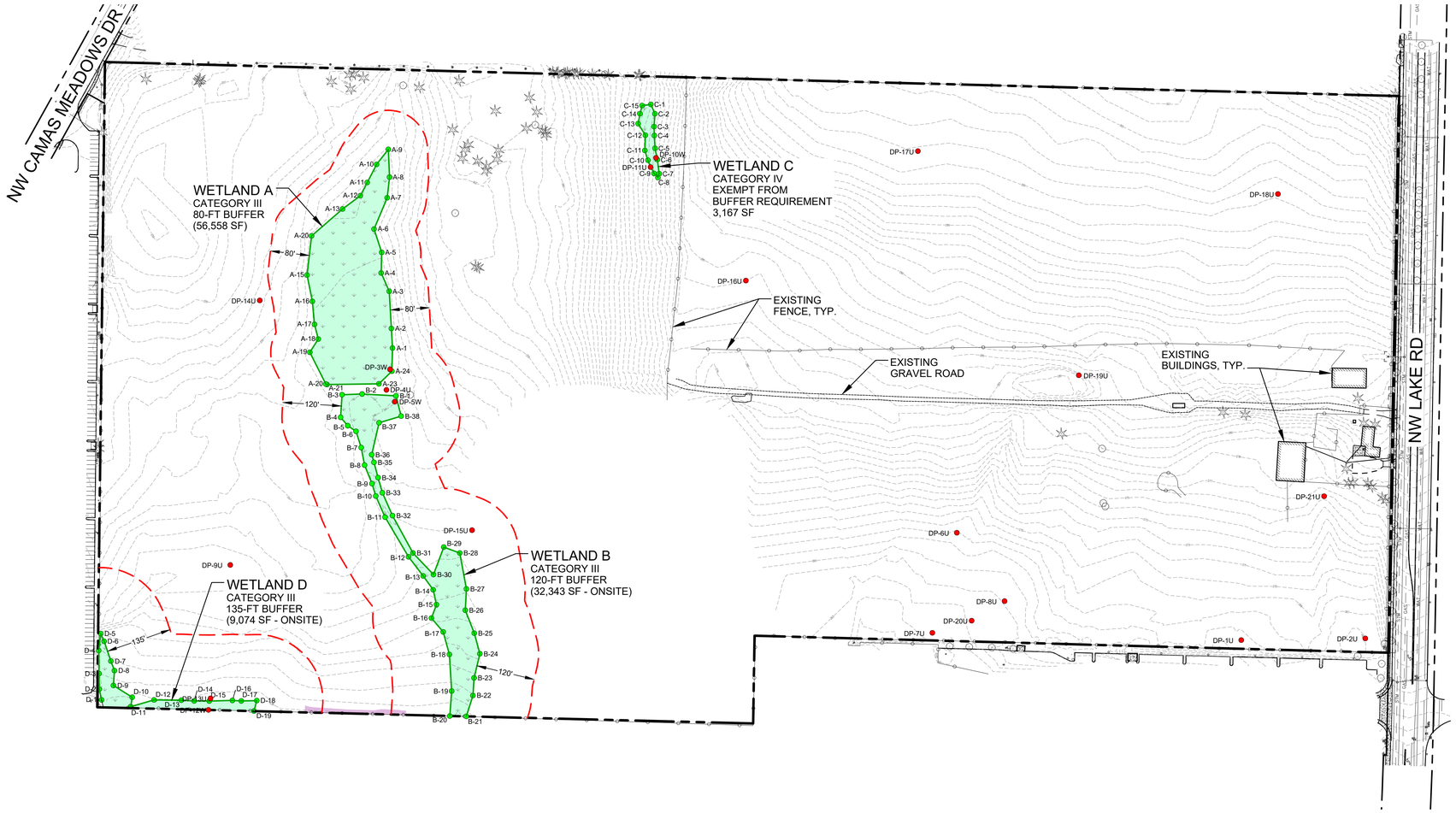
Washington State Department of Ecology (WSDOE), USACE Seattle District, and EPA Region 10. 2006. *Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance (Version 1)*. Washington State Department of Ecology. Publication #06-06-011a. Olympia, Washington.

Terrace Mitigation Bank, LLC. 2017. *Terrace Mitigation Bank: Mitigation Banking Instrument*. https://fortress.wa.gov/ecy/ezshare/sea/MitigationBanking/Terrace/MBI.pdf. February, 2017.

WSDOE. 2020. *Bank Use Plan - Using Credits from Wetland Mitigation Banks: Guidance to Applicants on Submittal Contents for Bank Use Plans*. Website: https://ecology.wa.gov/Water-Shorelines/Wetlands/Mitigation/Wetland-mitigation-banking/Mitigation-bank-projects. Bank Use Template Version: June 2020.

WSDOE, USACE, and EPA Region 10. 2021. *Wetland Mitigation in Washington State–Part 1: Agency Policies and Guidance (Version 2)*. Washington State Department of Ecology Publication #21-06-003.

Appendix A – Conceptual Mitigation Drawings



VICINITY MAP

SOURCE: CLARK COUNTY GIS
(ACCESSED 8/17/2021)

LOCATION

THE SE ¼ OF SECTION 29,

TOWNSHIP 02N, RANGE 03E, WM

APPLICANT/OWNER

PANATTONI DEVELOPMENT COMPANY, INC
1821 DOCK STREET, SUITE 100
TACOMA, WASHINGTON 98402
CONTACT: BJORN BRYNESTAD, DEVELOPMENT MGR.
PHONE: (206) 838-1730
PHONE: BJORN@PANATTONI.COM

ENVIRONMENTAL CONSULTANT

SOUNDVIEW CONSULTANTS LLC
2907 HARBORVIEW DRIVE, SUITE D
GIG HARBOR, WA 98355
(253) 514-8952

0 125 250 500

GRAPHIC SCALE
1"= 125'

PLAN LEGEND

- PROPERTY LINE
- EXISTING WETLAND BOUNDARY
- APPROXIMATED WETLAND BOUNDARY (NOT SURVEYED)
- WETLAND BUFFER
- W-# WETLAND FLAG LOCATION
- DP-# DATA PLOT LOCATION
- EXISTING 1-FT CONTOURS

SHEET INDEX

SHEET NUMBER	SHEET TITLE
1	EXISTING CONDITIONS
2	PROPOSED SITE PLAN, IMPACTS & MITIGATION
3	PLANTING PLAN OVERVIEW & PLANTING TYPICALS
4	PLANT SCHEDULE & DETAILS

SOURCES:

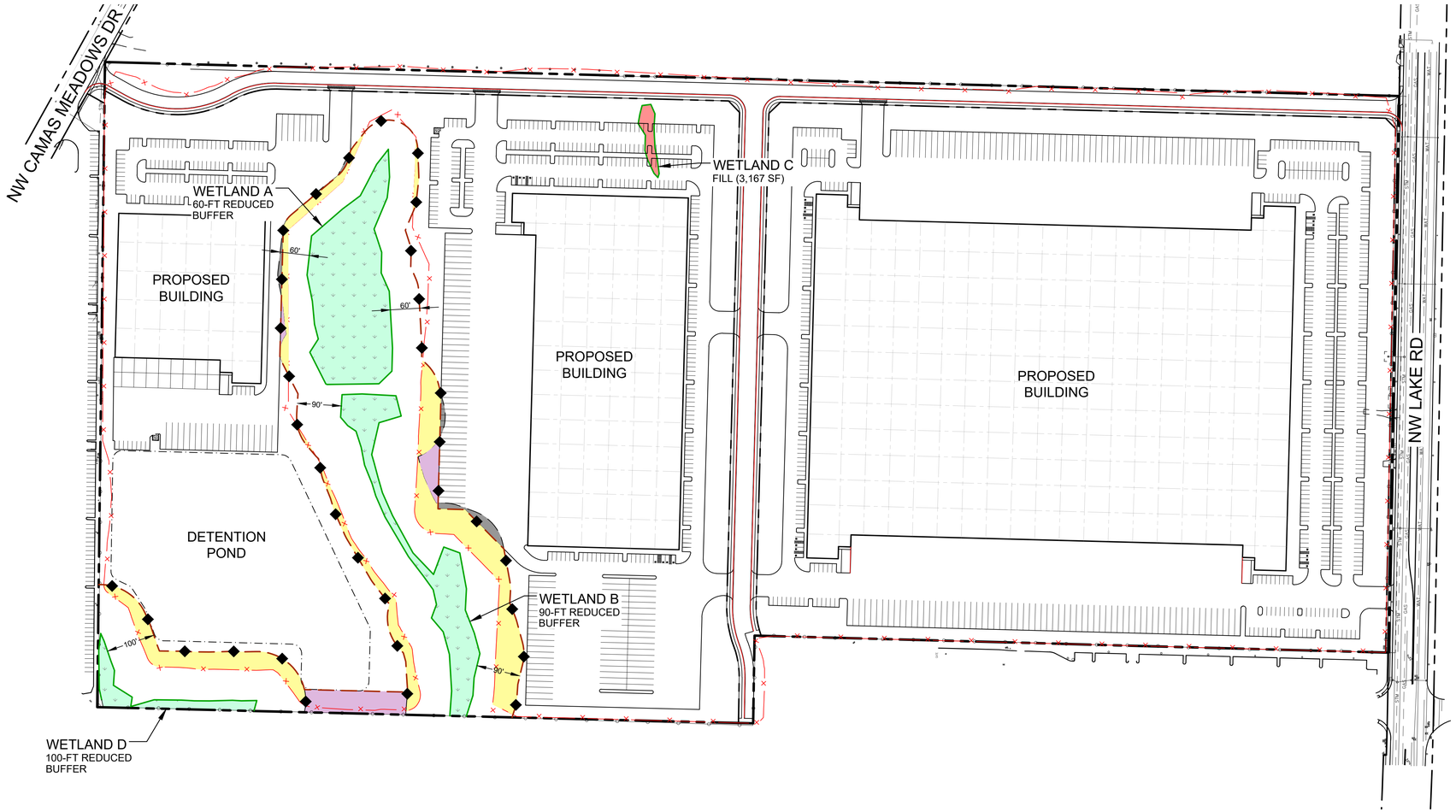
SYNTHESIS PLLC
THE FUSION OF ARCHITECTURE, DESIGN TECHNOLOGY & PEOPLE

Soundview Consultants LLC
Environmental Assessment • Planning • Land Use Solutions
2907 HARBORVIEW DRIVE, SUITE D P. 253.514.8952
GIG HARBOR, WASHINGTON 98335 F. 253.514.8954
WWW.SOUNDVIEWCONSULTANTS.COM

CAMAS BUSINESS CENTER
4707 & 4723 NW LAKE ROAD
CAMAS, WASHINGTON 98607

CLARK COUNTY
PARCEL NUMBER(S):
176155000 & 176170000

DATE: 10/6/2021
JOB: 1144.0027
BY: MW
SCALE: AS SHOWN
SHEET: 1



0 125 250 500

GRAPHIC SCALE
1"=125'

PLAN LEGEND

- PROPERTY LINE
- EXISTING WETLAND BOUNDARY
- APPROXIMATED WETLAND BOUNDARY (NOT SURVEYED)
- WETLAND BUFFER - REDUCED
- PROPOSED CLEARING & GRADING LIMITS

MITIGATION LEGEND

WETLAND & BUFFER IMPACTS

WETLAND C FILL	3,167 SF
WETLAND BUFFER REDUCTION	3,703 SF
TEMPORARY BUFFER GRADING IMPACTS	64,095 SF

WETLAND & BUFFER MITIGATION

WETLAND BUFFER ADDITION	13,485 SF
RESTORATION OF TEMPORARY BUFFER GRADING IMPACTS	64,095 SF

- POST-CONSTRUCTION BUFFER / SPLIT RAIL FENCE
- CRITICAL AREA SIGN - 33 SIGNS

SOURCES:

SYNTHESIS PLLC
THE FUSION OF ARCHITECTURE, DESIGN TECHNOLOGY & PEOPLE

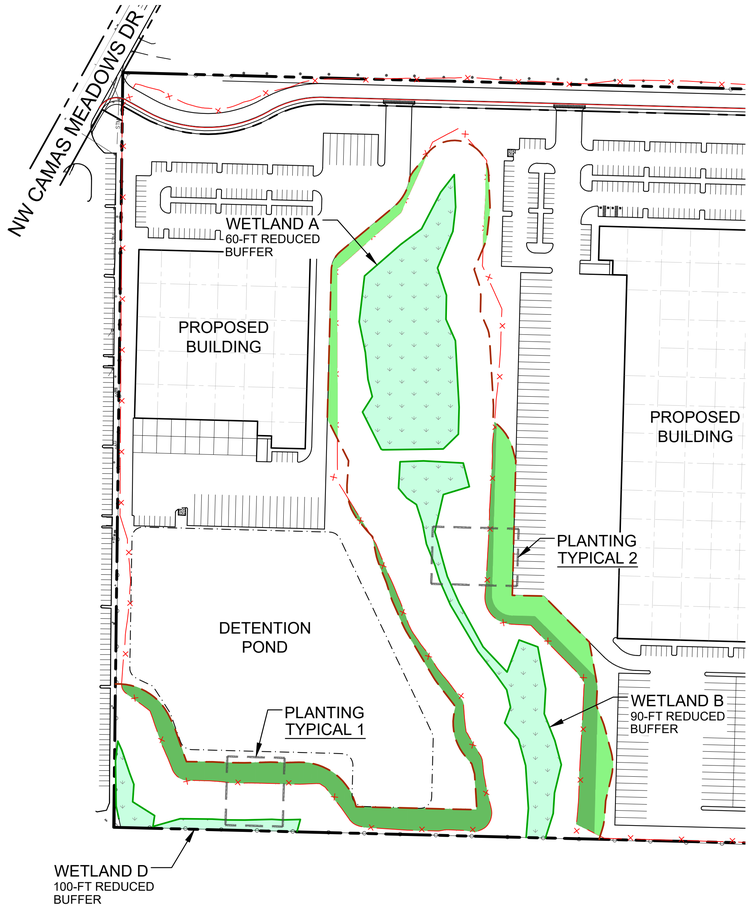
Soundview Consultants LLC
Environmental Assessment • Planning • Land Use Solutions
2907 HARBORVIEW DRIVE, SUITE D
GIG HARBOR, WASHINGTON 98335
P. 253.514.8952
F. 253.514.8954
WWW.SOUNDVIEWCONSULTANTS.COM

CAMAS BUSINESS CENTER
4707 & 4723 NW LAKE ROAD
CAMAS, WASHINGTON 98607

CLARK COUNTY
PARCEL NUMBER(S):
176155000 & 176170000

DATE: 10/6/2021
JOB: 1144.0027
BY: MW
SCALE: AS SHOWN
SHEET: 2

S:\CURRENT\1144 Panattoni Construction\1144.0027 Camas\Graphics & Maps\CAD\A - CURRENT SVC DRAWINGS\A - Current Base DWGs\1144.0027 (2021-10) base.dwg
Plotted October 7, 2021



PLANTING PLAN

0 125 250 500

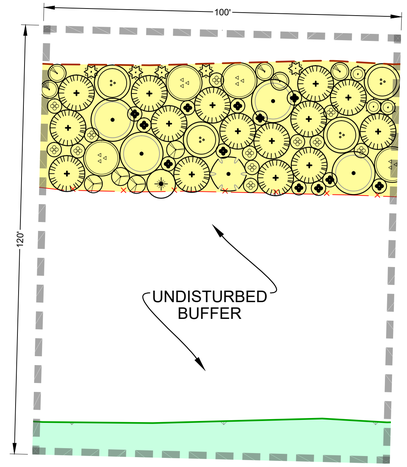
GRAPHIC SCALE
1"= 125'

PLAN LEGEND

- PROPERTY LINE
- EXISTING WETLAND BOUNDARY
- APPROXIMATED WETLAND BOUNDARY (NOT SURVEYED)
- POST-CONSTRUCTION BUFFER / SPLIT RAIL FENCE
- PROPOSED CLEARING & GRADING LIMITS

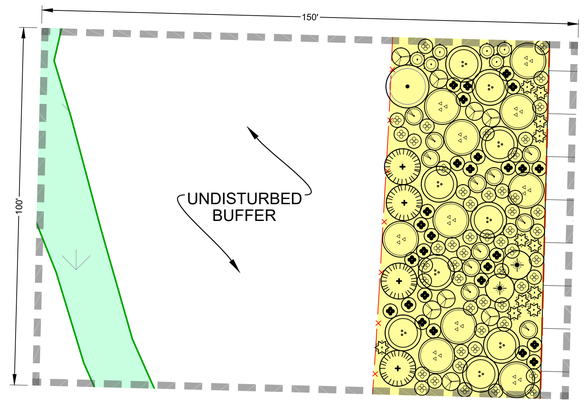
PLANTING LEGEND

	SCRUB-SHRUB BUFFER RESTORATION	29,254 SF
	FORESTED/SCRUB-SHRUB BUFFER RESTORATION	46,476 SF
	TOTAL PLANTED AREA:	75,730 SF



PLANTING TYPICAL 1

SCALE: 1"=20'



PLANTING TYPICAL 2

0 20 40 80

GRAPHIC SCALE
1"= 20'

PLANT LIST

Scientific Name	Common Name
TREES	
Acer macrophyllum	bigleaf maple
Frangula purshiana	cascara
Pseudotsuga menziesii	Douglas fir
SHRUBS	
Acer circinatum	vine maple
Amelanchier alnifolia	serviceberry
Corylus cornuta var. californica	western hazlenut
NO SYMBOL *Gaultheria shallon*	salal
Holodiscus discolor	oceanspray
Mahonia aquifolium	tall Oregon grape
NO SYMBOL *Mahonia nervosa*	low Oregon grape
Oemleria cerasiformis	Indian plum
Rosa gymnocarpa	bald hip rose
Symphoricarpos albus var. laevigatus	common snowberry
Symphoricarpos mollis	trailing snowberry
SEED MIXES (www.riverrefugeseed.com)	
Native Upland Grass Mix #9	**20 lbs/acre**
Elymus glaucus	Blue wildrye
Bromus carinatus	California brome
Hordeum brachyantherum	Meadow barley
Festuca roemeri	Roemer's fescue
Deschampsia elongata	Slender hairgrass
Agrostis exarata	Spike bentgrass
Deschampsia cespitosa	Tufted hairgrass
Festuca rubra var. rubra	Red fescue

NOTE: SALAL & LOW OREGON GRAPE TO BE PLANTED THROUGHOUT BUFFER RESTORATION AREAS, IN GROUPINGS OF 3 TO 5

SOURCES:

SYNTHESIS PLLC
THE FUSION OF ARCHITECTURE, DESIGN TECHNOLOGY & PEOPLE

Soundview Consultants LLC
Environmental Assessment • Planning • Land Use Solutions
2907 HARBORVIEW DRIVE, SUITE D
GIG HARBOR, WASHINGTON 98335
P. 253.514.8952
F. 253.514.8954
WWW.SOUNDVIEWCONSULTANTS.COM

CAMAS BUSINESS CENTER
4707 & 4723 NW LAKE ROAD
CAMAS, WASHINGTON 98607

CLARK COUNTY
PARCEL NUMBER(S):
176155000 & 176170000

DATE: 10/6/2021
JOB: 1144.0027
BY: MW
SCALE: AS SHOWN
SHEET: 3

S:\CURRENT\1144 Panattoni Construction\1144.0027 Camas\Graphics & Maps\CAD\A - CURRENT SVC DRAWINGS\A - Current Base DWGs\1144.0027 (2021-10) base.dwg
Plotted October 7, 2021

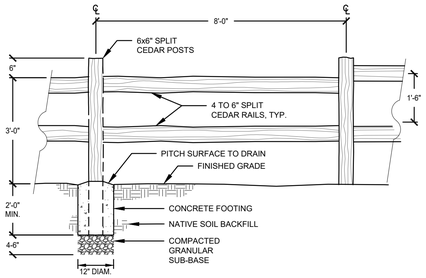
PLANT SCHEDULE

		Area (sf):	**29,254**	**46,476**	**75,730**				
		Cov'g (%):	**100**	**100**					
		Trees (%):	**0**	**50**					
		Shrubs (%):	**100**	**50**					
Scientific Name	**Common Name**	**WL Status**	**Scrub-Shrub Buffer Restoration**	**Forested/ Scrub-Shrub Buffer Restoration**	**TOTAL**	**Spacing (min.)**	**Height (min.)**	**Size (min.)**	**Planting Area**
TREES									
Acer macrophyllum	bigleaf maple	FACU	-	56	**56**	**10 ft**	**3 ft**	**2 gal**	**Dry**
Frangula purshiana	cascara	FAC	-	14	**14**	**10 ft**	**3 ft**	**1 gal**	**Dry**
Pseudotsuga menziesii	Douglas fir	FACU	-	198	**198**	**10 ft**	**3 ft**	**2 gal**	**Dry**
		Total:	**0**	**268**	**268**				
SHRUBS									
Acer circinatum	vine maple	FAC	70	55	**125**	**10 ft**	**4 ft**	**2 gal**	**Dry/Moist**
Amelanchier ainifolia	serviceberry	FACU	15	15	**30**	**8 ft**	**3 ft**	**2 gal**	**Dry**
Corylus cornuta var. californica	western hazlenut	FACU	75	55	**130**	**10 ft**	**2 ft**	**2 gal**	**Moist**
Gaultheria shallon	salal	FACU	105	85	**190**	**4 ft**	**1 ft**	**1 gal**	**Dry**
Holodiscus discolor	oceanspray	FACU	85	65	**150**	**5 ft**	**2 ft**	**1 gal**	**Dry**
Mahonia aquifolium	tall Oregon grape	FACU	85	70	**155**	**4 ft**	**2 ft**	**1 gal**	**Dry**
Mahonia nervosa	low Oregon grape	FACU	425	335	**760**	**4 ft**	**1 ft**	**1 gal**	**Dry/Moist**
Oemleria cerasiformis	Indian plum	FACU	60	50	**110**	**5 ft**	**2 ft**	**2 gal**	**Dry**
Rosa gymnocarpa	bald hip rose	FACU	55	45	**100**	**4 ft**	**2 ft**	**1 gal**	**Dry/Moist**
Symphoricarpos albus var. laevigatus	common snowberry	FACU	200	160	**360**	**4 ft**	**2 ft**	**1 gal**	**Dry**
Symphoricarpos mollis	trailing snowberry	FACU	175	140	**315**				
		Total:	**1350**	**1075**	**2425**				
SEED MIXES (www.riverrefugeseed.com)		**WL Status**	**Scrub-Shrub Buffer Restoration**	**Forested/ Scrub-Shrub Buffer Restoration**	**TOTAL**				
Native Upland Grass Mix #9	**20 lbs/acre**								
Elymus glaucus	Blue wildrye	30%							
Bromus carinatus	California brome	25%							
Hordeum brachyantherum	Meadow barley	10%							
Festuca roemeri	Roemer's fescue	10%							
Deschampsia elongata	Slender hairgrass	10%							
Agrostis exarata	Spike bentgrass	5%							
Deschampsia cespitosa	Tufted hairgrass	5%							
Festuca rubra var. rubra	Red fescue	5%							
		Total (lbs):	**14**	**22**	**36**				

1 - Scientific names and species identification taken from *Flora of the Pacific Northwest, 2nd Edition (Hitchcock and Cronquist, Ed. by Giblin, Ledger, Zika, and Olmstead, 2018).*
2 - Over-sized container plants are suitable for replacement pending Wetland Scientist approval.
3 - Native plant species may be substituted or added with Wetland Scientist approval.
4 - All disturbed and bare soil areas in the buffer to be seeded with a native grass seed mix.
5 - Tree calculations based upon 10-ft average spacing.
6 - Shrub calculations based upon 5-ft average spacing.

SPLIT RAIL FENCE DETAIL

NOT TO SCALE

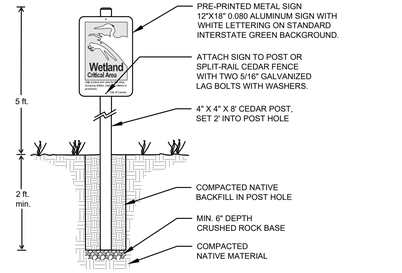


NOTES:

1. POSTS AND RAILINGS PRE-CUT FOR ASSEMBLY.
2. 3-RAIL DESIGNS ARE PERMITTED.
3. FENCE SHALL BE PLACED AT APPROVED BUFFER EDGE.

CRITICAL AREA SIGN DETAIL

NOT TO SCALE



CRITICAL AREA BOUNDARY SIGN NOTES:

1. THE APPLICANT INSTALL PERMANENT SIGNS ALONG THE BOUNDARY OF A CRITICAL AREA OR MANAGEMENT ZONE TO CITY STANDARDS.
2. ONE SIGN SHALL BE POSTED PER RESIDENTIAL LOT AND ONE SIGN PER 100 FEET FOR ALL PUBLIC RIGHTS-OF-WAY, TRAILS, PARKING AREAS, PLAYGROUNDS, AND ALL OTHER USES LOCATED ADJACENT TO WETLANDS AND ASSOCIATED BUFFERS.
3. PRE-PRINTED METAL SIGN AVAILABLE THROUGH SIGN, AVAILABLE THROUGH:
   ZUMAR INDUSTRIES
   PHONE: 1-800-426-7967,
   WEBSITE: WWW.ZUMAR.COM

TREE & SHRUB PLANTING DETAIL (TYPICAL)

NOT TO SCALE

NOTES:
1. PLANT SHRUBS OF THE SAME SPECIES IN GROUPS OF 3 to 9 AS APPROPRIATE, OR AS SHOWN ON PLAN. AVOID INSTALLING PLANTS IN STRAIGHT LINES TO ACHIEVE A NATURAL-LOOKING LAYOUT.
2. EXCAVATE PIT TO FULL DEPTH OF ROOT MASS AND 2 X ROOT MASS DIAMETER. SPREAD ROOTS TO FULL WIDTH OF CANOPY. SCARIFY SIDES OF PIT.
3. MIDWAY THROUGH PLANTING ADD AGROFORM TABLET AND WATER THOROUGHLY.
4. BACKFILL TO BE COMPACTED USING WATER ONLY.
5. WATER IMMEDIATELY AFTER INSTALLATION.

SOURCES:

SYNTHESIS PLLC
THE FUSION OF ARCHITECTURE, DESIGN TECHNOLOGY & PEOPLE

Soundview Consultants LLC
Environmental Assessment • Planning • Land Use Solutions
2907 HARBORVIEW DRIVE, SUITE D
GIG HARBOR, WASHINGTON 98335
P. 253.514.8952
F. 253.514.8954
WWW.SOUNDVIEWCONSULTANTS.COM

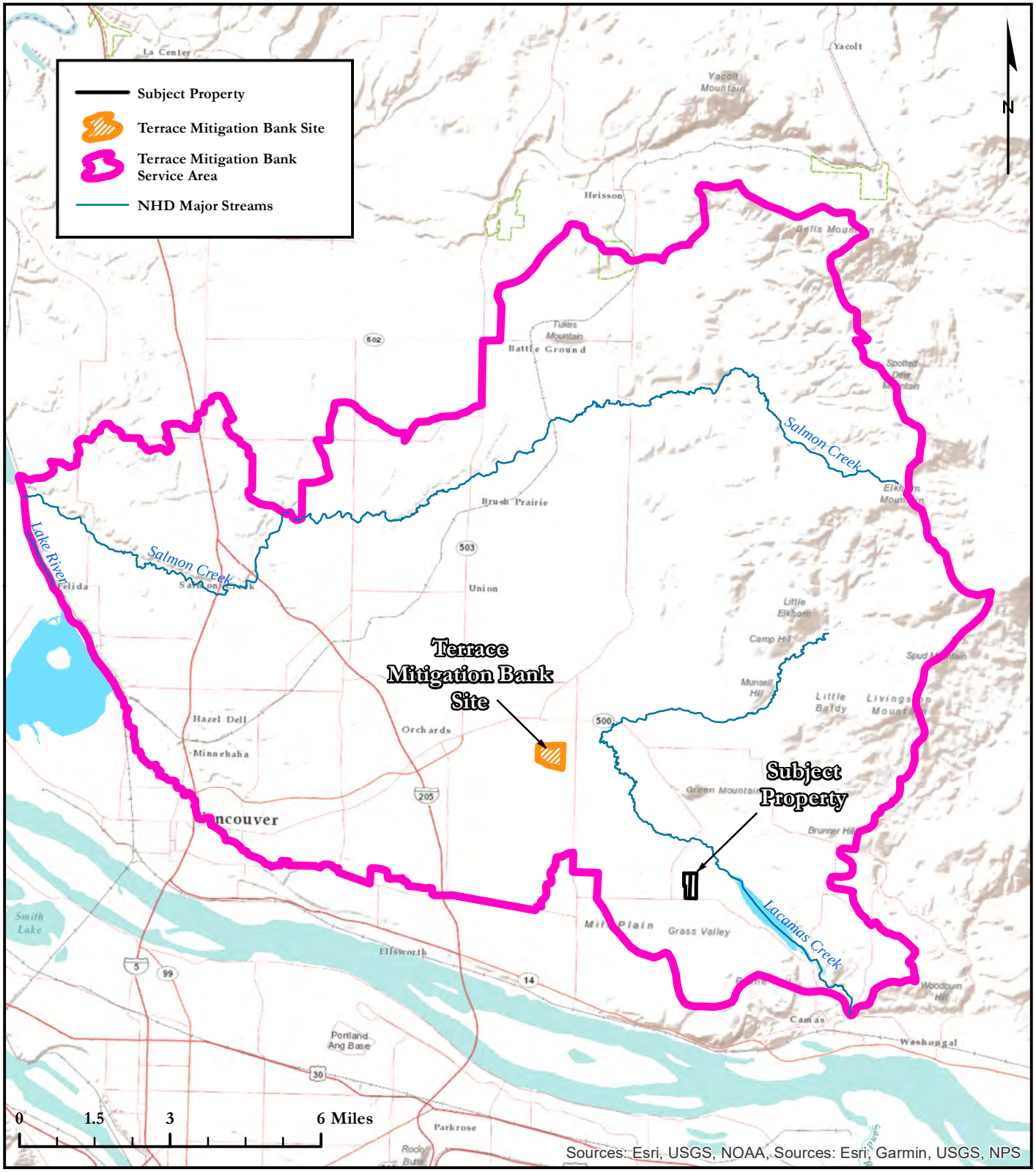
CAMAS BUSINESS CENTER
4707 & 4723 NW LAKE ROAD
CAMAS, WASHINGTON 98607

CLARK COUNTY
PARCEL NUMBER(S):
176155000 & 176170000

DATE: 10/6/2021
JOB: 1144.0027
BY: MW
SCALE: AS SHOWN
SHEET: 4

Appendix B - Proximity of Subject Property to Terrace Mitigation Bank Service Area

CAMAS BUSINESS CENTER - MITIGATION BANK SERVICE AREA EXHIBIT



Soundview Consultants LLC
Environmental Assessment • Planning • Land Use Solutions
2907 Harborview Dr., Suite D, Gig Harbor, WA 98335
Phone: (253) 514-8952 Fax: (253) 514-8954
www.soundviewconsultants.com

CAMAS BUSINESS CENTER

4707 & 4723 NW LAKE ROAD
CAMAS, WA 98607

CLARK COUNTY PARCEL NUMBERS:
176155000 and 176170000

DATE:	9/14/2021
JOB:	1144.0027
BY:	RJK
SCALE:	1 " = 3 mi
FIGURE NO.	1

Appendix C – Qualifications

All determinations and supporting documentation, including this ***Mitigation Bank Use and Conceptual Mitigation Plan*** prepared for the ***Camas Business Center*** site were prepared by, or under the direction of, Matt DeCaro of SVC. In addition, report preparation was completed by Casey Lanier and Morgan Kentch, and additional project oversight and quality assurance/quality control was completed by Laura Livingston.

Matt DeCaro

Associate Principal
Professional Experience: 12 years

Matt DeCaro is an Associate Principal and Senior Scientist with a diverse background in environmental planning, wetland science, stream ecology, water quality, site remediation, NEPA compliance, and project management. He manages a wide range of industrial, commercial, and multi-family residential projects throughout Western Washington, providing environmental permitting and regulatory compliance assistance for land use projects from their planning stages through entitlement and construction. His local expertise, diverse professional background, and positive relationships with regulatory personnel are integral components of his successful project outcomes.

Matt earned a Bachelor of Science degree with a focus in Environmental Science from the Evergreen State College in Olympia, Washington, with additional graduate-level coursework and research in aquatic restoration and salmonid ecology. Matt has received 40-hour wetland delineation training (*Western Mountains, Valleys, & Coast and Arid West Regional Supplements*) and regularly performs wetland, stream, and shoreline delineations. Matt has been formally trained in the use of the *2014 Washington State Wetland Rating System* and *Determination of Ordinary High Water Mark* by WSDOE, and he is a Pierce County Qualified Wetland Specialist and Wildlife Biologist. He has attended USFWS survey workshops for multiple threatened and endangered species, and he is a Senior Author of WSDOT Biological Assessments. Matt holds 40-hour HAZWOPER training and has managed Phase I Environmental Site Assessments, subsurface investigations, and contaminant remediation projects throughout the Pacific Northwest. His diverse experience also includes NEPA compliance for federal permitting projects; noxious weed abatement; army ant research in the Costa Rican tropical rainforest; spotted owl surveys on federal and private lands; and salmonid spawning and migration surveys.

Laura Livingston

Environmental Planner
Professional Experience: 8 years

Laura Livingston is an Environmental Planner with a background in water quality monitoring, invasive species monitoring, wildlife monitoring, wilderness stewardship, and erosion control projects. Laura has field experience working on natural resources projects, with an emphasis on stream and river projects, in the Northwest, Northeast, and Southwest United States. She has also worked on a variety of environmental science research, grant, and teaching projects requiring scientific writing, science communication, laboratory work, and statistical analysis. She currently performs ordinary high water delineations; conducts environmental code analysis; and prepares environmental assessment and mitigation reports, biological evaluations, and permit applications to support clients through the

regulatory and planning process. Laura has a particular interest in shoreline projects and has prepared a variety of application materials to support projects within Shoreline Master Program jurisdictions.

Laura earned a Master of Science degree in Environmental Science from Washington State University, Pullman. In addition, she has received training from the Washington State Department of Ecology in How to Administer Shoreline Development Permits in Western Washington's Shorelines, Determining the Ordinary High Water Mark, the revised Washington State Wetland Rating System, Puget Sound Coastal Processes, How to Conduct a Forage Fish Survey, and Using the Credit-Debit Method for Estimating Mitigation Needs. Laura has also received training from the Washington State Department of Transportation in Biological Assessment Preparation for Transportation Projects and is listed by WSDOT as a junior author for preparing Biological Assessments.

Casey Lanier

Environmental Scientist
Professional Experience: 10 years

Casey Lanier is an Environmental Scientist with a varied background in fisheries habitats, water quality monitoring, data telemetry and habitat restoration. He has over 10 years of experience within the private sector and county level conducting surface water investigations, anadromous fish passage surveys, long-term water quality monitoring, mitigation installation and monitoring. He has experience conducting presence absence surveys for migratory and nesting birds, environmental compliance monitoring on construction and infrastructure maintenance projects for county and public utilities.

Casey earned a Bachelor of Science degree in Environmental Science, Technology, and Policy with a specialization in Hydrology from California State University, Monterey Bay. In addition, Casey also has a graduate-level course work in Fisheries and Wildlife Management from Oregon State University. During his time at Cal State Monterey Bay, he worked as a research assistant conducting in depth analysis of steelhead habitats investigating potential impacts of post-wildfire sediment yields and fish passage restoration feasibility studies. He currently assists in wetland, stream, and shoreline delineations and fish and wildlife habitat assessments; conducts environmental code analysis; and prepares environmental assessment and mitigation reports, biological evaluations, and permit applications to support clients through the regulatory and planning process for various land use projects.

Morgan Kentch

Staff Scientist
Professional Experience: 3 years

Morgan Kentch is a Staff Scientist with a background in marine biology and both marine and freshwater ecology in Washington State. Morgan earned her Bachelor of Science degree in Biology with marine emphasis from Western Washington University, Bellingham. There she received extensive, hands-on experience working in lab and field settings, and studying local marine and aquatic organisms and ecosystems. One of Morgan's more exceptional projects included monitoring a stream restoration project for the City of Bellingham by assessing stream habitat and biotic quality, collecting data, identifying local stream invertebrates, and writing a report outlining analyzed results. Morgan also participated in a study abroad program in La Paz, Baja California Sur, where she led an independent study on the effects of temperature on bioluminescent organisms in a local bay. Through

this project, she demonstrated a strong understanding of collecting background research, following the scientific method, conducting scientific research, and writing a scientific paper formatted for journal submission.

Morgan currently assists in wetland, stream, and shoreline delineations and fish and wildlife habitat assessments; conducts environmental code analysis; and prepares environmental assessment and mitigation reports, biological evaluations, and permit applications to support clients through the regulatory and planning process for various land use projects. She has received wetland delineation training (Western Mtns, Valleys, & Coast and Arid West Regional Supplement), and has received formal training through the Washington State Department of Ecology and Coastal Training Program in Using the 2014 Wetland Rating System, How to Determine the Ordinary High Water Mark, and How to Conduct a Forage Fish Survey.