



**WETLAND AND BUFFER
RESTORATION PLAN**

FOR

QUAIL RIDGE TRACT 999
ARLINGTON, WA

Wetland Resources, Inc. Project #24172

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1.0 INTRODUCTION

The 13-acre subject site is composed of one parcel (tax parcel 01052300099900) located in the city limits of Arlington, Washington. The Public Land Survey System (PLSS) locator for the property is Section 24, Township 31N, Range 5E, W.M. The property is located on a ridge dividing the property between drainage basins. The western part of the property is located within the Armstrong Creek-Stillaguamish River Sub-basin, while the eastern part of the property is located within the Lower South Fork Stillaguamish River Sub-basin. Both sub-basins contribute to the Stillaguamish watershed, Water Resources Inventory Area (WRIA) 5.



Figure 1 – Aerial view of the subject property

1.1 SITE DESCRIPTION

The subject site was set aside as future development tract as part of Quail Ridge, which was developed in Snohomish County, prior to annexation. It includes undeveloped, forested areas east and west of the developed residential lots. Canopy cover on site includes primarily red alder (*Alnus rubra*) and some interspersed conifer trees, including western red cedar (*Thuja plicata*) and western hemlock (*Tsuga heterophylla*). The understory consists of salmonberry (*Rubus spectabilis*), Himalayan blackberry (*Rubus armeniacus*), and western sword fern (*Polystichum munitum*). The topography of the site is varied, with ridges generally oriented northwest-southeast. Surrounding land use is generally low density residential, or undeveloped forest.

The wetland and stream boundaries, classifications, and buffers were previously approved as part of the Quail Ridge development (Snohomish County Project File Number 01-113404). Two wetlands (Wetlands A and B), and one stream (Stream A) are located on the subject site. Wetlands A and B are classified as Category 3 wetlands with 50-foot protective buffers. Stream A is classified as a Type 4 Stream with a 50-foot protective buffer.

1.2 PROJECT DESCRIPTION

The applicant is proposing to construct two single-family residences in the future development tract. Drainfields for the new homes will be located in the large forested area west of the existing homes. Septic transport lines are required to cross Wetland B and its buffer to connect to the new drainfields. This work will require a temporary trench through the wetland and buffer. The temporary wetland and buffer impacts will be restored through the installation of native trees and shrubs.

2.0 WETLAND AND BUFFER RESTORATION PLAN

The new septic transport lines will be trenched through the wetland and buffer, resulting in temporary impacts to 624 square feet of wetland and 1,502 square feet of buffer. The impacted areas will be restored following construction through the installation of the following trees and shrubs.

Buffer Restoration Area A (725 square feet)

<u>Common Name</u>	<u>Scientific Name</u>	<u>Size</u>	<u>Spacing</u>	<u>Quantity</u>
Big Leaf Maple	<i>Acer macrophyllum</i>	1 gallon	10'	4
Western hemlock	<i>Tsuga heterophylla</i>	1 gallon	10'	3
Salmonberry	<i>Rubus spectabilis</i>	1 gallon	5'	11
Snowberry	<i>Symphoricarpos albus</i>	1 gallon	5'	11

Buffer Restoration Area B (777 square feet)

<u>Common Name</u>	<u>Scientific Name</u>	<u>Size</u>	<u>Spacing</u>	<u>Quantity</u>
Big Leaf Maple	<i>Acer macrophyllum</i>	1 gallon	10'	4
Western hemlock	<i>Tsuga heterophylla</i>	1 gallon	10'	4
Salmonberry	<i>Rubus spectabilis</i>	1 gallon	5'	12
Snowberry	<i>Symphoricarpos albus</i>	1 gallon	5'	11

Wetland Restoration Area (624 square feet)

<u>Common Name</u>	<u>Scientific Name</u>	<u>Size</u>	<u>Spacing</u>	<u>Quantity</u>
Red Alder	<i>Alnus rubra</i>	1 gallon	10'	3
Sitka Spruce	<i>Picea sitchensis</i>	1 gallon	10'	3
Pacific Ninebark	<i>Physocarpus capitatus</i>	1 gallon	5'	10
Vine Maple	<i>Acer circinatum</i>	1 gallon	5'	9

For details on the locations of the impact and restoration areas, see the attached Wetland and Buffer Restoration Plan Map.

3.0 PLANTING NOTES

Plant in the early spring or late fall and obtain all plants from a reputable nursery. Care and handling of all plant materials is extremely important to the overall success of the project. The origin of all plant materials specified in this plan shall be native plants, nursery grown in the Puget Sound region of Washington. Some limited species substitution may be allowed, only with the agreement of the landscape designer, wetland biologist, and/or agency staff.

Inspections

A wetland biologist shall be contracted to oversee the mitigation installation described in this plan. Minor adjustments to the original design may be necessary prior to and during construction due to unusual or hidden site conditions. The consulting biologist will make these decisions during construction.

Handling

Plants shall be handled so as to avoid all damage, including breaking, bruising, root damage, sunburn, drying, freezing or other injury. Plants must be covered during transport. Plants shall not be bound with wire or rope in a manner that could damage branches. Protect plant roots with shade and wet soil in the time period between delivery and installation. Do not lift container stock by trunks, stems, or tops. Do not remove from containers until ready to plant. Water all plants as necessary to keep moisture levels appropriate to the species horticultural requirements. Plants shall not be allowed to dry out. All plants shall be watered thoroughly immediately upon installation. Soak all containerized plants thoroughly prior to installation. Bare root plants are subject to the following special requirements, and shall not be used unless planted between November 1 and March 1, and only with the permission of the landscape designer, wetland biologist, and agency staff. Bare root plants must have enough fibrous root to insure plant survival. Roots must be covered at all times with mud and/or wet straw, moss, or other suitable packing material until time of installation. Plants whose roots have dried out from exposure will not be accepted at installation inspection.

Storage

Plants stored by the Permittee for longer than one month prior to planting shall be planted in nursery rows, and treated in a manner suitable to that species horticultural requirement. Plants must be re-inspected by the wetland biologist and/or landscape designer prior to installation.

Damaged plants

Damaged, dried out, or otherwise mishandled plants will be rejected at installation inspection. All rejected plants shall be immediately removed from the site.

Plant Names

Plant names shall comply with those generally accepted in the native plant nursery trade. Any question regarding plant species or variety shall be referred to the landscape designer, wetland

biologist, or agency staff. All plant materials shall be true to species and variety and legibly tagged.

Quality and condition

Plants shall be normal in pattern of growth, healthy, well-branched, vigorous, with well-developed root systems, and free of pests and diseases. Damaged, diseased, pest-infested, scraped, bruised, dried out, burned, broken, or defective plants will be rejected. Plants with pruning wounds over 1" in diameter will be rejected.

Roots

All plants shall be balled and burlapped or containerized, unless explicitly authorized by the landscape designer and/or wetland biologist. Rootbound plants or B&B plants with damaged, cracked, or loose rootballs (major damage) will be rejected. Immediately before installation, plants with minor root damage (some broken and / or twisted roots) must be root-pruned. Matted or circling roots of containerized plantings must be pruned or straightened and the sides of the root ball must be roughened from top to bottom to a depth of approximately half an inch in two to four places. Bare root plantings of woody material are allowed only with permission from the landscape designer, wetland biologist and/or agency staff.

Sizes

Plant sizes shall be the size indicated in the plant schedule in approved plans. Larger stock may be acceptable provided that it has not been cut back to the size specified, and that the root ball is proportionate to the size of the plant. Smaller stock may be acceptable, and preferable under some circumstances, based on site-specific conditions. Measurements, caliper, branching, and balling and burlapping shall conform to the American Standard of Nursery Stock by the American Association of Nurserymen (latest edition).

Form

Evergreen trees shall have single trunks and symmetrical, well-developed form. Deciduous trees shall be single trunked unless specified as multi-stem in the plant schedule. Shrubs shall have multiple stems and be well-branched.

Timing of Planting

Unless otherwise approved by agency staff, all planting shall occur between November 1 and March 1. Overall, the earlier plants go into the ground during the dormant period, the more time they have to adapt to the site and extend their root systems before the water demands of spring and summer.

Weeding

Existing and exotic vegetation in the mitigation areas will be hand weeded from around all newly installed plants at the time of installation and on a routine basis throughout the monitoring period. No chemical control of vegetation on any portion of the site is allowed without the written permission of agency staff.

Site conditions

The contractor shall immediately notify the landscape designer and/or wetland biologist of drainage or soil conditions likely to be detrimental to the growth or survival of plants. Planting

operations shall not be conducted under the following conditions: freezing weather, when the ground is frozen, excessively wet weather, excessively windy weather, or in excessive heat.

Planting Pits

Planting pits shall be circular or square with vertical sides, and shall be 6” deeper and 12” larger in diameter than the root ball of the plant. Break up the sides of the pit in compacted soils. Set plants upright in pits. Burlap shall be removed from the planting pit. Backfill shall be worked back into holes such that air pockets are removed without adversely compacting down soils.

Fertilizer

Slow release fertilizer may be used if pre-approved by the wetland biologist or agency staff. Fertilizers shall be applied only at the base of plantings underneath the required covering of mulch (that does not make contact with stems of the plants). No soil amendment or fertilizers will be placed in planting holes.

Water

Plants shall be watered midway through backfilling, and again upon completion of backfilling. For spring plantings (if approved), a rim of earth shall be mounded around the base of the tree or shrub no closer than the drip line, or no less than 30" in diameter, except on steep slopes or in hollows. Plants shall be watered a second time within 24-48 hours after installation. The earthen rim / dam should be leveled prior to the second growing season.

Staking

Most shrubs and many trees do not require any staking. If the plant can stand alone without staking in a moderate wind, do not use a stake. If the plant needs support, then strapping or webbing should be used as low as possible on the trunk to loosely brace the tree with two stakes. Do not brace the tree tightly or too high on the trunk. If the tree is unable to sway, it will further lose the ability to support itself. Do not use wire in a rubber hose for strapping as it exerts too much pressure on the bark. As soon as supporting the plant becomes unnecessary, remove the stakes. All stakes must be removed within two (2) years of installation.

Plant Location

Colored surveyors ribbon or other appropriate marking shall be attached to the installed plants to assist in locating the plants while removing the competing non-native vegetation and during the monitoring period.

Arrangement and Spacing

The plants shall be arranged in a pattern with the appropriate numbers, sizes, species, and distribution that are required in accordance with the approved plans. The actual placement of individual plants shall mimic natural, asymmetric vegetation patterns found on similar undisturbed sites in the area. Spacing of the plantings may be adjusted to maintain existing vegetation with the agreement of the landscape designer, wetland biologist, and/or agency staff.

Inspection(s)

A wetland biologist shall be present on site to inspect the plants prior to planting. Minor adjustments to the original design may be required prior to and during construction.

Compost / Mulch

Compost or mulch shall be placed at a depth of two to four inches in a two-foot ring around all installed plants (whips do not require mulch). Compost or wood chips shall be kept away (at least 2 inches) from the trunks and stems of woody plants.

4.0 USE OF THIS REPORT

This report is based largely on readily observable conditions and, to a lesser extent, on readily ascertainable conditions. No attempt has been made to determine hidden or concealed conditions.

The laws applicable to critical areas are subject to varying interpretations and may be changed at any time by the courts or legislative bodies. This report is intended to provide information deemed relevant in the applicant's attempt to comply with the laws now in effect.

The work for this report has conformed to the standard of cares employed by wetland ecologists. No other representation or warranty is made concerning the work or this report and any implied representation or warranty is disclaimed.

Wetland Resources, Inc.



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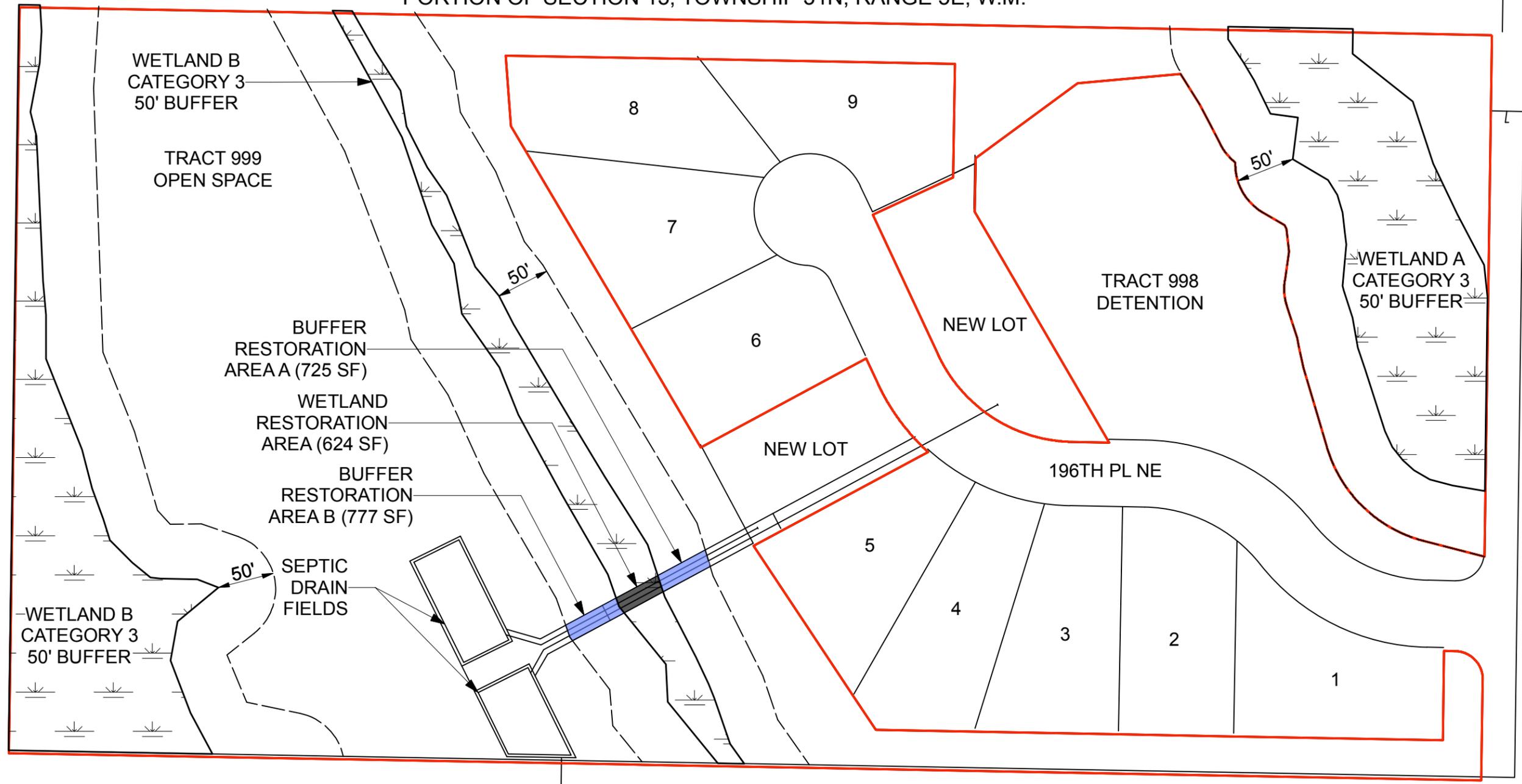
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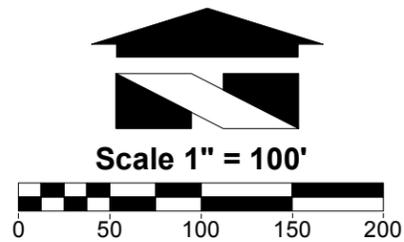
WETLAND AND BUFFER RESTORATION MAP

QUAIL RIDGE TRACT 999

PORTION OF SECTION 13, TOWNSHIP 31N, RANGE 5E, W.M.



LEGEND	
	PROPERTY BOUNDARY
	BUFFER
	WETLAND
	WETLAND RESTORATION
	BUFFER RESTORATION



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WETLAND AND BUFFER RESTORATION MAP
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 ARLINGTON, WA

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