

# **Dawson's Ridge Density Transfer Subdivision**

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## **PRELIMINARY WETLAND MITIGATION PLAN**



Prepared for:  
**McIntosh Ridge PRD, LLC**  
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August 2, 2017



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## **PRELIMINARY WETLAND MITIGATION PLAN**

**Project:** Dawson's Ridge Density Transfer Subdivision  
**Applicant:** McIntosh Ridge PRD, LLC,  
**Location:** 4510 NW McIntosh Road, Camas, Washington  
**Legal Description:** NE ¼ & SE ¼ of Section 08, T01N, R03E &  
SW ¼ of Section 09, T01N, R03E, W.M.; Clark County  
**Serial Number(s):** 127144-000, 127162-000, 127162-003, 127162-007,  
127162-009, 127167-000, 127168-000, 127169-000,  
127170-000, 127171-000, 127174-000, & 127175-000  
**Local Jurisdiction:** City of Camas  
**Study Area Size:** 39 acres  
**Project Type:** Subdivision  
**Zoning:** R-15  
**ComPlan:** SFL  
**Assessment by:** Kevin Grosz, PWS & Eli Schmitz  
**Site Visit(s):** September 23 and October 25, 2016  
**Report Date:** October 28, 2016  
**Preliminary  
Mitigation  
Report Date:** August 2, 2017  
**Prepared By:** Kevin Grosz, PWS

### **INTRODUCTION**

This report details the preliminary wetland mitigation plan prepared for the Dawson's Ridge Density Transfer Subdivision project by The Resource Company, Inc. (TRC). The project is located on the south side of NW McIntosh Road, east of Brady Road near Camas, Washington (Fig. 1). McIntosh Ridge PRD, LLC is proposing single-family detached housing within the project area. The proposed development plan provides residences, open space, trail, and access and utility improvements in a uniquely designed master-planned setting that preserves unique natural elements within and adjacent to the project (Figs. 2 & 3). Residents will be within a few minutes' walk of a park and green open space area, and will have access to an extensive and connected greenway system. The proposed Dawson's Ridge Density Transfer Subdivision will contribute a uniquely designed, connected and green plan in the Prune Hill area. The project is proposed to assist in providing housing choices for people moving into the growing Camas area. This report addresses indirect wetland impacts regulated by the Camas Municipal Code (CMC) 16.53 (Wetlands).

## **EXISTING CONDITIONS**

The study area encompasses all or portions of the tax lots listed above, totaling 39-acres. Several single-family residences and outbuildings are located within the site. The single-family residences are located in the southern portion of the study site, which overlooks the Columbia River. Most of the property exists as grassland, pastureland, or manicured lawns, except for the southwest corner and western edge, which contains mature forestland. The topography of this site is very diverse, with slopes ranging from 5 percent to 60 percent (Fig. 3).

Through the course of the routine wetland delineation, two emergent wetlands, four forested wetlands, two scrub-shrub wetlands, one perennial stream (Deer Creek), and three intermittent streams were identified within the project area (Figs. 5 & 6).

The plant communities of the wetland and upland portions of the site are described below.

### **WETLANDS (Figs. 5 & 6)**

Wetland A (Cat. IV, Table 1) is a HGM slope, palustrine emergent/forested wetland located east of the property boundary, at the base of a hillside (Fig. 6). Dominant vegetation in the wetland consists of soft rush (*Juncus effusus*, FACW), red fescue (*Festuca rubra*, FAC), colonial bentgrass (*Agrostis capillaris* – FAC), and a few red alder (*Alnus rubra* – FAC) trees.

Wetland B (Cat. IV, Table 1) is a slope, palustrine emergent wetland located south of Wetland A, adjacent to a small man-made pond. Dominant vegetation in the wetland consisted of colonial bentgrass, red fescue, velvet grass (*Holcus lanatus* - FAC), creeping buttercup (*Ranunculus repens* – FAC), and soft rush.

Wetlands C-F (Cat. IV, Table 1) are slope, palustrine forested wetlands and are adjacent to Deer Creek, and are all very similar in nature. These wetlands are located on the southside of Deer Creek and are hydrologically influenced by hillside seeps. Dominant vegetation includes salmonberry (*Rubus spectabilis* - FAC), large-leaved avens (*Geum macrophyllum* – FAC), creeping buttercup, and reed canarygrass (*Phalaris arundinacea* – FACW). These wetlands also contained a few western red cedar (*Thuja plicata* - FAC), black cottonwood (*Populus balsamifera* - FAC), and red alder trees.

Wetlands G and H (Cat. III, Table 1) are HGM riparian, palustrine shrub/scrub wetlands adjacent to Deer Creek. These wetlands are located on the either side of Deer Creek and are hydrologically influenced by Deer Creek and small hillside slopes. Dominant vegetation includes salmonberry and large-leaved avens.

**Table 1. Wetland Function Rating**

Wetland	Wetland Type	Water Quality Functions	Hydrologic Functions	Habitat Functions	Total Score	Wetland Category	Buffer Width High Intensity Land-Use
A	Slope	4	4	4	12	IV	50'
B	Slope	4	4	4	12	IV	50'
C	Slope	4	5	4	13	IV	50'
D	Slope	4	5	4	13	IV	50'
E	Slope	4	4	4	12	IV	50'
F	Slope	4	5	4	13	IV	50'
G	Riparian	7	5	4	16	III	80'
H	Riparian	7	5	5	17	III	120'

**NON-WETLANDS (Figs. 5 & 6)****Streams and Watercourses**

Deer Creek, a perennial Type F stream, was identified along the northern property boundary. The stream is located in a shallow, forested incised ravine dominated by red alder, western red cedar and black cottonwood. Deer Creek originates from the outfall of a pond located near N.W. Cascade Street approximately 5,000 feet northeast of the study area. The creek flows through a highly incised ravine in a westerly direction crosses under N.W. McIntosh Road and continues along the northern edge of the subject property to Brady Road. At the intersection with Brady Road, the stream flows south along the east side of Brady Road, crosses under SR- 14, and discharges into the Columbia River. The stream averaged a channel width of 3-4 feet with an estimated flow rate of 1.67 cubic feet per second (cfs).

In addition to Deer Creek, three intermittent tributaries to Deer Creek were identified in the study area. All three intermittent streams are located on the south side of Deer Creek. All three intermittent streams flow to the north for a short distance until their confluence with Deer Creek.

**Uplands**

Upland areas consist of forest and open grassland plant communities. The forest plant community is dominated by a Douglas-fir, big-leaf maple and red alder tree layer. The shrub stratum is predominantly hazelnut (*Corylus cornuta* – FACU) and vine maple (*Acer circinatum* – FAC). Vegetation in the open grassland plant community is dominated by tall false rye grass (*Schedonorus arundinacea*- FAC), colonial bentgrass, dove's foot geranium (*Geranium molle* – UPL), and great plantain (*Plantago major* – FAC).

Photographs of the study and surrounding areas are shown in Photo-sheet 1.

## **AVOIDANCE AND MINIMIZATION OF IMPACTS**

The Applicant is proposing to avoid all direct impacts to the six on-site wetlands and two off-site (to the east) wetlands for the development of this project. However, the Applicant is proposing the indirect impact to three wetlands for the installation of a sidewalk, entrance landscaping, lot 39 and the stormwater facility maintenance road. These indirect wetland impacts are discussed in the Wetland Activities section of this report.

The following additional measures will be taken to avoid/minimize additional impacts to wetland and buffer areas:

1. All wetland, wetland buffer, and riparian buffer boundaries will be temporarily flagged in the field prior to construction.
2. Erosion control measures (e.g. straw bale sediment barriers or sediment fence) will be installed to prevent siltation from occurring in critical areas during construction and downstream from the site.
3. The erosion control measures will be removed once construction is completed and vegetation has become established.
4. The final wetland and buffer configuration will be placed in a conservation covenant that will restrict use and access to the critical areas

## **BUFFER ACTIVITIES**

The Applicant is proposing the temporary impact to the buffer for Wetland E for the installation of the stormwater pipe as shown in Figure 7. The installation of the pipe will temporarily impact 233 ft<sup>2</sup> of the outer edge of the buffer as shown in Figure 7. Once the installation of the pipe has been completed this area will be restored as follows:

Performance Standard #1. The restored trench area will be planted with the native seed mixture (or similar) given in Table 1 that will provide 80 percent cover following the first growing season. Proposed restoration activities are outlined below:

To maintain wetland and habitat buffer function, the temporary impact area (Fig. 7) will be protected and restored as follows:

1. Construction fencing should be placed and maintained between the wetland/stream boundary and the trench construction areas during excavation to prevent equipment from entering the wetland.
2. The trench will be excavated at the minimum width necessary for the installation of the pipe.
3. Erosion control BMP's shall be employed so that that the wetland/stream are not impacted by the trenching and installation activities.
4. Spoils from the trench shall be stored out of the wetlands and/or buffers.

5. The upper 12 inches of topsoil should be removed and stockpiled separately from subsurface soil.
6. Once installation has been completed the trench shall be restored to preconstruction contours. Subsurface soils will be placed first into the trench as backfill, followed by the topsoil.
7. The trench construction areas will be planted with a native grass seed mixture (or similar) to the mixture given in Table 1:

**Table 1. Native Seed Mixture**

**Blue wildrye (*Elymus glaucus*) 50%**

**California brome (*Bromus carinatus*) 30%**

**Native red fescue (*Festuca rubra*) 10%**

**Bentgrass (*Agrostis exarata*) 10%**

**The seeding rate for this mixture is: 1 lb./1000 ft<sup>2</sup>**

Additional planting specifications applicable to this plan are listed below.

Source of Plant Materials: All plants will be obtained from nurseries specializing in plant materials native to the Pacific Northwest.

Schedule: The restoration areas will be seeded as soon as possible once the trench has been backfilled and the grading completed in the buffer.

Monitoring & Maintenance: The following actions will be implemented as part of the wetland buffer restoration monitoring and maintenance plan on this site:

Qualifications: The initial and all successive year plantings will be supervised by a qualified professional to ensure that correct planting procedures are followed and that plantings are done according to the planting scheme.

Duration: The restored trench will be monitored to ensure that the seeded grass species have germinated and are restoring the disturbed areas. A monitoring report will be submitted to the City after the first growing season following the restoration activities. This report will outline the restoration activities – grading and seeding. The restored areas should have 80 percent cover following the first growing season. Minor weed maintenance may be required to meet this goal as outlined below. Additional monitoring may be required by the City if the site is not meeting the stated performance standard #1.

Maintenance: To ensure planting success, the Applicant will be responsible for performing minor maintenance over the monitoring period. This will include the selective removal of undesirable plant species such as blackberry (*Rubus* spp.) and reed canarygrass that may be hindering the growth and establishment of the favored plant stands.

Adaptive Management: Adaptive Management will be utilized to make improvements to the mitigation plan if needed. Adaptive Management – the feedback loop – is a four step

process based on a review of the information collected through the monitoring and a determination of what changes are necessary to improve protection when goals are not met. This process will be utilized if monitoring reveals that the objectives and performance standards of the mitigation are not being met.

Monitor - Provides new data that feeds back into the analysis of the landscapes and its wetlands.

Analyze– As monitoring data is analyzed new information can be generated that may require changing the solutions prescribed.

Implement – Implement actions to address mitigation deficiencies.

Monitor – Monitor the implemented actions and if deficiencies are still present proceed to step 1.

## **WETLAND ACTIVITIES**

The project has been designed to avoid all direct impacts to wetlands on and off-site. However, the Applicant is proposing the indirect wetland impact of 0.06 acres (2,893 ft<sup>2</sup>) of Wetland A, .001 acres (280 ft<sup>2</sup>) of Wetland H and 0.05 acres (2,054 ft<sup>2</sup>) of Wetland G. These indirect impacts are due to maintaining the required buffers for each of the wetlands. None of the wetlands will actually be filled or excavated. The Applicant is proposing to purchase mitigation credits from the Columbia River Wetland Mitigation Bank (CRWMB) to compensate for these indirect wetland impacts.

The project is located within the service area of the CRWMB (Fig. 8). The Applicant is proposing to purchase bank credits to compensate for 5,227 ft<sup>2</sup> of indirect impacts to Wetlands A, H and G (Fig. 7, Table 2).

**Table 2. Mitigation Accounting (Fig. 7)**

Wetland	Impact Type	Impact	Impacts (FT <sup>2</sup> /AC.)	Bank Credit Purchase	
A - Category IV	Indirect	Sidewalk/Entrance Landscaping	2,893/.06	2,460/.06	0.85:1
G- Category III	Indirect	Lot 39	280/.001	280/.001	1:1
H- Category III	Indirect	Stormwater Facility	2,054/0.05	2,054/0.05	1:1
Totals			5,227/.12	4,794/.11	1:1

## **MITIGATION GOALS/ACTIVITIES**

The overall objective of this plan is to ensure no net loss of wetland functions and values within the Columbia Slope Watershed, and satisfy the requirements the City of Camas. The Applicant will purchase mitigation credits from the CRWMB to compensate for the 5,227 ft<sup>2</sup> (Table 2) of indirect wetland impacts. The project area is located within the Columbia Slope Watershed and the service area of the CRWMB (Fig. 8). The bank service area (Fig. 8) encompasses the historical floodplain of the Columbia River from the confluence of the Cowlitz River upstream to Bonneville Dam. According to the CRWMB banking instrument a functional assessment of the bank was conducted in accordance with the Washington State Method for Assessing Wetland Functions (WAFAM): Volumes I and II. This assessment was conducted to determine existing



wetland functional conditions and the potential change in function post-bank construction. According to the results of this assessment, the bank will significantly increase water quality, water quantity and habitat functions of existing conditions within the bank service area. Goals and objectives of the CRWMB are listed in Appendix C of the CRWMB banking instrument. The credit-debit ratio for the bank is outlined in Table 3 (Bank Instrument – Appendix E, Table E-1). As per the approved CRWMB bank instrument, Category IV wetlands are compensated at a 0.85:1 ratio and Category III wetlands are compensated at a 1:1 ratio (Table 3). Therefore, the applicant is proposing to purchase 0.11 bank credits to compensate for the 0.12 acres (Table 2) of indirect impacts to Wetlands A, H and G.

**Table 3. Credits Recommended for Wetland Impacts for CRWMB.**

Category of Impacted Wetland	Credit Recommended per Impact Acre
I	Case-by-Case
II	1.2:1
III	1:1
IV	0.85:1
Critical Area Buffer	Case-by-Case

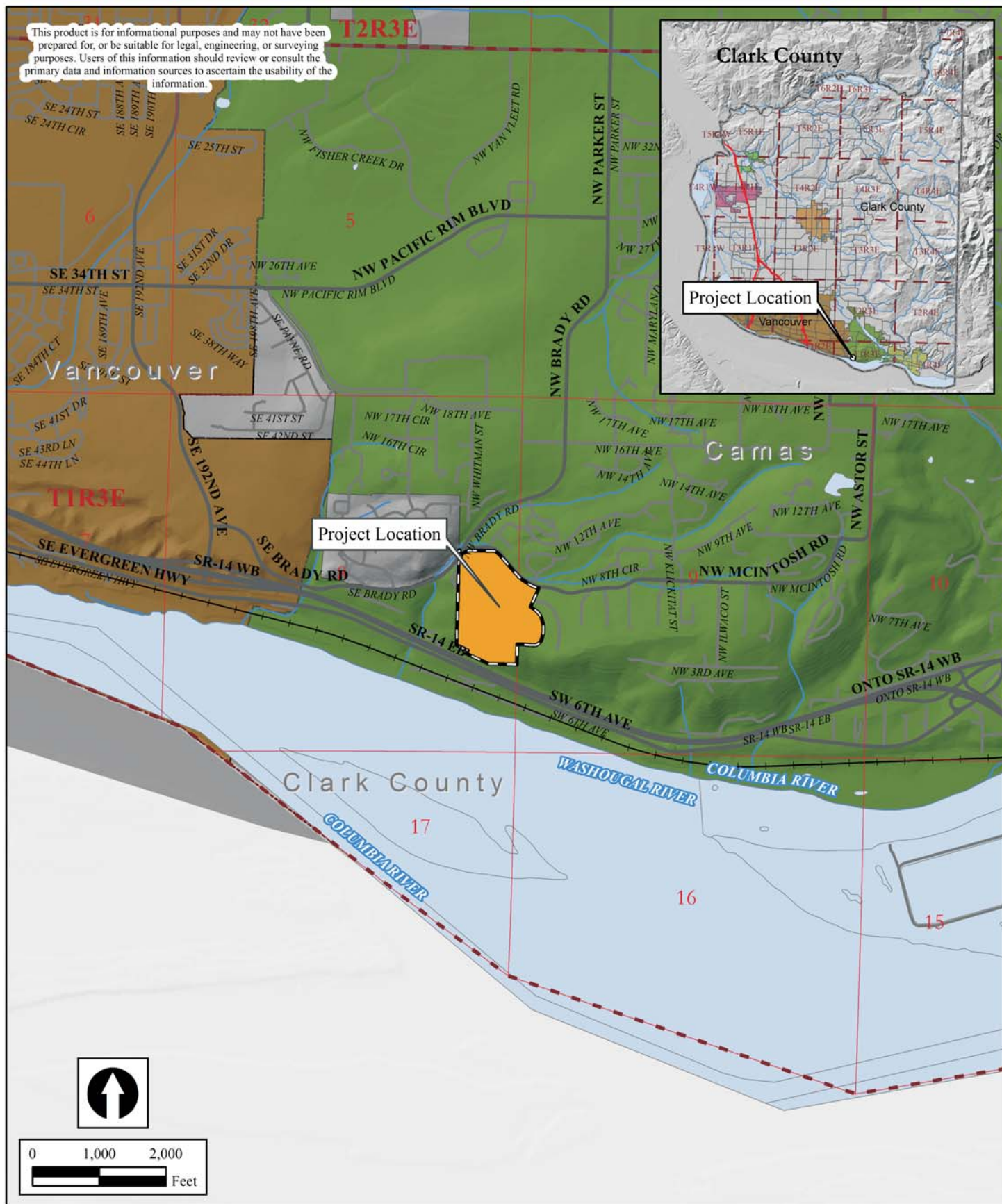
## **PROJECT SCHEDULE**

This project is proposed to begin construction as soon as the appropriate permits are received. Initial project grading and indirect wetland impacts are tentatively scheduled to begin in the summer/fall of 2017. The Applicant will purchase bank credits prior to the site construction that will generate the indirect wetland impacts

## **DEMARICATION**

As per CMC 16.53.040(C)(2) the outer edge of the buffer shall be denoted as follows: Permanent Marking of Buffer Area. A permanent physical demarcation along the upland boundary of the wetland buffer area shall be installed and thereafter maintained. Such demarcation may consist of logs, a tree or hedge row, fencing, or other prominent physical marking approved by the responsible official (as defined by CMC 16.05.030). In addition, small signs shall be posted at an interval of one per lot or every one hundred feet, whichever is less, and perpetually maintained at locations along the outer perimeter of the wetland buffer as approved by the responsible official, and worded substantially as follows:

Wetland and Buffer—Please retain in a natural state.



#### Dawson's Ridge Project

##### APPLICANT:

McIntosh Ridge PRD, LLC  
16420 SE McGillivray Blvd., Ste. 103-197  
Vancouver, WA 98683

**PURPOSE:** Preliminary Wetland Mitigation

#### Project Location Map Dawson's Ridge Density Transfer Subdivision Camas, Washington



**The Resource Company, Inc.**  
ENVIRONMENTAL SERVICES • GIS • HABITAT RESTORATION

8415 NE 8th Avenue, Vancouver, WA 98666 ph: 360-693-4555 fax: 360-699-6242

#### PROPOSED ACTIVITIES IN:

Columbia Slope Watershed  
**LEGAL:** SE & NE ¼ of Sect. 08 & SW¼ Sect. 9, T1N, R3E, W.M.,  
**NEAR:** Camas, Washington  
**COUNTY:** Clark County  
**DATE:** August 2, 2017  
**Figure 1**

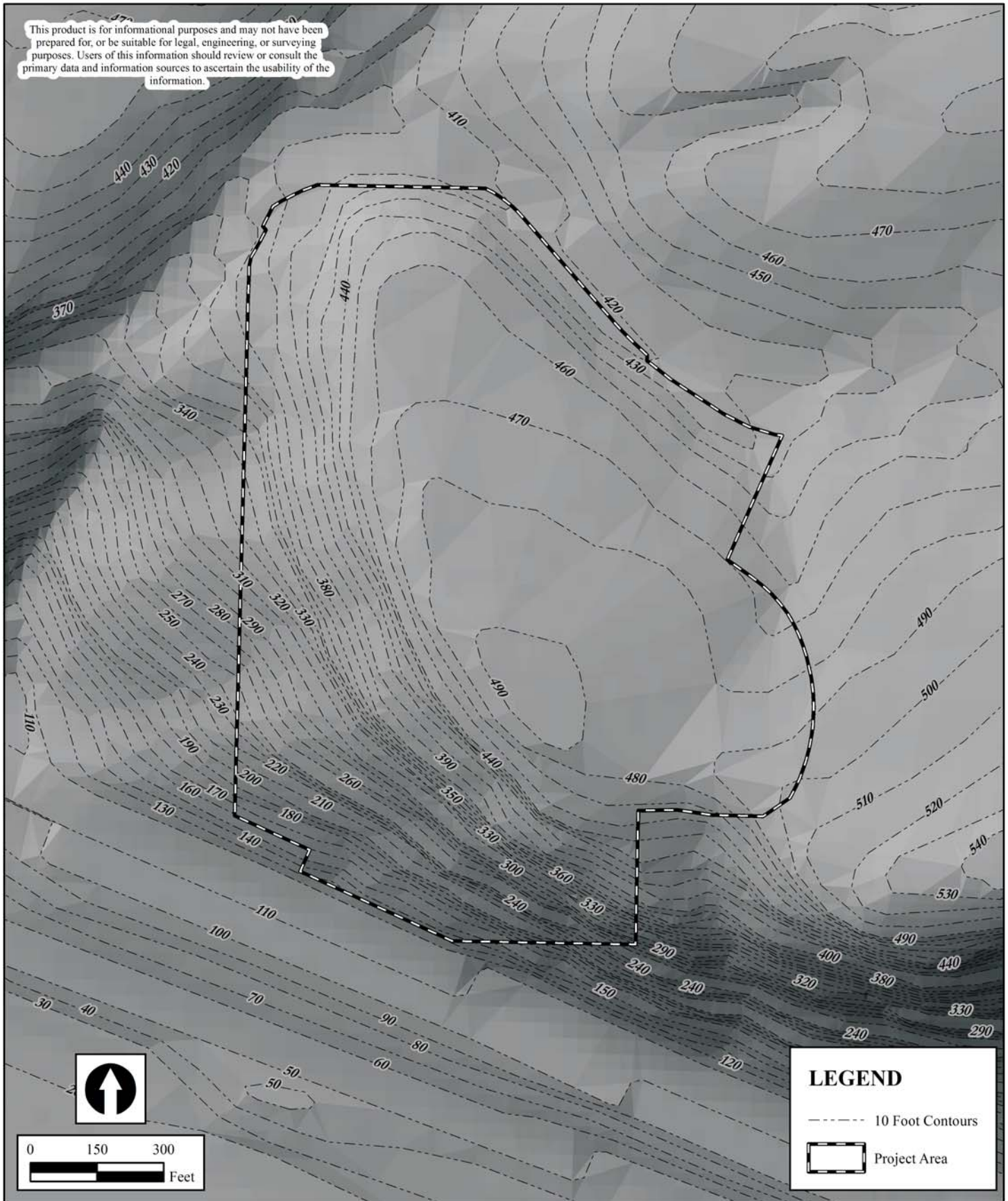








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**PURPOSE:** Preliminary Wetland Mitigation

#### Clark County LiDAR Topography Dawson's Ridge Density Transfer Subdivision Camas, Washington



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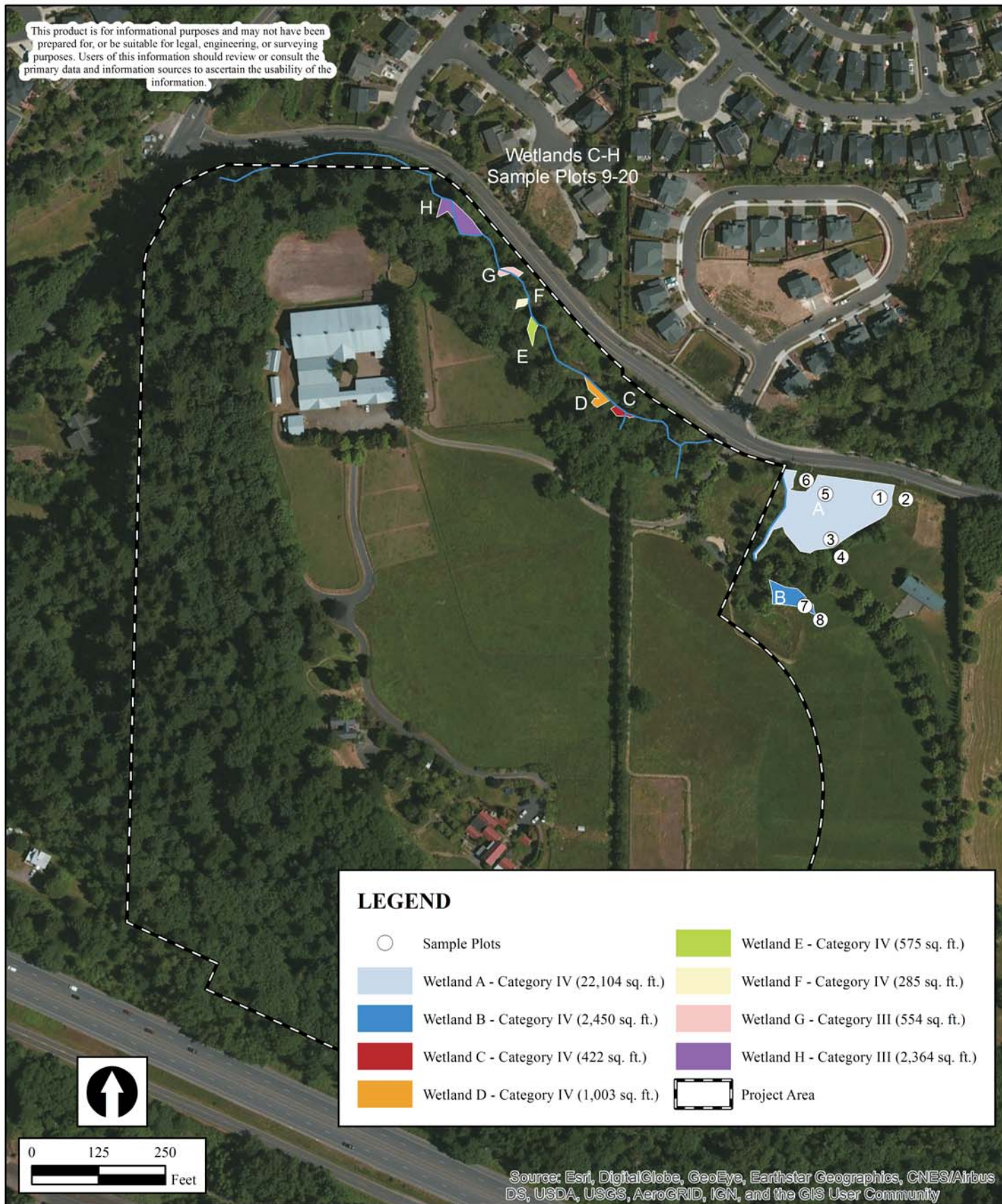
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**Figure 4**



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**PURPOSE:** Preliminary Wetland Mitigation

#### Delineated Wetlands Dawson's Ridge Density Transfer Subdivision Camas, Washington



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**Figure 5**



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**PURPOSE:** Preliminary Wetland Mitigation

#### Wetland Boundaries and Buffers Dawson's Ridge Density Transfer Subdivision Camas, Washington



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#### PROPOSED ACTIVITIES IN:

Columbia Slope Watershed  
**LEGAL:** SE & NE ¼ of Sect. 08 & SW¼

Sect. 9, T1N, R3E, W.M.,

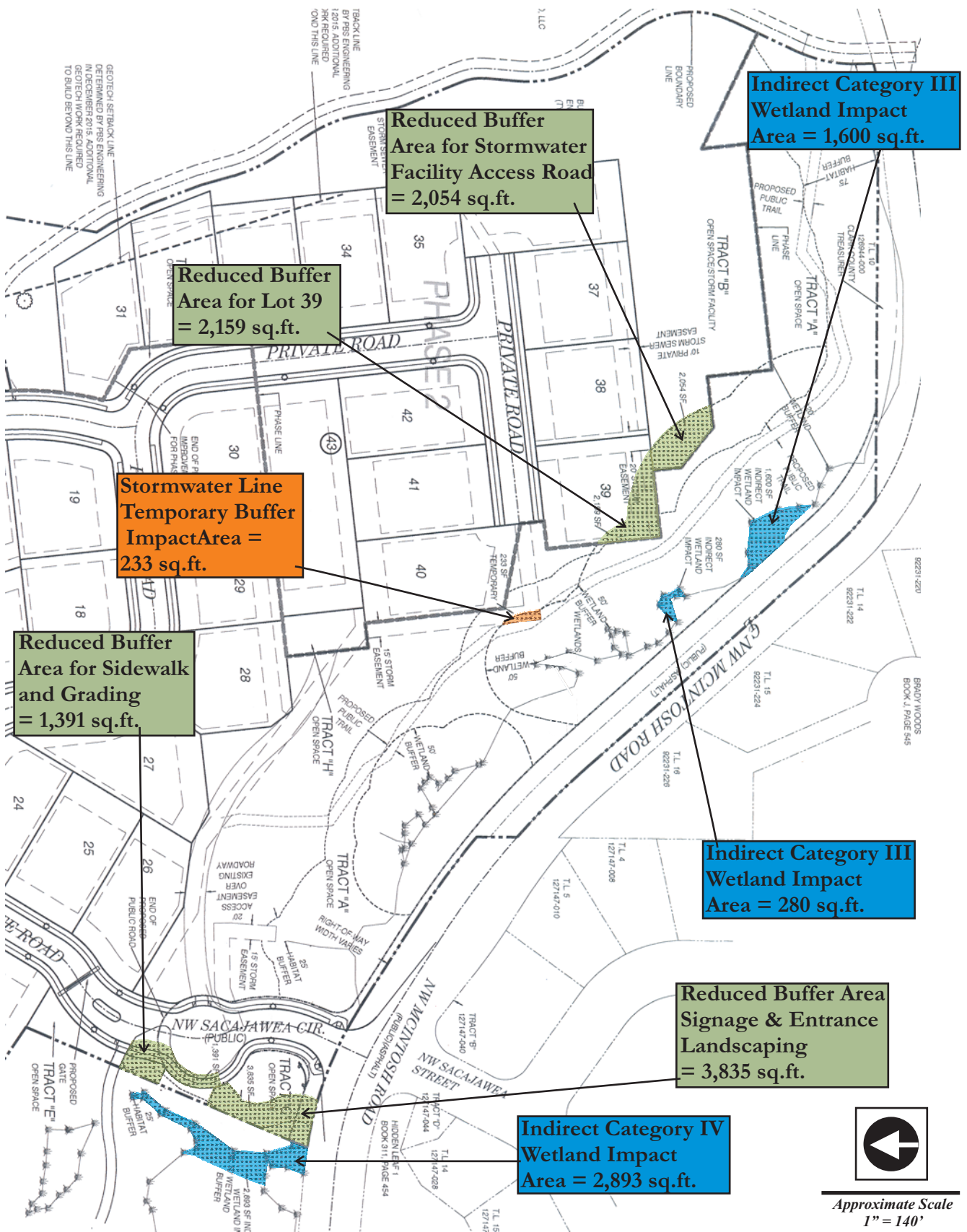
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**Figure 6**





#### Dawson's Ridge Project

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**PURPOSE:** Preliminary Wetland Mitigation

#### Proposed Indirect Wetland Impacts Dawson's Ridge Density Transfer Subdivision Camas, Washington



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**Figure 7**





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#### Project & CRWMB Location Map Dawson's Ridge Density Transfer Subdivision Camas, Washington



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**Figure 8**





**Wetland A**



**Wetland B**



**Wetland C**



**Wetland D**



**Wetland E**



**Wetland F**

**Dawson's Ridge Project**

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**Project Photographs**  
**Dawson's Ridge Density Transfer Subdivision**  
**Camas, Washington**



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**Photo Sheet 1**





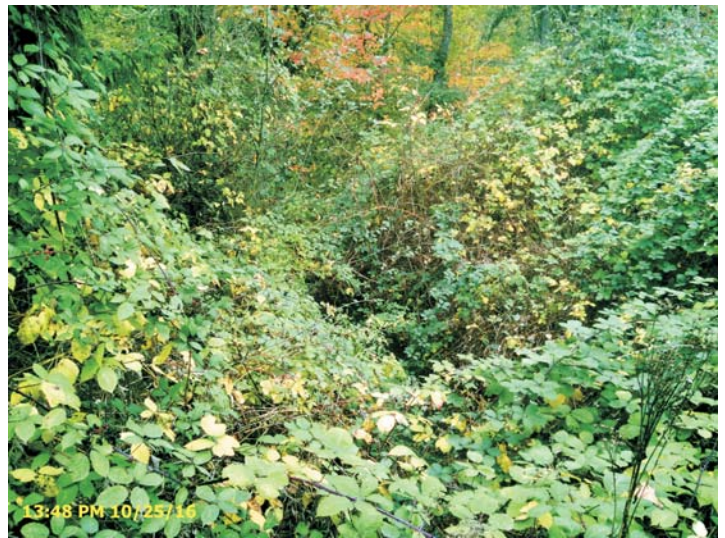
Wetland G



Wetland H



Type F Stream



Type F Stream



Type Ns Stream



Riparian Area

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**Photo Sheet 2**