CITY OF DUPONT

DEPARTMENT of Community Development
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PLANNING DIVISION

STAFF REPORT & RECOMMENDATION TO THE HEARING EXAMINER

Project:	Champions Centre
File Numbers:	PLNG2023-010,-011,-013,-014
Date of Report:	November 12, 2025
From:	Patrick Kelly, AICP AHBL, Inc., Planning Consultant to the City
Via:	Barb Kincaid, AICP City of DuPont, Public Services Director
Public Hearing:	November 18, 2025 at 2:00 PM 1700 Civic Drive Dupont, WA 98327

SUMMARY OF REQUEST: The applicant is seeking the following permits, the applications will be reviewed concurrently, and a public hearing will be required.

- SEPA Environmental Review (PLNG2023-013)
- Type I – Design Review (PLNG2023-010)
- Type II - Site Plan Review (PLNG2023-010)
- Type III - Critical Areas Permit (PLNG 2023-014)
- Type III - Tree Modification (PLNG2023-011)

PROJECT DESCRIPTION: The proposal is for the construction of a church to accommodate a congregation of approximately 350 people, as well as a separate 3,000 square foot eating and drinking establishment. The subject property consists of four legal lots of record, which upon approval of a lot line elimination, will become three lots. The lot line elimination would be accomplished through a boundary line adjustment, required as a condition of approval of the project. Although the property consists of approximately 21.29 acres, only approximately 4.1 acres are proposed to be developed, as follows:

- Lot A will be approximately 139,369 square feet upon which a 26,000 square foot church and associated parking lot will be constructed.

- Lot B will be approximately 34,601 square feet upon which a 3,000 square foot eating and drinking establishment will be constructed, along with EV parking as an accessory use open to the public.
- Lot C will be approximately 753,056 square feet (17.28 acres) upon which a Category 2 wetland (Bell Marsh) and associated buffer are located, and which may be conveyed to the city at the time Lots A and B are developed.

The proposal also includes a request to remove regulated landmark trees and to reduce the standard wetland and stream buffer.

LOCATION: The subject property is located on the southeast edge of the city at the intersection of DuPont Steilacoom Road and Barksdale Avenue. The proposal involves tax parcel numbers 0119362039, 0119362009, 0119362012, and 0119362043, which are located in Section 36 Township 19 Range 01 Quarter 21.

The portion of the subject property to be developed (proposed Lots A and B) is located in the Historic Village, and a portion of the wetland parcel, Lot C, is located in the Bell Hill Village. All subject parcels are in the Commercial zoning district and are surrounded by other Commercial zoned properties to the south and southeast and by Open Space and R-3 to the north and northwest.

Parcel 0119362043, proposed Lot C, is predominately covered by the Bell Marsh wetland and associated stream and is within a 1% Annual Chance Flood floodplain. The subject property also contains several stands of trees, some of which are landmark status and concentrated on an elevated portion of the eastern edge of the site fronting Dupont-Steilacoom Road. The southwestern portion of the site fronting Barksdale Avenue is mostly flat and gently sloping downward northeastward toward the wetland where topography becomes more variable.

APPLICANT: Wendy Garrison
LeRoy Surveyors & Engineers, Inc.
P.O. Box 740, Puyallup, WA 98371

SUMMARY OF RECORD: Refer to the list of attachments provided in Section E, which includes the permit application submittal materials, public notices, public comments, and agency review comments (Attachments 1-6).

SUMMARY OF RECOMMENDATION: Staff recommends approval with conditions of the following applications:

1. SEPA Environmental Review (PLNG2023-013)
2. Type I Design Review (PLNG2023-010)
3. Type II Site Plan Review (PLNG2023-010)
4. Type III Critical Areas Permit (PLNG 2023-014)
5. Type III Tree Modification (PLNG2023-011)

A. FINDINGS OF FACT:

1. Permit Processing Procedures

a. Type III Permits: Per 25.105.080 and 25.120.050, the Critical Areas Permit (PLNG2023-014) and the Tree Modification Request (PLNG2023-011) shall be reviewed and processed as Type III procedures as set forth in 25.175.010. Type III procedures require noticing, a public hearing, and the final decision by the City's hearing examiner, who will provide written findings and make determinations following the public hearing.

b. Type II Permits: Per 25.150.020, Site Plan Review (PLNG2023-010) shall be processed as a Type II procedure as set forth in 25.175.010. Type II procedures require noticing and the final decision by the City's Community Development Director.

c. Type I Permits: Per 23.01.080 and 25.70.010 the SEPA Environmental Review (PLNG2023-013), and Design Review (PLNG2023-010) shall be processed with a Type I procedure as provided in 25.175.010. Type I procedures do not require noticing and the decision is made by the City's Community Development Director.

d. Preapplication Review: Per 25.175.020 a preapplication review is required prior to filing for Type II, III, or IV procedures. The applicant submitted a preliminary review request on March 27, 2023.

2. Noticing

a. A Notice of Complete Application was issued to the applicant on January 16, 2024 as required for the Type II and III permits.

b. A Notice of Application with Optional DNS was issued on January 19, 2024. The Notice was posted on site, at City Hall, and published in the News Tribune. A 14-day public comment period was held from January 19, 2024 through February 2, 2024 during which time several comments were received and provided as Attachments 5 and 6.

There were 19 comments submitted expressing concern about the project, the majority of which addressed the loss of existing oak trees on the property due to the project. Other issues of concern were the classification of Bell Marsh as a class 1 or 2 wetland, general wetland impacts, vehicle traffic generation, visual compatibility with the Historic Village, and temporary construction impacts. There were also twenty comments submitted in support of the project.

A SEPA Notice of Decision to Issue an MDNS was issued on October 20, 2025, with the appeal period ending on November 3, 2025 at 5:00 PM.

c. A Notice of Public Hearing announcing the date and location of hearing was issued on October 28, 2025 to all parties of record.

3. Comments

The following agencies reviewed the proposal and provided comments summarized below and attached as exhibits, recommendations and conditions for which have been incorporated into this staff report under section E.

a. **Fire Department:** The Fire Department indicated they had no comments on the project.

b. **Building Official:** The Building Department indicated they had no comments on the project.

c. **Transportation:** A Traffic Concurrency was issued on June 17, 2025. No further concerns or comments.

d. **Engineer/Survey:** Engineering comments related to frontage improvements, underground infrastructure (water, sewer, etc.), grading, stormwater controls, and site improvements.

e. **Public Works:** No concerns or further comments.

B. CONSISTENCY WITH CITY DEVELOPMENT REGULATIONS

The following Section B.1. presents staff analyses for consistency review for Site Plan Review. Consistency with the requirements of DMC Chapter 25.105, Critical Areas, is provided in the Critical Areas Analysis, Section B.2. Consistency with DMC Chapter 25.120, Tree Retention, is provided in the Tree Modification Review Analysis, Section B.3. Consistency with the requirements of DMC Chapter 25.70, Commercial and Mixed Use Design Regulations and Guidelines, is provided in the Design Review Analysis, Section B.4.

1. Site Plan Review (PLNG2023-010)

Per DMC 25.150.030, Site Plan Review requires that the proposal be carried out in a manner consistent with the criteria specified in the following:

- Zoning District Requirements: All of the development regulations and criteria specified in the district applicable to the property must be satisfied.
- General Development Requirements: Any applicable regulations under Chapters 25.75 through 25.95 and 25.105 through 25.125 must also be met.
- Comprehensive Plan: The proposal will be reviewed for consistency with the Comprehensive Plan Village/Planning Area in which it is located.

a. Zoning District Requirements

The subject property is within the Commercial (COM) zoning district requirements for which are specified under DMC Chapter 25.25.

DMC 25.25.020 Permitted Uses

Uses allowed within the COM zoning district are specified in this section.

Staff Analysis and Conclusion: *Churches are not explicitly listed as a permitted use in the COM zoning district in either DMC 25.25 Commercial District or the appendix table of permitted uses, however; quasi-public uses are listed as permitted in the COM zoning district under DMC 25.25.020 (7) and according to the definition under DMC 25.10.170.005, quasi-public uses are defined as those which serve nonprofit social or religious ends, such as churches, therefore the proposed church is a permitted use. The proposed eating establishment is a permitted use in the COM zoning district per DMC 25.25.020 (2).*

DMC 25.25.025 Accessory uses.

Accessory uses allowed within the COM zoning district are specified in this section.

Staff Analysis and Conclusion: *The proposal includes electric vehicle charging spaces intended for church attendees and general public use. Electric vehicle charging is a permitted accessory use in the COM zoning district under this section. DMC Chapter 25.126 Electric Vehicle Facilities includes design criteria and guidelines for electric vehicle charging facilities. The electric vehicle parking and charging facilities meet these standards as proposed.*

DMC 25.25.050 Building bulk restrictions.

The COM zoning district building bulk restrictions include a maximum building height and front yard setback requirements. The maximum allowed building height is 50 feet, however, structures within 100 feet of a residential district shall not exceed 35 feet in height. The front yard setback is required to be between zero and 20 feet.

Staff Analysis and Conclusion: *The proposed building heights are 24 feet and 18 feet, meeting the height limits of this section. Both proposed buildings are sited to abut the front*

property line as defined in DMC 25.10.160.110 along DuPont-Steilacoom Road with no front yard setbacks. The main church building is setback 10-feet from the other front property line along Barksdale Avenue and includes landscaping. As proposed, both buildings meet the front yard setback requirements of this section.

DMC 25.25.060 Site plan approval.

Per this section, site plan approval is required for all development projects. If the proposed project includes less than 50,000 square feet of building area, then site plan review shall be processed as a Type II permit. If proposed building area exceeds 50,000 square feet, site plan review shall be processed as a Type III permit.

Staff Analysis and Conclusion: *The combined area of the proposed buildings is approximately 29,000 square feet, and therefore site plan review is being processed as a Type II permit.*

b. General Development Requirements

Per DMC 25.150.030, in addition to specific zoning district development requirements, the general development requirements of DMC Chapters 25.75 through 25.95 and 25.105 through 25.125 must also be met.

DMC Chapter 25.75 Commute Trip Reduction

Commute Trip Reduction (CTR) is applicable to new businesses that employ more than 100 persons.

Staff Analysis: *The SEPA checklist provided with the application states that upon completion the church would likely have 15 to 25 employees, therefore DMC Chapter 25.75 does not apply to this project due to having less than 100 employees.*

DMC Chapter 25.80 Cultural, Historical, and Archaeological Resources

This section regulates construction within areas of potential historical or cultural resources and allows for conditions to be imposed on any plat, site plan, or permit to assure that such resources are protected, preserved, or collected. The City has four designated cultural resource sites listed under DMC 25.80.020. Additionally, per DMC 25.80.040, the City maintains a map showing potential cultural resource areas and reviews every development proposal to ensure appropriate measures are taken to protect cultural, historical, and archaeological resources areas.

Staff Analysis and Conclusion: *The proposal is not within, nor does it contain any of the City's designated cultural resource sites listed under this section.*

A cultural resources study was prepared for the subject property by Drayton Archaeology dated August 15, 2023. Drayton's cultural resources assessment consisted of a thorough background review, field investigation, and production of this report. Background review concluded the project is in an area of moderate probability for cultural resources based primarily on the property's proximity to known archaeological sites, topography, and ecological context. On-site fieldwork included systematic visual reconnaissance and subsurface investigation of areas of proposed impact. No precontact or historic archaeological deposits were encountered within the project area during Drayton's field investigation. Drayton recommends the project proceed with no additional archaeological oversight.

Although no archaeological management or mitigation measures are recommended, the project is located within an area of moderate probability for encountering cultural resources.

A general inadvertent discovery plan (IDP) for the information of all involved in the project shall be adhered to, as required by Condition 9. It is the responsibility of all involved to ensure proper consideration for cultural resources and to develop archaeological mitigation strategies, as needed.

A Memorandum of Agreement (MOA) dated August 7, 1989, was executed between Weyerhaeuser Real Estate Company (WRECO) (the previous landowner), the City of DuPont, and the Washington State Historic Preservation Officer regarding the discovery of cultural resources within the City of DuPont, customary professional standards for archaeology, and applicable state and federal laws. Implementation of the MOA requires archaeological monitoring during soil disturbing activities, including extending an invitation to the Nisqually Tribe to be present during such activities, and preparation of a closing report.

Accordingly, the SEPA Determination (See Attachment 4d) includes a requirement for a general inadvertent discovery plan (IDP). A condition of approval has been incorporated to implement the IDP found in Cultural Resources Assessment for the project, as a condition for site plan approval (See Condition 9).

DMC Chapter 25.85 Affordable Housing Incentives.

The affordable housing incentives program provides incentives for affordable housing.

Staff Analysis and Conclusion: *Housing is not a component of the proposal therefore DMC Chapter 25.85 is not applicable to the proposed project.*

DMC Chapter 25.90 Landscaping

i. DMC 25.90.020 Substantive requirements – Proportion of landscape areas.

This section requires commercial uses to provide a minimum of 20% landscape coverage. Critical areas and the associated buffers do not count towards this requirement.

Staff Analysis and Conclusion: *The proposed landscaping covers approximately 29% of Lots A and B, over the minimum 20% landscape coverage required of DMC 25.90.020. This calculation does not include Lot C as specified in this section because it is occupied by the critical area and associated buffer. Some existing trees are proposed to be retained as encouraged by this section.*

ii. DMC 25.90.030 Substantive requirements – Landscaping.

(1) Street Trees. At time of street construction, or time of development of the adjoining land, street trees and related landscaping shall be provided in medians and parking strips within the right-of-way in accordance with the city's public works standards. Street trees shall be:

(a) Provided at least one per 40 to 50 feet of frontage, depending on the tree species and other circumstances;

(b) Located within the street right-of-way;

(c) Of the same species as other street trees in the same streetscape;

(d) Spaced to accommodate sight distance requirements for driveways and intersections; and

(e) At least two inches caliper measured six inches above the ground line with a single-stem and minimum branch height of six feet.

(2) Interior Parking Lot Landscaping. To provide shade and visual relief, the interior of surface parking lots with 10 or more stalls shall be landscaped with at least one tree per six stalls.

(3) Buffers. Though the comprehensive plan is designed to minimize adjacent, incompatible land uses, such incompatibilities sometimes arise in detailed site planning. In these cases, a buffer (see DMC 25.10.020, B definitions) is required, as follows:
   (a) A moderate buffer shall be provided between parking lots and any adjacent public right-of-way.
   (b) In the process of reviewing development proposals, the city will require full, moderate, or light buffers as necessary to mitigate incompatibility, for example between residential and nonresidential development, or between an outdoor storage or trash receptacle area and surrounding high-use areas.

Staff Analysis and Conclusion: *The proposed street trees, interior parking lot landscaping, and landscape buffers provide screening between the proposed parking areas and residential uses to the north and adjacent rights-of-way meeting the intent and requirements of DMC 25.90.030 as follows:*

- *The existing Barksdale Avenue median trees and landscaping will be retained.*
- *A total of 21 street trees, specified as Styrax japonicus with 2-inch calipers, are proposed every 40-50 feet along the Steilacoom DuPont Road frontage. These trees will replace some existing cherry trees proposed to be removed from the Steilacoom DuPont Road right-of-way. Note, however, that DMC 25.70.060 requires tree spacing of no more than 30 feet on center. This section is similar to the street tree requirements in DMC 24.90.030(1), which require spacing at 40 to 50 feet. Per DMC 25.05.040(3), the stricter requirements to plant street trees at no more than 30 feet on center of DMC 25.07.060 apply. A condition of approval (Condition 8) is included requiring the plans be revised to show compliance with this section.*
- *A total of 13 existing street trees identified as cherry and spaced approximately 25 feet apart are proposed for retention in the right-of-way fronting Barksdale Avenue.*
- *A 30 by 30-foot sight triangle at the intersection of Barksdale Avenue and Steilacoom DuPont Road is shown on the landscape plans to maintain unobstructed sight lines.*
- *The proposed interior parking areas include a tree at least every 6 stalls.*
- *Screening is proposed in areas where parking is adjacent to the street and includes 10-foot moderate landscape buffers consisting of trees, evergreen shrubs, and ground cover between the parking area and right-of-way edge fronting Barksdale Avenue and Steilacoom DuPont Road.*
- *Screening is proposed in areas where parking is adjacent to single family uses along the northern perimeter and includes a 10–15-foot moderate landscape buffer consisting of a variety of native trees, evergreen shrubs, and groundcover in addition to a four-foot-tall concrete block wall and a six-foot-tall solid wood fence.*
- *The proposal includes trash and recycling collection areas in the parking area perimeter of both proposed lots/uses that include landscape screening.*

iii. DMC 25.90.040 Substantive requirements – Water conservation

Per this section, all required landscape plans include a water conservation element including a statement of the techniques proposed to conserve water and a projection of the amount of irrigation the proposed landscape will require, in gallons per square foot

of landscaping, excluding retained native vegetation, per year. Irrigation projections shall not exceed: 11.6 inches; or 7.2 gallons per square foot; or 313,632 gallons per acre.

Staff Analysis and Conclusion: *The applicant provides a water conservation statement on the landscape plans as required under DMC 25.90.040 that includes estimated irrigation calculations that document an estimated water usage of 6.13 gallons per square foot, under the maximum 7.2 gallons per square feet specified in this section. Landscape plans also specify native drought tolerant plants and mulching.*

iv. DMC Chapter 25.95 Off-Street Parking

DMC 25.95.030 Number of spaces

This section establishes the minimum and maximum number of off-street parking spaces allowed based on the type of use. Places of public assembly, which includes churches, are required to provide a minimum of 0.15 and a maximum 0.4 off-street parking spaces per person at maximum capacity. Eating and drinking establishments require a minimum of 8 and a maximum of 16 parking spaces per 1,000 square feet open to the public.

Staff Analysis and Conclusion: *The proposed Lot A church building capacity is 350 requiring a minimum of 53 off-street parking spaces be provided and a maximum of 140 off-street parking spaces allowed. The proposed church parking area includes a total of 136 parking spaces including 8 electric vehicle parking spaces, 5 standard ADA parking spaces, 1 van ADA parking space, and 122 standard parking spaces. All proposed parking spaces are within 500 feet walking distance from the church entrance, meeting the requirements of this section.*

The proposed Lot B development includes a 3,000 square foot eating and drinking establishment which is required to have a minimum of 24 parking spaces and allowed up to 48 parking spaces. The proposal includes a total of 39 parking spaces including 11 electric vehicle parking spaces, 1 standard ADA parking space, 1 ADA van parking space, and 26 standard parking spaces, meeting the requirements of this section.

DMC 25.95.040 Location.

All off street parking is required to be within 500 feet of the building entrance. No parking is allowed in the required vision clearance triangle, required front yards, or required side yards abutting residential areas.

Staff Analysis and Conclusion: *The proposed off-street parking spaces are within 500 feet of the building entrances and connected with delineated pedestrian walkways. Parking is proposed in some instances adjacent/fronting both Barksdale Avenue and Steilacoom DuPont Road as well as within the area abutting residential uses to the north. Parking in these areas include 10-foot moderate landscape screening buffers.*

DMC 25.95.050 Development standards.

Off-street parking facilities are required to comply with the standards listed under this section included but not limited to driveway width and location, surface materials, drainage, traffic control, pedestrian connections, and general design.

Staff Analysis and Conclusion: *The proposal meets the off-street parking area development standards specified in this section as follows:*

- *The proposed driveways are at least 10 feet wide per lane and located along the streets away from any intersection or pedestrian crossings so as not endanger or impeded traffic.*

- *The proposed two-way drive aisle is at least 26 feet wide to accommodate for emergency vehicle access.*
- *The proposed parking area design will allow vehicles to turn around and will not require any vehicles to back onto a street.*
- *The proposed parking area surface is specified as paved with stalls delineated by surface striping and wheel stops or elevated curbs.*
- *The proposed parking area includes convenient pedestrian crossings and pathways that are clearly delineated.*
- *The proposed parking areas include 10-foot moderate landscaping buffers to screen the parking areas from the adjacent right-of-way and residential use.*

DMC 25.95.060 Preferential parking and high-occupancy vehicles.

This section requires that ADA parking be provided as required by the state and establishes a standard for high-occupancy vehicle parking.

Staff Analysis and Conclusion: *Per 2018 Washington State building code, if providing 101-150 parking spaces, a minimum of 6 accessible parking spaces is required to be provided. The proposed church includes 5 standard ADA and 1 van ADA parking spaces, meeting the requirement.*

Providing 26-50 parking spaces requires a minimum of one ADA parking space be provided. The proposed eating establishment includes 39 parking spaces, including 1 standard ADA and 1 van ADA parking space, meeting the state minimum accessible parking requirements.

The proposed church will have approximately 15-25 employees and therefore a high occupancy vehicle space is not required per this section.

v. DMC Chapter 25.100 – Recycling

At least one storage enclosure for refuse and recycling receptacle shall be located outside required yards or buffer areas, comply with DMC 25.70 (Commercial and Mixed-Use Design Regulations and Guidelines), be designed to match the primary building in terms of design and materials, be easily accessible to users, and have adequate vertical and turning clearances for collection equipment.

Staff Analysis and Conclusion: *The proposal includes onsite refuse and recycling enclosures for both proposed lots/uses as required by this section. The enclosures are 10 feet by 20 feet, meeting the minimum 100 square foot size requirement. The enclosures are located in the parking area perimeters adjacent to proposed Lot C and are fenced and include landscape screening; however, the Commercial Design Regulations and Guidelines require that it be enclosed by solid materials matching the building. A condition of approval is included requiring the enclosures be designed to match the proposed building (Condition 3).*

The applicant provided confirmation from LeMay, the service provider, that the size of the proposed refuse and recycling containers and enclosure is adequate for the proposed uses.

vi. DMC Chapter 25.105 Critical Areas

Staff Analysis and Conclusion: *The subject property includes a critical area and is subject to the requirements of this section. The applicant submitted a Critical Areas Permit application and associated materials for which review comments and conditions are provided in section B.2 of this report.*

vii. DMC Chapter 25.110 Setback – Street Corners

On corner lots no building, structure, parking, sign, berm, planting, or other sight-obscuring object, other than traffic signs and utility poles, shall be erected, placed, or allowed to grow between the heights of three feet and eight feet above the street surface within the vision clearance triangle. The vision clearance triangle (see Figure 1) is that area enclosed on two sides by the intersecting public right-of-way lines and on the third by an imaginary line connecting those points on said right-of-way lines that are 30 feet from their point of intersection.

Staff Analysis and Conclusion: *The subject property is on the corner of Barksdale Avenue and DuPont-Steilacoom Road. The plans submitted indicated a sight distance triangle extending 30 feet in either direction from the point of intersection depicting clear unobstructed sight lines that meet the requirements of this section.*

viii. DMC Chapter 25.115 Transportation Concurrency review

Transportation Concurrency Review requires a concurrency test for projects requiring site plan and design review.

Staff Analysis and Conclusion: *The project is in full compliance with the Transportation Concurrency requirements, as documented in a June 17, 2025 memorandum by the City's Transportation Engineer.*

ix. 25.116 Sign Code

Any proposed signage is subject to the requirements of this section.

Staff Analysis and Conclusion: *A request for a sign permit was not submitted with the proposal. A sign permit shall be required if signage is proposed.*

x. DMC Chapter 25.120 Tree Retention

Staff Analysis and Conclusion: *A Tree Modification Permit application was submitted with this proposal for which review comments and conditions are provided in Section 3 of this report.*

xi. 25.125 Wireless Communication Facilities

This section includes provisions for wireless communication facilities.

Staff Analysis and Conclusion: *No wireless facilities are included with the proposal.*

COMPREHENSIVE PLAN

Per 25.175.040, in addition to consistency with the development regulations applicable to the proposal, the city is required to evaluate proposal consistency with the DuPont Comprehensive Plan and applicable Village, addressing the following:

i. The type of land use permitted at the site, including uses that may be allowed if the criteria for their approval have been satisfied;

ii. The level of development, such as units per acre, density of residential development in urban growth areas, or other measures of density;

iii. Availability and adequacy of infrastructure and public facilities identified in the comprehensive plan;

iv. Whether the plan or development regulations provide for funding of these facilities as required by Chapter 36.70A RCW; and

v. The character of the proposed development, as authorized by development standards.

Staff Analysis and Conclusion:

The project site is within the Commercial Designation of the Comprehensive Plan. The purpose of this district is to permit uses that are allowed in the commercial district, the office district, and residential zone district. This area is intended to provide office space, goods and services to the entire community or larger market. As discussed in the Zoning District Requirements of this Staff Report, churches are an allowed use within the Commercial zoning district. Regarding development intensity, the project is consistent with the allowed maximum height and setback requirements of the Commercial zone. The project has been reviewed by the Public Works Department and Fire Department, and no infrastructure deficiencies have been identified.

The subject property is in the Historic Village planning area, which is recognized in the 2015 DuPont Comprehensive Plan as the birthplace of the community. The Historic Village is approximately 166 acres and includes park land, open space, lower density residential, multi-family residential, and commercial uses. The Historic Village is listed on both the State and National Register of Historic Places due to its significance as one of the few remaining company towns in the state and because of the purity of the historic architecture. The purpose of the National Register is to record those tangible remainders of United States history deemed important enough to be worthy of preservation. The listing also assures protective review of Federal projects that might adversely affect the character of the historic district. Because of DuPont's local, state and national historical importance, every attempt should be made to preserve the character of the original company town as the city grows. The Historic Village discussion within the Comprehensive Plan states commercial and other development uses near the entrance to the Historic Village (at DuPont-Steilacoom Road and Wilmington Drive and exit 119 off I-5) should also reflect DuPont's historic character and unique charm. The proposed church is separated from the Historic Village by a four-foot boundary wall and landscaping, including a row of trees. This wall if of concrete block, which is compatible with the stone construction of the nearby village entry markers on either side of Barksdale Road. The proposed church building is separated from the Historic Village residences by approximately 200 feet and includes colors and materials that are compatible with the village, such as scored concrete painted brown, blue, and shades of grey.

2. CRITICAL AREAS PERMIT

a. **DMC 25.105.040 Applicability.**

This chapter establishes regulations for the protection of properties which contain or are adjacent to critical areas. Critical areas are those which are now or may in the future be identified under the provisions of this chapter. The provisions of this chapter apply to development projects and actions undertaken by individuals and private or public entities.

Staff Analysis and Conclusion: *The subject property includes critical areas and are therefore subject to the regulations specified under DMC Chapter 25.105 – Critical Areas.*

b. **DMC 25.105.050 Critical areas.**

Within the jurisdiction of the city of DuPont, there are four critical area categories known to exist. This section provides descriptions and requirements for critical area identification and delineation; required buffers for critical areas; required mitigation sequence and measures if development or alteration impacts are unavoidable in or adjacent to a critical area; and requirements for management and protection of critical areas.

The subject property includes two of the critical area categories in this section and is therefore subject to the following regulations under this section:

DMC 25.105.050 (1) Wetlands and Lakes (a-d)

DMC 25.105.050 (2) Fish and Wildlife Habitat Conservation Areas (a-i)

A critical areas report was prepared for the subject property by Grette Associates dated July 2019. Grette Associates visited the subject property on April 30, 2019, to conduct an assessment to identify any wetlands or streams within 200 feet of the subject property.

Grette Associates collected wetland delineation data and delineated one wetland feature (Wetland A - Bell Marsh) that contained all three wetland criteria defined in the U.S. Army Corps of Engineers (USACE) Federal Wetland Delineation Manual (1987), and the USACE's Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) (2010).

Wetland A was rated according to DMC 25.105.050 and the Washington State Department of Ecology's (Ecology) Washington State Wetland Rating System for Western WA – 2014 Update (Hruby 2014). A summary of the delineated wetland is provided in Table 1.

Table 1. Wetland delineation summary

Feature	Size	Cowardin Class[1]	Hydrology Modifier	HGM Class	Wetland Category	Buffer Width[2]
A/Bell Marsh	20 acres	PAB/EM/SS/FO	Permanently Flooded and Seasonally Flooded	Depressional	II	100 ft.

[1] Classification based on Cowardin et al. (1979).
[2] Buffers are based on DMC 25.105.050.

One natural water feature consisting of a stream (PS-1) was identified within 200 feet of the subject property in the critical areas report prepared for the proposal by Grette Associates dated July 2019. An ordinary high-water mark (OHWM) determination was not completed given its location within Wetland A.

This stream flows into the southern portion of Wetland A where a large stormwater pipe discharges. A summary of the stream is provided below in Table 2.

Table 2. Natural water feature identification summary

Feature	Water Type[1]	Buffer[2]
PS-1	F	100 ft.

[1] Natural water features were rated according to DMC 25.105.030 and WAC 222-16-030.
[2] Buffers are based on DMC 25.105.050

Grette identified the Fish and Wildlife Habitat Conservation Areas (FWHCAs) within 200 feet of the subject property in the critical areas report. Stream PS-1 as well as Bell Marsh are classified as a Type F stream/feature. Mapped distribution of salmonids within PS-1, Bell Marsh, and the stream associated with the outlet of Bell Marsh is limited to resident coastal cutthroat trout (WDFW 2019a and 2019b).

Furthermore, PS-1 and Bell Marsh are part of a mosaic wetland and stream complex that forms the headwaters of Sequalitchew Creek, which is only mapped (presumed and/or documented) as providing habitat for coho salmon (Oncorhynchus kisutch) and resident coastal cutthroat trout (WDFW 2019b). No state or federally listed salmonid species are mapped within the Sequalitchew Creek system.

In addition to the critical areas report, Grette Associates prepared a wetland buffer mitigation plan and a habitat management plan for the proposal dated November 22, 2024, and updated August 5, 2025.

Staff Analysis and Conclusion: *Ecological Land Services (ELS) provided peer review of the Champions Centre critical areas report, wetland buffer mitigation plan, and habitat management plan submitted with the application.*

- *ELS found the Bell Marsh wetland identification and delineation of the boundaries to be in accordance with DMC 25.105.050(1)(a)(i).*
- *ELS found the categorization of the Bell Marsh wetland as a Category II to be conducted in accordance with DMC 25.105.050(1)(a)(ii).*
- *DMC 25.105.050(1)(b)(i) describes Category II wetlands as requiring a 100-foot buffer. The current project design proposes a reduction of the recommended 100-foot buffer to between 36 feet to 100 feet along the wetland edge. Per DMC 25.105.050(1)(b)(iv), buffers can be reduced with enhancement when an applicant can prove the buffer fits the following criteria: (A) The existing condition of the buffer is degraded; and (B) Additional protection to the wetland is provided through the implementation of a buffer enhancement plan. Accordingly, a buffer mitigation plan was prepared for the project by Grette Associates dated November 22, 2024 and revised on August 5, 2025. The enhancement plan was peer reviewed by Ecological Land Services (ELS) on January 25, 2025, August 2, 2025, and October 30, 2025. The peer review concluded the buffer mitigation/enhancement plan meets the DMC requirements and adequately improve the function of the buffer and provide additional protection to the wetland through removal of invasive plants and installation of native trees and shrubs.*
- *The proposal includes stream and stream buffer alterations described in DMC 25.105.050(2)(a). When a stream buffer is encroached by a development that is not an allowable activity, mitigation is required per DMC 25.105.050(2)(c)(i). Per DMC 25.105.050(2)(g), the stream is identified as a natural water feature and meets the criteria for a Type F water for which a 100-foot buffer is required. A reduced buffer for 55 feet is proposed for a short portion of the stream, with the remainder of the stream having 100-foot buffer. Per DMC 25.105.050(2)(i), a habitat management plan (HMP) is required. An HMP was prepared for the proposed development by Grette Associates, LLC, dated August 5, 2025. The ELS peer reviews found the HMP to meet the requirements of the DMC because it proposes additional protection to the wetland through removal of invasive plants and installation of native trees and shrubs. In addition, permanent and temporary impacts will be compensated for through the enhancement plan.*

c. **25.105.080 Critical area permit submittal requirements.**

The critical areas permit review procedures, submittal requirements, and criteria for approval are established under this section.

Staff Analysis and Conclusion: *The permit application will be processed as a Type III permit as specified under DMC 25.105.080(1). The applicant included all necessary items as specified under DMC 25.105.080(2) and (3).*

Per DMC 25.105.080 (4)(a), an application for a critical areas permit may be approved, approved with conditions, or denied based on the proposal's ability to comply with all the criteria listed under this section. ELS's review of the critical areas report, habitat management plan, and buffer mitigation plan confirm that these criteria have been met:

(i) The proposed development includes mitigation measures that will minimize the impact on the critical areas in accordance with this section.

(ii) The proposal does not pose an unreasonable threat to the public health, safety. or welfare on or off the development proposal site;

(iii) The proposal is consistent with the general purposes of this chapter and the public interest;

(iv) Any alterations permitted to the critical area are mitigated in accordance with the mitigation requirements and standards of this chapter;

(v) The proposal protects the critical area functions and values consistent with the best available science; and

(vi) The proposal is consistent with other applicable regulations and standards. The granting of a critical areas permit should not be construed as approval of any other required underlying permit or approval for the development proposal.

In conclusion, the proposal meets the applicable critical areas requirements under DMC Chapter 25.105 and approval is recommended with conditions.

3. TREE RETENTION MODIFICATION REQUEST

a. **DMC Chapter 25.120 Tree Retention**

This chapter applies to all new development projects that require site plan approval.

b. **DMC 25.120.030 Tree retention.**

DMC 25.120.030 (2), requires all landmark Oregon white oak trees to be retained, along with any native understory within a protection zone one and one-half times the radius of the oak's canopy.

Per DMC 25.10.120.005, landmark trees include Oregon white oak, pacific yew, or madrona with a DBH of 24 inches for single trunk and 30 inches for multi-trunk and doug fir, western red cedar, western hemlock, or big leaf maple with DBH of 30 inches for single trunk and 45 inches for multi-trunk.

DMC 25.120.030 (3) requires a minimum of three trees per acre be retained in the commercial district. This number does not include street trees and is expressed as an average over the entire site plan, however no more than half of the existing trees, other than oak, require the retention.

DMC 25.120.030 (5) prohibits clearing, grading, trenching, impervious surfacing, or other construction within the drip line of any tree being retained.

Staff Analysis and Conclusion:

An arborist report prepared by Greenforest dated January 29, 2025, and a tree retention plan prepared by LeRoy Surveyors & Engineers dated January 28, 2025 was submitted with the application and included the following existing tree inventory and proposed retention and removal:

Total trees on site: 84
Total trees on site, in ROW, and off-site: 109
Total landmark trees on site: 22
Total landmark oak trees: 7
Total landmark oak trees to remain: 4 (57%)
Total landmark oak trees to be removed: 3
Total landmark non-oak trees: 15
Total landmark non-oak trees to remain: 9 (60%)
Total landmark non-oak trees to be removed: 6
Total specimen trees on site (including oak trees): 49
Total specimen trees to remain: 19 (60%)

Total specimen trees to be removed: 30
Total trees in ROW and off-site: 25
Total trees in the ROW and off-site to be retained: 19
Total trees in the ROW and off-site to be removed: 6
Total landmark and specimen hazard trees to be removed: 13
Total trees to be retained on site: 32/84 = 38%
Total trees to be removed on site: 52/84 = 62%

The subject property is approximately 4.12 acres and therefore a minimum of 12 trees are required for retention. The proposal includes retention of 32 trees total, meeting this requirement. Some proposed construction is within the retained trees drip lines; however, tree protection fencing is indicated on the plans.

The proposal includes removal of three landmark oak trees, which does not meet the required retention specified in this section requiring a tree retention modification request. However, the applicant has planted 72 Gerry Oaks to compensate for the removal of these trees.

c. **DMC 25.120.040 Oak management mapping units.**

DuPont contains several Oregon white oak stands, some of which have been mapped, and include special regulations specified under this section.

Staff Analysis and Conclusion: *The subject property does not contain any of the mapped oak units, therefore this section is not applicable.*

d. **DMC 25.120.050 Modifications.**

Under this section, any landowner can request a modification from the provisions of this chapter based on special circumstances pertaining to the land. Per this section, tree retention modification requests will be reviewed based on DMC 25.120.010 Purpose.

Staff Analysis and Conclusion: *The applicant is not meeting the requirements of this chapter and accordingly submitted a tree modification request, which will be processed as a Type III permit application as specified in this section.*

The proposed tree retention plan, arborist report, and modification request was peer reviewed by Sound Urban Forestry and were found to meet the purpose and intent of this chapter as stated under DMC 25.120.010:

(1) The purposed of this chapter is to:
(a) Protect natural habitats, air quality, and ground water recharge;
(b) Improve the appearance of the community;
(c) Provide shade and wind protection;
(d) Reduce stormwater discharge; and
(e) Conserve water supplies.
(2) This chapter is intended to help achieve these purposes by:
(a) Retaining trees, without reducing developmental densities from those indicated in the comprehensive plan.

In summary, the request protects an existing stand of native Oregon oak trees by constructing the building around the tree area, thus avoiding their removal and by planting native understory vegetation to support the oaks. The request will result in removal of invasive plants infesting the oak grove, replacing it with native plants, improving the site's appearance. Additionally, 72 new Gerry Oaks will be planted throughout the site, further improving the site's appearance and providing shade and wind protection.

In conclusion, the proposed tree retention modification meets the purpose and intent of this chapter as specified under DMC 25.120.010 and approval is recommended with the following conditions (included as Conditions 7 and 8 in Section D, Recommendation):

1. *The irrigation plans as part of the landscape plans, Sheet IR1.1 present lateral lines and Hunter MP rotator spray heads being installed within the protection areas of the landmark and significant trees. No trenching or underground installation of lateral lines, spray heads or any other irrigation hardware should be allowed within those areas. All trenching and/or digging shall be prohibited within identified tree protection areas. Additionally, no equipment should be allowed within these areas. Irrigation lines or heads can be placed above ground and all spray heads shall be installed so that they do not spray any water against the trunks of any retained oaks. The irrigation notes on Sheet IR1.3 should clearly state these guidelines.*
2. *Per DMC 25.120.030 (7) all trees retained by means of this chapter shall remain protected for their life. The plat or site plan on which the tree is located shall contain the following note: "This plat is also subject to an approved tree retention plan which requires that certain trees be preserved. That plan, which is binding on all owners, is on file with the City Planning Department." To further inform future lot owners, a copy of the approved tree retention plan shall be provided each owner at closing on each lot.*

4. DESIGN REVIEW

a. **DMC Chapter 25.70 Commercial and Mixed Use Design Regulations and Guidelines**

This chapter applies to all new development projects requiring site plan approval.

b. **DMC 25.70.020. Site Design.** The application was reviewed in accordance with the requirements of this section.

Analysis: Both project buildings are attractively designed with a unified, contemporary theme based on concrete wall panels painted blue, brown, and grey. The street-facing walls are articulated with recessed and projecting planes, as well as large windows and a defined primary entry. Safe pedestrian access is provided by adjacent public sidewalks connected internal sidewalks along the building leading to entry and pedestrian plaza areas. Auto and truck access are provided by a separate network of driveways and drive aisles serving parking areas for both the church and commercial building. The site plan is designed in a manner that allows phasing.

The proposed church building and commercial building would be developed in a coordinated manner by situating them adjacent to the street with street-facing entries and substantial glazing. The buildings are of similar style, employing concrete panels with reveal lines, and wall plane recesses and projections. A dedicated and continuous network of sidewalks is provided both on- and off-site. Parking areas include substantial planters defining distinct areas and avoiding long uninterrupted rows of parking. Parking areas are screened from adjacent streets by landscaping planters and trees.

c. **DMC 25.70.030 Parking Areas.** The application was reviewed in accordance with the requirements of this section.

Analysis: The majority of the proposed parking is located at the rear of the church and commercial building, screened from view from the street. Where parking is located along the street, it is visually buffered by ten-foot-wide planters with shrubs and trees. Adjacent to and within the parking areas, a ratio of approximately one tree is provided for each two parking spaces. Parking rows consist of no more than 12 abutting stalls, separated by a minimum eight-foot-wide planter, and parking rows are capped by six-foot-wide planters. All landscape

areas are proposed to be planted with a dense pattern of trees and shrubs. A condition of approval (Condition 5) is included requiring the specific planting densities and height of Section 25.70.030(2) be shown on the landscape construction drawings, prior to issuance of building permits.

Five-foot-wide pedestrian pathways from the parking areas to the building sidewalks are provided, and crosswalks are provided at parking lot entries and exists. A condition of approval (Condition 4) is included requiring a lighting plan with details listed in Section 25.70.070(12), prior to issuance of building permits.

d. **DMC 25.70.060 Public Areas and Landscaping.** The application was reviewed in accordance with the requirements of this section.

Analysis: The project contains no commercial public plazas; therefore, the public area landscape provisions of this code section do not apply. The streetscape provisions of this section do apply to the project. This section is similar to the street tree requirements in DMC 24.90.030(1), which require spacing at 40 to 50 feet. Per DMC 25.05.040(3), the stricter requirements to plant street trees at no more than 30 feet on center of DMC 25.07.060 apply. The new street trees proposed along DuPont–Steilacoom Road are show on the plants to be planted at greater than 30 feet on center; therefore, a condition of approval (Condition 8) is included requiring the plans be revised to show compliance with this section. Existing street trees along Barksdale Avenue are proposed to remain in place except for one tree proposed to be removed for the required driveway, and one dead tree proposed to be removed. All of these existing trees are spaced at 30 feet or less on center. To maintain this spacing, the above condition of approval also requires the dead tree proposed for removal to be replaced with a new tree.

e. **DMC 25.70.070 Architectural Building Character.** The application was reviewed in accordance with the requirements of this section.

Analysis: The proposed buildings are of similar style and character, incorporating concrete panels with recesses and reveal lines, with wall plane recesses and projections. Regarding surrounding context, the buildings are similar to the hotel across Steilacoom-DuPont Road in that they include a rectilinear form, flat roofs, recesses and projections in wall plane, and of concrete finishes. Horizontal accent bands are also common to both buildings, as well as vertically oriented windows. Both the project buildings and the hotel are situated at the street frontage. While of a different form an orientation to the gas station building across Barksdale Road, both buildings include vertical glazing, concrete finishes, and flat roofs, similar to the gas station building, and are therefore compatible in appearance.

C. CONCLUSION

1. Site Plan Review. The proposal was reviewed for consistency with the zoning district requirements, general development requirements, and the 2015 DuPont Comprehensive Plan, analysis for which is included under section B.1 of this staff report. The site plan and associated materials are found to meet the site plan approval criteria specified under DMC 25.150.030.
2. Critical Areas Permit. The proposal was reviewed for consistency with DMC Chapter 25.105, analysis for which is included under section B.2 of this staff report. The plans and reports prepared for the proposal are found to meet the critical areas permit approval criteria specified under DMC 25.105.080 (4).
3. Tree Retention Modification Request. The proposal was reviewed for consistency with DMC Chapter 25.120, analysis for which is included under section B.3 of this staff report. The request

is found to be consistent with DMC 25.120.010 as required for tree modification approval as specified under DMC 25.120.050.

4. Design Review. The proposal was reviewed for consistency with the commercial and mixed use design regulations and guidelines, the analysis for which is included under section B.4 of this staff report. The site plan, building elevations, and associated materials are found to meet the design regulations and guidelines in DMC Chapter 25.50.

D. RECOMMENDATION

Based on the findings and conclusions in this report, City staff recommends approval of the following applications:

The following conditions apply:

1. The proposal shall be consistent with the Findings and comply with the Mitigation Measures provided in the SEPA Mitigated Determination of Nonsignificance dated October 20, 2025.
2. Prior to issuance of building or grading permits, a Boundary Line Adjustment shall be approved and recorded, including perfection and recording of easements shown thereon, consistent with the conceptual lot lines shown on the project site plan.
3. The refuse enclosures shall be constructed and painted to match the walls of the proposed buildings, and shall include solid, closeable gates.
4. Lighting plan details meeting the requirements of Section 25.70.070(12) shall be submitted for review and approval prior to issuance of building permits.
5. Calculations shall be provided on the landscape plan construction drawings demonstrating compliance with Section 205.70.30 (2).
6. Prior to issuance of grading and building permits, the project plans shall be revised to indicate all street trees to be planted no greater than 30 feet on center, in accordance with DMC 25.07.060. Additionally, the existing dead tree shown to be removed along Barksdale Avenue shall be replaced with a new tree in order to maintain the required 30 feet on center spacing.
7. The irrigation plans as part of the landscape plans, Sheet IR1.1 present lateral lines and Hunter MP rotator spray heads being installed within the protection areas of the landmark and significant trees. No trenching or underground installation of lateral lines, spray heads or any other irrigation hardware should be allowed within those areas. All trenching and/or digging shall be prohibited within identified tree protection areas. Additionally, no equipment should be allowed within these areas. Irrigation lines or heads can be placed above ground and all spray heads shall be installed so that they do not spray any water against the trunks of any retained oaks. The irrigation notes on Sheet IR1.3 must clearly state these guidelines.
8. The project shall adhere to the inadvertent discovery plan protocols included in the project cultural resource assessment (Drayton Archaeology, August 15, 2023.) In addition, in accordance with the Memorandum of Agreement (MOA) dated August 7, 1989, executed between Weyerhaeuser Real Estate Company (WRECO) (the previous landowner), the City of DuPont, and the Washington State Historic Preservation Officer regarding the discovery of cultural resources within the City of DuPont, archaeological monitoring during soil disturbing activities, shall be required, including extending an invitation to the Nisqually Tribe to be present during such activities, and preparation of a closing report.
9. Tree protection measures shall be implemented as specified on the landscape plans prepared by ARW Landscape Design dated August 1, 2025.

10. Per DMC 25.120.030 (7) all trees retained by means of this chapter shall remain protected for their life. The plat or site plan on which the tree is located shall contain the following note: "This plat is also subject to an approved tree retention plan which requires that certain trees be preserved. That plan, which is binding on all owners, is on file with the City Planning Department." To further inform future lot owners, a copy of the approved tree retention plan shall be provided each owner at closing on each lot.
11. The Wetland Buffer Mitigation Plan prepared by Grette Associates dated August 2025 shall be implemented.
12. The Habitat Management Plan prepared by Grette Associates dated August 2025 shall be implemented.

E. SUMMARY OF RECORD

1. The following materials were submitted for all permit applications associated with the subject proposal:
    a. Title Report provided by Fidelity National Title Insurance dated December 11, 2023
    b. SEPA Environmental Checklist signed and dated November 25, 2024
    c. Agent Authorization Affidavit for Wendy Garrison signed and notarized on March 1, 2023
    d. Agent Authorization Affidavit for Champions Centre signed and notarized on March 6, 2023
2. The following materials were submitted specifically for site development review:
    a. Land Use Application signed and dated October 2, 2023
    b. Site Plan prepared by LeRoy Surveyors & Engineers dated July 18, 2025
    c. Existing Conditions Plan prepared by LeRoy Surveyors & Engineers dated December 9, 2024
    d. Grading Plan prepared by LeRoy Surveyors & Engineers dated July 18, 2025
    e. Stormwater and Utilities Plan prepared by LeRoy Surveyors & Engineers dated July 18, 2025
    f. Drainage Report prepared by LeRoy Surveyors & Engineers dated September 22, 2023
    g. Maintenance and Source Control Manual prepared by LeRoy Surveyors & Engineers dated September 2023.
    h. Stormwater Pollution Prevention Plan prepared by LeRoy Surveyors & Engineers dated September 2023
    i. Landscape Plan prepared by ARW Landscape Design dated August 1, 2025
    j. Arborist Consultant Memo prepared by Greenforest dated December 4, 2023
    k. Architectural Elevations prepared by Elevation Home Designs dated November 15, 2023
    l. Lighting Plan prepared by Tres West Engineers dated November 19, 2024
    m. Parking Plan Exhibit prepared by LeRoy Surveyors & Engineers dated July 18, 2025
    n. Fire Truck Exhibit prepared by LeRoy Surveyors & Engineers dated July 18, 2025
    o. Entering Sight Distance Exhibit prepared by LeRoy Surveyors & Engineers dated April 17, 2025

p. Stopping Sight Distance Exhibit prepared by LeRoy Surveyors & Engineers dated April 16, 2025

q. Refuse Enclosure Exhibit prepared by LeRoy Surveyors & Engineers and signed October 31, 2023

r. Traffic Impact Analysis Report prepared by Heath & Associates dated September 1, 2023.

s. Letter of Water Availability

t. Letter of Sewer Availability

3. The following materials were submitted specifically for the critical areas and tree modification permits:

   a. Tree Modification Request Letter prepared by LeRoy Surveyors & Engineers dated December 20, 2023

   b. Biologist Memo prepared by Grette Associates dated December 4, 2023

   c. Arborist Report prepared by Greenforest revised January 29, 2025

   d. Tree Retention Plan prepared by LeRoy Surveyors & Engineers dated July 18, 2025

   e. Critical Area Report prepared by Grette Associates revised May 2024

   f. Geotechnical Report prepared by LeRoy Surveyors & Engineers dated October 14, 2024

   g. Cultural Resources Study prepared by Drayton Archaeology dated August 15, 2023

   h. Buffer Mitigation Plan prepared by Grette Associates dated August 5, 2025

   i. Habitat Management Plan prepared by Grette Associates dated August 5, 2025

4. The following notices were issued by the City during application review:

   a. Notice of Complete Application dated January 16, 2024

   b. Notice of Application & Optional DNS dated January 19, 2024.

   c. Notice of Public Hearing, issued October 28, 2025

   d. Notice of Decision to Issue a Mitigated Determination of Nonsignificance, dated October 20, 2025

5. The following comments were received on the application:

   1. Emily Griffith, Northwest Landing Owners Association, February 2, 2024

   2. Brad Beach, Nisqually Indian Tribe, January 30, 2024

   a. The following parties provided comments in general support of the proposal:

      1. Eddie Anderson, January 29, 2024

      2. Hunter Bungert, January 22, 2024

      3. Tristan J. Ellingsworth, January 29, 2024

      4. Tammie Pitzler, January 22, 2024

      5. Amber Blair, January 21, 2024

      6. Dustin Blair, January 21, 2024

      7. Valerie Marmolejo, January 22, 2024

8. Kevin Torg, January 31, 2024
9. Nikki Macias, February 1, 2024
10. Chaise Music, January 28, 2024
11. Isabel Olds, January 30, 2024
12. Dan Otchere, January 28, 2024
13. Isaac and Jaime Paulson, January 28, 2024
14. Loujanna Rohrer, February 3, 2024
15. Sandon McCoy, January 30, 2024
16. Tashara Smith, January 23, 2024
17. Monet Thompson, January 28, 2024
18. Sherrell Young, January 28, 2024
19. Mary Zepeda, January 28, 2024
20. Don Zimmerman, February 1, 2024

b. The following parties provided comments of general opposition or concern for the proposal:

1. Chrystal Patterson, February 2, 2024
2. Sean Arent, February 2, 2024
3. Chris Barnes, February 2, 2024
4. Karen Burch, February 2, 2024
5. Kathleen Trotter and Ruth Egger, February 2, 2024
6. Beth Elliot, February 2, 2024
7. Jessica Fester, February 2, 2024
8. Asa and Candice Frederick, February 2, 2024
9. Maria Gudaitis, February 2, 2024
10. Judy Norris, February 2, 2024
11. Bridget King, February 2, 2024
12. Nicole McNeil, February 2, 2024
13. Karen Nolan, February 2, 2024
14. Krista Novak, February 2, 2024
15. Krystal Richards, February 2, 2024
16. Alicia Roubicek, February 2, 2024
17. Michelle Ryder, February 2, 2024
18. Portland Williams, February 2, 2024

6. The following comments were provided on the proposal by City staff and consultants:
   a. Department of Ecology comment, dated January 22, 2024
   b. City Traffic Engineer review of Champions Centre Development, Dated February 20, 2024

c. Building and Fire Department Comments, dated February 21, 2024
d. City Engineer Review of Land Use Application, dated February 22, 2024
e. Peer Review of Type III Tree Modification Request, Dated March 11, 2024
f. Peer Review of Champions Center Development Critical Areas, dated April 16, 2024
g. Request for Revisions, dated April 19, 2024
h. Peer Review of Champions Centre Development Critical Areas, dated January 26, 2025
i. Building Department review of resubmitted plans, dated January 29, 2025
j. Fire Department review of resubmitted plans, dated January 31, 2025
k. Peer Review of resubmitted Type III Modification Request, dated February 17, 2025
l. Request for Revisions, dated March 5, 2025
m. City Engineer review of site distance analysis, dated February 28, 2025
n. Transportation Concurrency, Dated June 17, 2025
o. Peer Review email of revisions to HMP, dated August 7, 2025
p. Peer Review email of revisions to HMP, dated October 30, 2025

F. PARTIES OF RECORD

Wendy Garrison

David Yadon

All parties listed in Section E Above.

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cc: File No. PLNG2023-010,-011,-012,-013,-014

Applicant: Wendy Garrison, LeRoy Surveyors and Engineers
City of DuPont: Patrick Kelly, AHBL, Inc., Land Use Consultant to the City
Geralyn Reinart, PE, Traffic Consultant to the City

Received 12-20-2023

LEROY SURVEYORS & ENGINEERS, INC.
Surveying • Engineering • Geology • Septic Design • GPS • GIS Mapping

Exhibit 1.a

Title Report

Received 12-20-2023

SUBDIVISION

Issued By:

Fidelity National Title Insurance Company

Guarantee/Certificate Number:

23001913-SC

FIDELITY NATIONAL TITLE INSURANCE COMPANY

a corporation, herein called the Company

GUARANTEES

Champions Centre, a Washington non for profit corporation

herein called the Assured, against actual loss not exceeding the liability amount stated in Schedule A which the Assured shall sustain by reason of any incorrectness in the assurances set forth in Schedule A.

LIABILITY EXCLUSIONS AND LIMITATIONS

1. No guarantee is given nor liability assumed with respect to the identity of any party named or referred to in Schedule A or with respect to the validity, legal effect or priority of any matter shown therein.
2. The Company's liability hereunder shall be limited to the amount of actual loss sustained by the Assured because of reliance upon the assurance herein set forth, but in no event shall the Company's liability exceed the liability amount set forth in Schedule A.

Please note carefully the liability exclusions and limitations and the specific assurances afforded by this guarantee. If you wish additional liability, or assurances other than as contained herein, please contact the Company for further information as to the availability and cost.

Fidelity National Title Insurance Company

By:

Michael J. Nolan, President

Attest:

Marjorie Nemzura, Secretary

Fidelity National Title Company of Washington, Inc.
600 University Street, Suite 2424
Seattle, WA 98101

Countersigned By:

Sara Bennett
Authorized Officer or Agent

SEAL

ISSUING OFFICE:
Title Officer: Marc Wise Fidelity National Title Company of Washington, Inc. 600 University Street, Suite 2424 Seattle, WA 98101 Phone: 2062626291 Fax: 206-262-6292 Main Phone: (206)628-2822 Email: Marc.Wise@fnf.com

SCHEDULE A

Liability	Premium	Tax
$1,000.00	$900.00	$92.25

Effective Date: December 11, 2023 at 08:00 AM

The assurances referred to on the face page are:

That, according to those public records which, under the recording laws, impart constructive notice of matter relative to the following described property:

SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF

Title to said real property is vested in:

Mustard Seed Legacy Development LLC, a Washington limited liability company, which acquired title as Mustard Seed Legacy Development, LLC

subject to the matters shown below under Exceptions, which Exceptions are not necessarily shown in the order of their priority.

END OF SCHEDULE A

EXHIBIT "A"

Legal Description

PARCEL A

That portion of the Northwest quarter of Section 36, Township 19 North, Range 1 East, W.M., in Pierce County, Washington, lying Southeasterly of Wilmington Drive (realigned Dupont-Steilacoom Road), described as follows:

Commencing at the bronze monument at the intersection of the centerline of Barksdale Avenue and the Northerly line of the Northern Pacific Railroad Company's right of way, as shown on the plat of Replat of the Village of Dupont, according to plat recorded in Volume 15 of plats at page 65;
Thence North 69°47'46" East 41.36 feet along said railroad right of way to the Northerly line of said Barksdale Avenue;
Thence along said Northerly line of Barksdale Avenue, North 63°41'54" West 679.50 feet to the point of beginning;
Thence North 54°19'24" West 6.81 feet to the Southeasterly corner of Block "L" in said Replat of the Village of Dupont;
Thence North 35°40'36" East 45.10 feet to the Southerly line of a 15 foot easement granted to the Pierce County School District No. 7 for path;
Thence on said Southerly line of easement, Easterly 521.53 feet to the Westerly line of Dupont-Steilacoom Highway, as established in deed recorded December 11, 1942 under Recording No. 1311721;
Thence Southerly along said Westerly line 219 feet, more or less, to the Northerly line of Barksdale Avenue;
Thence North 63°41'54" West, along said Northerly line to the point of beginning;

Except that portion as condemned in Decree of Appropriation entered March 11, 1988, in Pierce County Superior Court Cause No. 87-2-08765-1.

PARCEL B:

That portion of the Southwest quarter of Section 25 and of the Northwest quarter of Section 36 Township 19 North, Range 1 East, W.M., City of Dupont, Pierce County, Washington, being more particularly described as follows:

Commencing at Fort Lewis Monument No. 262, being a 6"x6" concrete monument with lead and tack, as shown on that record of survey by ESM, Inc., recorded under Pierce County Recording No. 9303050249;
Thence South 87°57'04" East, 572.46 feet to the Westerly right-of-way margin of Dupont-Steilacoom Road;
Thence along said Westerly margin, South 01°42'01" West 1488.92 feet to the Southeasterly corner of the Plat of Bell Hill, as recorded under Pierce County Recording No. 9109060562 and the true point of beginning;
Thence continuing along said Westerly margin the following courses:

South 01°42'01" West, 74.27 feet to a point of curvature;
Southwesterly 589.42 feet along the arc of a tangent curve to the right, having a radius of 1846.32 feet, through a central angle of 19°49'02" to a point of tangency;
South 21°31'03" West, 234.08 feet;
South 31°28'47" West, 758.44 feet to the Southerly line of a 15 foot wide easement granted to Pierce County School District No. 7 for a path by instrument recorded under Pierce County Recording No. 1604647;
Thence along said Southerly line, the following courses:

North 73°58'12" West, 6.14 feet;
North 76°55'56" West, 137.26 feet;
North 80°45'26" West, 149.55 feet;
North 83°19'26" West, 83.52 feet to the Southeasterly line of Block "L" as shown on the "Replat of the Village of Dupont" as recorded in Volume 15 of Plats, page 66, records of Pierce County, Washington;
Thence along the Southeasterly line of said Block "L" and along the Easterly line of that tract of land conveyed by deed recorded under Recording No. 8609160527, North 37°31'09" East, 421.17 feet;
Thence along the Easterly and Northeasterly lines of said tract, the following courses:

North 50°54'48" West, 39.71 feet;
North 20°15'28" East, 177.79 feet;

EXHIBIT "A"

Legal Description

North 08°06'30" East, 148.69 feet;
North 18°28'36" East, 97.46 feet;
North 10°27'09" West, 109.27 feet;
North 10°49'00" East, 83.70 feet;
North 39°55'59" West, 402.16 feet;
North 49°44'03" West, 138.48 feet;
North 41°21’42" West, 83.79 feet;
North 47°49'04" West, 99.24 feet to the Southerly line of said Plat of Bell Hill;
Thence along said Southerly line, the following courses:

North 86°09'51" East, 566.26 feet;
South 30°02'50" East, 66.31 feet;
North 81°03'07" East, 56.42 feet;
North 76°19'50" East, 49.78 feet;
South 80°24'24" East, 25.68 feet;
South 86°11’31” East, 41.36 feet;
South 77°20'45" East, 37.53 feet;
North 82°37'33" East, 40.92 feet;
North 83°03'30" East, 29.71 feet;
South 71°21'32" East, 35.46 feet;
South 73°42'35" East, 28.67 feet;
South 61°30'59" East, 58.65 feet;
North 87°41'02" East, 42.60 feet;
South 37°31'32" East, 35.01 feet;
North 74°09'45" East, 57.08 feet;
South 88°17'59" East, 24.03 feet to the true point of beginning.

SCHEDULE B

1. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

   Granted to: Pacific Telephone and Telegraph Company
   Purpose: erect and maintain poles, with the necessary wires and fixtures thereon and to keep the same free of foliage
   Recording Date: August 16, 1928
   Recording No.: 914150
   Affects: portion of said premises and other property as described therein

2. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

   Granted to: Pacific Telephone and Telegraph Company
   Purpose: placle, construct, operate, maintain, inspect, reconsrtruct, repair and replace underground conduits, cables and manholes
   Recording Date: July 2, 1930
   Recording No.: 997243
   Affects: portion of said premises and other property as described therein

3. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

   Granted to: Pierce County School District No. 7
   Purpose: sidewalk for pedestrian use only, curbs and appurtenances
   Recording Date: September 12, 1951
   Recording No.: 1604647
   Affects: portion of Parcel B as described therein

4. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

   Granted to: Town of Dupont
   Purpose: electric, sewer and water lines and appurtenances
   Recording Date: June 3, 1952
   Recording No.: 1626681
   Affects: portion of said premises as described therein

5. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

   Granted to: United State of America
   Purpose: constructing, operating, using maintaining, repairing, replacing, renewing, patrolling and removing a storm water drainage channel, and/or storm drainage culverts and appurtenances
   Recording Date: July 15, 1957
   Recording No.: 1791895
   Affects: portion of said premises

6. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

   Granted to: City of Tacoma
   Purpose: construct, operate, maintain, repair, replace and remove two (2) electric power transmission and communication pole lines, together with all necessary and convenient appurtenances
   Recording Date: June 19, 1962
   Recording No.: 1969690
   Affects: portion of said premises as described therein

SCHEDULE B
(continued)

7. Relinquishment of all existing, future or potential easements for access, light, view and air, and all rights of ingress, egress and regress to, from and between said Land and the highway or highways to be constructed on lands conveyed by Deed:

To: State of Washington
Recording Date: February 10, 1972
Recording No.: 2431318

8. Relinquishment of all existing, future or potential easements for access, light, view and air, and all rights of ingress, egress and regress to, from and between said Land and the highway or highways to be constructed on lands conveyed by Deed:

To: State of Washington
Recording Date: March 10, 1972
Recording No.: 2435128

9. Reservation of all coal, oil, gas and mineral rights, and rights to explore for the same contained in the deed:

Grantor: Weyerhaeuser Timber Co., a Washington corporation
Recording Date: February 2, 1990
Recording No.: 9002020329
Affects: Parcel B

Said reservations were modified by instrument:

Recording Date: May 13, 1994
Recording No.: 9405130746

NOTE: No examination has been made to determine the present record owner of the above rights to determine which may affect the lands or rights so reserved.

10. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to: Puget Sound Power and Light Company
Purpose: underground electric system and appurtenances
Recording Date: April 12, 1990
Recording No.: 9004120162, which is a re-record of 8912180215
Affects: portion of said premises as described therein

11. Matters contained in that certain document:

Entitled: Notice Regarding Open Space
Executed by: Weyerhaeuser Real Estate Company
Recording Date: December 21, 1990
Recording No.: 9012210434, which is a re-record of 9012110161

Reference is hereby made to said document for full particulars.

SCHEDULE B
(continued)

12. Covenants, conditions and restrictions but omitting any covenants or restrictions, if any, including but not limited to those based upon race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, source of income, gender, gender identity, gender expression, medical condition or genetic information, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law, as set forth in the document

Recording Date: August 24, 1992
Recording No.: 9208240297

Assignment of Declarants Rights:

Assignee: The Quadrant Croporation
Recording Date: January 8, 2002
Recording No.: 200201080843

Modification(s) of said covenants, conditions and restrictions:

Recording Date: January 10, 1995
Recording No.: 9501100462

Recording Date: March 15, 1995
Recording No.: 9503150368

Recording Date: January 9, 1996
Recording No.: 9601090368

Recording Date: January 26, 1996
Recording No.: 9601260346

Recording Date: March 12, 1996
Recording No.: 9603120707

Recording Date: September 11, 1996
Recording No.: 9609110555

Recording Date: December 24, 1996
Recording No.: 9612240420

Recording Date: October 17, 1997
Recording No.: 9710170646

SCHEDULE B
(continued)

Recording Date: March 17, 1998
Recording No.: 9803170310

Recording Date: July 7, 1998
Recording No.: 9807070025

Recording Date: December 20, 1998
Recording No.: 9912200109

Recording Date: November 8, 2000
Recording No.: 200011080374

Recording Date: September 18, 2002
Recording No.: 200209180938

Recording Date: April 4, 2003
Recording No.: 200304041434

Recording Date: April 16, 2003
Recording No.: 200304160284

Recording Date: August 25, 2003
Recording No.: 200308250162

Recording Date: August 15, 2008
Recording No.: 200808150280

Recording Date: October 6, 2010
Recording No.: 201010060494

Recording Date: March 26, 2013
Recording No.: 201303260080

13. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to: Pierce County
Purpose: construction, improvement, maintenance and repair of a sanitary sewer pipeline, manholes, and other appurtenant sewer structures
Recording Date: September 16, 1997
Recording No.: 9709160068
Affects: portion of said premises as described therein

14. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to: Pierce County
Purpose: construction, improvement, maintenance and repair of a sanitary sewer pipeline, manholes, and other appurtenant sewer structures
Recording Date: June 22, 1998
Recording No.: 9806220227
Affects: portion of said premises as described therein

SCHEDULE B
(continued)

15. General and special taxes and charges, payable February 15, delinquent if first half unpaid on May 1, second half delinquent if unpaid on November 1 of the tax year (amounts do not include interest and penalties):

Year:	2023
Tax Account No.:	011936 2 009
Levy Code:	055
Assessed Value-Land:	$203,500.00
Assessed Value-Improvements:	$0.00
General and Special Taxes:	
Billed:	$1,613.90
Paid:	$1,613.90
Unpaid:	$0.00
Affects:	Portion of Parcel A

16. General and special taxes and charges, payable February 15, delinquent if first half unpaid on May 1, second half delinquent if unpaid on November 1 of the tax year (amounts do not include interest and penalties):

Year:	2023
Tax Account No.:	011936 2 012
Levy Code:	055
Assessed Value-Land:	$473,000.00
Assessed Value-Improvements:	$0.00
General and Special Taxes:	
Billed:	$3,737.24
Paid:	$3,737.24
Unpaid:	$0.00
Affects:	Portion of Parcel A

17. General and special taxes and charges, payable February 15, delinquent if first half unpaid on May 1, second half delinquent if unpaid on November 1 of the tax year (amounts do not include interest and penalties):

Year:	2023
Tax Account No.:	011936 2 039
Levy Code:	055
Assessed Value-Land:	$148,500.00
Assessed Value-Improvements:	$0.00
General and Special Taxes:	
Billed:	$1,180.57
Paid:	$1,180.57
Unpaid:	$0.00
Affects:	Remainder of Parcel A

SCHEDULE B
(continued)

18. General and special taxes and charges, payable February 15, delinquent if first half unpaid on May 1, second half delinquent if unpaid on November 1 of the tax year (amounts do not include interest and penalties):

Year:	2023
Tax Account No.:	011936 2 043
Levy Code:	055
Assessed Value-Land:	$110,000.00
Assessed Value-Improvements:	$0.00

General and Special Taxes:	
Billed:	$903.98
Paid:	$903.98
Unpaid:	$0.00
Affects:	Parcel B

19. Any unrecorded leaseholds, right of vendors and holders of security interests on personal property installed upon the Land and rights of tenants to remove trade fixtures at the expiration of the terms.

END OF SCHEDULE B

Received 12/11/2024

Exhibit 1.b

SEPA ENVIRONMENTAL CHECKLIST

Purpose of checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

***Instructions for applicants*:**

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for Lead Agencies:

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals:

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

A. Background

1. Name of proposed project, if applicable:
   Champions Centre Site Development Project
2. Name of applicant:
   Applicant: Champions Centre
3. Address and phone number of applicant and contact person:
   Applicant: David Yadon
   1819 E. 72nd St., Tacoma, WA 98404
4. Date checklist prepared:
   11/13/2023

5. Agency requesting checklist:

City of DuPont, WA

6. Proposed timing or schedule (including phasing, if applicable):

SEPA:	**September 2024**
Construction Permit:	**October 2024**
Construction Start:	**March 2024**
Occupancy/Opening:	**January 2025**

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

Plans for future additional, expansions, or any further activity beyond the initial proposed build-out for Parcel A are not being considered at this time. Plans for future additional, expansions, or any further activity beyond the initial proposed build-out for Parcel B will be determined at building permit phase. The specific type of eating and drinking establishment will determine any future additions, expansions or further activity needed.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

Listed below are the documents directly related to the environmental review of the applicant's proposal. These documents will either be made available in conjunction with this submittal as a deferred submittal for this entitlement process, or subsequently made available during future permitting processes as required by County staff.

- **Site Plan**
- **Landscape Plans**
- **Boundary Line Adjustment**
- **Grading Plan**
- **Storm Drainage and Utility Plan**
- **Storm Management Report**
- **Building Elevations**
- **Traffic Impact Analysis**
- **Tree Risk Assessment/Arborist Report**
- **Critical Areas Study**
- **Geotechnical Report**
- **Cultural Resources Study**
- **Tree Retention Plan**
- **Buffer Enhancement Plan**
- **Habitat Management Plan**

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

At this time, there are no other pending applications for governmental approvals affecting the proposed property.

10. List any government approvals or permits that will be needed for your proposal, if known.

A complete land development permitting process is anticipated; including, but not limited to, the following:

- **Land Use Permit**
- **Building Permit**
- **Site Development Permits**
- **Mechanical, Electrical, and Plumbing Permits**
- **Sign Permits**
- **Right-Of-Way Permits**
- **NPDES Stormwater Permit**
- **Utility Connection Permits**
- **County Health Food Permit**

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

The project consists of the construction of a Religious Assembly (26,000 square feet) and an Eating and Drinking Establishment (3,000 square feet) and public electric vehicle charging stations on separate parcels. The on-site wetland will be contained within its own parcel and be dedicated to the City of DuPont. Additional site improvements will include freestanding and wall signage, asphalt paving for vehicle circulation, lighting with internal and perimeter landscaping, surface parking for 135 vehicles for the religious assembly and 38 parking stalls for the eating and drinking establishment along with public water, sewer and power. The religious assembly facility on Parcel A will operate from 9:30am to 1pm on Sundays, 6pm to 9pm on Thursdays and additional minimal staff will be on-site on Wednesdays and Thursdays from 9:30am to 4:30pm (3 - 4 people) and the eating and drinking establishment facility will operate 12 - 24 hours, 7 days each week.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The subject property is located at the northwest intersection corner of Wilmington Drive and Barksdale Avenue in the City of DuPont, Pierce County, Washington. The subject property is currently vacant. Surrounding uses include residential to the west, a Union 76 Gasoline Station (4 MPDs) to the south, vacant property to the north, and a hotel to the west.
No site address is listed by the Pierce County Assessor at this time. The site is located in Section 36, Township 19, and Range 01. The subject property consists of multiple parcels totaling approximately 21.32 acres. The tax parcel numbers are 0119362009, 0119362039, 0119362012, and 0119362043. The proposed development will be limited to approximately 4.12 acres.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site:
(circle one): Flat, (rolling,) hilly, steep slopes, mountainous, other _____

b. What is the steepest slope on the site (approximate percent slope)?

There is approximately 20 feet of topographic relief across the project site, sloping down from the east side to the west side of the site. The steepest slope on the site is approximately 55%.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

The general types of soil located on the site consist of Spanaway gravelly sandy loam, Everett-Spanaway-Spana Complex (0 to 30 percent slopes), and DuPont Muck. This type of soil is not considered prime farmland.

d. Are their surface indications or history of unstable soils in the immediate vicinity? If so, describe.
No surface indicators of soil instability have been visually identified and to the best of our knowledge no history of soil instability exists.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.
A preliminary analysis of cut/fill activity based on the Preliminary Grading and Utility Plan indicates an estimated 22,884 cubic yards of total earthwork. An estimated 22,884cubic yards will be imported to the site for fill. Grading activity will utilize on-site material whenever possible, in an effort to minimize fill. All imported fill will be sourced from the approved sites and documented accordingly.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.
Erosion is a possibility during construction activity, but erosion will be primarily limited to grading, excavation, and fill activities under this proposal. A Temporary Erosion and Sedimentation Control Plan (TESCP) will be prepared and implemented throughout the construction phase, reducing potential for erosion on site.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?
The project site is anticipated to produce approximately 2.7 acres (66) percent of impervious surface coverage upon project completion.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:
Specific measures will be fully detailed in the TESCP created for the project and will incorporate a series of Best Management Practices (BMPs) designed to reduce the probability of erosion, control the dissemination of airborne particulates, and prevent sedimentation from being conveyed to both on-site and downstream drainage systems and onto adjacent properties and rights-of-way. Examples of BMPs often utilized include surface watering to control dust, drainage channels, silt control fencing, and sediment control ponds.

2. Air

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.
Airborne particulates (dust) along with vehicular exhaust from construction equipment are the most likely short-term sources of emissions during construction activity. The primary source of long-term emissions will be from vehicular exhaust, as a byproduct of the religious assembly facility and also the eating and drinking establishment.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

Aside from vehicular exhaust originating with traffic on the adjacent rights-of-way, no off-site sources of emissions and/or odors have been identified.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Airborne particulates will be minimized through surface watering during the construction phase of the project. Construction emissions will be further reduced through emission equipment in an effort to fully comply with Washington State emission standards.

3. **Water**

a. Surface Water:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Based on site evaluations completed by Grette Associates one (1) wetland, stream and its OHWM are located on the subject property. The wetland is part of the Bell Marsh complex and extends to the west and northwest of the site. The stream flows south to north and enters the site via a culvert outlet. The stream transports drainage from the culvert outlet north into the wetland.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

The project will require work within 76 feet of the Category II wetland and type F stream. The standard Class III wetland and stream buffer is 100-feet according to the City's Sensitive Areas Code. All disturbance for the development of the project will be located outside of the wetland, stream, and associated reduced buffers. Please refer to the addendum to the Critical Areas Report prepared by Grette Associates dated July 2019 (Exhibit 3.d) for details.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

None

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

The proposal will not require surface water withdrawals or diversions.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

According to the FEMA Flood Map 53053C0526E, portions of the property lie within a 100-year floodplain, however the development footprint is above it.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

The project will not discharge waste materials into surface waters.

b. Ground Water:

1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

No groundwater will be withdrawn from a well for this proposed project. Discharge to groundwater is not anticipated, pending final design of the project's stormwater management system. Any surface runoff will initially be retained on site and will likely be conveyed in a controlled manner to the drainage system. It is possible that excavation work may reveal deposits of groundwater below grade, dictating the need for dewatering. Any dewatering will be completed on an as-needed basis and in a manner that is fully compliant with applicable regulations, including obtaining any necessary dewatering permits.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . .; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

No waste material will be discharged into the ground from septic tanks or other sources.

c. Water runoff (including stormwater):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Stormwater runoff will be generated from both impervious and pervious surfaces on site. The run-on from areas upstream of the site is minimal based on existing site topography. Stormwater runoff will be collected by a series of catch basins, discharged to a water quality filter for treatment and then routed to an infiltration trench on-site,

2) Could waste materials enter ground or surface waters? If so, generally describe.

The water quality and source control measures proposed on this site will substantially limit the chance that waste materials could enter ground or surface waters.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

The project proposes to discharge at the natural location within the site via infiltration. The drainage patterns will remain unchanged.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

In accordance with the city of DuPont Municipal Coade Section 22.01.090 General Requirements the stormwater design for the project is required to meet the 2019 State of Washington Department of Ecology's Stormwater Management Manual referred to as the "Manual", which sets the methodology and design criteria for this project.

4. **Plants**

a. Check the types of vegetation found on the site:

x deciduous tree: alder, maple, aspen, other
x evergreen tree: fir, cedar, pine, other
x shrubs
x grass

____pasture
____crop or grain
____Orchards, vineyards or other permanent crops.
____wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
____water plants: water lily, eelgrass, milfoil, other
_X_other types of vegetation (Oregon White Oaks)

b. What kind and amount of vegetation will be removed or altered?

The vast majority of the project site is currently dominated by non-native, invasive vegetation. Existing vegetation along the perimeter of the property and within the interior of the project area will be removed and replaced with trees, plantings, shrubs, and ground cover to be specified on a landscape plan to be approved by the City. A Preliminary Landscape Plan is included with this submittal. (Approximately 4.12 Acres). The project site must remove of 3 Oregon White Oak trees due to the constraints of the property. The preliminary Landscape Plan shows the location of the new Oregon White Oak trees that will be planted at a rate of 25:1, so 75 new Oregon White Oak trees will be planted.

c. List threatened and endangered species known to be on or near the site.

To the best of our knowledge, there are no threatened or endangered species existing on site or to be found in the immediate vicinity.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

There are seven (7) Oregon White Oak trees on the project site that the City of DuPont designates as Landmark Trees. The project proposes to retain four (4) Landmark Trees. Please refer to the addendum to the DuPont Landmark Tree Report prepared by Greenforest Incorporated for details on the protection measures. New landscaping will meet the requirements established by the City of DuPont Land Use Code. Please see the Type III Modification Report which was included in the submittal package.

e. List all noxious weeds and invasive species known to be on or near the site.

To the best of our knowledge, there are no noxious weeds and/or invasive species known on the project site.

5. **Animals**

a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site.

Examples include:

birds: hawk, heron, eagle, songbirds, other:
mammals: deer, bear, elk, beaver, other:
fish: bass, salmon, trout, herring, shellfish, other _____

b. List any threatened and endangered species known to be on or near the site.

To the best of our knowledge, there are no threatened or endangered animal species known to exist on or near the site.

c. Is the site part of a migration route? If so, explain.

The project site includes Pacific Flyway for Migratory birds.

d. Proposed measures to preserve or enhance wildlife, if any:

No mitigation measures are required or proposed, other than preservation of the on-site wetland and stream secured in public ownership. Please refer to the Buffer Mitigation Plan, provided by Grette Associates, Dated 11/22/2024.

e. List any invasive animal species known to be on or near the site.
Please refer to the invasive animal species identified in the Buffer Mitigation Plan and the Habitat Management Plan, provided by Grette Associates, Dated 11/22/2024.

6. **Energy and Natural Resources**

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Electricity will be required to meet the operational needs of the completed project.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No impacts have been identified that limit or restrict the use of solar energy on adjacent properties.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

Energy conservation will be achieved through design elements that fully comply with the current provisions of Washington State Energy Code.

7. **Environmental Health**

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

There will not be any hazardous substances contained on-site.

1) Describe any known or possible contamination at the site from present or past uses.

To the best of our knowledge, the site does not contain any significant contamination from present or past uses. If discovered, any contaminated soils or water will be remediated in accordance with the Department of Ecology requirements.

2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

To the best of our knowledge, there are no existing hazardous chemicals/conditions that will impact the project development.

3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

There are no known toxic or hazardous chemicals to be stored, used or produced during this project's development or construction or at any time during the operating life of this project.

4) Describe special emergency services that might be required.

No special emergency services are anticipated for this project.

5) Proposed measures to reduce or control environmental health hazards, if any:

No environmental health hazards are anticipated for this project.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

The only identified source of noise in the immediate vicinity occurs within the surrounding road network from vehicular traffic.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indi- cate what hours noise would come from the site.

Short-term noise associated with construction activity will be limited to construction traffic and equipment. The maximum noise levels should be expected to occur within the range between 57 and 89 dBA. These construction noise impacts will be limited by City Code to certain hours of the day (typically starting at 7:00 a.m. and ending by 6pm on weekdays). All construction activity associated with the project will be done in full compliance with City Code requirements. Long-term noise impacts are expected to be relatively minor and limited to traffic on site. Noise levels are not expected to exceed current ambient noise levels after project construction.

3) Proposed measures to reduce or control noise impacts, if any:

Noise impacts associated with the construction phase of the project will be limited in duration. To mitigate general noise impacts during the construction phases, measures such as using and regularly maintaining efficient mufflers and quieting devices on all construction equipment and vehicles will be taken. Construction hours will roughly be limited to the normal workday, 7:00 a.m. to 6:00 p.m.

8. **Land and Shoreline Use**

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

The site is currently vacant. Surrounding uses include residential to the west, a Union 76 gasoline station (4 MPD) to the south, vacant property consisting of a wetland to the north, and a hotel to the east. To the best of our knowledge, the proposal will not affect current land uses on the nearby or adjacent properties.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?

To the best of our knowledge, the project site has not been used as a working farmland or working forest lands.

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:

The project will not affect any surrounding working farmlands and/or forest lands normal business operations.

c. Describe any structures on the site.

There is a well house on-site that will be decommissioned per Tacoma - Pierce County Health Department's (T.P.C.H.D.) standard code.

d. Will any structures be demolished? If so, what?
The existing well house will be demolished.

e. What is the current zoning classification of the site?
The current zoning is Commercial (COM).

f. What is the current comprehensive plan designation of the site?
The current comprehensive plan designation is Commercial.

g. If applicable, what is the current shoreline master program designation of the site?
This is not applicable.

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.
Based on site evaluations completed by Grette Associates, one (1) wetland, stream, and its OHWM are located on the subject property. The wetland is part of the Bell Marsh complex and extends to the west and northwest of the site. The wetland is considered a Category III wetland that requires a 100-foot-wide buffer. The stream flows south to north and enters the site via a culvert outlet. The stream transports drainage from the culvert outlet north into the wetland. The standard buffer for the stream is 100 feet measured from the OHWM. All disturbance for the development of the project is located outside the wetland and stream. Any disturbance for the development of the project that is located inside the wetland standard buffer and stream standard buffer will be mitigated and described in the Critical Arae Report and shown on the site plans. Please refer to the addendum to the Critical Areas Report prepared by Grette Associates dated July 2019 (Exhibit 3.d) for details.

A small "Esker" is located near the east driveway and is considered a "Developable Sensitive Area" per DMC.25.15.040D2. The proposed site development layout has been designed to keep this small "knob" as undisturbed as possible. Please see the latest Landscape plans included in the submittal package for any plantings in this area.

i. Approximately how many people would reside or work in the completed project?
Following completion, the development will likely employ between 15 and 25 employees. The project does not include any residential components and no one will reside on the site following project completion.

j. Approximately how many people would the completed project displace?
With no residential component, the project will have no residential displacement.

k. Proposed measures to avoid or reduce displacement impacts, if any:
With no displacement impacts identified, no mitigation measures are required or proposed.

L. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

The proposed use is permitted within the Commercial zoning district and is subject to various levels of review to ensure compatibility and compliance with all applicable codes.

m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any:
With no agricultural and forest lands identified, no mitigation measures are required or proposed.

9. **Housing**

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

The project proposal does not include any residential components; no housing units will be provided.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

The proposed project will not eliminate any residential units.

c. Proposed measures to reduce or control housing impacts, if any:

With no housing impacts identified, no mitigation measures are required or proposed.

10. **Aesthetics**

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

The tallest height of the Religious Assembly will be 24' and the principle exterior building material proposed will be designed to comply with all applicable architectural standards as specified per City Code requirements. The tallest height of the eating and drinking facility will be 18' and the principle exterior building material proposed will be designed to comply with all applicable architectural standards as specified per City Code requirements.

b. What views in the immediate vicinity would be altered or obstructed?

The project will be designed to comply with all applicable City setback and site clearance requirements. No significant views of the immediate vicinity are expected to be altered or obstructed as a result of this project.

b. Proposed measures to reduce or control aesthetic impacts, if any:

With no aesthetic impacts identified, no mitigation measures are required or proposed. Compliance with adopted design guidelines and standards will reduce or control any aesthetic impacts that may otherwise have occurred.

11. **Light and Glare**

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

The primary sources of light or glare resulting from the completed project will be produced from exterior lighting fixtures and vehicle headlights. The project will utilize fixtures that help minimize the possibility of glare and/or spillover affecting adjacent properties. The main time of day that this will occur is Sunday evenings.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No issues related to lighting have been identified as safety hazard or visual obstruction.

c. What existing off-site sources of light or glare may affect your proposal?

There are no off-site sources of light or glare that will have an effect on the proposal.

d. Proposed measures to reduce or control light and glare impacts, if any:

The project will mitigate light or glare with the choice of exterior fixtures and their design. The use of recessed and shielded wall fixtures, directional lighting and light screening will play a major role in reducing glare and spillover and will direct the light away from the wetland, wetland buffer and adjacent parcel 3575001073 to the west. The use of landscaping will further minimize potential for spillover and also a 4-foot concrete block wall will be built along the west property line adjacent to parcel 3575001073 to block light and sound attenuation.

12. **Recreation**

a. What designated and informal recreational opportunities are in the immediate vicinity?

Lafrati Park is located west of the project site which provides recreational opportunities for various activities.

c. Would the proposed project displace any existing recreational uses? If so, describe.

The project will not displace any recreational uses.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

No mitigation measures are required or proposed.

13. **Historic and cultural preservation**

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers located on or near the site? If so, specifically describe.

There are three local historic landmarks within the immediate vicinity of the proposed site. Lafrati Park/Barksdale Avenue was the original entry point to the Village of DuPont. Within Lafrati Park is a residential structure, built in 1910, that was once the former DuPont Plant manager's residence. There is another residential structure built in 1913 that was once the residence of the former assistant manager of the DuPont Plant. All landmarks are located west of the project site. To the west of the site is the Historic Village, which is on State and National Register of Historic Places.

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

To the best of our knowledge, there is no historical or cultural importance associated with the project site. However, the project is subject to various levels of review by City staff who have historical knowledge of the area to ensure no historically significant sites will be disturbed by the proposed project.

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

The method used to determine the existence, or lack thereof, of any historical or cultural importance associated with the project site was studying historical maps provided by Pierce County and Washington State. A Cultural Resources Report by Drayton Archeology dated 08/15/2023 and is included with the submittal package.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

To the best of our knowledge, there is no historical or cultural importance associated with the project site. Therefore, no measures are proposed to minimize any historical or cultural disturbances.

14. **Transportation**

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.

The project site is bound by public rights-of-way on two (2) sides: Barksdale Avenue to the southwest and Wilmington Drive to the southeast. The project proposes full access driveways onto both Barksdale Avenue and Wilmington Drive. DuPont-Steilacoom Rd bounds the site to the

southeast. The driveway on DuPont Steilacoom Rd is right in/right out only. Please refer to the enclosed Preliminary Site Plan for the visual of the proposed access locations.

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

The project site is not currently served by public transit.

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

The completed project for the Religious Assembly will provide parking for 135 vehicles. The eating and dining facility will provide parking for 38 vehicles. The existing site is vacant and does not have any parking.

c. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

The project will replace an existing sidewalk along Barksdale Avenue with new 5-foot-wide meandering sidewalk and a 5-foot-wide landscape planter within the right-of-way. New ADA ramp improvements will be included at the intersection. The off-site frontage 5' existing sidewalk will also be evaluated and/or replaced, if necessary, along DuPont Steilacoom Rd. It will also be extended to the end of proposed improvements.

e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

The project will not have any involvement with, or impact upon, water, rail, or air transport services or facilities.

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?

Based upon Heath Traffic TIA report dated 09/01/2023, the religious assembly would generate approximately 8 new AM peak hour trips, 12 new PM peak hour trips and 264 total trips per week. The eating and dining facility would generate approximately 2 new AM peak hour trips, 22 new PM peak hour trips and 56 total trips per week. The 10 electric vehicle charging stations would generate approximately 0 new AM peak hour trips, 9 new PM peak hour trips and 9 total trips per week.

g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

The project will not interfere with any surrounding working farmlands and/or forest land's transportation movements.

h. Proposed measures to reduce or control transportation impacts, if any:

The project will be subject to payment of the City's standard traffic impact fees. No other measures are proposed or required at this time.

15. **Public Services**

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.

The project will not result in an increased need for public safety services such as police and fire protection beyond the typical service provided for a project of this scale.

b. Proposed measures to reduce or control direct impacts on public services, if any.

No mitigation measures are required or proposed.

16. **Utilities**

a. Circle utilities currently available at the site:

electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other _____

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Preliminary research of utility as-built plans indicates that there is an existing 8 inch sewer main that runs along the project side of Barksdale Avenue. The project proposes to connect to the existing sanitary sewer main with one (1) existing 6-inch sanitary sewer stub at sanitary sewer manhole #15320. Preliminary research of utility as-built plans indicates that there is an existing 8-inch sewer main that runs along the project side of DuPont-Steilacoom Road. The project proposes to connect to the existing sewer main with one (1) new 6-inch sanitary sewer stub. Additional, as-built plans show an existing 12'inch water main along the project side of DuPont-Steilacoom Road and there is a tee that branches onto Barksdale Avenue and angles southwest. The project proposes to tap the 12'inch main and loop through the project site and tap the main off of Barksdale Avenue with an 8-inch main. A 1.5-inch domestic water service will be provided off of the new main for the religious assembly and the eating and drinking establishment along with a 6-inch fire service for each building, and a 1-inch irrigation service as needed for landscaping.

C. Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: Wendy Garrison Digitally signed by Wendy Garrison DN: C=US, E=wgarrison@lseinc.com, O="LeRoy Surveyors & Engineers, Inc.", CN=Wendy Garrison Date: 2024.11.25 07:46:09-08'00'

Name of Signee Wendy Garrison

Position and Agency/Organization LeRoy Surveyors & Engineers, Inc.

Date Submitted: 11/25/2024

Received 12-20-2023

LEROY SURVEYORS & ENGINEERS, INC.
Surveying • Engineering • Geology • Septic Design • GPS • GIS Mapping

Exhibit 1.d

Agent Authorization for Wendy Garrison

Received 12-20-2023

AUTHORIZATION TO ACT AS AGENT AFFIDAVIT

City of DuPont
1700 Civic Drive, DuPont, WA 98327
Telephone 253.964.8121
www.dupontwa.gov

I, Champions Centre, by David Yadon, Corporate Secretary, as agent for the property owner of the following described property

Property Address: xxxx Barksdale Avenue Parcel Numbers: 0119362039, -2009, 2012, and -2043 ,

hereby authorize WENDY GARRISON,

Address: P.O. Box 740, Puyallup, WA 98371

Phone: 253-973-5857 Email: WGarrison@lseinc.com

To act as agent on my behalf before the City of DuPont regarding applying for and processing any and all applications needed to obtain site plan approval for an approximately 25,480 square foot religious assembly structure with related improvements, including but not limited to parking, landscaping, electrical vehicles charging facilities and a 3,000 square foot commercial structure.

David Yadon 3/6/2023

Property Owner Agent's Signature Date

David Yadon, Corporate Secretary,
Champions Centre

STATE OF WASHINGTON }
COUNTY OF PIERCE }

On this 6th day of March, 2023, personally appeared before me

David Yadon, corporate secretary for Champions Centre, who I know or have satisfactory evidence that he is the individual described herein and who executed the within and foregoing instrument and acknowledged that he signed the instrument in his official capacity for Champions Centre as its corporate secretary, as his free and voluntary act and deed, for the uses and purposes mentioned in the instrument, and under oath stated that he was authorized to execute said instrument.

IN WITNESS WHEREOF, I have hereto set my hand and affixed my official seal the day and year first above written.

Cindy Kaye Yadon
Notary Public

CINDY KAYE YADON
Print Name

NOTARY PUBLIC in and for the State of Washington

Residing at PIERCE COUNTY

My Commission expires: 3-6-23

CINDY KAYE YADON
Notary Public
State of Washington
Commission # 192442
My Comm. Expires Apr 11, 2025

SUBMIT COMPLETE FORM TO: Permits@dupontwa.gov

Rev. 2021

Received 12-20-2023

LEROY SURVEYORS & ENGINEERS, INC.
Surveying • Engineering • Geology • Septic Design • GPS • GIS Mapping

Exhibit 1.c

Agent Authorization for Champions Centre

Received 12-20-2023

AUTHORIZATION TO ACT AS AGENT AFFIDAVIT

City of DuPont
1700 Civic Drive, DuPont, WA 98327
Telephone 253.964.8121
www.dupontwa.gov

I, Mustard Seed Legacy Development, LLC, as property owner of the following described property

Property Address: xxxx Barksdale Avenue Parcel Numbers: 0119362039, -2009, 2012, and -2043 ,

hereby authorize CHAMPIONS CENTRE, c/o David Yadon, Corporate Secretary, or his designee,

Address: 1819 East 72nd Street, Tacoma, WA 98404-5406

Phone: 253-475-6454 Email: dave@cc.church

To act as agent on my behalf before the City of DuPont regarding applying for and processing any and all applications needed to obtain site plan approval for an approximately 25,480 square foot religious assembly structure with related improvements, including but not limited to parking, landscaping, electrical vehicles charging facilities and a 3,000 square foot commercial structure.

Terri L Rich 3/1/23

Property Owner Signature Date

Terri Rich, Managing member
Mustard Seed Legacy Development, LLC

STATE OF WASHINGTON }
COUNTY OF PIERCE }

On this 1st day of March, 2023, personally appeared before me

Terri Rich, managing member for Mustard Seed Legacy Development, LLC, known to be the individual described herein and who executed the within and foregoing instrument and acknowledged that she signed the same as given, as her free and voluntary act and deed, for the uses and purposes therein mentioned, and under oath stated that she was authorized to execute said instrument.

IN WITNESS WHEREOF, I have hereto set my hand and affixed my official seal the day and year first above written.

WILLIAM P. ANDREWS NOTARY PUBLIC COMMISSION No. 50933 STATE OF WASHINGTON EXPIRES: Jun. 15, 2023

Notary Public

William P. Andrews

Print Name

NOTARY PUBLIC in and for the State of Washington

Residing at Spanaway

My Commission expires: 6/15/2023

SUBMIT COMPLETE FORM TO: Permits@dupontwa.gov

Rev. 2021

Received 12-20-2023

Exhibit 2.a

City of DuPont
Planning Division
Land Use Application

1700 Civic Drive
DuPont, WA 98327
www.dupontwa.gov

Phone: (253) 912-5393
Fax: (253) 964-1455

City File Number: PLNG2023-010

All information listed in this application, or by applicable ordinance, must be submitted in order for a land use application to be determined complete. Only a complete land use application will be processed for conformance with adopted policies and requirements.

General Information:

Project name: Champions Centre

Applicant name: Champions Centre

Address: 1819 E. 72nd St. Tacoma, WA 98404

Phone number: 253-606-9041 Fax number:

Applicant's representative: Wendy Garrison, of LeRoy Surveyors & Engineers, Inc.

Address: P.O. Box 740, Puyallup, WA 98371

Phone number: 253-973-5857 Fax number:

Description of proposal. Be specific.
For full description of the proposal, please see the cover letter included in the submittal package.

This application is applying for Site Plan Review, Critical Area Permit, Tree Modification Permit,

Electric Vehicle Facility Review, SEPA Environmental Review & Transportation Concurrency Review

Site Information:

Assessor's Parcel Number(s): 0119362039, 0119362009, 0119362012 & 0119362043

Area of site in square feet: 927,027 S.F.

Area of streets and alleys: N/A

Area of storm drainage improvements and conveyance lines: 185,105 S.F.

Area of open space and neighborhood green tracts: N/A

Area of critical areas and buffers: 747,729 S.F.

Area of building floors: 26,000 S. F. and 3,000 S.F.

Area of impervious surfaces: 122,990 S.F.

Area of landscaping: 53,689 S.F.

Building height: 24' and 18'

Number of dwelling units: 0

Number of employees: 15

Number of disabled, compact and standard parking stalls: 173

Description and area of all proposed tracts: None

Required Plans, Information and Fee:

(Quantity and minimum scale of each item or drawing is indicated in parenthesis. Plans shall be no larger than 24 by 36 inch sheet size)

1. ☑ Vicinity Map (include as part of site plan).
2. ☑ Site Plan drawn at 1 inch = 20 feet extending 100 feet beyond the property lines (eight copies).
3. ☑ Landscape Plans identifying: location, size and species of all landmark, historic and specimen trees; trees to be retained, specific tree protection measures drawn at 1 inch = 20 feet (seven copies).
4. ☑ Grading Plan with estimated dimensions and quantities of work involved drawn at 1 inch = 20 feet horizontal with 2' contour intervals (seven copies).
5. ☑ Storm Drainage and Utility Plan drawn at 1 inch = 20 feet (seven copies).
6. ☑ Preliminary Stormwater Management Report and calculations (three copies).
7. ☑ Roadway cross sections, (seven copies of single line drawing with dimensions). N/A
8. ☑ One each 8 by 11 inch reduction of all drawings.
9. ☑ Average daily trips generated by the proposal based on the International Transportation Engineers Trip Generation Manual (two copies).
10. ☑ Building Elevations drawn at ¼ inch = 1 foot or larger. Identify building materials and colors (eight copies).
11. ☑ Title report of subject lot that is less than 30 days old to identify all encumbrances (two copies).
12. ☑ Draft of proposed covenants, conditions and restrictions related to the maintenance of open space or commonly owned improvements, if applicable (two copies). N/A
13. ☑ Letter of Sewer Availability from Pierce County (two copies).
14. ☑ Letter of Water Availability from City of DuPont (two copies).
15. ☑ One site drawing showing the refuse enclosure(s) that is approved via signature and date by LeMay, Inc. Contact person is Charlie Maxwell, Public Relations Director, 253-537-8687.
16. ☑ Completed Environmental Checklist (two copies).
17. ☑ Completed Land Use Application (one copy).
18. ☑ Completed Agent Affidavit (one copy).
19. ☑ Filing fee(s).

Note:

Fill out and return this application with all material listed in the Required Plans, Information and Fee section. Submittal of all required plans, information and fees constitutes a complete application. You will be contacted by the City within 28 days of formal application submittal regarding whether the application is complete. Site work may not start until all necessary permits have been obtained. Paper or electronic drawings of the proposal may be requested for presentation purposes.

David Cox 10/2/23

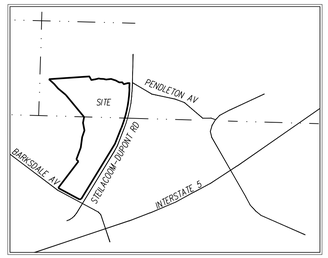
(Applicant Signature) (Date)

David Cox

(Print name)

CHAMPIONS CENTRE
OVERALL SITE PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE4x E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON



VICINITY MAP
SCALE: 1" = 1000'

GRAPHIC SCALE
80 0 40 80 160 320
1 INCH = 80 FEET

SURVEYOR'S NOTE:
THE 84" STORM DRAINAGE PIPE LOCATIONS, AS SHOWN ON THIS MAP, ARE PROVIDED BY OTHER AND ARE NOT A PRODUCT OF FIELD VERIFIED LOCATION BY LEROY SURVEYOR'S AND ENGINEERS INC. THE CONTRACTOR IS REQUIRED TO POTHOLE THE LOCATION OF THE PIPE AND CONTACT THE ENGINEER AND SURVEYOR TO MAP ITS ACCURATE LOCATION PRIOR TO ANY CONSTRUCTION.

Exhibit 2.b

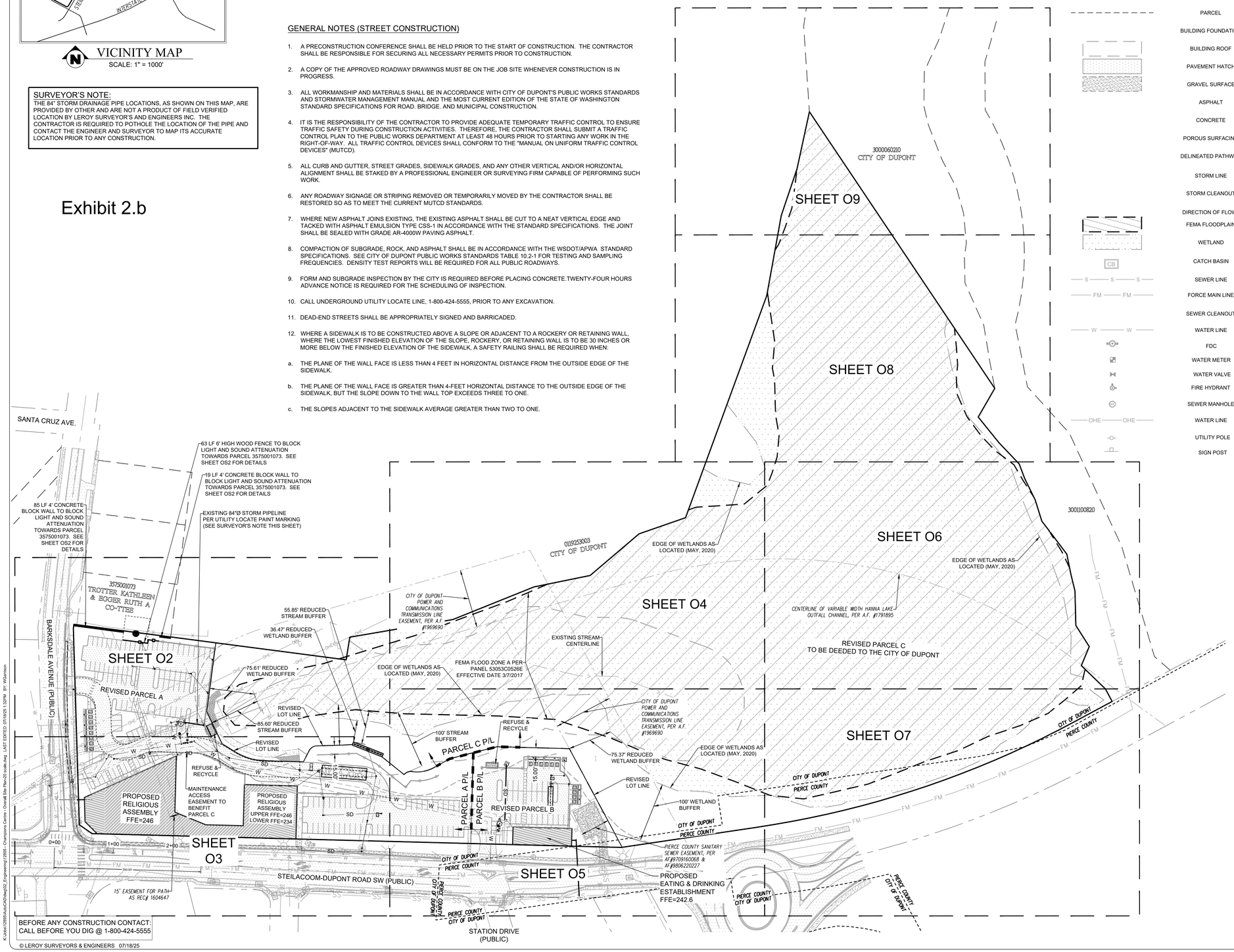
GENERAL NOTES (STREET CONSTRUCTION)

1. A PRECONSTRUCTION CONFERENCE SHALL BE HELD PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION.
2. A COPY OF THE APPROVED ROADWAY DRAWINGS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
3. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH CITY OF DUPONT'S PUBLIC WORKS STANDARDS AND STORMWATER MANAGEMENT MANUAL AND THE MOST CURRENT EDITION OF THE STATE OF WASHINGTON STANDARD SPECIFICATIONS FOR ROAD. BRIDGE. AND MUNICIPAL CONSTRUCTION.
4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ADEQUATE TEMPORARY TRAFFIC CONTROL TO ENSURE TRAFFIC SAFETY DURING CONSTRUCTION ACTIVITIES. THEREFORE, THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE PUBLIC WORKS DEPARTMENT AT LEAST 48 HOURS PRIOR TO STARTING ANY WORK IN THE RIGHT-OF-WAY. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD).
5. ALL CURB AND GUTTER, STREET GRADES, SIDEWALK GRADES, AND ANY OTHER VERTICAL AND/OR HORIZONTAL ALIGNMENT SHALL BE STAKED BY A PROFESSIONAL ENGINEER OR SURVEYING FIRM CAPABLE OF PERFORMING SUCH WORK.
6. ANY ROADWAY SIGNAGE OR STRIPING REMOVED OR TEMPORARILY MOVED BY THE CONTRACTOR SHALL BE RESTORED SO AS TO MEET THE CURRENT MUTCD STANDARDS.
7. WHERE NEW ASPHALT JOINS EXISTING, THE EXISTING ASPHALT SHALL BE CUT TO A NEAT VERTICAL EDGE AND TACKED WITH ASPHALT EMULSION TYPE CSS-1 IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. THE JOINT SHALL BE SEALED WITH GRADE AR-4000W PAVING ASPHALT.
8. COMPACTION OF SUBGRADE, ROCK, AND ASPHALT SHALL BE IN ACCORDANCE WITH THE WSDOT/APWA STANDARD SPECIFICATIONS. SEE CITY OF DUPONT PUBLIC WORKS STANDARDS TABLE 10.2-1 FOR TESTING AND SAMPLING FREQUENCIES. DENSITY TEST REPORTS WILL BE REQUIRED FOR ALL PUBLIC ROADWAYS.
9. FORM AND SUBGRADE INSPECTION BY THE CITY IS REQUIRED BEFORE PLACING CONCRETE.TWENTY-FOUR HOURS ADVANCE NOTICE IS REQUIRED FOR THE SCHEDULING OF INSPECTION.
10. CALL UNDERGROUND UTILITY LOCATE LINE, 1-800-424-5555, PRIOR TO ANY EXCAVATION.
11. DEAD-END STREETS SHALL BE APPROPRIATELY SIGNED AND BARRICADED.
12. WHERE A SIDEWALK IS TO BE CONSTRUCTED ABOVE A SLOPE OR ADJACENT TO A ROCKERY OR RETAINING WALL, WHERE THE LOWEST FINISHED ELEVATION OF THE SLOPE, ROCKERY, OR RETAINING WALL IS TO BE 30 INCHES OR MORE BELOW THE FINISHED ELEVATION OF THE SIDEWALK, A SAFETY RAILING SHALL BE REQUIRED WHEN:

a. THE PLANE OF THE WALL FACE IS LESS THAN 4 FEET IN HORIZONTAL DISTANCE FROM THE OUTSIDE EDGE OF THE SIDEWALK.

b. THE PLANE OF THE WALL FACE IS GREATER THAN 4-FEET HORIZONTAL DISTANCE TO THE OUTSIDE EDGE OF THE SIDEWALK, BUT THE SLOPE DOWN TO THE WALL TOP EXCEEDS THREE TO ONE.

c. THE SLOPES ADJACENT TO THE SIDEWALK AVERAGE GREATER THAN TWO TO ONE.



BEFORE ANY CONSTRUCTION CONTACT:
CALL BEFORE YOU DIG @ 1-800-424-5555

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K:\Jobs\12695\AutoCAD\sheets\O_Engineering\12695 - Champions Centre - Overall Site Plan-3D traffic.dwg LAST EDITED: 07/18/25 1:32PM BY: WGlennon

EXISTING

510
502
RIGHT-OF-WAY
CENTERLINE
BOUNDARY
LANDSCAPE BUFFER
PARCEL
BUILDING FOUNDATION
BUILDING ROAD
PAVEMENT HATCH
GRAVEL SURFACE
ASPHALT
CONCRETE
POROUS SURFACING
DELINEATED PATHWAY
STORM LINE
STORM CLEANOUT
DIRECTION OF FLOW
FEMA FLOODPLAIN
WETLAND
CB
CATCH BASIN
S
SEWER LINE
FM
FORCE MAIN LINE
SEWER CLEANOUT
W
WATER LINE
FDC
WATER METER
WATER VALVE
FIRE HYDRANT
SEWER MANHOLE
OHE
WATER LINE
UTILITY POLE
SIGN POST

LEGEND

2' CONTOURS MAJOR
2' CONTOURS MINOR
RIGHT-OF-WAY
CENTERLINE
BOUNDARY
LANDSCAPE BUFFER
PARCEL
BUILDING FOUNDATION
BUILDING ROAD
PAVEMENT HATCH
GRAVEL SURFACE
ASPHALT
CONCRETE
POROUS SURFACING
DELINEATED PATHWAY
STORM LINE
STORM CLEANOUT
DIRECTION OF FLOW
FEMA FLOODPLAIN
WETLAND
CATCH BASIN
SEWER LINE
FORCE MAIN LINE
SEWER CLEANOUT
WATER LINE
FDC
WATER METER
WATER VALVE
FIRE HYDRANT
SEWER MANHOLE
WATER LINE
UTILITY POLE
SIGN POST

PROPOSED

510
502
SD
S
W

Exhibit 2.b

PARCEL NUMBERS:
0119362039, 0119362009, 0119362012 & 0119362043

PARCEL AREA:
927,027 S.F. (21.28 AC)

SHEET INDEX:

1. COVER SHEET
2. SITE PLAN AREA 1
3. SITE PLAN AREA 2
4. SITE PLAN AREA 3
5. SITE PLAN AREA 4
6. SITE PLAN AREA 5
7. SITE PLAN AREA 6
8. SITE PLAN AREA 7
9. SITE PLAN AREA 8

PROJECT DESCRIPTION:
THE CHAMPIONS CENTRE PROJECT CONTAINS 4 EXISTING PARCELS. THE OVERALL COMBINED PARCEL AREA OF THE 4 PARCELS IS 927,027 SQUARE FEET (21.28 ACRES). THIS COMMERCIAL PROJECT CONSISTS OF A BOUNDARY LINE ADJUSTMENT TO REDUCE THE NUMBER OF LOTS FROM 4 PARCELS INTO 3 PARCELS. PARCELS A, B & C.

PARCEL A WILL BE 139,369 SQUARE FEET (3.20 ACRE). THIS WILL BE A COMMERCIAL LOT THAT WILL INCLUDE THE CONSTRUCTION OF APPROXIMATELY 26,000 SQUARE FOOT RELIGIOUS ASSEMBLY THAT WILL HAVE A MAXIMUM CONGREGATION OCCUPANCY OF 350 PEOPLE. THE ARCHITECTURAL FOOTPRINT FOR THIS RELIGIOUS ASSEMBLY IS UNIQUE TO ALLOW FOR THE EXISTING GROVE OF LANDMARK OREGON WHITE OAK TREES THAT SIT ON AN EXISTING KNOLL TO BE PROTECTED AND REMAIN ON-SITE. THIS PROPERTY WILL ALSO HAVE A TOTAL OF 136 PARKING STALLS. THE PARKING STALLS WILL INCLUDE 8 ELECTRIC VEHICLE STALLS, 5 STANDARD ADA STALLS, 1 VAN ADA STALL AND 122 STANDARD STALLS. THIS PROPERTY WILL BE SERVED BY PUBLIC SEWER & WATER AND WILL HAVE ON-SITE STORM FILTER SYSTEM(S) THAT WILL PROVIDE QUALITY TREATMENT OF ON-SITE STORMWATER RUNOFF. AFTER TREATMENT ONSITE STORMWATER RUNOFF WILL BE CONVEYED TO AN ON-SITE INFILTRATION SYSTEM WHICH WILL PROVIDE QUANTITY MITIGATION.

PARCEL B WILL BE 34,601 SQUARE FEET (0.79 ACRES). THIS WILL BE A COMMERCIAL LOT THAT WILL INCLUDE THE CONSTRUCTION OF APPROXIMATELY 3,000 SQUARE FOOT EATING AND DRINKING ESTABLISHMENT. THE MAXIMUM OCCUPANCY IS UNKNOWN AT THIS TIME. THIS PROPERTY WILL ALSO HAVE A TOTAL OF 39 PARKING STALLS. THE PARKING STALLS WILL INCLUDE 11 ELECTRIC VEHICLE STALLS, 1 STANDARD ADA STALL, 1 VAN ADA STALL AND 26 STANDARD STALLS. THIS PROPERTY WILL BE SERVED BY PUBLIC SEWER & WATER AND WILL HAVE AN ON-SITE CARTRIDGE-STYLE STORM FILTER SYSTEM WHICH WILL PROVIDE QUALITY MITIGATION. TREATED STORMWATER RUNOFF WILL THEN BE CONVEYED TO AND ON-SITE STORMWATER INFILTRATION SYSTEM.

PARCEL C WILL BE 753,056 SQUARE FEET (17.29 ACRES). THIS WILL INCLUDE AN EXISTING WETLAND, WETLAND BUFFER, STREAM, STREAM BUFFER AND FEMA FLOOD ZONE A PER PANEL 53053C0526E EFFECTIVE DATE 3/7/2017. THIS PARCEL WILL BE DEEDED TO THE CITY OF DUPONT.

DATUM:
WASHINGTON SOUTH ZONE NAVD 88

TOPOGRAPHY:
2 FOOT CONTOURS. TOPOGRAPHIC INFORMATION FROM AERIAL MAPPING BY PUGET SOUND LIDAR CONSORTIUM AND VERIFIED BY LS&E

SITE ADDRESS:
XXX BARKSDALE AVE.
DUPONT, WA 98237

PROPERTY OWNER:
MUSTARD SEED LEGACY DEV. LLC
32706 MOUNTAIN HWY E
EATONVILLE, WA 98328

APPLICANT:
CHAMPIONS CENTRE
CONTACT: DAVID YADON, CORPORATE SECRETARY
PHONE: 253-606-9041
1819 E. 72ND ST.
TACOMA, WA 98404

ZONING:
COMM

SURVEY DISCLAIMER:
THIS IS NOT A BOUNDARY SURVEY

OVERALL LANDSCAPE REQUIREMENTS:
20% LANDSCAPE AREA REQUIRED FOR PARCEL A
139,369 S.F. X 20% = 27,874 S.F.
41,140 S.F. PROVIDED

20% LANDSCAPE AREA REQUIRED FOR PARCEL B
34,601 S.F. X 20% = 6,920 S.F.
10,926 S.F. PROVIDED

WETLAND & WETLAND BUFFER AREA:
WETLAND AREA = 624,000 S.F.
ORIGINAL 100' WETLAND BUFFER = 150,401 S.F.
REDUCED WETLAND BUFFER = 125,271 S.F.

STREAM BUFFER AREA:
ORIGINAL 100' STREAM BUFFER = 179,269 S.F.
REDUCED STREAM BUFFER AREA = 171,589 S.F.

07/18/2025
STEVE THEODORE ABRAHAMSON
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER

NO	REVISION	DATE
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JOB NO 12695
DATE 07/18/2025
DESIGNED BY WG
DRAWN BY WG
CHECKED BY SN
APPROVED BY SN

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LEROY SURVEYORS & ENGINEERS
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www.lseinc.com

Cover Sheet

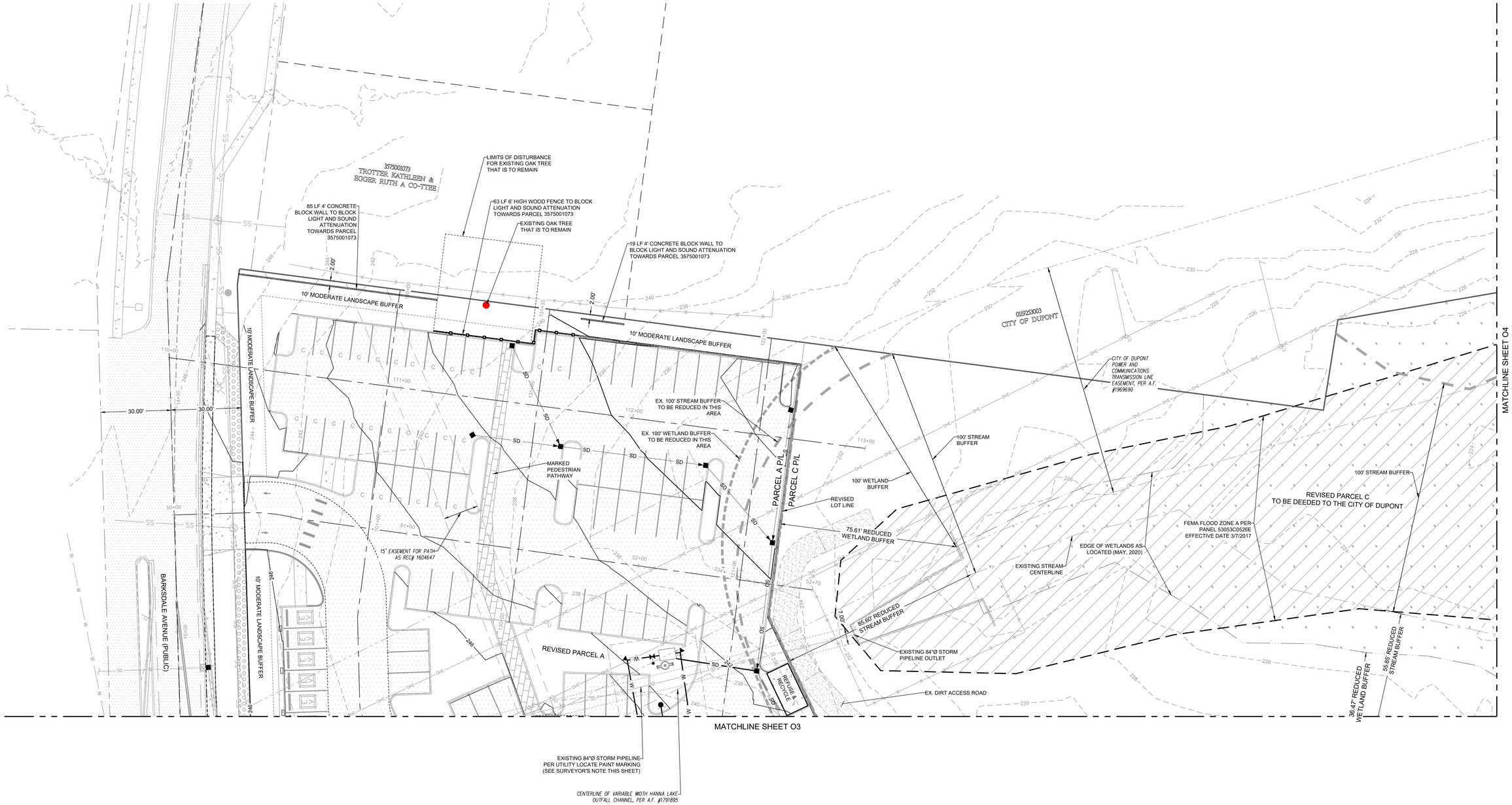
Champions Centre
Overall Site Plan
David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

DRAWING
01
SHEET 01
OF 09

CHAMPIONS CENTRE
OVERALL SITE PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF
SECTION 26, TOWNSHIP 19 N, RANGE4x E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE
20 0 10 20 40 80
1 INCH = 20 FEET



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07/18/2025
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STATE OF WASHINGTON
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www.lsenc.com

Site Plan Area 1

Champions Centre
Overall Site Plan
David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

DRAWING
02
SHEET 02
OF 09

CHAMPIONS CENTRE
OVERALL SITE PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF
SECTION 26, TOWNSHIP 19 N, RANGE4x E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

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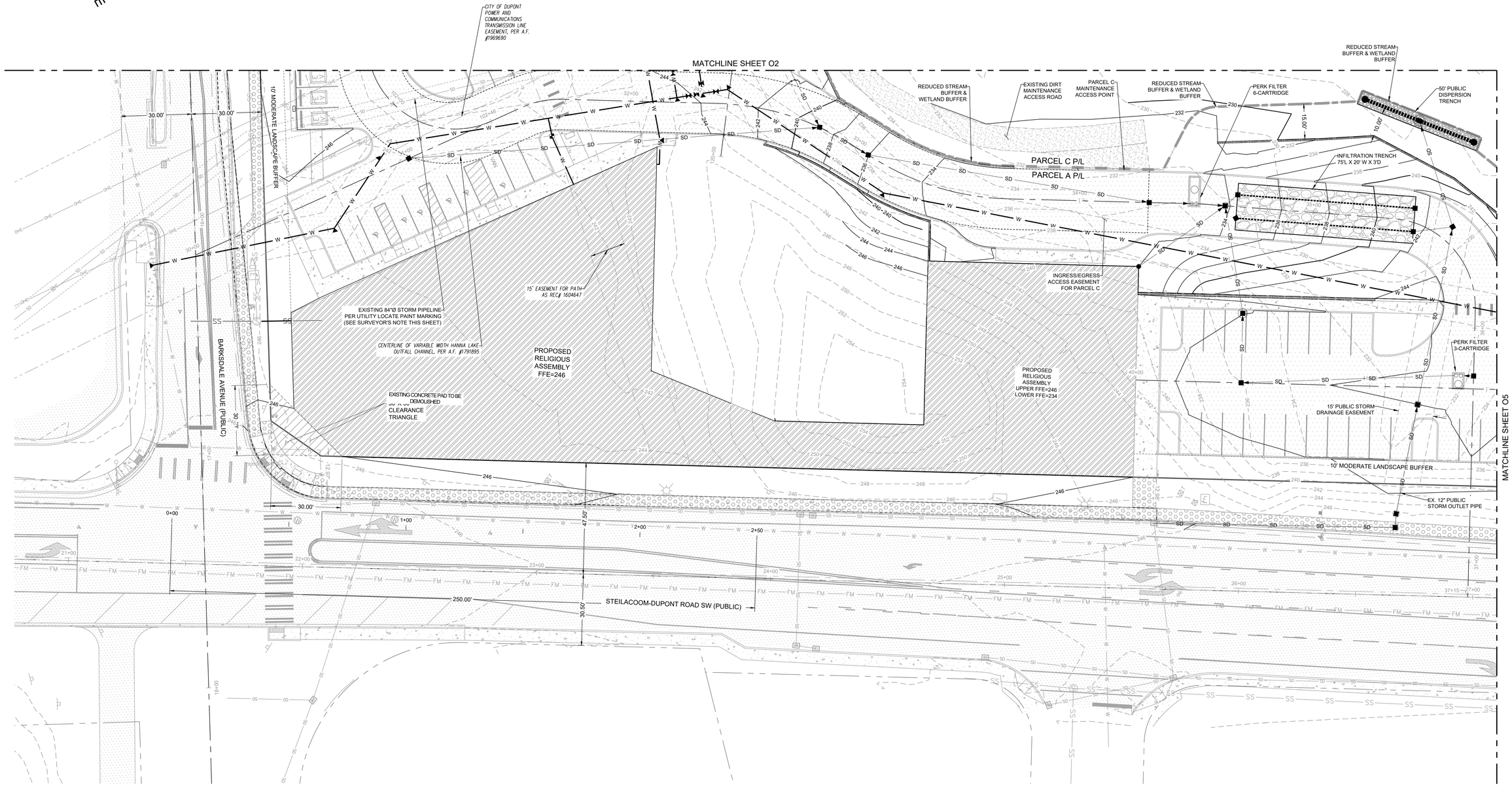

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STEVE THEODORE ERIKSEN
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER

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Site Plan Area 2

Champions Centre
Overall Site Plan
David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

DRAWING
O3
SHEET 03
OF 09

CHAMPIONS CENTRE
OVERALL SITE PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE4x E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE
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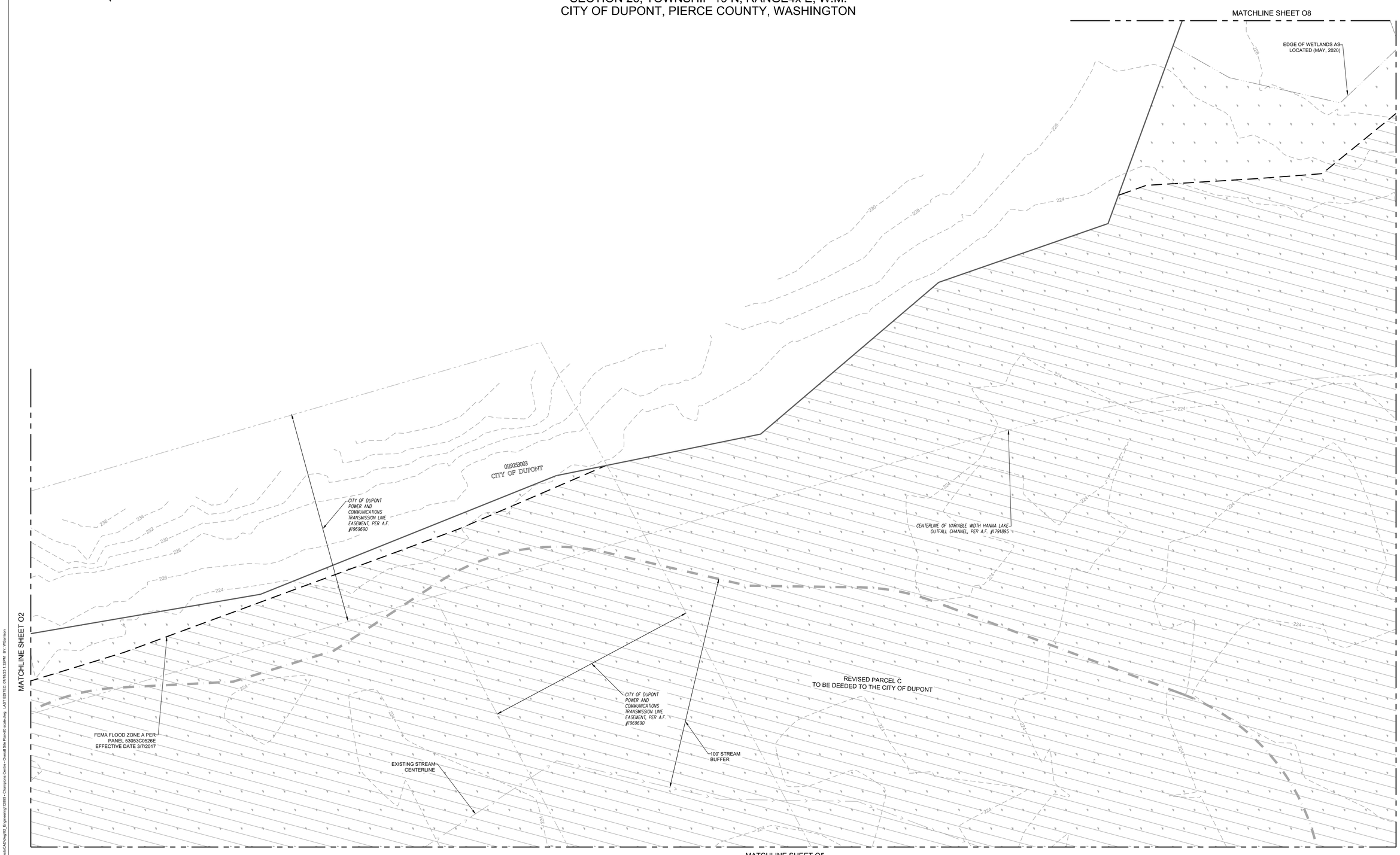
1 INCH = 20 FEET



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STEVE THEODORE ABRAHAMSON
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER

DATE:

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Site Plan Area 3

Champions Centre
Overall Site Plan
David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

DRAWING
04
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CHAMPIONS CENTRE
OVERALL SITE PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF
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CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE
20 0 10 20 40 80
1 INCH = 20 FEET

MATCHLINE SHEET O4

EXISTING STREAM CENTERLINE

REVISED PARCEL C
TO BE DEEDED TO THE CITY OF DUPONT

100' STREAM BUFFER

91.18' REDUCED STREAM BUFFER

60.00' REDUCED WETLAND BUFFER

REDUCED WETLAND BUFFER

EX. 100' STREAM BUFFER TO BE REDUCED IN THIS AREA

EX. 100' WETLAND BUFFER TO BE REDUCED IN THIS AREA

REDUCED WETLAND BUFFER

75.37' REDUCED WETLAND BUFFER

CITY OF DUPONT POWER AND COMMUNICATIONS TRANSMISSION LINE EASEMENT, PER A.F. #1969690

FEMA FLOOD ZONE A PER PANEL 53053C0526E EFFECTIVE DATE 3/7/2017

LOT LINE

PARCEL C P/L

PARCEL A P/L

PARCEL B P/L

REFUSE & RECYCLE

PERK FILTER 3 CARTRIDGE

MARKED PEDESTRIAN PATHWAY

INFILTRATION TRENCH 45'L X 8'W X 2'D

EDGE OF WETLANDS AS LOCATED (MAY, 2020)

LOT LINE

100' WETLAND BUFFER

PIERCE COUNTY SANITARY SEWER EASEMENT, PER AF#9709160068 & AF#9806220227

PROPOSED EATING & DRINKING ESTABLISHMENT FFE=242.6

10' MODERATE LANDSCAPE BUFFER

10' MODERATE LANDSCAPE BUFFER

EX. 100' WETLAND BUFFER TO BE REDUCED IN THIS AREA

CITY OF DUPONT
PIERCE COUNTY

STEILACOOM-DUPONT ROAD SW (PUBLIC)

STATION DRIVE (PUBLIC)

PIERCE COUNTY
CITY OF DUPONT

MATCHLINE SHEET O3

MATCHLINE SHEET O7

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07/18/2025
STEVE THEODORE ERICKSON
STATE OF WASHINGTON
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Site Plan Area 4

Champions Centre
Overall Site Plan
David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-806-9041
dave@cc.church

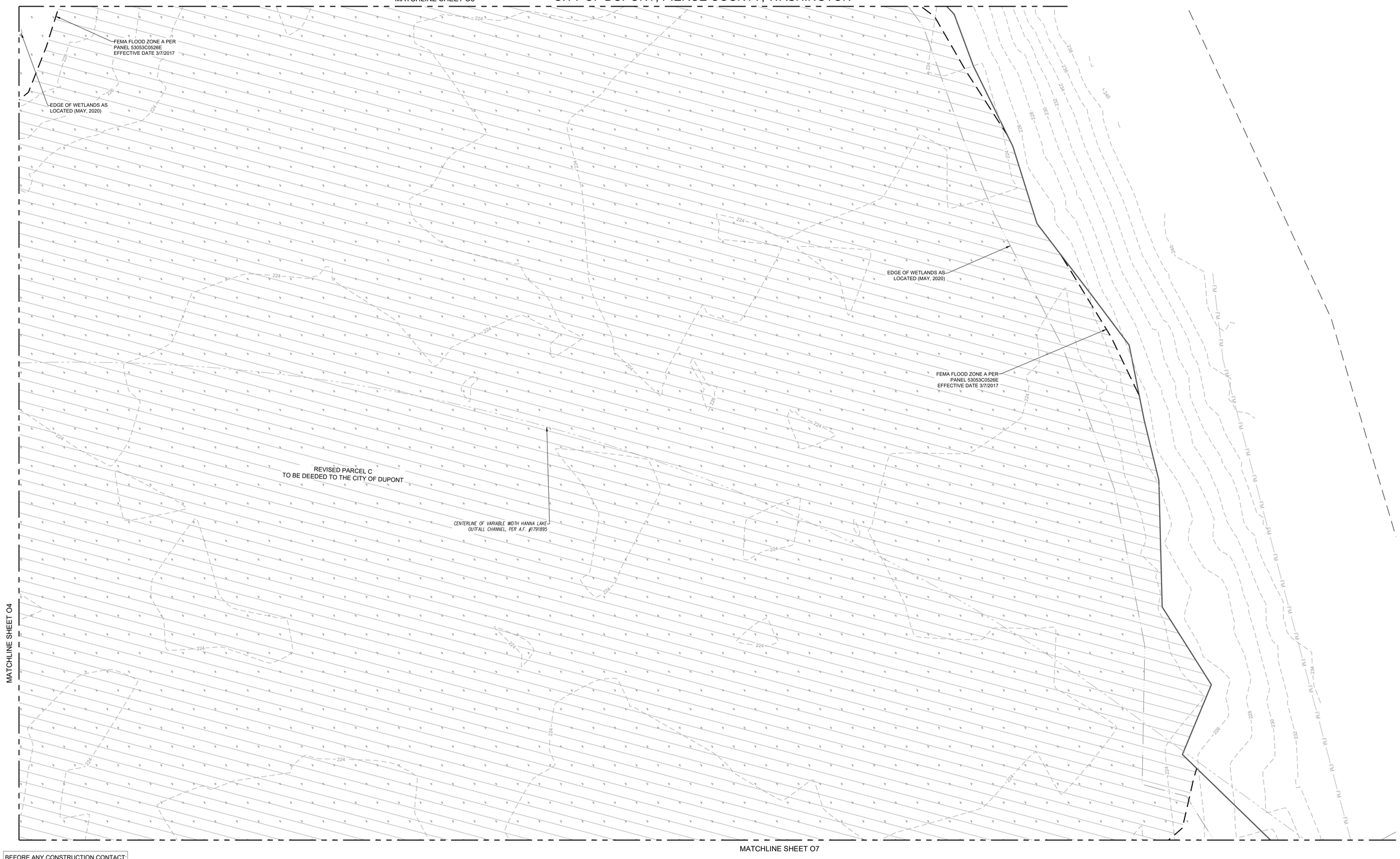
DRAWING
05
SHEET 05
OF 09

CHAMPIONS CENTRE
OVERALL SITE PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF
SECTION 26, TOWNSHIP 19 N, RANGE4x E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE
20 0 10 20 40 80
1 INCH = 20 FEET

MATCHLINE SHEET O8



MATCHLINE SHEET O4

MATCHLINE SHEET O7

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STEVE THEODORE ERLANSON
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DATE: 07/18/2025
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Site Plan Area 5

Champions Centre
Overall Site Plan
David Yadon, Champions Centre
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dave@cc.church

DRAWING
06
SHEET 06
OF 09

CHAMPIONS CENTRE
OVERALL SITE PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF
SECTION 26, TOWNSHIP 19 N, RANGE4x E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE

20 0 10 20 40 80

1 INCH = 20 FEET

MATCHLINE SHEET O6

MATCHLINE SHEET O5

FEMA FLOOD ZONE A PER
PANEL 53053C0526E
EFFECTIVE DATE 3/7/2017

EDGE OF WETLANDS AS-
LOCATED (MAY, 2020)

CITY OF DUPONT
PIERCE COUNTY

CENTERLINE OF VARIABLE WIDTH HANNA LAKE
OUTFALL CHANNEL, PER A.F. #1791895

60.00'

STEILACOOM-DUPONT ROAD SW (PUBLIC)

PIERCE COUNTY
CITY OF DUPONT

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STEVE THEODORE ABRAHAMSON
STATE OF WASHINGTON
22007
REGISTERED
PROFESSIONAL ENGINEER

DATE:

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JOB NO. 12895
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Site Plan Area 6

Champions Centre
Overall Site Plan

David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

DRAWING
07
SHEET 07
OF 09

CHAMPIONS CENTRE
OVERALL SITE PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF
SECTION 26, TOWNSHIP 19 N, RANGE4x E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE
20 0 10 20 40 80
1 INCH = 20 FEET

MATCHLINE SHEET O9

3000060210
CITY OF DUPONT

3001100820

3575001073
TROTTER KATHLEEN &
EGGER RUTH A CO-TTEE

FEMA FLOOD ZONE A PER
PANEL 53053C0526E
EFFECTIVE DATE 3/7/2017

REVISED PARCEL C
TO BE DEEDED TO THE CITY OF DUPONT

EDGE OF WETLANDS AS
LOCATED (MAY, 2020)

MATCHLINE SHEET O4

MATCHLINE SHEET O6

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STEVE THEODORE NELSON
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DATE:

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Site Plan Area 7

Champions Centre
Overall Site Plan
David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
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dave@cc.church

DRAWING
08
SHEET 08
OF 09

CHAMPIONS CENTRE
OVERALL SITE PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE4x E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE
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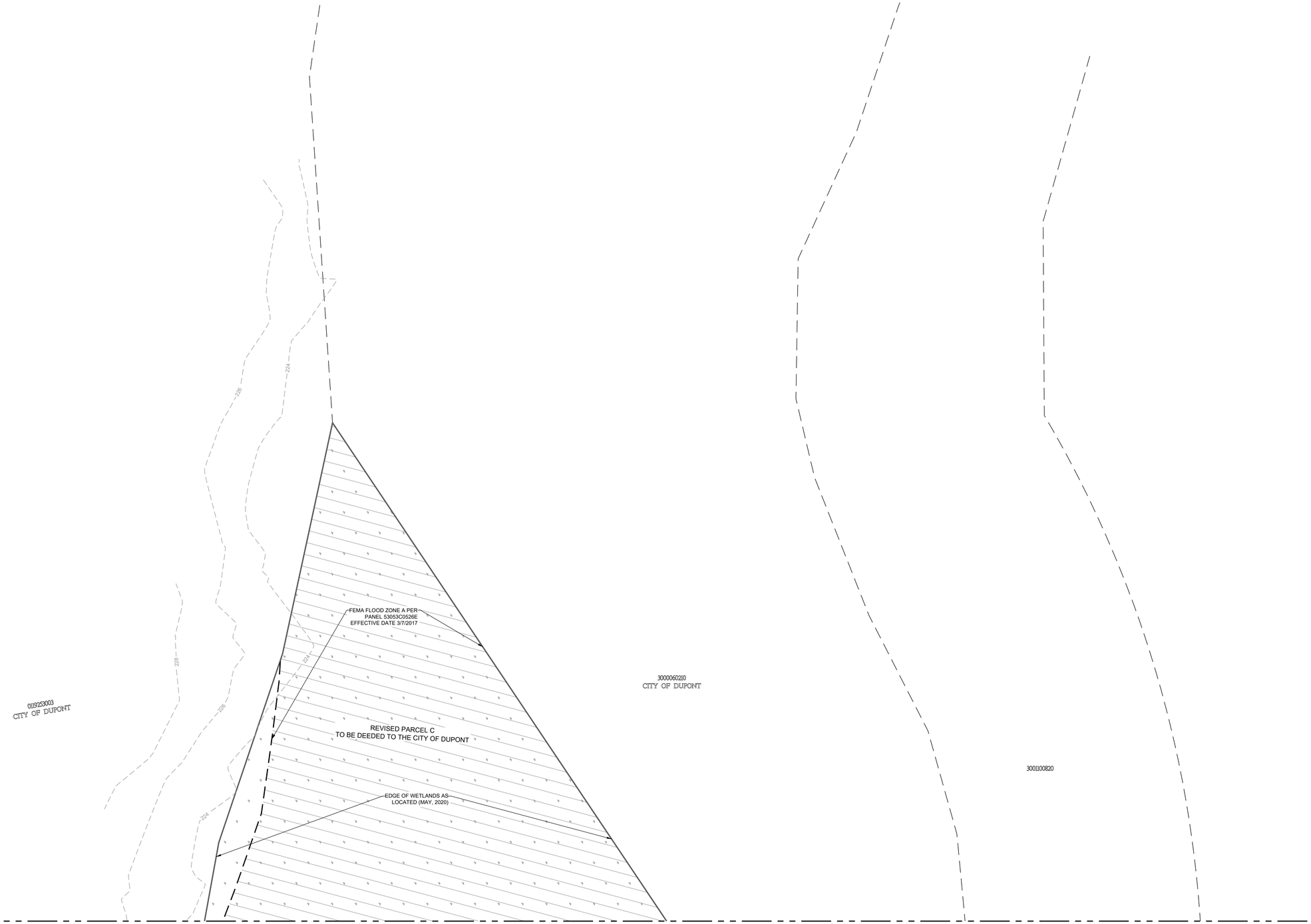

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07/18/2025
STEVE THEODORE NELSON
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER

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JOB NO: 12995
DATE: 07/18/2025
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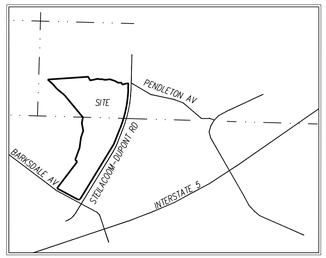
Site Plan Area 8

Champions Centre
Overall Site Plan
David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

DRAWING
O9
SHEET 09
OF 09



VICINITY MAP
SCALE: 1" = 1000'

Received 12-11-2024

Exhibit 2.c

CHAMPIONS CENTRE
EXISTING CONDITIONS SITE PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE4x E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE
40 0 20 40 80 160
1 INCH = 40 FEET

SHEET INDEX:
1. EXISTING CONDITIONS
2. EXISTING CONDITIONS (CONTINUED)

PARCEL NUMBERS:
0119362039, 0119362009, 0119362012 & 0119362043

PARCEL AREA:
927,027 S.F. (21.28 AC)

DATUM:
WASHINGTON SOUTH ZONE NAVD 88

TOPOGRAPHY:
2 FOOT CONTOURS. TOPOGRAPHIC INFORMATION FROM AERIAL MAPPING BY PUGET SOUND LIDAR CONSORTIUM AND VERIFIED BY LS&E

SITE ADDRESS:
XXX BARKSDALE AVE.
DUPONT, WA 98237

PROPERTY OWNER:
MUSTARD SEED LEGACY DEV. LLC
32706 MOUNTAIN HWY E
EATONVILLE, WA 98328

APPLICANT:
CHAMPIONS CENTRE
1819 E. 72ND ST.
TACOMA, WA 98404

ZONING:
COMM

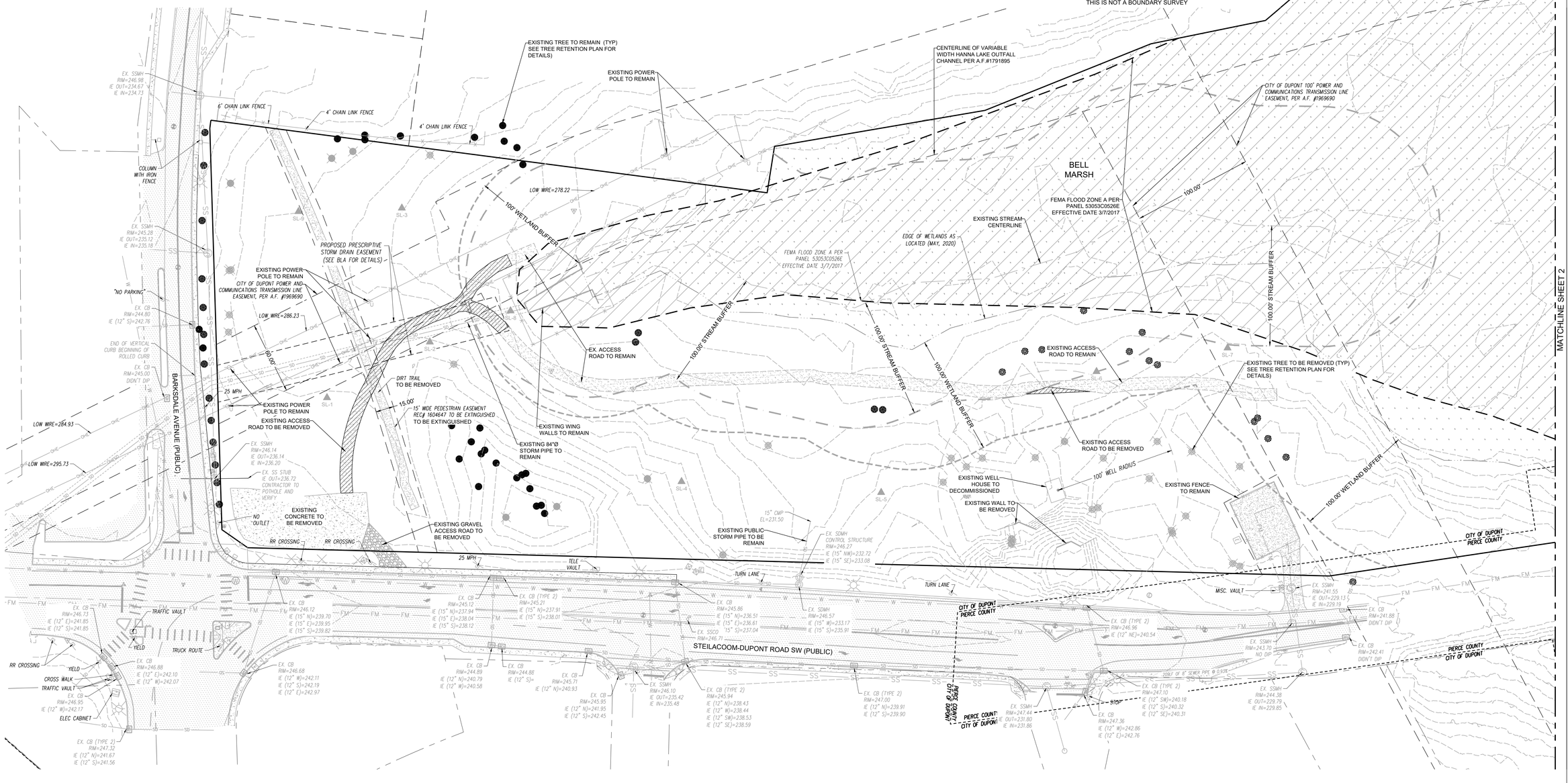
SURVEY DISCLAIMER:
THIS IS NOT A BOUNDARY SURVEY

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
City of DuPont

These drawings are approved for construction for a period of 12 months from the date shown hereon. The city reserves the right to make revisions, additional, deletions, or modifications should construction be delayed beyond this time limitation. The city, by approving these drawings, assumes no liability in regards to their accuracy or omissions.

12/09/2024
STEVE THEODORE WILSON
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER



BEFORE ANY CONSTRUCTION CONTACT:
CALL BEFORE YOU DIG @ 1-800-424-5555

© LEROY SURVEYORS & ENGINEERS 12/09/24

K:\Jobs\12995\AutoCAD\dwg\02_Engineering\12995 - Champions Centre - Existing Conditions Site Plan.dwg LAST EDITED: 12/09/24 7:49AM BY: shane

REVISION
1 2 3 4 5 6 7 8 9 10
DATE:

JOB NO: 12995
DATE: 12/09/2024
DESIGNED BY: WG
DRAWN BY: WG
CHECKED BY: SN
APPROVED BY: SN

LEROY SURVEYORS & ENGINEERS
P.O. Box 740, Puyallup, Washington 98371
(253) 848-6608 Fax: (253) 840-4140
www.lseinc.com

SURVEYING
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GEOLOGY
SEPTIC DESIGN
GIS MAPPING

Existing Conditions

Champions Centre
Existing Conditions Site Plan
David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

DRAWING
TOPO1
SHEET 01
OF 02

GRAPHIC SCALE

40 0 20 40 80 160

1 INCH = 40 FEET

CHAMPIONS CENTRE
EXISTING CONDITIONS SITE PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE4x E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
City of DuPont

These drawings are approved for construction for a period of 12 months from the date shown hereon. The city reserves the right to make revisions, additional, deletions, or modifications should construction be delayed beyond this time limitation. The city, by approving these drawings, assumes no liability in regards to their accuracy or omissions.

12/09/2024
STEVE THEODORE NELSON
STATE OF WASHINGTON
22307
REGISTERED
PROFESSIONAL ENGINEER

BEFORE ANY CONSTRUCTION CONTACT:
CALL BEFORE YOU DIG @ 1-800-424-5555

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K:\Jobs\12995\Acad\CADdwgs\03_Engineering\12995 - Champions Centre - Existing Conditions Site Plan.dwg LAST EDITED: 12/09/24 7:49AM BY: shane

DATE:

	REVISION
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JOB NO: 12995
DATE: 12/09/2024
DESIGNED BY: WG
DRAWN BY: WG
CHECKED BY: SN
APPROVED BY: SN

SURVEYING
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Existing Conditions

Champions Centre
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David Yadon, Champions Centre
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DuPont, WA 98237
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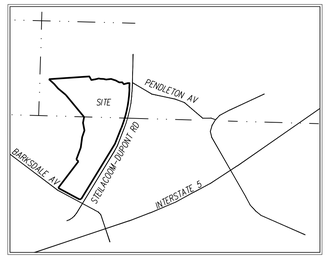
DRAWING
TOPO1
SHEET 01
OF 02

CHAMPIONS CENTRE GRADING PLANS

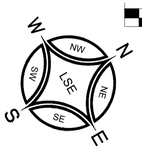
A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE 4 E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE
80 0 40 80 160 320
1 INCH = 80 FEET

Exhibit 2.d



VICINITY MAP
SCALE: 1" = 1000'

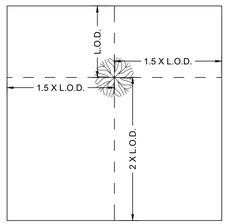


LEGEND

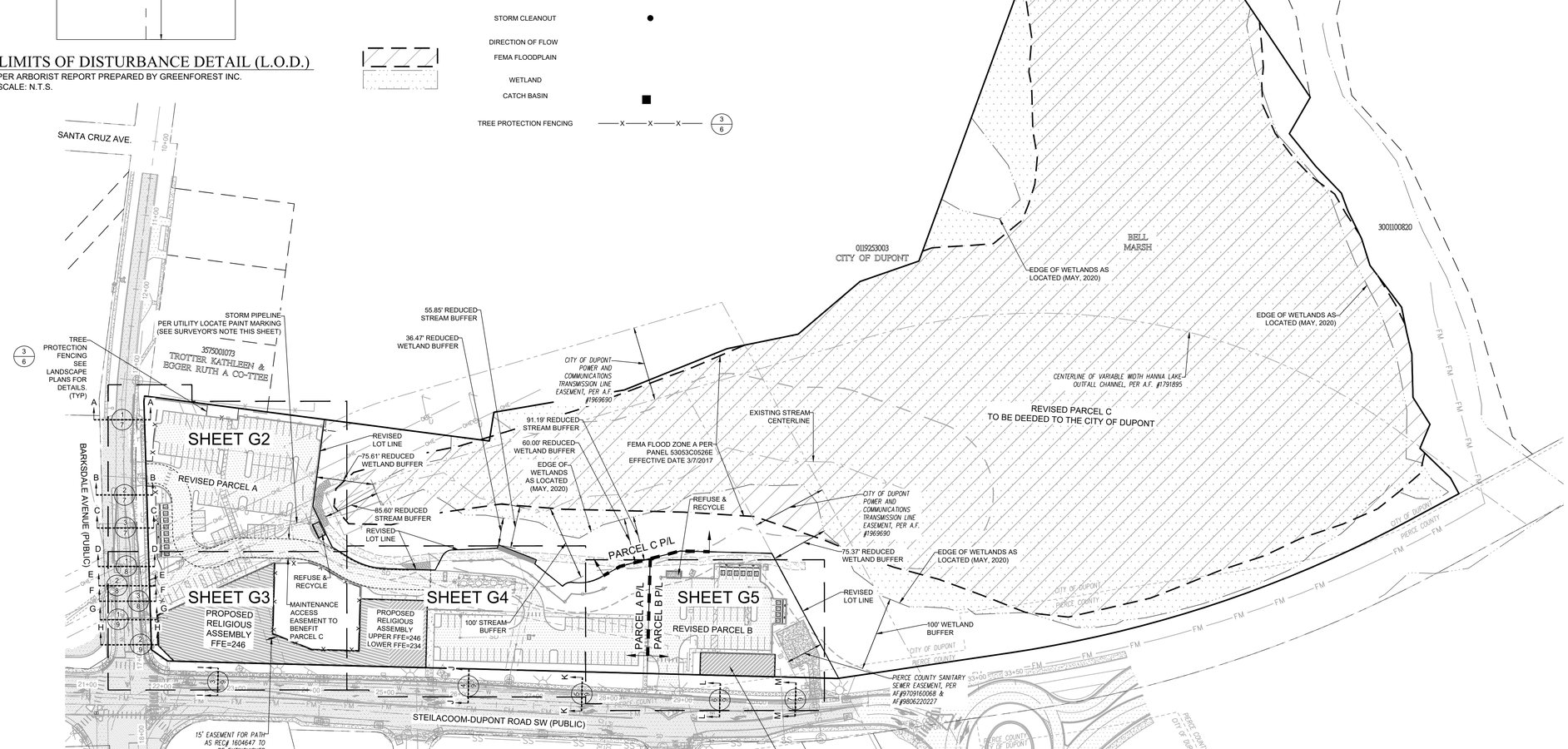
EXISTING		PROPOSED
510	2' CONTOURS MAJOR	510
502	2' CONTOURS MINOR	502
	RIGHT-OF-WAY	
	CENTERLINE	
	BOUNDARY	
	LANDSCAPE BUFFER	
	PARCEL	
	BUILDING FOUNDATION	
	BUILDING ROOF	
	PAVEMENT HATCH	
	GRAVEL SURFACE	
	ASPHALT	
	CONCRETE	
	POROUS SURFACING	
	DELINEATED PATHWAY	
	ROOFDRAIN LINE	
	STORM LINE	SD
	STORM CLEANOUT	
	DIRECTION OF FLOW	
	FEMA FLOODPLAIN	
	WETLAND	
	CATCH BASIN	
	TREE PROTECTION FENCING	

SURVEYOR'S NOTE:
THE 84" STORM DRAINAGE PIPE LOCATIONS, AS SHOWN ON THIS MAP, ARE PROVIDED BY OTHER AND ARE NOT A PRODUCT OF FIELD VERIFIED LOCATION BY LEROY SURVEYOR'S AND ENGINEERS INC. THE CONTRACTOR IS REQUIRED TO POTHOLE THE LOCATION OF THE PIPE AND CONTACT THE ENGINEER AND SURVEYOR TO MAP ITS ACCURATE LOCATION PRIOR TO ANY CONSTRUCTION.

TREE PROTECTION NOTE:
THE FENCING INSTALLATION WILL BE APPROVED BY THE PROJECT ARBORIST PRIOR TO ANY LAND DISTURBANCE. THE TIMING OF THE TREE PROTECTION FENCING SHOULD BE INSTALLED PRIOR TO ANY CLEARING AND ANY GROUND DISTURBANCE.



1 LIMITS OF DISTURBANCE DETAIL (L.O.D.)
PER ARBORIST REPORT PREPARED BY GREENFOREST INC.
SCALE: N.T.S.



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K:\Jobs\12995\Acad\CADdwg\02_Engineering\12995 - Champions Centre - Grading Plans.dwg LAST EDITED: 07/18/25 1:00PM BY: WGohlman

PARCEL NUMBERS:
0119362039, 0119362009, 0119362012 & 0119362043

PARCEL AREA:
927,027 S.F. (21.28 AC)

SHEET INDEX:

1. COVER SHEET
2. GRADING PLAN
3. GRADING PLAN
4. GRADING PLAN
5. GRADING PLAN
6. DETAILS
7. DETAILS
8. DETAILS
9. DETAILS

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
City of DuPont

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07/18/2025
STEVE THEODORE ABRAHAMSON
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER

DATE:
REVISION
1 2 3 4 5 6 7 8 9 10

JOB NO 12995
DATE 07/18/2025
DESIGNED BY WG
DRAWN BY WG
CHECKED BY SN
APPROVED BY SN

DATUM:
WASHINGTON SOUTH ZONE NAVD 88

TOPOGRAPHY:
2 FOOT CONTOURS. TOPOGRAPHIC INFORMATION FROM AERIAL MAPPING BY PUGET SOUND LIDAR CONSORTIUM AND VERIFIED BY LS&E

SITE ADDRESS:
XXX BARKSDALE AVE.
DUPONT, WA 98237

PROPERTY OWNER:
MUSTARD SEED LEGACY DEV. LLC
32706 MOUNTAIN HWY E
EATONVILLE, WA 98328

APPLICANT:
CHAMPIONS CENTRE
CONTACT: DAVID YADON, CORPORATE SECRETARY
PHONE: 253-606-9041
1819 E. 72ND ST.
TACOMA, WA 98404

ZONING:
COMM

EARTH WORK QUANTITIES:

CUT:	2,655 CY
FILL:	25,539 CY
NET:	22,884 CY
CLEARING LIMITS:	168,508 S.F.

1. THESE QUANTITIES ARE FOR THE ESTABLISHMENT OF CLEARING AND GRADING PERMIT ONLY AND SHALL NOT BE CONSTRUED TO INDICATE A BALANCED SITE.
2. GRADING VOLUMES ARE FROM EXISTING GRADE TO FINISHED GRADE AND MAKE NO ALLOWANCE FOR STRIPPINGS, GRAVEL, OR ROAD SECTION MATERIALS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING HIS OWN QUANTITIES FOR BIDDING PURPOSES AND SHALL NOT HOLD THE ENGINEER OR OWNER/DEVELOPER RESPONSIBLE FOR ANY ERRORS IN HIS BID QUANTITIES FOR EXCAVATION

IMPERVIOUS AREA PARCEL A:
PROPOSED RELIGIOUS ASSEMBLY = 25,850 S.F.
PROPOSED PARKING AREA = 62,881 S.F.
PROPOSED WALKWAYS & CURBS = 8,371 S.F.

TOTAL = 97,102 S.F.

IMPERVIOUS AREA PARCEL B:
PROPOSED BUILDING PAD = 3,000 S.F.
PROPOSED PARKING AREA = 16,637 S.F.
PROPOSED WALKWAYS & CURBS = 2,095 S.F.

TOTAL = 21,732 S.F.

OFF-SITE IMPROVEMENTS IMPERVIOUS AREA:
PROPOSED SAWCUT PAVEMENT & CURB & GUTTER = 3,972 S.F.

OFF-SITE IMPROVEMENTS PERVIOUS AREA:
PROPOSED POROUS CONCRETE SIDEWALK = 6,350 S.F.

PROJECT DESCRIPTION:
THE CHAMPIONS CENTRE PROJECT CONTAINS 4 EXISTING PARCELS. THE OVERALL COMBINED PARCEL AREA OF THE 4 PARCELS IS 927,027 SQUARE FEET (21.28 ACRES). THIS COMMERCIAL PROJECT CONSISTS OF A BOUNDARY LINE ADJUSTMENT TO REDUCE THE NUMBER OF LOTS FROM 4 PARCELS INTO 3 PARCELS. PARCELS A, B & C.

PARCEL A WILL BE 139,369 SQUARE FEET (3.20 ACRE). THIS WILL BE A COMMERCIAL LOT THAT WILL INCLUDE THE CONSTRUCTION OF APPROXIMATELY 26,000 SQUARE FOOT RELIGIOUS ASSEMBLY THAT WILL HAVE A MAXIMUM CONGREGATION OCCUPANCY OF 350 PEOPLE. THE ARCHITECTURAL FOOTPRINT FOR THIS RELIGIOUS ASSEMBLY IS UNIQUE TO ALLOW FOR THE EXISTING GROVE OF LANDMARK OREGON WHITE OAK TREES THAT SIT ON AN EXISTING KNOLL TO BE PROTECTED AND REMAIN ON-SITE. THIS PROPERTY WILL ALSO HAVE A TOTAL OF 135 PARKING STALLS. THE PARKING STALLS WILL INCLUDE 8 ELECTRIC VEHICLE STALLS, 4 STANDARD ADA STALLS, 1 VAN ADA STALL AND 122 STANDARD STALLS. THIS PROPERTY WILL BE SERVED BY PUBLIC SEWER & WATER AND WILL HAVE ON-SITE STORM FILTER SYSTEM(S) THAT WILL PROVIDE QUALITY TREATMENT OF ON-SITE STORMWATER RUNOFF. AFTER TREATMENT ONSITE STORMWATER RUNOFF WILL BE CONVEYED TO AN ON-SITE INFILTRATION SYSTEM WHICH WILL PROVIDE QUANTITY MITIGATION.

PARCEL B WILL BE 39,369 SQUARE FEET (0.92 ACRES). THIS WILL BE A COMMERCIAL LOT THAT WILL INCLUDE THE CONSTRUCTION OF APPROXIMATELY 3,000 SQUARE FOOT EATING AND DRINKING ESTABLISHMENT. THE MAXIMUM OCCUPANCY IS UNKNOWN AT THIS TIME. THIS PROPERTY WILL ALSO HAVE A TOTAL OF 38 PARKING STALLS. THE PARKING STALLS WILL INCLUDE 10 ELECTRIC VEHICLE STALLS, 1 STANDARD ADA STALL, 1 VAN ADA STALL AND 26 STANDARD STALLS. THIS PROPERTY WILL BE SERVED BY PUBLIC SEWER & WATER AND WILL HAVE AN ON-SITE CARTRIDGE-STYLE STORM FILTER SYSTEM WHICH WILL PROVIDE QUALITY MITIGATION. TREATED STORMWATER RUNOFF WILL THEN BE CONVEYED TO AND ON-SITE STORMWATER INFILTRATION SYSTEM.

PARCEL C WILL BE 747,729 SQUARE FEET (17.17 ACRES). THIS WILL INCLUDE AN EXISTING WETLAND, WETLAND BUFFER, STREAM, STREAM BUFFER AND FEMA FLOOD ZONE A PER PANEL 53053C0526E EFFECTIVE DATE 3/7/2017. THIS PARCEL WILL BE DEEDED TO THE CITY OF DUPONT.

WETLAND & WETLAND BUFFER AREA:
WETLAND AREA = 624,000 S.F.
ORIGINAL 100' WETLAND BUFFER = 150,401 S.F.
REDUCED WETLAND BUFFER = 125,271 S.F.

STREAM BUFFER AREA:
ORIGINAL 100' STREAM BUFFER = 179,269 S.F.
REDUCED STREAM BUFFER AREA = 171,589 S.F.

SURVEY DISCLAIMER:
THIS IS NOT A BOUNDARY SURVEY

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LEROY SURVEYORS & ENGINEERS
P.O. Box 740, Puyallup, Washington 98371
(253) 848-6688 Fax: (253) 840-4140
www.sbeinc.com

Cover Sheet

Champions Centre
Grading Plans
David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

DRAWING
G1
SHEET 01
OF 09

GRAPHIC SCALE

10 0 5 10 20 40

1 INCH = 10 FEET

CHAMPIONS CENTRE GRADING PLANS

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE 4 E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

FL: FLOW LINE
FG: FINISHED GRADE
TSW: TOP OF SIDEWALK
SC: SAWCUT
SWAP: SIDEWALK ANGLE POINT
TFW: TOP FACE OF WALL
BFW: BOTTOM FACE OF WALL

ABBREVIATIONS:

STA A: DRIVE A AISLE ALIGNMENT STATION
STA B: DRIVE B AISLE ALIGNMENT STATION
STA C: DRIVE C AISLE ALIGNMENT STATION
STA D: DRIVE C AISLE ALIGNMENT STATION
STA E: DRIVE C AISLE ALIGNMENT STATION
STA F: DRIVE C AISLE ALIGNMENT STATION
STA G: DRIVE C AISLE ALIGNMENT STATION
STA H: DRIVE C AISLE ALIGNMENT STATION
STA I: DRIVE C AISLE ALIGNMENT STATION
STA J: DRIVE C AISLE ALIGNMENT STATION
STA BARK: BARKSDALE AVE C/L ALIGNMENT STATION
STA ST: DUPONT-STEILACOOM RD C/L ALIGNMENT STATION

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
City of DuPont

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07/18/2025
STEVE THEODORE ABRAHAMSEN
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER

DATE:
REVISION
1 2 3 4 5 6 7 8 9 10

JOB NO: 12895
DATE: 07/18/2025
DESIGNED BY: WG
DRAWN BY: WG
CHECKED BY: SN
APPROVED BY: SN

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GIS MAPPING
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(253) 846-6668 Fax: (253) 840-4140
www.3eric.com

Grading Plan

Champions Centre
Grading Plans
David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

DRAWING
G2
SHEET 02
OF 09

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MATCHLINE SHEET G3

ABBREVIATIONS:

STA A:	DRIVE A AISLE ALIGNMENT STATION	FL:	FLOW LINE
STA B:	DRIVE B AISLE ALIGNMENT STATION	FG:	FINISHED GRADE
STA C:	DRIVE C AISLE ALIGNMENT STATION	TSW:	TOP OF SIDEWALK
STA D:	DRIVE C AISLE ALIGNMENT STATION	SC:	SAWCUT
STA E:	DRIVE C AISLE ALIGNMENT STATION	SWAP:	SIDEWALK ANGLE POINT
STA F:	DRIVE C AISLE ALIGNMENT STATION	TFW:	TOP FACE OF WALL
STA G:	DRIVE C AISLE ALIGNMENT STATION	BFW:	BOTTOM FACE OF WALL
STA H:	DRIVE C AISLE ALIGNMENT STATION		
STA I:	DRIVE C AISLE ALIGNMENT STATION		
STA J:	DRIVE C AISLE ALIGNMENT STATION		
STA BARK:	BARKSDALE AVE C/L ALIGNMENT STATION		
STA ST:	DUPONT-STEILACOOM RD C/L ALIGNMENT STATION		

GRAPHIC SCALE

10 0 5 10 20 40

1 INCH = 10 FEET

CHAMPIONS CENTRE GRADING PLANS

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE 4 E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

MATCHLINE A (SHEET THIS SHEET)

ADA RAMP TO BE INSTALLED PER WSDOT MOUNTS TO STEILACOOM-DUPONT RD CORRIDOR IMPROVEMENTS

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____

City of DuPont

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07/18/2025
STEVE THEODORE ERIKSEN
STATE OF WASHINGTON
21800
REGISTERED
PROFESSIONAL ENGINEER

MATCHLINE SHEET G2

STA:15+57.44, 18.85'R SAWCUT
STA:15+57.64, 9.10'L SAWCUT AP
STA:15+68.83, 9.27'R SAWCUT
STA:15+68.83, 19.45'R SAWCUT
2.00'
2' SAWCUT
PROTECT EXISTING 84"Ø STORM PIPE
PROTECT EXISTING OVERHEAD TRANSMISSION LINES
PROTECT EXISTING POWER TRANSMISSION POLE
STA H:101+90.09, 39.79'R FL = 245.98
STA A:30+46.79, 7.00'L FL = 245.38
STA A:30+81.37, 7.00'L FL = 245.00
STA A:30+84.26, 21.42'L
STA H: 101+97.65', 19.18'R FL=245.49
1.00%
2.29%
CB#14 (TYPE 1) W/ OPEN GRADE STA A:31+00.00, 0.6' RIM=244.77
1.50%
STA A:31+38.61, 0.00'
STA H:102+45.77, 0.00'
FG=245.21
102+45
STA A:31+68.83, 13.00'R FL=245.29
STA A:31+60.52, 13.00'R FL=245.55
STA A:31+54.31, 16.89'R FL=245.23
STA A:31+56.67, 30.97'R FL = 245.38
STA A:31+77.21, 13.00'R FL=245.18
1.26%
1.75%
1.75%
8.00%
8.00%
STA A:31+82.77, 24.73'R TSW=245.67
STA A:31+76.47, 27.78'R TSW=245.83
STA A:32+36.61, 13.00'R FL=243.89
STA A:32+19.68, 18.50'R TSW=245.10
STA A:32+11.68, 18.50'R TSW=245.27
CB#4 (TYPE 2) W/ OPEN GRATE STA A:32+82.20, 0.0'L RIM=238.79
REVISED LOT LINE AND REDUCED WETLAND& STREAM BUFFER
STA A:33+00.19, 14.17'L TFW= 237.42 BFW=235.00
71.36%
REDUCED WETLAND BUFFER IN THIS AREA
CB#20 (TYPE 2) W/ OPEN GRADE STA A:33+06.08, 0.0' RIM=236.03
STA J:120+07.74, 17.56'R
STA A: 32+60.58, 14.50'R
BEGIN LANDSCAPE WALL
TFW= 242.21
BFW=242.09
1/6 KEYSTONE WALL
STA A:32+96.10, 14.50'R TFW= 241.01 BFW=237.90
STA A:33+12.87, 13.00'R FL=235.60
STA:15+99.25, 23.45'R END SAWCUT
STA:16+01.24, 23.29'R END SAWCUT
STA:16+06.25, 14.50'R SAWCUT
PROTECT EXISTING SIGN
STA:15+94.33, 30.00'L SWAP=245.67
STA:15+99.66, 25.00'L SWAP=245.55
EXISTING SIDEWALK TO BE REMOVED
2' SAWCUT
STA:16+07.66, 17.00'L SWAP=245.59
STA:16+15.05, 0.00' = STA A:30+00.00, 0.00'
STA:16+09.73, 22.00'L SWAP=245.70
STA:16+28.80, 0.00'R N LEFT TURN POCKET STRIPING (5.5' LT, 5.5' RT)
16.50'
16.50'
11.00'
11.00'
11.00'
RELOCATE EXISTING CURB & SIDEWALK FOR ROAD SECTION WIDENING
STA:16+38.19, 14.50'L END ROAD WIDENING SAWCUT
STA:16+36.40, 14.57'R SAWCUT
STA:16+36.29, 16.57'R BEGIN SAWCUT
STA:16+38.12, 17.00'L PROPOSED 5' POROUS CONCRETE SIDEWALK
STA:16+37.94, 22.00'L PROPOSED 5' POROUS CONCRETE SIDEWALK
BARKSDALE AVENUE (PUBLIC)
PROPOSED 5' POROUS CONCRETE SIDEWALK
EXISTING STREETLIGHT TO BE RELOCATED STA:16+68.28, 26.00'LT
PROTECT EXISTING SIGN
EXISTING STOP BAR END/MATCH LEFT TURN POCKET STRIPING (6.0' LT, 5.5' RT) STA:16+88.80, 0.00'L
STA:16+91.00, 18.16'L SAWCUT
STA A:30+46.79, 13.00'R FL = 245.37
STA A:30+51.79, 16.50'R FL = 245.23
STA A:30+51.79, 31.00'R FL = 245.38
STA:15+98.49, 37.96'L SWAP=246.13
STA:16+01.73, 30.00'L SWAP=245.65
STA A:30+46.16, 31.45'R FL = 245.38
STA A:30+41.10, 38.49'R FL = 246.00
STA A:30+27.01, 39.20'R FG = 246.00
PROTECT EXISTING UTILITIES
STA A:31+02.79, 31.00'R FL = 245.38
DRIVE A
SL-1
1.00%
1.25%
RELIGIOUS ASSEMBLY FFE = 246.00
EXISTING DIRT ROAD ACCESS TO BE REMOVED
EXISTING CONCRETE PAD TO BE DEMOLISHED
TREE PROTECTION FENCING SEE LANDSCAPE PLANS FOR DETAILS. (TYP) 3/6
OREGON WHITE OAK PROTECTION AREA DO NOT DISTURB
1/1 LIMITS OF DISTURBANCE, SEE ARBORIST REPORT PREPARED BY GREENFOREST INC. FOR DETAILS (TYP)
MATCHLINE SHEET G4
ADA PARALLEL CURB RAMP PER WSDOT STANDARD DETAIL F-40.12-03 2/6
ADA CURB RAMP DETAIL PER CITY OF DUPONT STANDARD DETAIL 3.3-2 2/6
STA:17+18.14, 40.10'L END 2' SAWCUT
STA:17+19.94, 39.26'L END 2' SAWCUT
PROTECT EXISTING UTILITY
PROTECT EXISTING SIGN
EXISTING STREETLIGHT SEE LIGHTING PLANS FOR DETAILS
PROPOSED 5' POROUS CONCRETE SIDEWALK
EXISTING SITE ENTRANCE TO BE REMOVED
STEILACOOM-DUPONT ROAD SW (PUBLIC)
MATCHLINE A (SHEET THIS SHEET)

BEFORE ANY CONSTRUCTION CONTACT: CALL BEFORE YOU DIG @ 1-800-424-5555

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K:\Jobs\12895\AutoCAD\dwg\02_Engineering\12895 - Champions Centre - Grading Plans.dwg LAST EDITED: 07/18/25 12:02PM BY: WGarrison

DATE:

REVISION	DATE
1	
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JOB NO: 12895
DATE: 07/18/2025
DESIGNED BY: WG
DRAWN BY: WG
CHECKED BY: SN
APPROVED BY: SN

SURVEYING
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Grading Exhibit

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Phone: 253-606-9041
dave@cc.church

DRAWING
G3
SHEET 03
OF 09

CHAMPIONS CENTRE GRADING PLANS

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE 4 E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

ABBREVIATIONS:

STA A:	DRIVE A AISLE ALIGNMENT STATION	FL:	FLOW LINE
STA B:	DRIVE B AISLE ALIGNMENT STATION	FG:	FINISHED GRADE
STA C:	DRIVE C AISLE ALIGNMENT STATION	TSW:	TOP OF SIDEWALK
STA D:	DRIVE C AISLE ALIGNMENT STATION	SC:	SAWCUT
STA E:	DRIVE C AISLE ALIGNMENT STATION	SWAP:	SIDEWALK ANGLE POINT
STA F:	DRIVE C AISLE ALIGNMENT STATION	TFW:	TOP FACE OF WALL
STA G:	DRIVE C AISLE ALIGNMENT STATION	BFW:	BOTTOM FACE OF WALL
STA H:	DRIVE C AISLE ALIGNMENT STATION		
STA I:	DRIVE C AISLE ALIGNMENT STATION		
STA J:	DRIVE C AISLE ALIGNMENT STATION		
STA BARK:	BARKSDALE AVE C/L ALIGNMENT STATION		
STA ST:	DUPONT-STEILACOOM RD C/L ALIGNMENT STATION		

GRAPHIC SCALE
10 0 5 10 20 40
1 INCH = 10 FEET

APPROVED FOR CONSTRUCTION
BY: _____ DATE: _____
City of DuPont
These drawings are approved for construction for a period of 12 months from the date shown hereon. The city reserves the right to make revisions, additional, deletions, or modifications should construction be delayed beyond this time limitation. The city, by approving these drawings, assumes no liability in regards to their accuracy or omissions.

07/18/2025 STEVE THEODORE ERIKSEN STATE OF WASHINGTON 22007 REGISTERED PROFESSIONAL ENGINEER

REDUCED WETLAND AND STREAM BUFFER
CB#16 (TYPE 2) W/ BIRDCAGE GRATE STA A:162+07.18, 0.0'R RIM=228.00
LEVEL SPREADER 54.66'L X 6'W X 3.5' D TOP OF TRENCH=228.00 I.E. (18"Ø)=223.59 BOTTOM OF TRENCH=222.59
REDUCED STREAM AND WETLAND BUFFER
100' STREAM BUFFER
STA A:34+56.96, 27.01'L BEGIN WALL TFW= 232.00 BFW=232.00
CO#1 STA A:162+22.90, 19.4'L RIM=228.00
STA A:35+23.37, 34.73'L TFW= 233.38 BFW=228.40
CO#2 STA A:161+91.47, 19.4'R RIM=228.00
LIMITS OF DISTURBANCE, SEE ARBORIST REPORT PERPARED BY GREENFOREST INC. FOR DETAILS
REDUCED STREAM AND WETLAND BUFFER
EX. WETLAND BUFFER TO BE REDUCED IN THIS AREA
STA A:33+72.34, 14.17'L END RETAINING WALL TFW= 234.00 BFW=233.75
30.66' DEPRESSED CURB
END DEPRESSED CURB STA A:34+29.68, 13.00'L FL=232.94
PARCEL C P/L
PARCEL A P/L
CB#6 (TYPE 1) W/ SOLID LID STA A:34+62.31, 0.0' RIM=233.84
INFILTRATION TRENCH #1 76'L X 20'W X 3'D BOTTOM ELEV=226.18
RETAINING WALL (DESIGNED BY OTHERS)
STA A:35+49.82, 24.39'L TFW= 238.50 BFW=228.89
STA A:35+58.31, 23.27'L TFW= 240.50 BFW=229.16
CB#25 (TYPE 1) W/ SOLID LID STA A:35+42.10, 6.0'L RIM=241.55
100' STREAM BUFFER
REDUCED STREAM AND WETLAND BUFFER
BEGIN DEPRESSED CURB STA A:33+99.02, 13.00'L FL=233.23
MAINTENANCE ROAD ACCESS POINT C/L FOR PARCEL C STA A:34+14.35, 13.00'L FL=233.07
CB#24 (TYPE 1) W/ SOLID LID STA A:34+67.31, 5.1'L RIM=234.31
KEYSTONE WALL
CB#15 (TYPE 2) W/ SOLID LID STA A:141+40.70, 94.5'R RIM=242.76
STA A:33+41.91, 13.00'R FL=233.87
STA A:33+51.60, 16.65'R FL=233.74
STA A:33+62.80, 21.00'R FL=233.57
CB#5 (TYPE 1) W/ OPEN GRATE STA A:34+29.83, 0.0' RIM=232.68
DRIVE A
BP#1 W/ SOLID LID STA A:34+50.00, 0.0'R RIM=233.12
STA A:34+23.55, 17.00'R FL=233.24
STA A:34+35.55, 13.00'R FL=233.00
STA A:34+11.55, 21.00'R FL=233.38
STA A:35+79.59, 53.44'L TFW= 238.23 BFW=232.26
EX. STREAM BUFFER TO BE REDUCED IN THIS AREA
STA A:33+40.09, 14.50'R TFW= 238.50 BFW=234.50
TREE PROTECTION FENCING SEE LANDSCAPE PLANS FOR DETAILS (TYP)
STA A:33+43.54, 31.17'R END LANDSCAPE WALL TFW= 242.00 BFW=238.00
STA A:34+26.03, 38.47'R BEGIN RETAINING WALL TFW= 246.00 BFW=234.00
CB#23 (TYPE 1) W/ SOLID LID STA A:34+67.31, 4.9'R RIM=234.31
STA A:35+34.26, 13.00'R FL=240.91
STA A:35+75.96, 13.00'L FL=243.27
EX. WETLAND BUFFER TO BE REDUCED IN THIS AREA
RETAINING WALL (DESIGNED BY OTHERS)
CB#26 (TYPE 1) W/ SOLID LID STA A:35+44.37, 3.7'R RIM=241.71
OVERFLOW OUTLET I.E.=239.19
STA A:35+89.52, 12.65'L FL=243.45
STA A:35+29.15, 34.65'R END RETAINING WALL TFW= 244.44 BFW=244.00
STA A:35+76.15, 13.00'R FL=243.69
STA A:35+88.16, 13.30'R FL=243.48
STA A:35+90.15, 12.64'L FL=243.47
STA A:35+83.50, 41.68'L TFW= 238.23 BFW=232.26
OREGON WHITE OAK PROTECTION AREA DO NOT DISTURB
RELIGIOUS ASSEMBLY UPPER FFE = 246.00 LOWER FFE = 234.00
STA B:40+19.50, 31.00'L FL=245.50
STA B:40+19.50, 16.50'L FL=245.19
CB#8 (TYPE 2) W/ SOLID LID STA B:40+44.97, 29.7'L RIM=246.02
STA B:41+00.50, 31.00'L FL=244.16
STA B:41+00.50, 16.50'L FL=244.02
15' PUBLIC STORM DRAINAGE EASEMENT
STA A:35+94.53, 13.95'R FL=243.39
STA A:35+94.51, 13.40'L FL=243.39
STA B:41+86.12, 31.00'L FL=244.10
STA B:41+86.12, 16.50'L FL=244.03
STA B:40+16.00, 13.00'L FL=245.33
STA B:40+10.51, 12.99'L FL=245.30
CB#9 (TYPE 2) W/ SOLID LID STA B:40+45.06, 0.0'L RIM=244.71
STA B:41+06.24, 13.00'L FL=244.00
STA B:41+04.00, 13.00'L FL=244.00
BP#2 W/ SOLID LID STA B:41+35.96, 5.5'L RIM=243.00
CB#21 (TYPE 1) W/ OPEN GRATE STA B:41+44.25, 5.5'L LOW POINT RIM=242.80
STA A:36+25.95, 0.00' STA B: 41+44.25, 0.00' FG=242.85
DRIVE B
STA B:41+81.66, 13.00'L FL=244.00
STA B:40+10.54, 13.00'R FL=245.30
STA B:40+16.00, 13.00'R FL=245.25
STA B:40+19.50, 16.50'R FL=245.19
CB#13 (TYPE 2) W/ SOLID LID STA B:41+20.67, 7.3'R RIM=244.01
STA B:41+21.99, 13.00'R FL=243.55
STA B:41+26.29, 13.00'R FL=243.50
STA B:41+18.49, 16.50'R FL=243.60
STA B:36+38.95, 25.05'L FL=244.50
STA B:41+65.79, 16.50'R FL=244.61
STA B:36+38.95, 29.33'L FL=244.50
STA B:40+19.50, 31.00'R FL=245.80
STA B:41+29.79, 16.50'R FL=243.45
STA B:41+29.80, 31.00'R FL=244.07
STA B:41+18.50, 31.00'R FL=244.32
STA B:41+65.80, 31.00'R FL=243.94
STA B:41+77.07, 16.50'R FL=244.66
STA B:41+77.07, 31.00'R FL=245.33
STA B:41+44.21, 31.00'R FL=243.45
PROTECT EXISTING UTILITY
EXISTING STREETLIGHT SEE LIGHTING PLANS FOR DETAILS
PROTECT EXISTING UTILITIES
EXISTING SIGN TO BE RELOCATED STA:26+34.71, 34.29'LT
PROTECT EXISTING PUBLIC STORM DRAINAGE STRUCTURE EXISTING RIM ELEV=246.58 NEW RIM ELEV=247.32 INSTALL NON-SLIP SOLID LID
PROTECT EXISTING PUBLIC STORM DRAINAGE STRUCTURE EXISTING RIM ELEV=246.23 NEW RIM ELEV=247.00
EXISTING STREETLIGHT SEE LIGHTING PLANS FOR DETAILS
PROPOSED 5' POROUS CONCRETE SIDEWALK
PROPOSED 5' POROUS CONCRETE SIDEWALK
PROPOSED 6" CONCRETE VERTICAL CURB & GUTTER
2' SAWCUT
STA:25+64.17, 26.07'L BEGIN SAWCUT BEGIN 5' POROUS CONCRETE SIDEWALK
STEILACOOM-DUPONT ROAD SW (PUBLIC)
MATCHLINE SHEET G3
MATCHLINE SHEET G5

BEFORE ANY CONSTRUCTION CONTACT: CALL BEFORE YOU DIG @ 1-800-424-5555

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K:\Jobs\12695\AutoCAD\Sheet\G_Engineering\12695 - Champions Centre - Grading Plans.dwg LAST EDITED: 07/18/25 12:02PM BY: WGarrison

DATE:
REVISION 1 2 3 4 5 6 7 8 9 10

JOB NO. 12695
DATE: 07/18/2025
DESIGNED BY: WG
DRAWN BY: WG
CHECKED BY: SN
APPROVED BY: SN

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www.lerinc.com

Grading Plan

Champions Centre
Grading Plans
David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

DRAWING
G4
SHEET 04
OF 09

CHAMPIONS CENTRE GRADING PLANS

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE 4 E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

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STA BARK:	BARKSDALE AVE C/L ALIGNMENT STATION		
STA ST:	DUPONT-STEILACOOM RD C/L ALIGNMENT STATION		

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____

City of DuPont

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07/18/2025
STEVE THEODORE ABRAHAMSEN
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER

GRAPHIC SCALE

10 0 5 10 20 40

1 INCH = 10 FEET

TREE PROTECTION FENCING SEE LANDSCAPE PLANS FOR DETAILS. (TYP) (3/6)

REDUCED STREAM AND WETLAND BUFFER

100' STREAM BUFFER

PARCEL C P/L

EX. STREAM BUFFER TO BE REDUCED IN THIS AREA

EX. WETLAND BUFFER TO BE REDUCED IN THIS AREA

PARCEL A P/L

PARCEL B P/L

DRIVE D

DRIVE E

DRIVE F

DRIVE G

5' MARKED PATHWAY

STA A:35+81.23, 101.49'L
END WALL
TFW= 231.34
BFW=230.00

STA:170+75.56, 0.00'
TFW= 240.39
BFW=236.39

STA:171+46.20, 0.00'
TFW= 240.15
BFW=232.55

STA:170+54.22, 0.00'
TFW= 240.60
BFW=236.60

STA:170+84.07, 0.00'
TFW= 240.26
BFW=236.26

4' CHAINLINK FENCE REQUIRED WHERE WALL EXCEEDS 30" IN HEIGHT

STA:171+26.94, 0.00'
TFW= 239.59
BFW=236.00

RETAINING WALL (DESIGNED BY OTHERS)

STA:170+45.72, 0.00'
TFW= 240.54
BFW=236.54

STA F:80+70.72, 19.00'L
FL=239.89

STA F:80+50.74, 19.00'L
FL=240.11
REFUSE & RECYCLE

STA:170+38.80, 0.00'
TFW= 240.66
BFW=236.66

STA F:80+50.74, 10.50'L
FL=240.53

STA D:61+77.00, 13.00'L
FL=240.00

OVERFLOW OUTLET
I.E.=234.00

STA F:80+70.72, 10.50'L
FL=239.72

STA F:81+15.44, 10.00'L
FL=239.09

STA:170+00.00, 0.00'
TFW= 242.21
BFW=242.21

STA D:61+67.00, 0.00'
STA F:80+57.30, 0.00'
FG=240.24

STA F:80+73.80, 10.00'R
FL=240.49

STA F:80+75.88, 10.00'R
FL=240.46

STA D:61+53.50, 13.00'R
FL=240.68

STA F:80+79.38, 13.50'R
FL=240.57

STA D:61+27.00, 13.01'L
FL=241.99

STA D:61+24.30, 13.00'R
FL=242.00

STA E:70+51.10, 12.50'L
FL=241.82

STA E:70+45.51, 9.00'L
FL=242.04

STA E:70+47.60, 9.00'L
FL=242.01

STA D:61+12.00, 0.00'
STA E:70+29.02, 0.00'
FG=242.66

STA E:70+62.52, 11.41'R
FL=242.51

STA E:70+66.65, 14.85'R
FL=242.00

STA B:42+85.12, 31.00'L
FL=244.60

STA B:42+85.12, 16.50'L
FL=244.13

STA B:42+88.62, 13.00'L
FL=244.03

STA B:42+97.60, 14.67'L
FL=244.30

STA B:42+92.60, 13.32'L
FL=244.27

STA B:42+92.58, 13.32'R
FL=244.74

STA B:42+97.58, 14.66'R
FL=244.82

STA B:36+38.95, 144.34'L
FL=244.60

STA B:42+85.09, 16.50'R
FL=244.66

STA B:42+85.07, 31.00'R
FL=244.82

STA D:60+88.99, 0.00'
STA B:43+26.62, 0.00'
FG=244.27

STA D:60+68.80, 20.45'L
FL=245.45

STA D:60+76.00, 13.00'R
FL=245.31

STA D:60+68.70, 13.00'R
FL=245.43

STA D:60+63.79, 16.52'L
FL=245.56

STA D:60+63.70, 13.00'R
FL=245.52

STA D:60+51.00, 13.00'L
FL=246.43

STA D:60+47.50, 13.00'L
FL=247.16
BEGIN TAPER

STA D:60+47.50, 13.00'R
FL=246.16
BEGIN TAPER

STA:60+29.44, 15.50'R
FG=247.62
END TAPER

STA:60+30.37, 15.50'L
FG=247.92
END TAPER

STA D:60+25.78, 29.04'L
FL=248.05

STA D:60+25.93, 34.04'L
FL=248.08

STA:60+25.37, 15.50'L
FG=247.82

STA:60+19.87, 15.50'L
BEGIN APPROACH
FG=247.42

STA:28+80.37, 19.40'L
STA D:60+14.92, 0.0'
CITY OF DUPONT
DRIVEWAY APPROACH
C/L PER DETAIL 3.1-1

STA:60+24.44, 15.50'R
FG=247.52

STA:60+18.94, 15.50'R
END APPROACH
FG=247.12

STA:172+09.00, 0.00'
TFW= 239.53
BFW=235.40

OVERFLOW OUTLET
I.E.=236.56

STA:172+30.31, 0.00'
TFW= 239.23
BFW=237.44

STA:172+33.04, 0.00'
TFW= 239.23
BFW=237.44

OVERFLOW
I.E.=236.59

STA F:81+21.95, 30.00'L
FL=239.58

STA F:81+75.95, 30.00'L
FL=239.04

STA F:81+21.95, 13.50'L
FL=239.24

STA F:81+20.44, 10.62'L
FL=239.18

STA F:81+18.45, 10.00'L
FL=239.15

STA F:81+83.88, 0.00'
STA G:91+19.49, 0.00'
FG=238.59

CB#11 (TYPE 1) W/ OPEN GRATE
STA G:91+19.52, 0.0'R
RIM=238.59
LOW POINT

CB#22 (TYPE 1) W_ OPEN GRATE
STA F:81+61.72, 0.0'L
RIM=238.90

STA F:81+75.95, 9.92'L
FL=238.84

STA F:81+78.08, 6.70'L
FL=238.73

STA G:91+19.50, 3.18'R
FL=238.62

STA G:91+06.81, 9.40'R
FL=239.23

CB#12 (TYPE 1) W/ SOLID LID
STA F:91+05.47, 8.5'R
RIM=239.28

STA F:81+65.38, 14.93'R
FL=239.51

STA F:81+71.33, 12.43'R
FL=239.30

STA:172+59.74, 0.00'
TFW= 239.73
BFW=237.56

STA:172+62.94, 0.00'
TFW= 239.94
BFW=237.57

BP#3 W/ SOLID LID
STA F:91+13.23, 22.2'L
RIM=239.20

STA G:91+10.37, 8.42'R
FL=239.14

STA:172+79.29, 0.00'L
TFW= 240.21
BFW=237.06

CB#10 (TYPE 2) W/ SOLID LID
STA F:91+05.48, 22.2'L
RIM=239.52

STA G:91+04.02, 12.83'R
FL=239.44

STA G:91+04.02, 26.00'R
FL=239.70

CB#28 (TYPE 1) W/ SOLID LID
STA F:35+89.13, 287.8'L
RIM=239.73

STA F:81+73.88, 18.50'R
FL=239.55

INFILTRATION TRENCH #2
45'L X 8'W X 2'D
BOTTOM ELEV=233.19

STA E:71+37.10, 12.50'L
FL=240.70

STA E:71+40.60, 9.00'L
FL=240.81

STA E:71+45.60, 12.50'L
FL=240.60

STA E:71+65.60, 7.52'L
FL=240.71

STA E:71+42.10, 9.00'L
FL=240.80

STA G:90+72.02, 26.00'R
FL=241.03

STA:173+13.62, 0.00'R
TFW= 241.59
BFW=237.88

LIMITS OF DISTURBANCE, SEE ARBORIST REPORT PREPARED BY GREENFOREST INC. FOR DETAILS (TYP)

1/1

REDUCED WETLAND BUFFER

100' WETLAND BUFFER

S 4' CHAINLINK FENCE REQUIRED WHERE WALL EXCEEDS 30" IN HEIGHT

CB#27 (TYPE 1) W/ SOLID LID
STA F:36+11.98, 286.8'L
RIM=241.37

STA:173+13.62, 18.00'R
TFW= 241.21
BFW=237.81

STA E:71+16.13, 29.00'R
FL=242.00

STA E:70+66.65, 29.00'R
FL=242.00

STA E:71+65.61, 29.00'R
FL=242.00

STA:173+72.48, 0.00'R
TFW= 242.60
BFW=237.55

STA D:60+77.50, 42.13'R
FL=242.60

EATING & DRINKING ESTABLISHMENT
FFE=242.60

PROTECT EXISTING UTILITY

STA E:71+71.26, 64.51'R
FL=239.35

PROTECT EXISTING UTILITY
INSTALL NON-SLIP SOLID LID

EXISTING SIGN TO BE RELOCATED
STA:27+93.13, 28.56'LT

PROPOSED 6" CONCRETE VERTICAL CURB & GUTTER

PROPOSED 5' POROUS CONCRETE SIDEWALK

2' SAWCUT

CITY OF DUPONT

PIERCE COUNTY

STEILACOOM-DUPONT ROAD SW (PUBLIC)

EXISTING STREETLIGHT SEE LIGHTING PLANS FOR DETAILS

PROPOSED 5' POROUS CONCRETE SIDEWALK

PROPOSED 6" CONCRETE VERTICAL CURB & GUTTER

2' SAWCUT

MATCHLINE SHEET G4

BEFORE ANY CONSTRUCTION CONTACT: CALL BEFORE YOU DIG @ 1-800-424-5555

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K:\Jobs\12695\AutoCAD\Sheet\G_Engineering\12695 - Champions Centre - Grading Plans.dwg LAST EDITED: 07/18/25 1:00PM BY: WGarrison

DATE:

REVISION

1 2 3 4 5 6 7 8 9 10

JOB NO: 12695
DATE: 07/18/2025
DESIGNED BY: WG
DRAWN BY: WG
CHECKED BY: SN
APPROVED BY: SN

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(253) 946-6608 Fax: (253) 946-4140
www.leroyse.com

Grading Plan

Champions Centre
Grading Plans

David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

DRAWING

G5

SHEET 05
OF 09

CHAMPIONS CENTRE
GRADING PLANS

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE 4 E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

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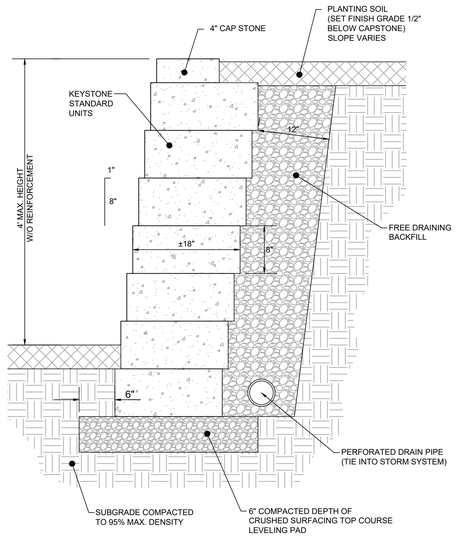
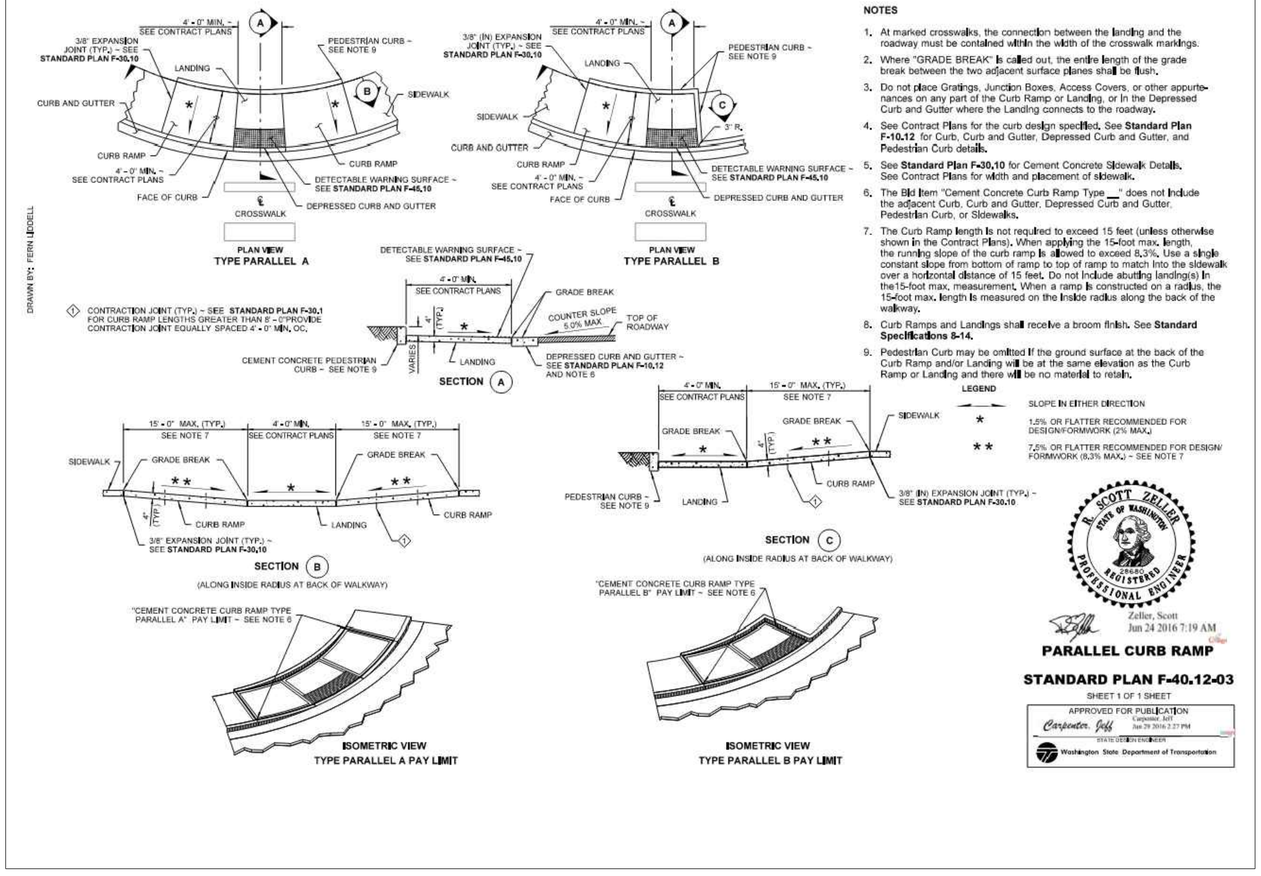
07/18/2025
STEVE THEODORE WILKINSON
STATE OF WASHINGTON
21861
REGISTERED
PROFESSIONAL ENGINEER

NOTES:
1. MINIMUM WALL EMBEDMENT IS 6" OR HEIGHT OF WALL*/20.
2. FILL UNIT CORES WITH CRUSHED SURFACING TOP COURSE.
3. BACKFILL MATERIALS SHALL BE COMPACTED TO 95% MAX. DENSITY.
4. PROVIDE POSITIVE DRAINAGE AWAY FROM WALL BASE.

* HEIGHT OF WALL = TOTAL HEIGHT FROM TOP OF WALL TO BOTTOM (INC. EMBEDDED UNITS).



1 KEYSTONE WALL DETAIL
SCALE: NTS



NOTES

1. At marked crosswalks, the connection between the landing and the roadway must be contained within the width of the crosswalk markings.
2. Where "GRADE BREAK" is called out, the entire length of the grade break between the two adjacent surface planes shall be flush.
3. Do not place Gratings, Junction Boxes, Access Covers, or other appurtenances on any part of the Curb Ramp or Landing, or in the Depressed Curb and Gutter where the Landing connects to the roadway.
4. See Contract Plans for the curb design specified. See **Standard Plan F-10.12** for Curb, Curb and Gutter, Depressed Curb and Gutter, and Pedestrian Curb details.
5. See **Standard Plan F-30,10** for Cement Concrete Sidewalk Details. See Contract Plans for width and placement of sidewalk.
6. The Bid Item "Cement Concrete Curb Ramp Type __" does not include the adjacent Curb, Curb and Gutter, Depressed Curb and Gutter, Pedestrian Curb, or Sidewalks.
7. The Curb Ramp length is not required to exceed 15 feet (unless otherwise shown in the Contract Plans). When applying the 15-foot max. length, the running slope of the curb ramp is allowed to exceed 8.3%. Use a single constant slope from bottom of ramp to top of ramp to match into the sidewalk over a horizontal distance of 15 feet. Do not include abutting landing(s) in the15-foot max. measurement. When a ramp is constructed on a radius, the 15-foot max. length is measured on the inside radius along the back of the walkway.
8. Curb Ramps and Landings shall receive a broom finish. See **Standard Specifications 8-14.**
9. Pedestrian Curb may be omitted if the ground surface at the back of the Curb Ramp and/or Landing will be at the same elevation as the Curb Ramp or Landing and there will be no material to retain.

LEGEND

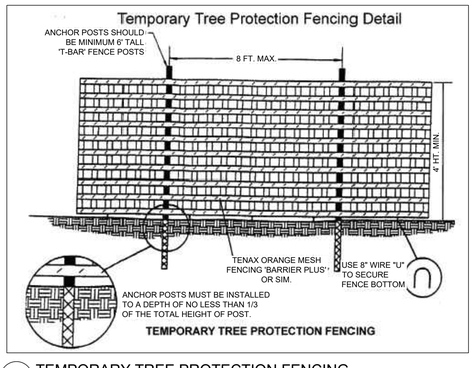
SLOPE IN EITHER DIRECTION
* 1.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (2% MAX.)
** 7.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (8.3% MAX.) ~ SEE NOTE 7

R. SCOTT ZELLER
STATE OF WASHINGTON
28680
REGISTERED
PROFESSIONAL ENGINEER
Zeller, Scott
Jun 24 2016 7:19 AM

PARALLEL CURB RAMP
STANDARD PLAN F-40.12-03
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Carpenter, Jeff
Jun 29 2016 3:27 PM
STATE DESIGN ENGINEER
Washington State Department of Transportation

2 WSDOT - PARALLEL CURB RAMP DETAIL
SCALE: NTS



3 TEMPORARY TREE PROTECTION FENCING
SCALE: NTS

NOTE:

1. THE TREE PROTECTION FENCE SHOULD BE MAINTAINED THROUGHOUT THE CONSTRUCTION AND GRADING, AND NOT TO BE REMOVED UNTIL FINAL LANDSCAPING IS IN PROGRESS. AT NOT TIME SHALL EQUIPMENT ENTER INTO THE ROOT PROTECTION ZONE (RPZ). ALL BRUSH CLEANUP WITHIN THE RPZ SHOULD BE COMPLETED BY HAND TO PREVENT DISTURBANCE OF THE NATIVE GROUND COVERS. NO CUTS OR FILLS, UTILITY TRENCHING, MODIFICATIONS TO DRAINAGE OR CONCRETE RISE WATER SHOULD IMPACT THE RPZ. NO WIRES, CABLES OR OTHER DEVICES SHOULD BE ATTACHED TO PROTECTED TREES DURING CONSTRUCTION.
2. FENCING INSTALLATION WILL BE APPROVED BY THE PROJECT ARBORIST PRIOR TO ANY LAND DISTURBANCE. THIS SHALL BE PROVIDED IN WRITING TO THE CITY'S BUILDING INSPECTOR ASSIGNED TO THE PROJECT.

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DATE: 07/18/2025
DESIGNED BY: WG
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CHECKED BY: SN
APPROVED BY: SN

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David Yadon, Champions Centre
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DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

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OF 09

CHAMPIONS CENTRE
GRADING PLANS

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE 4 E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
City of DuPont

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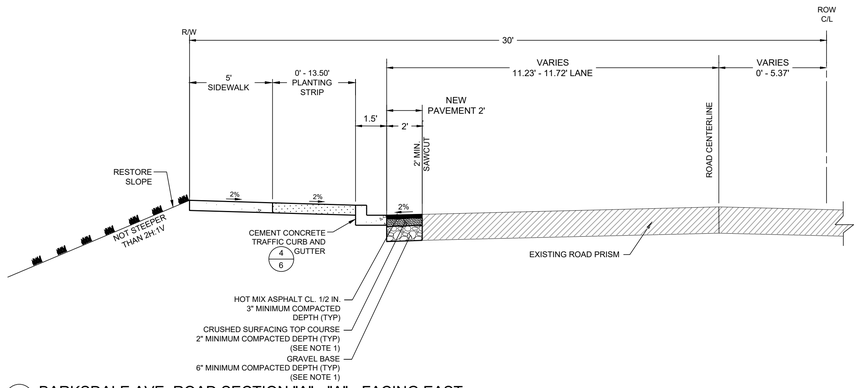
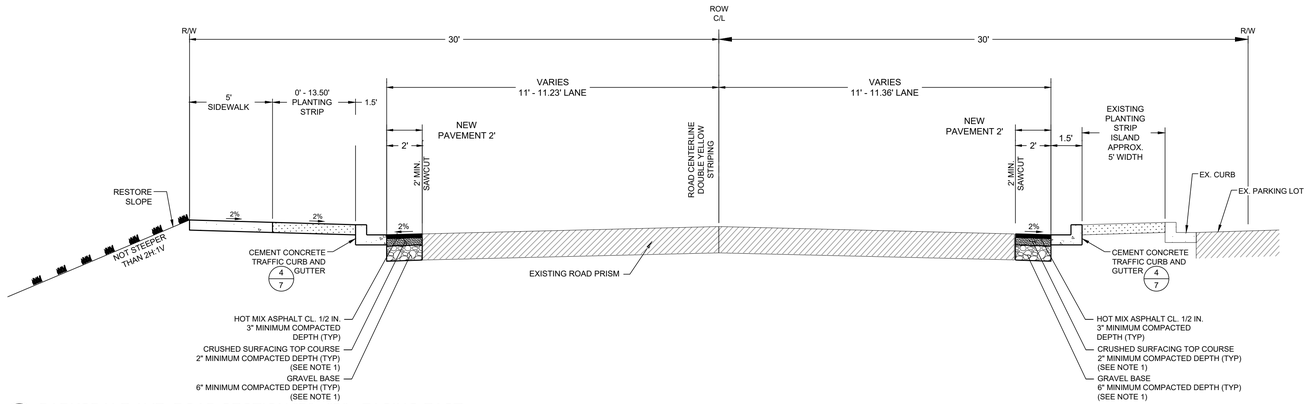
07/18/2025
STEVE THEODORE ERIKSEN
STATE OF WASHINGTON
2007
REGISTERED
PROFESSIONAL ENGINEER

NOTES:

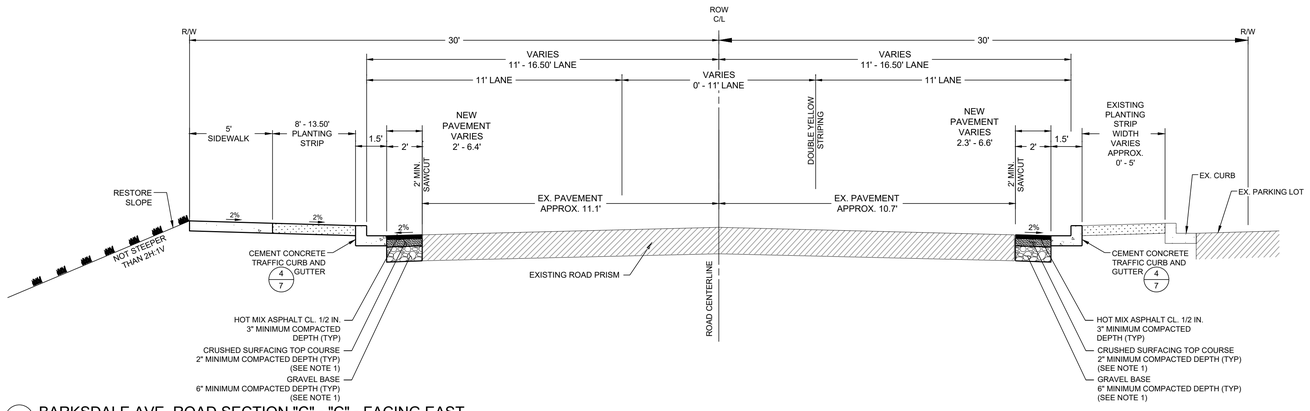
1. CRUSHED SURFACING BASE COURSE MAY BE USED INSTEAD OF THE CRUSHED SURFACING TOP COURSE AND GRAVEL BASE.



1 BARKSDALE AVE. ROAD SECTION "A" - "A" - FACING EAST
STA. 13+40.92 TO STA. 14+69.11
NTS



2 BARKSDALE AVE. ROAD SECTION "B" - "B" - FACING EAST
STA. 14+69.11 TO STA. 14+86.80
NTS



3 BARKSDALE AVE. ROAD SECTION "C" - "C" - FACING EAST
STA. 14+86.80 TO STA. 15+48.80
NTS

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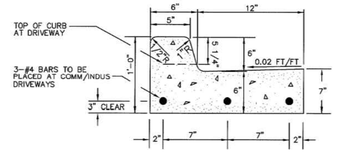
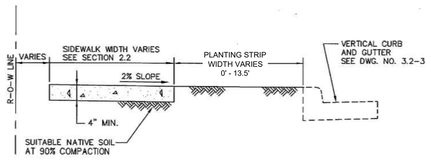
GENERAL NOTES:
1. THE CURBS, GUTTERS AND SIDEWALKS SHALL HAVE CONTRACTION JOINTS (3/8" x 1-1/2") AT INTERVALS OF NOT GREATER THAN 15'-0".
2. CEMENT CONCRETE SHALL BE CLASS 3000.
3. FOR ADDITIONAL REQUIREMENTS, SEE SECTION 3.2 OF THE PUBLIC WORKS STANDARDS.

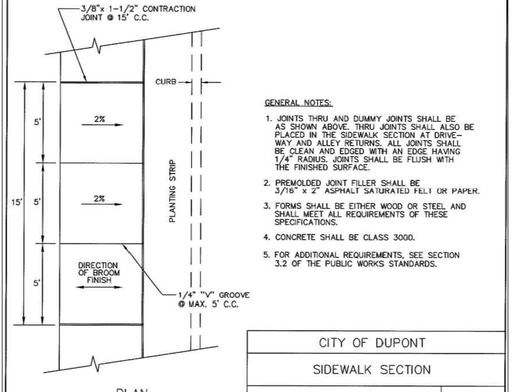


CITY OF DUPONT
VERTICAL CURB AND GUTTER
APPROVED: _____ CITY OF DUPONT 9/21/11 DATE
DWG. NO. 3.2-3
DATE: 9/11 | DRWN: L.G. | CHKD: T.N. | SCALE: NO SCALE

4 VERTICAL CURB AND GUTTER
NTS



SECTION



PLAN

GENERAL NOTES:
1. JOINTS THRU AND DUMMY JOINTS SHALL BE AS SHOWN ABOVE. THRU JOINTS SHALL ALSO BE PLACED IN THE SIDEWALK SECTION AT DRIVE-WAY AND ALLEY RETURNS. ALL JOINTS SHALL BE CLEAN AND EDGED WITH AN EDGE HAVING 1/4" RADIUS. JOINTS SHALL BE FLUSH WITH THE FINISHED SURFACE.
2. PREMOLDED JOINT FILLER SHALL BE 3/16" x 2" ASPHALT SATURATED FELT OR PAPER.
3. FORMS SHALL BE EITHER WOOD OR STEEL AND SHALL MEET ALL REQUIREMENTS OF THESE SPECIFICATIONS.
4. CONCRETE SHALL BE CLASS 3000.
5. FOR ADDITIONAL REQUIREMENTS, SEE SECTION 3.2 OF THE PUBLIC WORKS STANDARDS.

CITY OF DUPONT
SIDEWALK SECTION
APPROVED: _____ CITY OF DUPONT 9/21/11 DATE
DWG. NO. 3.2-1
DATE: 9/11 | DRWN: L.G. | CHKD: T.N. | SCALE: NO SCALE

5 SIDEWALK SECTION
NTS

DATE:
REVISION
1 2 3 4 5 6 7 8 9 10

JOB NO. 12895
DATE: 07/18/2025
DESIGNED BY: WG
DRAWN BY: WG
CHECKED BY: SN
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CHAMPIONS CENTRE
GRADING PLANS

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF
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CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

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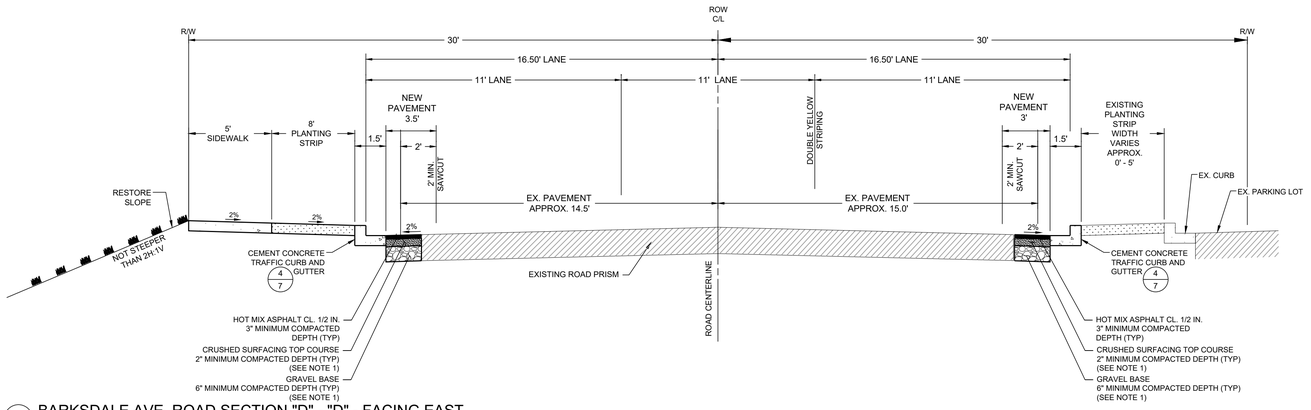
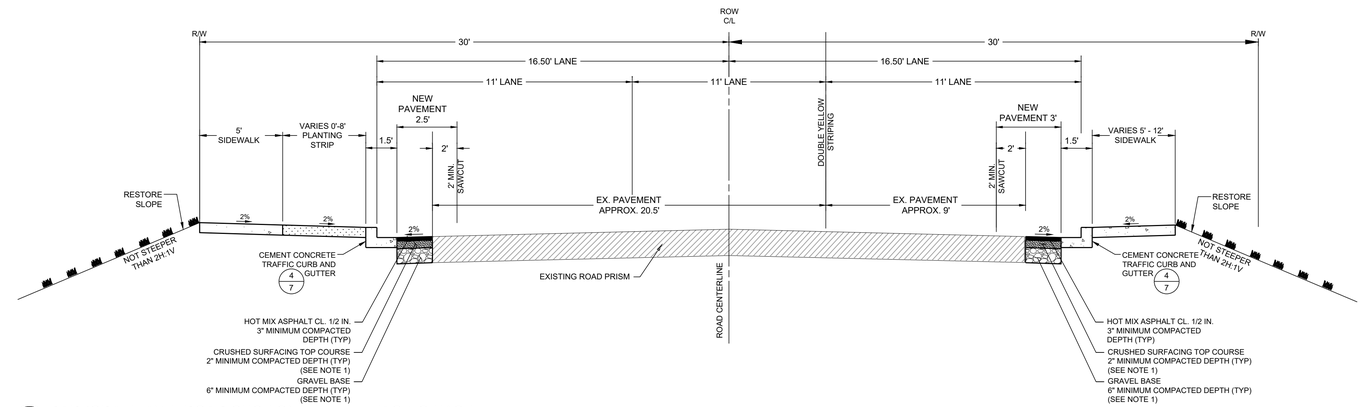
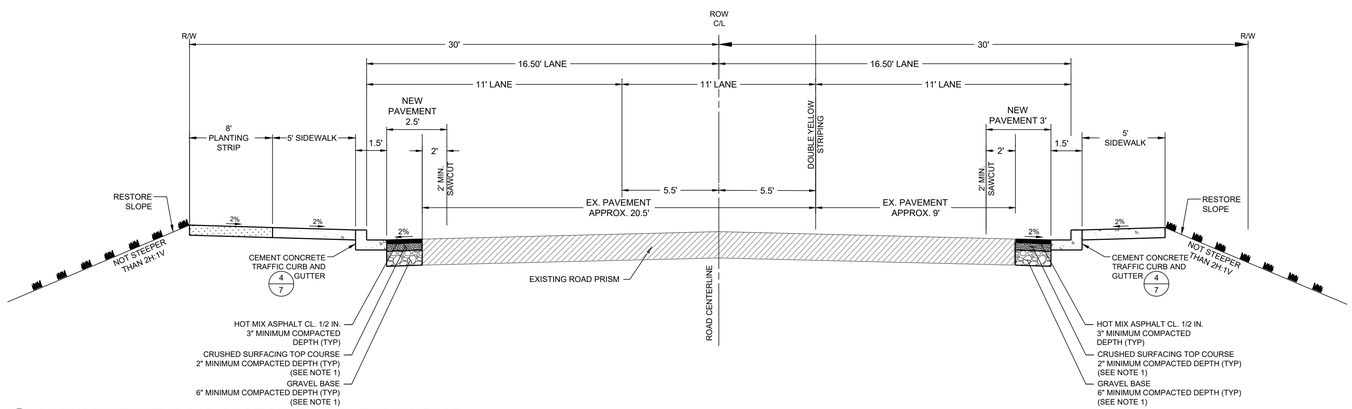


1 BARKSDALE AVE. ROAD SECTION "D" - "D" - FACING EAST
STA. 15+48.80 TO STA. 15+99.66
NTS



2 BARKSDALE AVE. ROAD SECTION "E" - "E" - FACING EAST
STA. 15+99.66 TO STA. 16+07.66
NTS



3 BARKSDALE AVE. ROAD SECTION "F" - "F" - FACING EAST
STA. 16+07.66 TO STA. 16+28.80
NTS

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PROFESSIONAL ENGINEER

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DATE: 07/18/2025
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CHAMPIONS CENTRE
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07/18/2025
STEVE THEODORE ERIKSEN
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER

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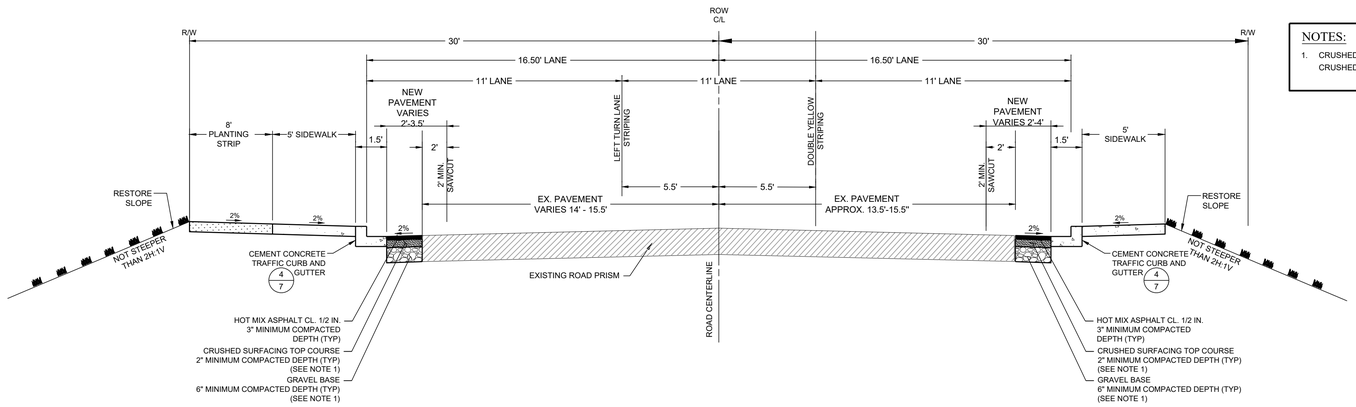
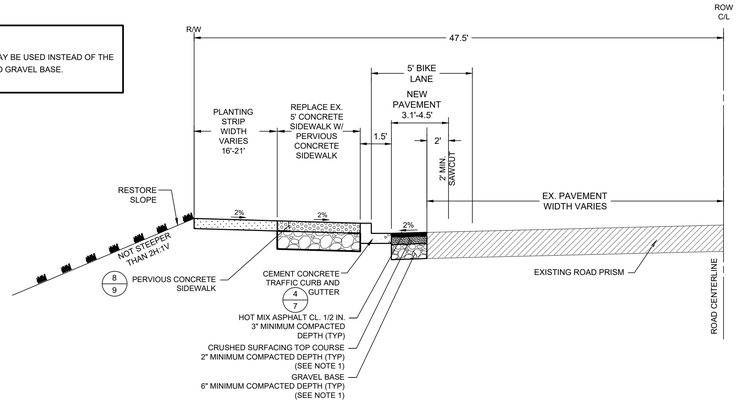


1 BARKSDALE AVE. ROAD SECTION "G" - "G" - FACING EAST
STA. 16+28.80 TO STA. 16+36.29
NTS

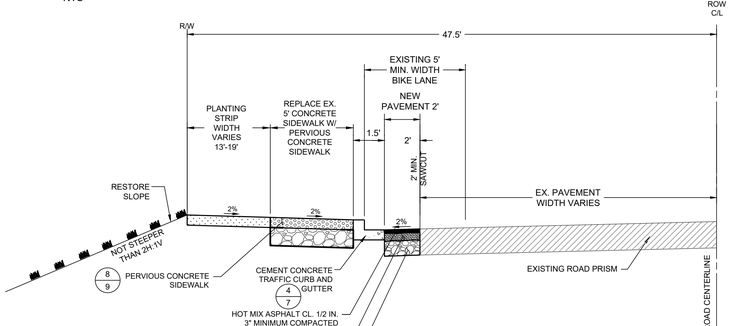


6 STEILACOOM-DUPONT RD. SW ROAD SECTION " L" - "L" - FACING NORTH
STA. 28+51.33 TO STA. 30+99.85
NTS

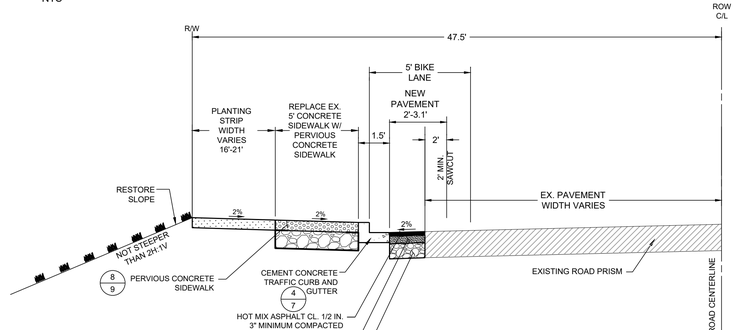
2 BARKSDALE AVE. ROAD SECTION "H" - "H" - FACING EAST
STA. 16+36.29 TO STA. 16+88.80
NTS

3 STEILACOOM-DUPONT RD. SW ROAD SECTION " I" - "I" - FACING NORTH
STA. 22+09.60 TO STA. 25+64.23
NTS

7 STEILACOOM-DUPONT RD. SW ROAD SECTION " M" - "M" - FACING NORTH
STA. 30+99.85 TO STA. 31+12.52
NTS



4 STEILACOOM-DUPONT RD. SW ROAD SECTION " J" - "J" - FACING NORTH
STA. 25+64.23 TO STA. 27+41.95
NTS



5 STEILACOOM-DUPONT RD. SW ROAD SECTION "K" - "K" - FACING NORTH
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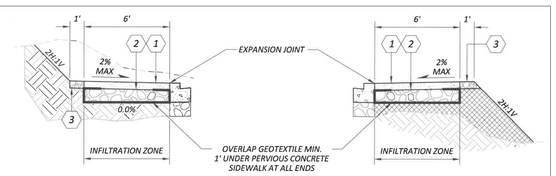

TYPICAL CUT SECTION LEFT ***TYPICAL FILL SECTION RIGHT***

SURFACING LEGEND:

1. *PERVIOUS CONCRETE SIDEWALK - 0.33' DEPTH - 2% MAX CROSS SLOPE*
2. *RESERVOIR COURSE AGGREGATE* - 6" MINIMUM DEPTH BASED ON STORAGE REQUIREMENTS
3. *CRUSHED SURFACING BASE COURSE - 0.33' DEPTH MINIMUM*

NOTES:

1) *GEOTECHNICAL REPORT SHALL BE COMPLETED TO SUPPORT STORAGE REQUIREMENTS.*
2) *INSTALL CONTROL JOINTS IN ACCORDANCE WITH CURRENT WSDOT STANDARD PLAN F-30.10-XX. PLACE EXPANSION JOINTS WHERE PERVIOUS SLAB IS ABUTTING NON-PERVIOUS SLABS OR OTHER ADJOINING STRUCTURES.*
3) *COMPACT EXISTING SUBGRADE TO 90% MINIMUM, 92% MAXIMUM DENSITY.*
4) *PERVIOUS CONCRETE SHALL NOT BE USED FOR SIDEWALKS AT DRIVEWAY APPROACHES, AT INTERSECTION CURB RETURNS, OR AT CURB RAMPS AND LANDINGS.*

8 PERVIOUS CONCRETE SIDEWALK
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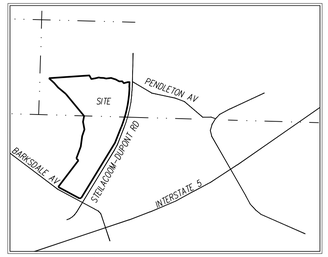
CHAMPIONS CENTRE
STORM DRAINAGE & UTILITY PLANS

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE 4 E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON



VICINITY MAP
SCALE: 1" = 1000'

GRAPHIC SCALE
80 0 40 80 160 320
1 INCH = 80 FEET

Exhibit 2.e

SURVEYOR'S NOTE:
THE 84" STORM DRAINAGE PIPE LOCATIONS, AS SHOWN ON THIS MAP, ARE PROVIDED BY OTHER AND ARE NOT A PRODUCT OF FIELD VERIFIED LOCATION BY LEROY SURVEYOR'S AND ENGINEERS INC. THE CONTRACTOR IS REQUIRED TO POTHOLE THE LOCATION OF THE PIPE AND CONTACT THE ENGINEER AND SURVEYOR TO MAP ITS ACCURATE LOCATION PRIOR TO ANY CONSTRUCTION.

LEGEND

EXISTING		PROPOSED
510	2' CONTOURS MAJOR	510
502	2' CONTOURS MINOR	502
	RIGHT-OF-WAY	
	CENTERLINE	
	BOUNDARY	
	LANDSCAPE BUFFER	
	PARCEL	
	BUILDING FOUNDATION	
	BUILDING ROOF	
	PAVEMENT HATCH	
	GRAVEL SURFACE	
	ASPHALT	
	CONCRETE	
	POROUS SURFACING	
	DELINEATED PATHWAY	
	STORM LINE	SD
	STORM CLEANOUT	
	FEMA FLOODPLAIN	
	WETLAND	
CB	CATCH BASIN	
S S S	SEWER LINE	S S S
FM FM	FORCE MAIN LINE	
	SEWER CLEANOUT	
W W	WATER LINE	W W
	FDC	
	WATER METER	
	WATER VALVE	
	FIRE HYDRANT	
	SEWER MANHOLE	
OHE OHE	WATER LINE	
	UTILITY POLE	
	SIGN POST	

PROJECT DESCRIPTION:
THE CHAMPIONS CENTRE PROJECT CONTAINS 4 EXISTING PARCELS. THE OVERALL COMBINED PARCEL AREA OF THE 4 PARCELS IS 927,027 SQUARE FEET (21.28 ACRES). THIS COMMERCIAL PROJECT CONSISTS OF A BOUNDARY LINE ADJUSTMENT TO REDUCE THE NUMBER OF LOTS FROM 4 PARCELS INTO 3 PARCELS. PARCELS A, B & C.

PARCEL A WILL BE 139,369 SQUARE FEET (3.20 ACRE). THIS WILL BE A COMMERCIAL LOT THAT WILL INCLUDE THE CONSTRUCTION OF APPROXIMATELY 26,000 SQUARE FOOT RELIGIOUS ASSEMBLY THAT WILL HAVE A MAXIMUM CONGREGATION OCCUPANCY OF 350 PEOPLE. THE ARCHITECTURAL FOOTPRINT FOR THIS RELIGIOUS ASSEMBLY IS UNIQUE TO ALLOW FOR THE EXISTING GROVE OF LANDMARK OREGON WHITE OAK TREES THAT SIT ON AN EXISTING KNOLL TO BE PROTECTED AND REMAIN ON-SITE. THIS PROPERTY WILL ALSO HAVE A TOTAL OF 136 PARKING STALLS. THE PARKING STALLS WILL INCLUDE 8 ELECTRIC VEHICLE STALLS, 5 STANDARD ADA STALLS, 1 VAN ADA STALL AND 122 STANDARD STALLS. THIS PROPERTY WILL BE SERVED BY PUBLIC SEWER & WATER AND WILL HAVE ON-SITE STORM FILTER SYSTEM(S) THAT WILL PROVIDE QUALITY TREATMENT OF ON-SITE STORMWATER RUNOFF. AFTER TREATMENT ONSITE STORMWATER RUNOFF WILL BE CONVEYED TO AN ON-SITE INFILTRATION SYSTEM WHICH WILL PROVIDE QUANTITY MITIGATION.

PARCEL B WILL BE 34,601 SQUARE FEET (0.79 ACRES). THIS WILL BE A COMMERCIAL LOT THAT WILL INCLUDE THE CONSTRUCTION OF APPROXIMATELY 3,000 SQUARE FOOT EATING AND DRINKING ESTABLISHMENT. THE MAXIMUM OCCUPANCY IS UNKNOWN AT THIS TIME. THIS PROPERTY WILL ALSO HAVE A TOTAL OF 39 PARKING STALLS. THE PARKING STALLS WILL INCLUDE 11 ELECTRIC VEHICLE STALLS, 1 STANDARD ADA STALL, 1 VAN ADA STALL AND 26 STANDARD STALLS. THIS PROPERTY WILL BE SERVED BY PUBLIC SEWER & WATER AND WILL HAVE AN ON-SITE CARTRIDGE-STYLE STORM FILTER SYSTEM WHICH WILL PROVIDE QUALITY MITIGATION. TREATED STORMWATER RUNOFF WILL THEN BE CONVEYED TO AND ON-SITE STORMWATER INFILTRATION SYSTEM.

PARCEL C WILL BE 753,056 SQUARE FEET (17.29 ACRES). THIS WILL INCLUDE AN EXISTING WETLAND, WETLAND BUFFER, STREAM, STREAM BUFFER AND FEMA FLOOD ZONE A PER PANEL 53053C0526E EFFECTIVE DATE 3/7/2017. THIS PARCEL WILL BE DEEDED TO THE CITY OF DUPONT.

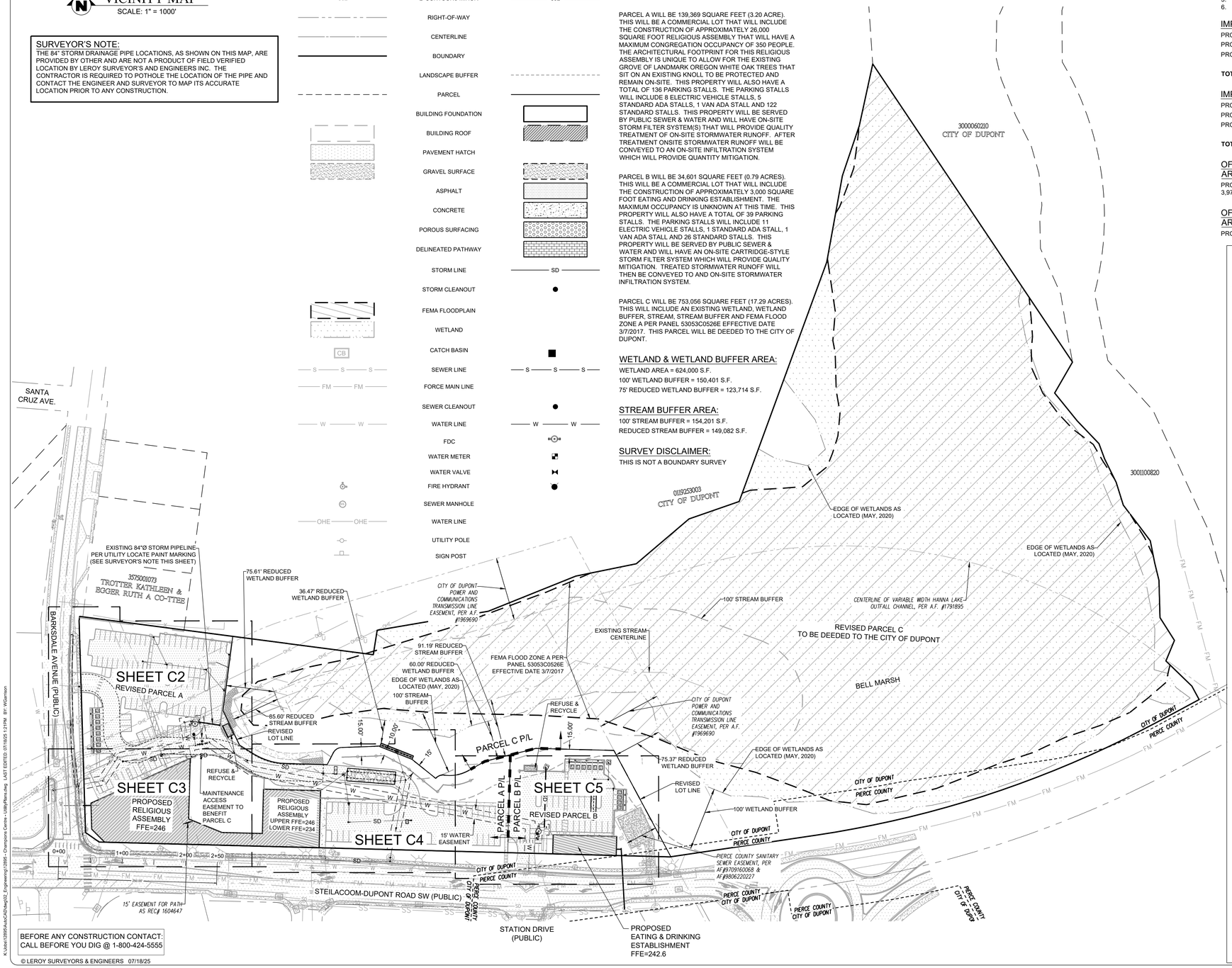
WETLAND & WETLAND BUFFER AREA:
WETLAND AREA = 624,000 S.F.
100' WETLAND BUFFER = 150,401 S.F.
75' REDUCED WETLAND BUFFER = 123,714 S.F.

STREAM BUFFER AREA:
100' STREAM BUFFER = 154,201 S.F.
REDUCED STREAM BUFFER = 149,082 S.F.

SURVEY DISCLAIMER:
THIS IS NOT A BOUNDARY SURVEY

DATUM:
WASHINGTON SOUTH ZONE NAVD 88

TOPOGRAPHY:
2 FOOT CONTOURS. TOPOGRAPHIC INFORMATION FROM AERIAL MAPPING BY PUGET SOUND LIDAR CONSORTIUM AND VERIFIED BY LS&E



BEFORE ANY CONSTRUCTION CONTACT:
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K:\Jobs\12995\Acad\CivilReg\03_Engineering\12995_Champions Centre - Utility Plans.dwg LAST EDITED: 07/18/25 1:21PM BY: WGarrison

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
City of DuPont

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07/18/2025
STEVE THEODORE ERLANSON
STATE OF WASHINGTON
22067
REGISTERED
PROFESSIONAL ENGINEER

PARCEL NUMBERS:
0119362039, 0119362009, 0119362012 & 0119362043

PARCEL AREA:
927,027 S.F. (21.28 AC)

SHEET INDEX:
1. COVER SHEET
2. STORM DRAINAGE & UTILITY PLAN
3. STORM DRAINAGE & UTILITY PLAN
4. STORM DRAINAGE & UTILITY PLAN
5. STORM DRAINAGE & UTILITY PLAN
6. GENERAL WATER NOTES

IMPERVIOUS AREA PARCEL A:
PROPOSED RELIGIOUS ASSEMBLY = 25,850 S.F.
PROPOSED PARKING AREA = 62,881 S.F.
PROPOSED WALKWAYS & CURBS = 8,371 S.F.

TOTAL = 97,102 S.F.

IMPERVIOUS AREA PARCEL B:
PROPOSED BUILDING PAD = 3,000 S.F.
PROPOSED PARKING AREA = 16,637 S.F.
PROPOSED WALKWAYS & CURBS = 2,095 S.F.

TOTAL = 21,732 S.F.

OFF-SITE IMPROVEMENTS IMPERVIOUS AREA:
PROPOSED SAWCUT PAVEMENT & CURB & GUTTER = 3,972 S.F.

OFF-SITE IMPROVEMENTS PERVIOUS AREA:
PROPOSED POROUS CONCRETE SIDEWALK = 6,350 S.F.

SITE ADDRESS:
XXX BARKSDALE AVE.
DUPONT, WA 98237

PROPERTY OWNER:
MUSTARD SEED LEGACY DEV. LLC
32706 MOUNTAIN HWY E
EATONVILLE, WA 98328

APPLICANT:
CHAMPIONS CENTRE
CONTACT: DAVID YADON, CORPORATE SECRETARY
PHONE: 253-606-9041
1819 E. 72ND ST.
TACOMA, WA 98404

ZONING:
COMM

EARTH WORK QUANTITIES:

CUT:	2,655 CY
FILL:	25,539 CY
NET:	22,884 CY
CLEARING LIMITS:	168,508 S.F.

1. THESE QUANTITIES ARE FOR THE ESTABLISHMENT OF CLEARING AND GRADING PERMIT ONLY AND SHALL NOT BE CONSTRUED TO INDICATE A BALANCED SITE.
2. GRADING VOLUMES ARE FROM EXISTING GRADE TO FINISHED GRADE AND MAKE NO ALLOWANCE FOR STRIPPINGS, GRAVEL, OR ROAD SECTION MATERIALS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING HIS OWN QUANTITIES FOR BIDDING PURPOSES AND SHALL NOT HOLD THE ENGINEER OR OWNER/DEVELOPER RESPONSIBLE FOR ANY ERRORS IN HIS BID QUANTITIES FOR EXCAVATION

STRUCTURE TABLE

STRUCTURE NAME:	DETAILS:
BP#1 W/ SOLID LID W/ NON-SLIP SOLID LID	RIM = 233.12 INV IN = 227.28 INV OUT = 229.45
BP#2 W/ SOLID LID W/ NON-SLIP SOLID LID	RIM = 243.00 INV IN = 237.48 INV IN = 239.65
BP#3 W/ SOLID LID W/ NON-SLIP SOLID LID	RIM = 239.20 INV IN = 235.39 INV OUT = 233.23 INV OUT = 233.23
CB#1 (TYPE 1) W/ OPEN GRATE	RIM = 236.95 INV OUT = 233.95
CB#2 (TYPE 2) W/ OPEN GRATE	RIM = 239.40 INV IN = 233.66 INV IN = 233.66 INV OUT = 233.66
CB#3 (TYPE 2) W/ OPEN GRATE	RIM = 241.75 INV IN = 233.38 INV OUT = 233.38
CB#4 (TYPE 2) W/ OPEN GRATE	RIM = 238.79 INV IN = 233.63 INV IN = 233.63 INV OUT = 233.63
CB#5 (TYPE 1) W/ OPEN GRATE	RIM = 232.68 INV IN = 229.68 INV OUT = 229.68
CB#6 (TYPE 1) W/ SOLID LID	RIM = 233.84 INV IN = 227.22 INV IN = 227.22 INV OUT = 227.22 INV OUT = 227.22
CB#7 (TYPE 1) W/ OPEN GRATE	RIM = 240.55 INV OUT = 238.36
CB#8 (TYPE 2) W/ SOLID LID	RIM = 246.02 INV IN = 236.87 INV OUT = 236.87
CB#9 (TYPE 2) W/ SOLID LID	RIM = 244.71 INV OUT = 237.02 INV OUT = 237.02
CB#10 (TYPE 2) W/ SOLID LID	RIM = 239.52 INV IN = 233.19 INV OUT = 233.19 INV OUT = 233.19
CB#11 (TYPE 1) W/ OPEN GRATE	RIM = 238.59 INV OUT = 235.59 INV OUT = 236.59
CB#12 (TYPE 1) W/ SOLID LID	RIM = 239.28 INV IN = 236.28 INV OUT = 236.28
CB#13 (TYPE 2) W/ SOLID LID	RIM = 244.01 INV IN = 231.50 INV OUT = 231.50
CB#14 (TYPE 1) W/ OPEN GRATE	RIM = 244.77 INV OUT = 241.77
CB#15 (TYPE 2) W/ SOLID LID	RIM = 242.76 INV IN = 223.82 INV IN = 229.00 INV OUT = 223.82
CB#16 (TYPE 2) W/ BIRDCAGE GRATE	RIM = 228.00 INV IN = 223.59 INV IN = 453.05 INV OUT = 453.05
CB#17 (TYPE 1) W/ OPEN GRATE	RIM = 242.27 INV OUT = 239.23

STRUCTURE TABLE

STRUCTURE NAME:	DETAILS:
CB#18 (TYPE 1) W/ OPEN GRATE	RIM = 241.11 INV IN = 238.11 INV IN = 238.09 INV OUT = 238.09
CB#19 (TYPE 1) W/ OPEN GRATE	RIM = 239.25 INV IN = 236.25 INV OUT = 236.25
CB#20 (TYPE 2) W/ OPEN GRATE	RIM = 236.03 INV IN = 230.79 INV OUT = 230.79
CB#21 (TYPE 1) W/ OPEN GRATE	RIM = 242.80 INV OUT = 239.68
CB#22 (TYPE 1) W_ OPEN GRATE	RIM = 238.90 INV IN = 235.42 INV IN = 235.42
CB#23 (TYPE 1) W/ SOLID LID	RIM = 234.31 INV OUT = 227.18 INV OUT = 227.18
CB#24 (TYPE 1) W/ SOLID LID	RIM = 234.31 INV IN = 227.18 INV IN = 227.18 INV OUT = 227.18
CB#25 (TYPE 1) W/ SOLID LID	RIM = 241.55 INV IN = 227.18
CB#26 (TYPE 1) W/ SOLID LID	RIM = 241.71 INV IN = 227.18 INV OUT = 229.18
CB#27 (TYPE 1) W/ SOLID LID	RIM = 241.37 INV IN = 233.19
CB#28 (TYPE 1) W/ SOLID LID	RIM = 239.73 INV IN = 233.19 INV OUT = 233.19
CO#1	RIM = 228.00
CO#2	RIM = 228.00
EX CB#1	RIM = 247.33 INV IN = 235.91 INV IN = 233.17
EX CB#2	RIM = 244.78 INV OUT = 243.44
EX SDMH-CONTROL STRUCTURE	RIM = 246.27 INV OUT = 233.17 INV OUT = 233.08
ROOFDRAIN CO#1	RIM = 234.00 INV OUT = 231.00
ROOFDRAIN CO#2	RIM = 242.60 INV IN = 237.50

REVISION	DATE:
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JOB NO: 12995
DATE: 07/18/2025
DESIGNED BY: WG
DRAWN BY: WG
CHECKED BY: SN
APPROVED BY: SN

Cover Sheet

Champions Centre
Storm Drainage & Utility Plans

David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

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DRAWING
U1
SHEET 01
OF 06

CHAMPIONS CENTRE
STORM DRAINAGE & UTILITY PLANS

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE 4 E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
City of DuPont

GRAPHIC SCALE

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07/18/2025
STEVE THEODORE ERLANSON
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER

BARKSDALE AVENUE (PUBLIC)

STA I:110+00.00, 0.00'
STA BARK:13+82.79, 0.00'

STA C:100+41.50, 48.50'R
STA I:110+45.75, 0.00'
FL=244.73

STA C:100+41.50, 0.00'
STA I:110+94.25, 0.00'
FG=243.14

CB#7 (TYPE 1) W/ OPEN GRATE
STA I:131+17.49, 14.0'L
RIM=240.55

STA I:111+58.75, 0.00'
STA K:130+93.50, 0.00'
FG=241.04

DRIVE I

CB#17 (TYPE 1) W/ OPEN GRATE
STA I:111+32.91, 16.0'R
RIM=242.27

CB#18 (TYPE 1) W/ OPEN GRATE
STA I:111+70.91, 16.0'R
RIM=241.11

38LF OF 12" CPEP @ 2.95%

62LF OF 12" CPEP @ 2.94%

CB#19 (TYPE 1) W/ OPEN GRATE
STA I:112+33.41, 16.0'R
RIM=239.25

PARCEL A P/L
PARCEL C P/L

100' WETLAND BUFFER

100' STREAM BUFFER

CB#1 (TYPE 1) W/ OPEN GRATE
STA J:121+70.66, 12.2'R
RIM=236.95

STA I:112+54.25, 0.00'
STA J:121+58.50, 0.00'
FG=237.94

EX. STREAM BUFFER IN THIS AREA TO BE REDUCED

REDUCED STREAM AND WETLAND BUFFER

EX. SEWER MANHOLE LID TO BE ROTATED SO THAT THE EX. LID IS PLACED WITHIN THE SIDEWALK. THE LID WILL NEED TO BE REPLACED WITH A SLIP-RESISTANT MANHOLE COVER.

STA C:50+00.00, 0.00'
STA BARK:14+50.00, 0.00'

EX. SSMH
RIM=245.28
IE OUT=235.12
IE IN=235.18

STA C:101+02.84, 0.00'
STA H:101+02.84, 0.00'
FG=245.01

DRIVE C

STA C:51+48.29, 0.00'
STA K:130+31.64, 0.00'
FG=243.27

DRIVE K

DRIVE J

CB#2 (TYPE 2) W/ OPEN GRATE
STA J:121+13.44, 11.7'R
RIM=239.40

EX. WETLAND BUFFER IN THIS AREA TO BE REDUCED

44LF OF 12" CPEP @ 2.84%

57LF OF 12" CPEP @ 0.51%

STA C:52+43.79, 0.00'
STA J:120+95.88, 0.00'
FG=240.45

85LF OF 12" CPEP @ 0.51%

EXISTING CONCRETE WING-WALLS TO REMAIN

7.00'

RELOCATE EX. CB
STA:15+15.56, 10.50'L
NEW STA:15+15.55, 12.66'L
RIM=244.80
NEW RIM=244.78
IE (12" S)=242.76

STA H:101+81.49, 0.00'
HP FG=245.68

DRIVE H

PROPOSED VAULT W/ DDCVA, BACKFLOW PREVENTOR, FDC & PIV.

PROPOSED YARD POST INDICATOR W/ TAMPER

CB#3 (TYPE 2) W/ OPEN GRATE
STA A:120+58.25, 12.2'R
RIM=241.75

6"Ø PVC DRAIN PIPE

EX. 84"Ø STORM PIPE TO REMAIN
I.E.=222.71'

WATER EASEMENT

FG ELEV=243.82
EG ELEV=239.92
I.E. OF WATER @ CROSSING = 240.15 WHICH IS 0.23' ABOVE THE EXISTING GRADE (POTHOLE TO VERIFY STORM PIPE DEPTH PRIOR TO CONSTRUCTION)

PROPOSED FDC

FG ELEV=243.34
EG ELEV=238.85
I.E. OF WATER @ CROSSING = 239.67 WHICH IS 0.82' ABOVE THE EXISTING GRADE (POTHOLE TO VERIFY STORM PIPE DEPTH PRIOR TO CONSTRUCTION)

NOTE:
A MINIMUM 3' CLEARANCE & LEVEL AREA REQUIRED AROUND FIRE HYDRANT

DEDICATED FIRE SUPPLY LINE

PROPOSED FIRE HYDRANT

PROPOSED 870 LF OF 8"Ø DI CL-52 LOOPED WATER MAIN

38.19'

STA A:32+41.42, 0.00'
120+22.61, 0.00'
FG=243.21

48LF OF 12" CPEP @ 0.54%

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MATCHLINE SHEET C3

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DATE 07/18/2025
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DRAWN BY: WG
CHECKED BY: SN
APPROVED BY: SN

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Storm Drainage & Utility Plan

Champions Centre
Storm Drainage & Utility Plans
David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

DRAWING
U2
SHEET 02
OF 06

CHAMPIONS CENTRE
STORM DRAINAGE & UTILITY PLANS

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF
SECTION 26, TOWNSHIP 19 N, RANGE 4 E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE
10 0 5 10 20 40
1 INCH = 10 FEET

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07/18/2025
STEVE THEODORE ERIKSEN
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER

MATCHLINE SHEET C2

STA A:31+38.61, 0.00'
STA H:102+45.77, 0.00'
FG=245.21

PROPOSED WATER METER

CB#14 (TYPE 1) W/ OPEN GRATE
STA A:31+00.00, 0.0'
RIM=244.77

PROPOSED 870 LF OF 8"Ø DI
CL-52 LOOPED WATER MAIN

15' WATER EASEMENT

176LF OF 12" CPEP @ 4.62%

CB#4 (TYPE 2) W/ OPEN GRATE
STA A:32+82.20, 0.0'L
RIM=238.79

24LF OF 12" CPEP @ 11.90%

CB#20 (TYPE 2) W/ OPEN GRATE
STA A:33+06.08, 0.0'
RIM=236.03

EX. CB
RIM=245.00
DIDN'T DIP

DRIVE A

TO FUTURE RISER ROOM, LOCATION WILL BE DETERMINED AT BUILDING PERMIT STAGE

PROPOSED 8"Ø TAP TO EXISTING 8"Ø WATER MAIN

EX. SSMH
RIM=246.14
IE OUT=236.14
IE IN=236.20

RELIGIOUS ASSEMBLY
FFE = 246.00

PLUMBING OUTLET I.E.=238.50

EX. SS STUB
IE OUT=236.72
CONTRACTOR TO POTHOLE AND VERIFY

2LF 6"Ø PCV SDR-35 PIPE @ 2.0%

DOUBLE-SWEEP
(2' FROM BLDG)
RIM=245.96
I.E.= 238.46

8LF 6"Ø PCV SDR-35 PIPE @ 27.13%

TEST TEE RIM=245.92
I.E.=236.29

CONNECT TO EX. 6" Ø SEWER STUB
I.E.= 236.27

3LF 6"Ø PCV SDR-35 PIPE @ 2.00%

EXISTING CONCRETE PAD TO BE DEMOLISHED

30' X 30' CLEARANCE TRIANGLE

BARKSDALE AVENUE (PUBLIC)

STEILACOOM-DUPONT ROAD SW (PUBLIC)

EX. CB
RIM=246.12
IE (15" N)=239.70
IE (15" E)=239.95
IE (15" S)=239.82

EX. CB (TYPE 2)
RIM=245.21
IE (15" N)=237.91
IE (15" S)=238.01

EX. CB
RIM=245.12
IE (15" N)=237.94
IE (15" S)=238.04
IE (15" S)=238.12

MATCHLINE SHEET C4

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Storm Drainage & Utility Plan

Champions Centre
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David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

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CHAMPIONS CENTRE
STORM DRAINAGE & UTILITY PLANS

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE 4 E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

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07/18/2025
STEVE THEODORE ERICKSON
STATE OF WASHINGTON
21001
REGISTERED
PROFESSIONAL ENGINEER

MATCHLINE SHEET C3

MATCHLINE SHEET C5

100' STREAM BUFFER
REDUCED STREAM AND WETLAND BUFFER
EX. STREAM BUFFER TO BE REDUCED IN THIS AREA
REDUCED WETLAND BUFFER
EX. WETLAND BUFFER TO BE REDUCED IN THIS AREA
PARCEL C P/L
PARCEL A P/L
CB#16 (TYPE 2) W/ BIRDCAGE GRATE
STA A:162+07.18, 0.0'R
RIM=228.00
LEVEL SPREADER
54.66'L X 6'W X 3.5' D
TOP OF TRENCH=228.00
I.E. (18"Ø)=223.59
BOTTOM OF TRENCH=222.59
25LF OF 18" PERF PIPE @ 0.00%
CO#1
STA A:162+22.90, 19.4'L
RIM=228.00
CO#2
STA A:161+91.47, 19.4'R
RIM=228.00
15.00'
10.00'
CB#6 (TYPE 1) W/ SOLID LID
STA A:34+62.31, 0.0'
RIM=233.84
INFILTRATION TRENCH #1
76'L X 20'W X 3'D
BOTTOM ELEV=226.18
7LF OF 12" CPEP @ 0.56%
CB#24 (TYPE 1) W/ SOLID LID
STA A:34+67.31, 5.1'L
RIM=234.31
CB#25 (TYPE 1) W/ SOLID LID
STA A:35+42.10, 6.0'L
RIM=241.55
CB#5 (TYPE 1) W/ OPEN GRATE
STA A:34+29.83, 0.0'
RIM=232.68
DRIVE A
12LF OF 12" CPEP @ 0.50%
17LF OF 12" CPEP @ 1.38%
BP#1 W/ SOLID LID
STA A:34+50.00, 0.0'
RIM=233.12
10LF OF 12" CPEP @ 0.00%
76LF 12" PERFORATED PIPE @ 0.00%
76LF 12" PERFORATED PIPE @ 0.00%
45LF OF 8" CPEP @ 8.37%
CB#15 (TYPE 2) W/ SOLID LID
STA A:141+40.70, 94.5'R
RIM=242.76
17LF OF 12" CPEP @ 1.06%
PROPOSED 870 LF OF 8"Ø DI
CL-52 LOOPED WATER MAIN
15' WATER EASEMENT
CB#23 (TYPE 1) W/ SOLID LID
STA A:34+67.31, 4.9'R
RIM=234.31
47LF OF 12" CPEP @ 4.70%
CB#26 (TYPE 1) W/ SOLID LID
STA A:35+44.37, 3.7'R
RIM=241.71
OVERFLOW OUTLET
I.E.=239.19
7LF OF 15" CPEP @ 1.92%
REVISED PARCEL C
TO BE DEEDED TO THE CITY OF DUPONT
RELIGIOUS ASSEMBLY
UPPER FFE = 246.00
LOWER FFE = 234.00
CB#8 (TYPE 2) W/ SOLID LID
STA B:40+44.97, 29.7'L
RIM=246.02
30LF OF 12" CPEP @ 0.51%
CB#9 (TYPE 2) W/ SOLID LID
STA B:40+45.06, 0.0'L
RIM=244.71
91LF OF 12" CPEP @ 0.51%
CB#13 (TYPE 2) W/ SOLID LID
STA B:41+03.67, 7.3'R
RIM=244.01
15" CMP
EL=231.50
15' PUBLIC STORM DRAINAGE EASEMENT
BP#2 W/ SOLID LID
STA B:41+35.96, 5.5'L
RIM=243.00
CB#21 (TYPE 1) W/ OPEN GRATE
STA B:41+44.25, 5.5'L
LOW POINT
RIM=242.80
STA A:36+25.95, 0.00'
STA B: 41+44.25, 0.00'
FG=242.85
DRIVE B
15' WATER EASEMENT
EX. 48LF OF 15" PIPE @ 3.51%
6LF OF 15" CPEP @ 1.53%
EX SDMH-CONTROL STRUCTURE
STA 41+12.70, 54.20 R
EXISTING RIM=246.27
NEW RIM ELEV=247.00
IE 15"Ø = 233.17 (NW)
IE 15"Ø = 233.08 (SE)
EX CB#1
STA 41+12.46, 60.07 R
EXISTING RIM=247.33
NEW RIM ELEV=247.32
INSTALL NON-SLIP SOLID LID
IE 15"Ø = 235.91 (SW)
IE 15"Ø = 233.17 (NW)
EX. CB
RIM=245.86
IE (15" N)=236.51
IE (15" E)=236.61
IE (15" S)=237.04
103LF OF 15" CPEP @ 0.58%
STEILACOOM-DUPONT ROAD SW (PUBLIC)

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dave@cc.church

DRAWING
U4
SHEET 04
OF 06

CHAMPIONS CENTRE
STORM DRAINAGE & UTILITY PLANS

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE 4 E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE
10 0 5 10 20 40
1 INCH = 10 FEET

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
City of DuPont

These drawings are approved for construction for a period of 12 months from the date shown hereon. The city reserves the right to make revisions, additional, deletions, or modifications should construction be delayed beyond this time limitation. The city, by approving these drawings, assumes no liability in regards to their accuracy or omissions.

07/18/2025
STEVE THEODORE ERICKSON
STATE OF WASHINGTON
21607
REGISTERED
PROFESSIONAL ENGINEER

REDUCED STREAM AND WETLAND BUFFER
100' STREAM BUFFER
PARCEL C P/L
PARCEL A P/L
REVISED LOT LINE AND WETLAND BUFFER
PARCEL A P/L
PARCEL B P/L
REFUSE & RECYCLE
DRIVE F
DRIVE D
DRIVE E
DRIVE G
STA D:61+67.00, 0.00'
STA F:80+57.30, 0.00'
FG=240.24
OVERFLOW OUTLET
I.E.=234.00
CB#22 (TYPE 1) W_ OPEN GRATE
STA F:81+61.72, 0.0'L
RIM=238.90
22LF OF 12" CPEP @ 0.77% SD
8LF OF 12" CPEP @ 0.53%
BP#3 W/ SOLID LID
STA F:91+13.23, 22.2'L
RIM=239.20
CB#10 (TYPE 2) W/ SOLID LID
STA F:91+05.48, 22.2'L
RIM=239.52
45LF OF 12" CPEP @ 0.00%
CB#28 (TYPE 1) W/ SOLID LID
STA F:35+89.13, 287.8'L
RIM=239.73
INFILTRATION TRENCH #2
45'L X 8'W X 2'D
BOTTOM ELEV=233.19
45LF OF 12" CPEP @ 0.00%
OVERFLOW OUTLET
I.E.=236.56
OVERFLOW
I.E.=236.59
STA F:81+83.88, 0.00'
STA G:91+19.49, 0.00'
FG=238.59
CB#11 (TYPE 1) W/ OPEN GRATE
STA G:91+19.52, 0.0'R
RIM=238.59
LOW POINT
CB#12 (TYPE 1) W/ SOLID LID
STA F:91+05.47, 8.5'R
RIM=239.28
31LF OF 6" CPEP @ 10.08%
75LF OF 6" CPEP @ 1.62%
REDUCED WETLAND BUFFER
REVISED LOT LINE
EX. WETLAND BUFFER TO BE REDUCED IN THIS AREA
100' WETLAND BUFFER
EX. CHAIN LINK FENCE TO REMAIN
CB#27 (TYPE 1) W/ SOLID LID
STA F:36+11.98, 286.8'L
RIM=241.37
STA E:71+55.61, 0.00'
STA G:90+64.50, 0.00'
FG=241.19
BEL MARSH PUMP STATION
EX. WETLAND BUFFER TO BE REDUCED IN THIS AREA
6"Ø PVC DRAIN PIPE
STA D:61+12.00, 0.00'
PROPOSED VAULT W/ DDCVA, BACKFLOW PREVENTOR, FDC & PIV.
15' WATER EASEMENT
PROPOSED YARD POST INDICATOR W/ TAMPER
4"Ø DEDICATED FIRE SUPPLY LINE
PROPOSED FDC
PROPOSED FIRE HYDRANT
PROPOSED WATER METER
NOTE:
A MINIMUM 3' CLEARANCE & LEVEL AREA REQUIRED AROUND FIRE HYDRANT
PROPOSED 870 LF OF 8"Ø DI CL-52 LOOPED WATER MAIN
15' WATER EASEMENT
15' WATER EASEMENT
STA D:60+88.99, 0.00'
STA B:43+26.62, 0.00'
FG=244.27
EATING & DRINKING ESTABLISHMENT FFE=242.60
DOUBLE-SWEEP (2' FROM BLDG) RIM=238.20 I.E.= 234.96
2LF 6"Ø PCV SDR-35 PIPE @ 2.0%
PLUMBING OUTLET I.E.=235.00
EX. 6"Ø FORCEMAIN
8LF 6"Ø PCV SDR-35 PIPE @ 46.38%
95LF 6"Ø PCV SDR-35 PIPE @ 2.00%
EX. SSMH RIM=241.55 IE OUT=229.13 IE IN=229.19
EX. SSMH RIM=243.70 NO DIP
CONNECT PROPOSED 8"Ø WATER MAIN TO EXISTING 12"Ø WATER MAIN AT EXISTING GATE VALVE
EX. CB (TYPE 2) RIM=246.96 IE (12" NE)=240.54
CITY OF DUPONT
PIERCE COUNTY
STEILACOOM-DUPONT ROAD SW (PUBLIC)
STA D:60+00.00, 0.00'R
STA ST:28+80.37, 0.00'
MATCHLINE SHEET C4

BEFORE ANY CONSTRUCTION CONTACT: CALL BEFORE YOU DIG @ 1-800-424-5555

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DATE: 07/18/2025
DESIGNED BY: WG
DRAWN BY: WG
CHECKED BY: SN
APPROVED BY: SN

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Storm Drainage & Utility Plan

Champions Centre
Storm Drainage & Utility Plans
David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

DRAWING
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CHAMPIONS CENTRE
STORM DRAINAGE & UTILITY PLANS

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE 4 E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

APPROVED FOR CONSTRUCTION

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07/18/2025
STEVE THEODORE WILKINSON
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER

GENERAL NOTES (WATER SYSTEM CONSTRUCTION)

1. ALL IRRIGATION CROSSINGS SHALL HAVE SCHEDULE 80 SLEEVES AND THE SIZE SHALL BE PER THE APPROVED IRRIGATION DRAWINGS.
2. LIGHT POLES SHALL BE LOCATED A MINIMUM OF 3 FEET FROM ALL UNDERGROUND UTILITIES, INCLUDING WATER METERS. LIGHT POLES SHALL BE LOCATED A MINIMUM OF 5 FEET FROM FIRE HYDRANTS.
3. WATER MAINS AND FITTINGS TO BE INSTALLED SHALL BE DUCTILE IRON FOR ALL SIZES, UNLESS SPECIFICALLY NOTED OTHERWISE. THE CLASS OF THE DUCTILE IRON PIPE SHALL BE THICKNESS CLASS 52 FOR ALL DIAMETERS.
4. WATER MAINS SHALL MAINTAIN A MINIMUM OF 3 FEET AND A MAXIMUM OF 5 FEET OF COVER.
5. UTILITY CROSSINGS HAVING LESS THAN 1 FOOT OF VERTICAL SEPARATION SHALL BE CONSTRUCTED WITH CONTROLLED DENSITY FILL (CDF) TO PREVENT POSSIBLE DAMAGE TO EITHER UTILITY.
6. WATER MAIN DEFLECTIONS AT JOINTS ARE NOT TO EXCEED MANUFACTURER'S RECOMMENDATIONS PLUS AN ADDITIONAL FACTOR OF SAFETY OF 50 PERCENT.
7. IDENTIFY A MINIMUM HORIZONTAL SEPARATION OF 10 FEET BETWEEN SANITARY SEWER MAINS AND WATER MAINS, BOTH EXISTING AND PROPOSED.
8. FOR PROPOSED WATER MAINS, IDENTIFY RESTRAINED JOINT FITTINGS AND PUSH-ON JOINTS AT LOCATIONS WHERE THRUST BLOCKS WILL NOT HAVE SUFFICIENT UNDISTURBED ADJACENT AREA FOR BEARING.
9. WATER SERVICE CONNECTIONS SHALL BE MADE PERPENDICULAR TO THE MAIN.
10. THE WATER MAIN PIPES SHALL BE DISINFECTED AND TESTED BEFORE BEING PLACE IN SERVICE. ALL WATER MAIN TESTING AND DISINFECTION SHALL BE PER CITY OF DUPONT PUBLIC WORKS STANDARDS.
11. WATER MAIN STUBOUTS THAT ARE NOT USED SHALL BE DISCONNECTED AT THE MAIN, WITH A BLIND FLANGE INSTALLED AT THE TEE.
12. TEE CONNECTIONS TO EXISTING WATER MAINS SHALL BE WET TAPS.
13. SEPARATE WATER CONNECTIONS WILL BE REQUIRED FOR DOMESTIC, FIRE, AND IRRIGATION. ALL SERVICES SHALL INCLUDE BACKFLOW PREVENTION DEVICES LOCATED OUTSIDE OF ANY PROPOSED BUILDINGS.
14. ALL FIRE PROTECTION SYSTEM INSTALLATIONS, INCLUDING PIPELINES AND DOUBLE DETECTOR CHECK ASSEMBLIES, ARE SUBJECT TO THE CONSTRUCTION STANDARDS OF NFPA 24 AND TO THE INSPECTION AND TESTING REQUIREMENTS OF THE CITY OF DUPONT FIRE DEPARTMENT.
15. THE FIRE PROTECTION SYSTEMS, INCLUDING THE BACKFLOW PREVENTION DEVICES, UNDERGROUND FIRE SERVICE LINES, AND FIRE DEPARTMENT CONNECTIONS, ARE SUBJECT TO SEPARATE REVIEW, PERMITTING, AND APPROVAL BY THE CITY OF DUPONT FIRE DEPARTMENT.
16. RELOCATE THE FIRE DEPARTMENT CONNECTIONS (FDCS) TO PLANTER ISLANDS OR OTHER LOCATIONS, AS FEASIBLE, TO BE OUTSIDE OF THE BUILDING COLLAPSE ZONES.
17. THE APPLICANT SHALL FURNISH METER SIZING CALCULATIONS FOR DOMESTIC AND FIRE WATER SERVICES. THE SPRINKLER SYSTEM DESIGN, INCLUDING CONFIRMATION OF THE PROVIDED SIZING FOR THE FIRE LINE COMPONENTS SHALL BE REVIEWED AND APPROVED BY THE CITY BUILDING DEPARTMENT AND FIRE DEPARTMENT AS PART OF THE BUILDING PERMIT PROCESS. EACH FIRE LINE CONNECTION TO A CITY WATER MAIN WILL REQUIRE A DOUBLE DETECTOR CHECK VALVE ASSEMBLY (DDCVA) IN AN UNDERGROUND VAULT AND A FIRE DEPARTMENT CONNECTION (FDC) WITHIN 50 FEET OF A FIRE HYDRANT.

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K:\Jobs\12695\Acad\CADwg\02_Engineering\12695 - Champions Centre - Utility Plans.dwg LAST EDITED: 07/18/25 1:15PM BY: WGarrison

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DRAWN BY: WG
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APPROVED BY: SN

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General Water Notes

Champions Centre
Storm Drainage & Utility Plans
David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

DRAWING
U6
SHEET 06
OF 06

Received 12-20-2023

Exhibit 2.f

Drainage Report
CHAMPIONS CENTRE
DuPont, Washington

For

Mustard Seed Legacy Dev. LLC
32706 Mountain Hwy E
Eatonville, WA 98328

By

LeRoy Surveyors & Engineers, Inc.
P.O. Box 740
Puyallup, Washington 98371
(253) 848-6608

Engineer: Steve T. Nelson, P.E.

Contact: Steve T. Nelson
(253) 848-6608 ext. 107
snelson@lseinc.com

September 2023
Job No: 12895

I hereby state that this Drainage Report for the Champions Centre Project has been prepared by me or under my supervision and meets the standard of care and expertise which is usual and customary in this community for professional engineers. I understand the City of DuPont does not and will not assume liability for the sufficiency, suitability, or performance of drainage facilities prepared by me.

9/22/2023

Table of Contents

Section 1 – Proposed Project Description 4
Section 2 - Existing Conditions Summary 11
Section 3 – Infiltration Rates 12
Section 4 – Wells and Septic Systems 12
Section 5 – Fuel Tanks 12
Section 6 – Sub-basin Description 12
Section 7 – Floodplain Analysis 15
Section 8 – Aesthetic Considerations for Facilities 15
Section 9 – Facility Sizing and Downstream Analysis 15
Section 10 – Utilities 16
Section 11 – Covenants, Dedications, Easements 17
Section 12 – Property Owner's Association Articles of Incorporation. 17
Section 13 – Other Permits or Conditions Placed on the Project 17

Appendix A: Vicinity Map
Appendix B: Pre- and Post-Developed Basin Maps
Appendix C: Stormwater Design Calculations
Appendix D: Soils Report
Appendix E: Federal Emergency Management Agency Flood Insurance Panel

Section 1 – Proposed Project Description

Project Name: Champions Centre

Permit Number(s): TBD

Project Site Address: XXX Barksdale Ave.
DuPont, WA 98237

Parcel Number(s): 0119362039, 0119362009, 0119362012, & 0119362043

Property Zoning: Commercial (COM)

Legal Description:

PARCEL A:

TAX PARCEL NUMBERS 0119362039, 0119362009 & 0119362012

THAT PORTION OF THE NORTHWEST QUARTER OF SECTION 36, TOWNSHIP 19 NORTH, RANGE 1 EAST, W.M., IN PIERCE COUNTY, WASHINGTON, LYING SOUTHEASTERLY OF WILMINGTON DRIVE (RE-ALIGNED DUPONT-STEILACOOM ROAD), DESCRIBED AS FOLLOWS:

COMMENCING AT THE BRONZE MONUMENT AT THE INTERSECTION OF THE CENTERLINE OF BARKSDALE AVENUE AND THE NORTHERLY LINE OF THE NORTHERN PACIFIC RAILROAD COMPANY'S RIGHT OF WAY, AS SHOWN ON THE PLAT OF REPLAT OF THE VILLAGE DUPONT, ACCORDING TO PLAT RECORDED IN VOLUME 15 OF PLATS, PAGE 65; THENCE NORTH 69°47'46" EAST 41.36 FEET ALONG SAID RAILROAD RIGHT OF WAY TO THE NORTHERLY LINE OF SAID BARKSDALE AVENUE; THENCE ALONG SAID NORTHERLY LINE OF BARKSDALE AVENUE, NORTH 63°41'54" WEST 679.50 FEET TO THE POINT OF BEGINNING; THENCE NORTH 54°19'24" WEST 6.81 FEET TO THE SOUTHEASTERLY CORNER OF BLOCK "L" IN SAID REPLAT OF THE VILLAGE OF DUPONT; THENCE NORTH 35°40'36" EAST 45.10 FEET TO THE SOUTHERLY LINE OF A 15 FOOT EASEMENT GRANTED TO THE PIERCE COUNTY SCHOOL DISTRICT 7 FOR PATH;
THENCE ON SAID SOUTHERLY LINE OF EASEMENT, EASTERLY 521.53 FEET TO THE WESTERLY LINE OF DUPONT-STEILACOOM HIGHWAY, AS ESTABLISHED IN DEED RECORDED DECEMBER 11, 1942 UNDER RECORDING NO. 1311721; THENCE SOUTHERLY ALONG SAID WESTERLY LINE 219 FEET, MORE OR LESS, TO THE NORTHERLY LINE OF BARKSDALE AVENUE; THENCE NORTH 63°41'54" WEST, ALONG SAID NORTHERLY LINE TO THE POINT OF BEGINNING;

EXCEPT THAT PORTION AS CONDEMNED IN DECREE OF APPROPRIATION ENTERED MARCH 11, 1988, IN PIERCE COUNTY SUPERIOR COURT CAUSE NO. 87-2-08765-1.

PARCEL B:

TAX PARCEL NUMBER 0119362043:

THAT PORTION OF THE SOUTHWEST QUARTER OF SECTION 25 AND OF THE NORTHWEST QUARTER OF SECTION 36, TOWNSHIP 19 NORTH, RANGE 1 EAST, W.M., CITY OF DUPONT, PIERCE COUNTY, WASHINGTON, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT FORT LEWIS MONUMENT NO. 262, BEING A 6"X6" CONCRETE MONUMENT WITH LEAD AND TACK, AS SHOWN ON THAT RECORD OF SURVEY BY ESM, INC. RECORDED UNDER PIERCE COUNTY RECORDING NO. 9303050249; THENCE SOUTH 87°57'04" EAST, 572.46 FEET TO THE WESTERLY RIGHT-OF-WAY MARGIN OF DUPONT - STEILACOOM ROAD;THENCE ALONG SAID WESTERLY MARGIN, SOUTH 01°42'01" WEST 1,488.92 FEET TO THE SOUTHEASTERLY CORNER OF THE PLAT OF "BELL HILL" AS ECORDED UNDER PIERCE COUNTY RECORDING NO. 9109060562 AND THE TRUE POINT OF BEGINNING; THENCE CONTINUING ALONG SAID WESTERLY MARGIN THE FOLLOWING COURSES: SOUTH 01°42'01" WEST, 74.27 FEET TO A POINT OF CURVATURE; SOUTHWESTERLY 589.42 FEET ALONG THE ARC OF A TANGENT CURVE TO THE RIGHT, HAVING A RADIUS OF 1846.32 FEET, THROUGH A CENTRAL ANGLE OF 19°49'02" TO A POINT OF TANGENCY; SOUTH 21°31'03" WEST, 234.08 FEET; SOUTH 31°28'47" WEST, 758.44 FEET TO THE SOUTHERLY LINE OF A 15 FOOT WIDE EASEMENT GRANTED TO PIERCE COUNTY SCHOOL DISTRICT NO. 7 FOR A PATH BY INSTRUMENT RECORDED UNDER PIERCE COUNTY RECORDING NO. 1604647; THENCE ALONG SAID SOUTHERLY LINE, THE FOLLOWING COURSES: N 73°58'12" W, 6.14 FEET; N 76°55'56" W, 137.26 FEET; N 80°45'26" W, 149.55 FEET; NORTH 83°19'26" WEST, 3.52 FEET TO THE SOUTHEASTERLY LINE OF BLOCK "L" AS SHOWN ON THE "REPLAT OF THE VILLAGE OF DUPONT" AS RECORDED IN VOLUME 15 OF PLATS, PAGE 66, RECORDS OF PIERCE COUNTY, WASHINGTON; THENCE ALONG THE SOUTHEASTERLY LINE OF SAID BLOCK "L" AND ALONG THE EASTERLY LINE OF THAT TRACT OF LAND CONVEYED BY DEED RECORDED UNDER RECORDING NO. 8609160527, NORTH 37°31'09" EAST, 421.17 FEET; THENCE ALONG THE EASTERLY AND NORTHEASTERLY LINES OF SAID TRACT, THE FOLLOWING COURSES: N 50°54'48" W, 39.71 FEET; N 20°15'28" E, 177.79 FEET; N 08°06'30" E, 148.69 FEET; N 18°28'36" E, 97.46 FEET; N 10°27'09" W, 109.27 FEET; N 10°49'00" E, 83.70 FEET; N 39°55'59" W, 402,16 FEET; N 49°44'03" W, 138.48 FEET; N 41°21'42" W, 83.79 FEET;

NORTH 47°49'04" WEST, 99.24 FEET TO THE SOUTHERLY LINE OF SAID PLAT OF "BELL HILL"; THENCE ALONG SAID SOUTHERLY LINE, THE FOLLOWING COURSES: N 86°09'51" E, 566.26 FEET; S 30°02'50" E, 66.31 FEET; N 81°03'07" E, 56.42 FEET; N 76°19'50" E, 49.78 FEET; S 80°24'24" E, 25.68 FEET; S 86°11'31" E, 41.36 FEET; S 77°20'45" E, 37.53 FEET; N 82°37'33" E, 40.92 FEET; N 83°03'30" E, 29.71 FEET; S 71°21'32" E, 35.46 FEET; S 73°42'35" E, 28.67 FEET; S 61°30'59" E, 58.65 FEET; N 87°41'02" E, 42.60 FEET; S 37°31'32" E, 35.01 FEET; N 74°09'45" E, 57.08 FEET; S 88°17'59" E, 24.03 FEET TO THE TRUE POINT OF BEGINNING.

The Champions Centre project contains 4 existing parcels. The overall combined parcel area of the 4 parcels is 927,027 square feet (21.28 acres). This commercial project consists of a Boundary Line Adjustment to reduce the number of lots from 4 parcels into 3 parcels. Parcels A, B & C.

Parcel A will be 143,519 square feet (3.295 acre). This will be a commercial lot that will include the construction of approximately 25,892 square foot Religious Assembly that will have a maximum congregation occupancy of 350 people. The architectural footprint for this Religious Assembly is unique to allow for the existing grove of Landmark Oregon White Oak Trees that sit on an existing knoll to be protected and remain on-site. This property will also have a total of 135 parking stalls. The parking stalls will include 8 electric vehicle stalls, 4 standard ADA stalls, 1 van ADA stall and 122 standard stalls. This property will be served by Public Sewer & Water and will have on-site storm filter system(s) that will provide quality treatment of on-site stormwater runoff. After treatment onsite stormwater runoff will be conveyed to an on-site infiltration system which will provide quantity mitigation.

Parcel B will be 41,586 square feet (0.955 acres). This will be a commercial lot that will include the construction of approximately 3,000 square foot Eating and Drinking Establishment. The maximum occupancy is unknown at this time. This property will also have a total of 38 parking stalls. The parking stalls will include 10 electric vehicle stalls, 1 standard ADA stall, 1 van ADA stall and 26 standard stalls. This property will be served by Public Sewer & Water and will have an on-site cartridge-style storm filter system which will provide quality mitigation. Treated stormwater runoff will then be conveyed to and on-site stormwater infiltration system.

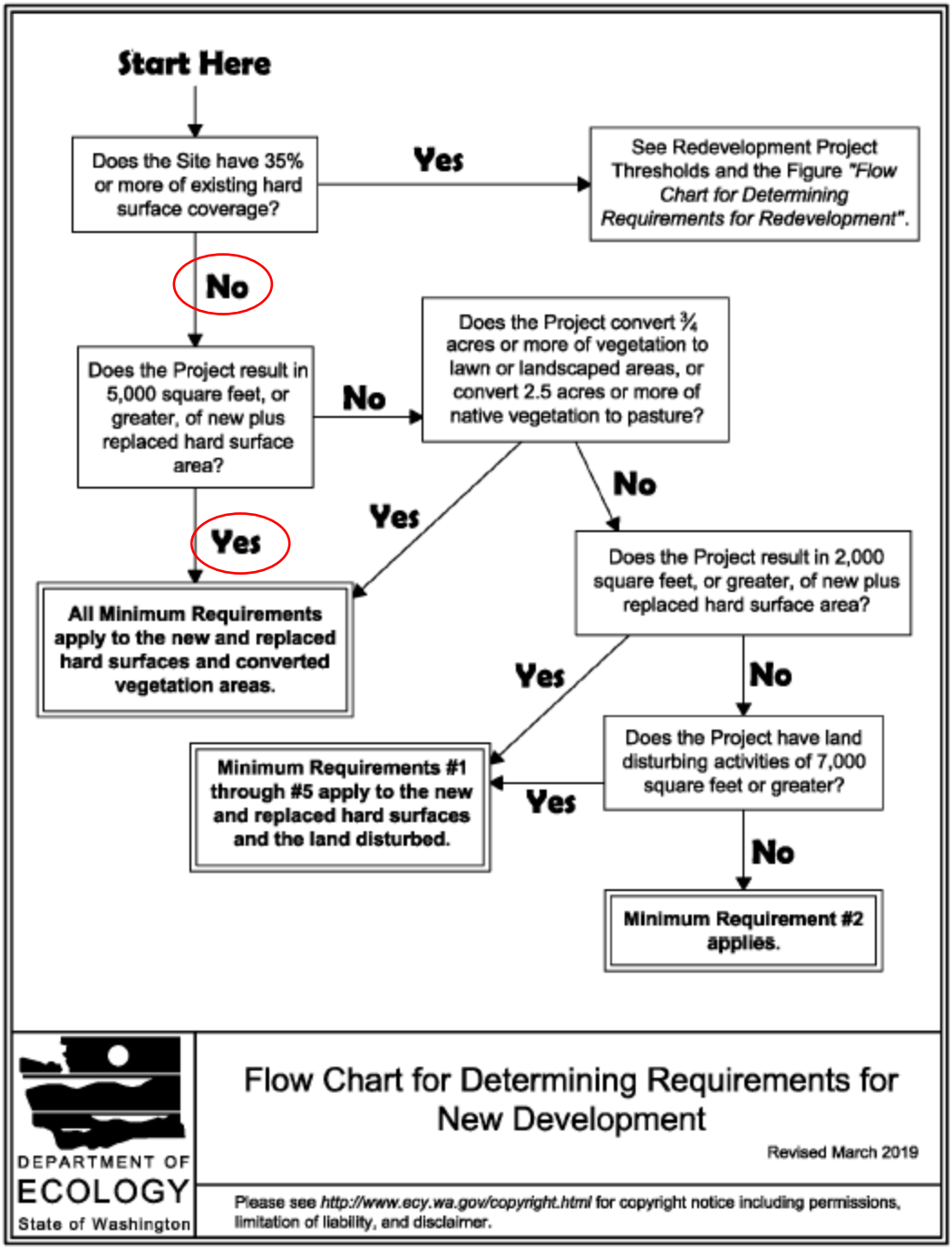
Parcel C will be 741,921 square feet (17.032 acres). This will include an existing wetland, wetland buffer, stream, stream buffer and Fema Flood Zone A per panel 53053C0526E effective date 3/7/2017. This parcel will be deeded to the City of DuPont upon the recording of the Boundary Line Adjustment.

Storm Drainage Requirements

In accordance with the City of DuPont Municipal Code Section 22.01.090 *General Requirements* the stormwater design for the project is required to meet the *2019 State of Washington Department of Ecology's Stormwater Management Manual* referred to as the "Manual", which sets the methodology and design criteria for the project.

According to Volume 1, *Figure I-3.1: Flow Chart for Determining Requirements for New Development* minimum requirements #1-10 apply to the new and replaced hard surfaces and converted vegetation areas. See the below flow chart for more information.

Figure I-3.1: Flow Chart for Determining Requirements for New Development

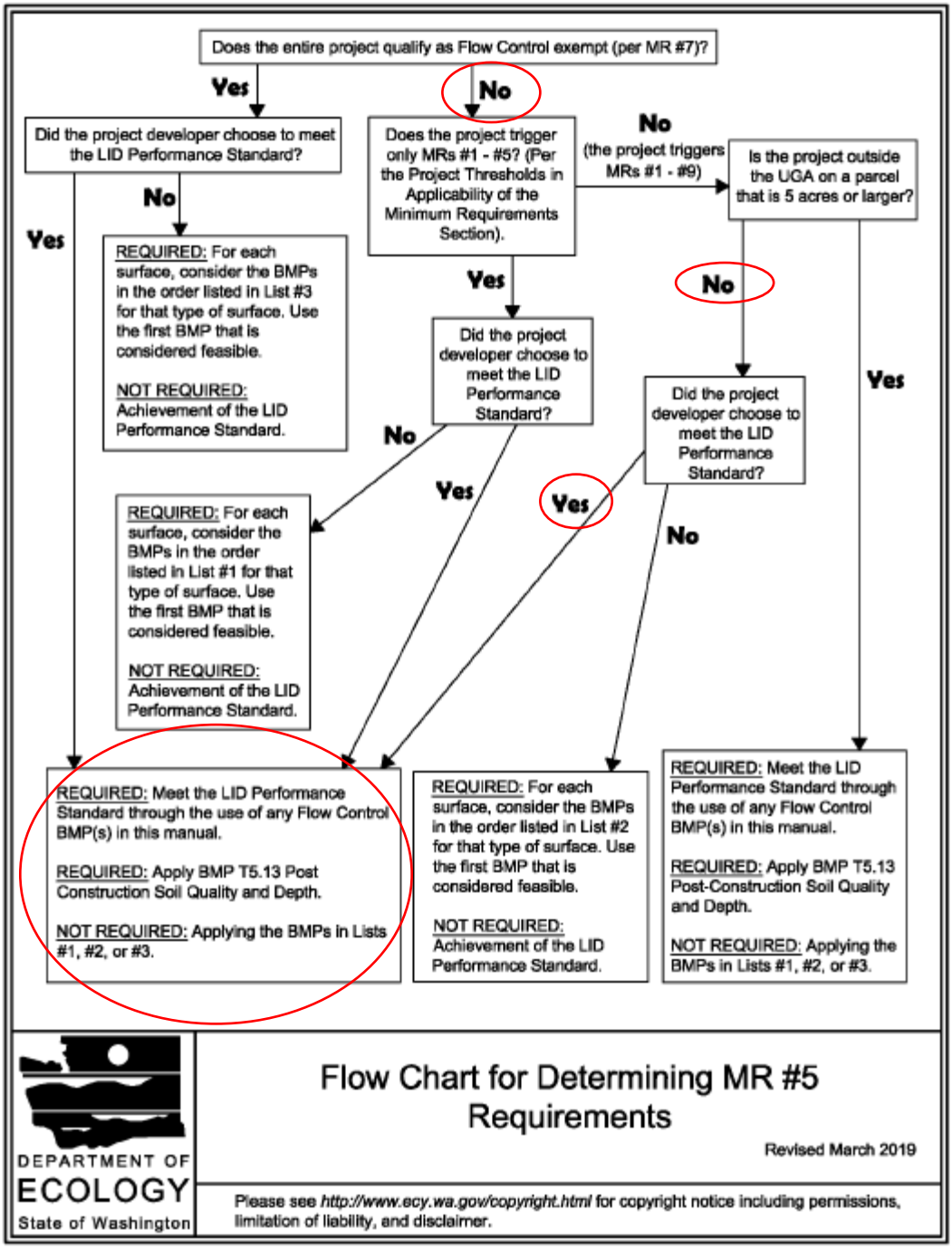


Minimum Requirements

Minimum requirements #1 through #10 apply to this new development.

- Minimum Requirement #1: Preparation of Stormwater Site Plans
    - In accordance with Volume I, Section I-3.4.1 of the Manual, Stormwater Site Plan documents are required for this the proposed project. This report and accompanying plans satisfy this requirement.
- Minimum Requirement #2: Construction Stormwater Pollution Prevention
    - In accordance with Volume I, Section I-3.4.2 of the Manual, a Construction Stormwater Pollution Prevention Plan (Construction SWPPP) is required for the proposed project addressing each of the 13 elements, unless site conditions render the element unnecessary and the exemption from that element is clearly justified in the narrative of the SWPPP. The SWPPP narrative is included as a separate report with this submittal.
- Minimum Requirement #3: Source Control of Pollution
    - In accordance with Volume I, Section I-3.4.3 of the Manual, all known, available, and reasonable source control BMPs will be applied to the project. Applicable operational and structural source control BMPs, as described in Volume IV of the Manual will be implemented and are addressed in the Maintenance and Source Control Manual. Applicable construction BMPs, as described in Volume II of the Manual, will be applied and discussed in the Construction SWPPP.
- Minimum Requirement #4: Preservation of Natural Drainage Systems and Outfalls
    - In accordance with Volume I, Section I-3.4.4 of the Manual, the project will maintain and preserve the natural site drainage. In the existing condition, runoff from the project area generally infiltrates.
- Minimum Requirement #5: Onsite Stormwater Management
    - In accordance with Volume I, Section I-3.4.5 and following *Figure I-3.3: Flow Chart for Determining MR #5 Requirements Flow Chart* (see below), the project chose to meet Low Impact Design (LID) Performance Standard in order to satisfy the standards of Minimum Requirement #5.
        - LID allows the engineer/designer to choose which BMPs will be utilized in order to meet the Low Impact Design Criteria.
    - **Lawn and Landscaped Areas** shall follow the soil preservation and amendment BMP T5.13: Post-Construction Soil Quality and Depth.
    - **Roofs** will be collected and conveyed to an infiltration facility.
    - **Other Hard Surfaces,** such as the parking area, will receive quality mitigation via cartridge-style stormwater runoff treatment and then be conveyed to an infiltration facility.

Figure I-3.3: Flow Chart for Determining MR #5 Requirements



- Minimum Requirement #6: Runoff Treatment
    - In accordance with Volume I, Section I-3.4.6 of the Manual all pollution generating hard surfaces (PGHS) will receive water quality mitigation.
    - This project proposes on-site Pollution Generating Hard Surfacing (PGHS) consisting of:
        - Parcel A – Parking: 64,048 SF
        - Parcel B – Parking: 17,255 SF

      This is more than the 5,000 square foot threshold indicated in Volume I, Section I-3.4.6 of the manual. Thus, runoff treatment is required.

      Runoff treatment for PGHS is provided through the proposed cartridge-style water quality treatment system.

- Minimum Requirement #7: Flow Control
    - In accordance with Volume 1, Section I-3.4.7 of the Manual the following thresholds are to be utilized when determining if flow control is required for a project. For each threshold, a response in bold lettering provides the reviewer with the applicability of that particular threshold as it relates to this project.
        - Projects in which the total of effective impervious surfaces is 10,000 square feet or more in a threshold discharge area. **The proposed on-site impervious surfaces will be completely infiltrated, meaning there are no effective hard surfaces proposed for the on-site project. The project does not exceed this threshold.**
        - Projects that convert three-fourths of an acre or more of vegetation to lawn or landscape or convert 2.5 acres or more of native vegetation to pasture in a threshold discharge area, and from which there is a surface discharge in a natural or man-made conveyance system from the site. **In the developed condition, the on-site project proposes less than three-fourths of an acre of on-site lawn/landscaping nor is the project converting 2.5 acres or more of native vegetation to pasture therefore this threshold has not been exceeded.**
        - Projects that through a combination of effective hard surfaces and converted vegetation area cause a 0.15 cubic feet per second (cfs) increase in the 100-year recurrence interval flow frequency from a threshold discharge area as estimated using the WWHM, or other approved continuous simulation model and using 15-minute time steps. **The 100-year pre-developed runoff from the project is 0.193 cfs. The 100-year developed runoff from the project is 0.000 cfs. The project results in a decrease of 0.193 cfs, which is less than the 0.15 cfs increase threshold. The project does not exceed this threshold. Calculations are provided within Appendix C of this report.**
    - The project does not exceed any of the thresholds for Minimum Requirement #7. Therefore, achievement of the Standard Flow Control requirement is not required.

However, the project does meet the Standard Flow Control requirement as well as the Low Impact Development Standard.

- Minimum Requirement #8: Wetlands Protection
    - In accordance with Volume I, Section I-3.4.8 of the Manual, the requirements in this section only apply to projects whose stormwater discharges into a wetland, either directly or indirectly through a conveyance system. Stormwater runoff from the site generally infiltrates and therefore is not conveyed to the wetland. The project site has no channelization that would indicate stormwater runoff is conveyed to the wetland via a conveyance system; therefore, the project does not need to meet wetlands protection requirements.
- Minimum Requirement #9: Operations and Maintenance
    - In accordance with Volume I, Section I-3.4.9 of the Manual, an Operations and Maintenance Manual consistent with the provisions in Volume V of the Manual will be provided to ensure that stormwater control facilities are adequately maintained and operated properly. An Operations and Maintenance Manual is included with this submittal and is provided as a separate document.
- Minimum Requirement #10: Financial Liability

  In accordance with Volume I, Section I-3.5.2 of the Manual, the Owner/Developer of this project is responsible for all financial guarantees required by the City of DuPont which may include bu is not limited to:
    - Reclamation Guarantee
    - Construction Guarantee
    - Defect and Maintenance Guarantee

Section 2 - Existing Conditions Summary

Topography

This group of properties (the Site) comprise approximately 21 acres, of which the proposed development will occur within a contiguous area located on the south and east portions of the site comprising approximately 4.75 acres. The site is generally undeveloped containing an existing wetland. An existing asphalt pad is located at the southeast corner as well as a few large power poles running through the site in an existing easement. In addition, a Pierce County Sewer Utilities Pump Station is located near the middle of the property on the east side immediately adjacent to Dupont-Steilacoom Road. It is also worth noting that the site also contains existing storm pipelines which convey stormwater runoff from offsite through the property and exiting near the existing wetland. The project site is bounded on the Southeast side and the Southwest side by Steilacoom Dupont Road Southwest and Barksdale Avenue respectively. The site topography contains gentle to moderate slopes which descend westward into the site from Steilacoom Dupont Road and dip slightly northward from Barksdale Avenue. The project site, in the area of development, slopes from a high point of 246’ in the south corner of the site to a low of approximately 232’ near the wetland buffer.

Ground Cover

Ground cover, in the undisturbed areas, is partially wooded and includes well-developed understory vegetation typical for the region. While the site is generally undeveloped and contains existing wetland there are areas that have been disturbed. An existing asphalt pad is located at the southeast corner as well as a few large power poles running through the site in an existing easement. Vegetation, around the power poles is predominately scattered bushes and low-level vegetation. In addition, a Pierce County Sewer Utilities Pump Station is located near the middle of the property on the east side immediately adjacent to Dupont-Steilacoom Road.

Drainage/Soils

According to the NRCS, the site is situated over three soil environments. However, most of the proposed development area is situated on the Spanaway gravelly sandy loam(41A), while a small portion may extend over a transition to the Everett-Spanaway-Spana Complex. Refer to the NRCS Soil Map within the report Appendix for further information.

Section 3 – Infiltration Rates

A design rate of 30 inches per hour is recommended per the *Geotechnical Soil Observation Report – Champion Centre*, prepared by LS&E and dated 8/24/23 (refer to Appendix E) for use in designing the infiltration trench systems.

Section 4 – Wells and Septic Systems

The project site contains an existing well which will be decommissioned. The site do not contain any existing septic systems to the best of our knowledge. There is however an existing Pierce County Utilities Sewer Pump Station located on the property within an easement.

Section 5 – Fuel Tanks

No fuel tanks are present to the best of our knowledge.

Section 6 – Sub-basin Description

Predeveloped:

The project site is characterized by slopes with grades generally between 5 to 20 percent and generally descending south to north toward the wetland.

The parcel is currently occupied in the south with a concrete pad (to be removed), power lines (to remain) occupying a center portion of Parcel A and an existing Pierce County Utilities Pump Station located at the extreme northeast corner of Parcel B. The remaining ground cover is predominately scattered bushes, scattered trees, and low-level vegetation. A stand of trees are centrally located on the southeast side of Parcel A, these will be protected and remain.

Table 1 presents the reviewer with the historic land cover for the on-site and the existing conditions for the off-site areas for the predeveloped basin.

LAND COVER	AREA
Parcel A: On-Site Historic: Forest	-143,519 SF (3.295AC)
Parcel B: On-site Historic: Forest	-27,499 SF (0.631 AC)
Ex. PC Util Pump Station(Parcel B):	
Gravel/Paving-Imp	-2,544 SF (0.058 AC)
Landscaping-Pasture	-11,543 SF (0.265 AC)
Wetland (Parcel C)	
Pond	-600,090 SF (13.776 AC)
Buffer-Forest	-141,831 SF (3.256 AC)
TOTAL Onsite:	-927,026 SF (21.282 AC)
Offsite:	
Contributary to Parcel A: Forest	-5,076 SF (0.117 AC)
TOTAL Area:	-932,102 SF (21.398 AC)

Table 1: Predeveloped Areas

Developed:

In the developed condition, the natural drainage pattern is retained in areas outside of the project limits. For the off-site, pervious pathways/sidewalks will be installed to help manage stormwater runoff. Table 2 presents the reviewer with the developed land cover and areas.

LAND COVER	AREA
Conveyed to Parcel A Infiltration Trench:	
-Parking Main (WQ A **Lower**)-Imp	-48,065 SF (1.103 AC)
-Curb/SW (WQ A **Lower**)-Imp	-4,675 SF (0.107 AC)
-Landscape A (WQ A **Lower**)-Pasture	-13,657 SF (0.314 AC)
-Roof Church, Imp	-25,892 SF (0.594 AC)
-Roof Dumpster (WQ A **Lower**)-Imp	-200 SF (0.005 AC)
-Native Tree Save (WQ A **Lower**)-Forest	-11,725 SF (0.269 AC)
-Parking Upper (WQ A **Upper**)-Imp	-15,983 SF (0.367 AC)
-Curb/SW Upper (WA	-2,712 SF (0.062 AC)
-Landscaping Upper (WQ A **Upper**)-Pasture	-4,520 SF (0.104 AC)
Bypass Parcel A	
-Landscape-Pasture	-10,252 SF (0.235 AC)
-Gravel Access-Imp	-1,108 SF (0.025 AC)
-Landscape-Pasture Steep	-4,730 SF (0.109 AC)
Total Parcel A	-143,519 (3.295 AC)
-Offsite Run on Upper-Pasture (WQ A Upper and Infiltration Trench A)	-5,076 SF (0.117 AC)
Conveyed to Parcel B Infiltration Trench	
-Parking-Imp	-17,255 SF (0.396 AC)
-SW/Curb	-1,973 SF (0.045 AC)
-Landscape-Pasture	-1,829 SF (0.042 AC)
-Roof	-3,000 SF (0.069 AC)
Bypass Parcel B	
-Landscape-Pasture	-3,442 SF (0.079 AC)
-Ex. PC Util Pump Station (Parcel B):	
-Gravel/Paving-Imp	-2,544 SF (0.058 AC)
-Landscaping-Pasture	-11,543 SF (0.265 AC)
Total Parcel B	-41,586 SF (0.955 AC)
Parcel C - Wetland	
-Pond	600,090 SF (13.776 AC)
-Buffer-Forest	141,831 SF (3.256 AC)
Total Parcel C	741,921 SF (17.032 AC)
Total Basin Area:	927,026 SF (21.282 AC)

Table 2: Developed Areas

For the off-site, pervious pathways/sidewalks will be installed to help manage stormwater runoff.

Table 3 presents the reviewer with the peak flows for the 5-, 10-, 25-, 50-, and 100-Year Storm recurrence events in the historic and developed conditions.

Storm Recurrence	Historic Peak Flow (CFS)	Developed Peak Flow (CFS)
2-Year	0.01092	0.000
5-Year	0.03115	0.000
10-Year	0.04212	0.000
25-Year	0.111	0.000
50-Year	0.164	0.000
100-Year	0.193	0.000

Table 3: Pre- and Post-Developed Peak Flows

See Appendix C for Stormwater Calculations.

Section 7 – Floodplain Analysis

According to the Federal Emergency Management Program Flood Insurance Rate Map 53053C0526E a, effective March 7, 2017, a portion of the project site does lie within a floodplain (Wetland area); however, the proposed project will not develop the floodplain area. The remainder of the site lies within an "Area of Minimal Flood Hazard." A FirmETTE has been created for this project and is presented in the located Appendix.

Section 8 – Aesthetic Considerations for Facilities

All drainage facilities will be located underground and therefore out of general view. The proposed landscape buffers around the site will also enhance the aesthetics of the site.

Section 9 – Facility Sizing and Downstream Analysis

Facility Sizing

The project's stormwater facilities were designed and sized using MGS Flood version 4.58 with a 15-minute time step.

Design infiltration rates for the Bioretention system were discussed within Section 3 above is as follows:

- I = 30 in/hr

Therefore, two infiltration trenches have been sized to mitigate the 100-year, 24-hour return period. Parcel A (Infiltration Trench A) was determined to be 75'L x 20'W x 3' D utilizing 30 percent voids within the proposed drainage rock.

Parcel B (Infiltration Trench B) was determined to be 45'L x 8'W x 2' D utilizing 30 percent voids within the proposed drainage rock.

Downstream Analysis

In the existing condition, runoff from the site generally infiltrates or flows north into the wetland. In the developed condition, flows will be infiltrated and/or flow toward the wetland to the north, thus maintaining the natural discharge point. The site is bounded on the upstream side by two existing roadways therefore there is minimal upstream onsite flow. What flow there is, has been accounted for within the storm drainage design.

Aquifer Recharge

Per the Pierce County Interactive Web Application, the project lies within the Central Pierce County Aquifer Recharge Area. Calculations indicate that the pre- and post-developed recharge volumes are 11.205 ac-ft/year and 14.471 ac-ft/year, respectively. As such, the post-development volume is greater than the pre-development volume which will assist in maintaining and recharging the aquifer.

Water Quality Treatment

Per minimum requirement #6, water quality treatment is necessary for this project. The project proposes to address Water Quality through the installation of cartridge style stormwater filters. Specifically, the project is proposing to utilize Oldcastle PerkFilters, however and equivalent, Washington State approved product would be acceptable.

PerkFilter Sizing

The site requires three (3) separate PerkFilter structures to provide Quality Mitigation due to topography and to maintain separation for Parcels A and B. In accordance with the flows, as indicated by the stormwater calculations, the number of ZPC style cartridges necessary for each water quality facility are as follows:

- Parcel A – Lower – 0.13 cfs (offline, 15-min WQ flow) gives 5.72 or 6 cartridges required.
- Parcel A – Upper – 0.05 cfs (offline, 15-min WQ flow) gives 2.20 or 3 cartridges required.
- Parcel B – 0.05 cfs (offline, 15-min WQ flow) gives 2.20 or 3 cartridges required.

Section 10 – Utilities

The lots will be serviced by the following utility providers:

Cable T.V.:	Comcast
Telephone:	Century Link
Power:	Puget Sound Energy
Gas:	Puget Sound Energy
Water:	City of DuPont
Sewer:	Pierce County Sewer
Refuse:	LeMay Inc.

Section 11 – Covenants, Dedications, Easements

As part of the development of this property, the project will deed over to the City of DuPont, Parcel C once complete. Please refer to the site plans and survey plans for further information.

Section 12 – Property Owner's Association Articles of Incorporation.

Not applicable to this project.

Section 13 – Other Permits or Conditions Placed on the Project

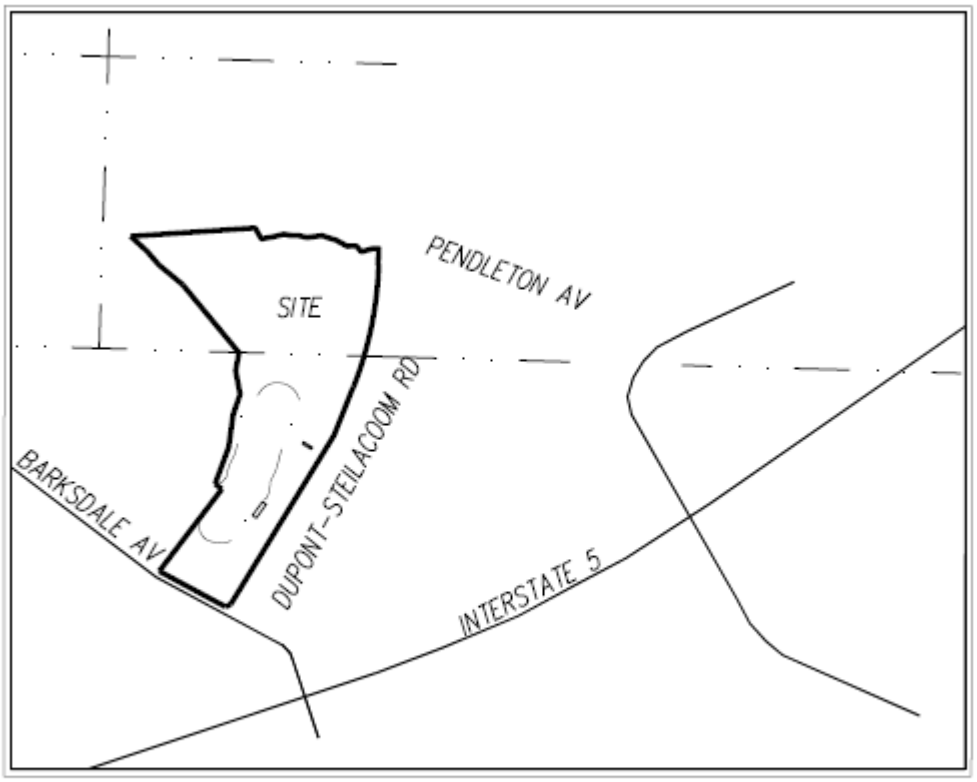
Other Permits or Conditions placed on this project may include but are not limited to:

Landscape Plan

Boundary Line Adjustment

Appendix A

Vicinity Map



VICINITY MAP
SCALE: 1" = 1000'

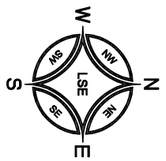
Appendix B

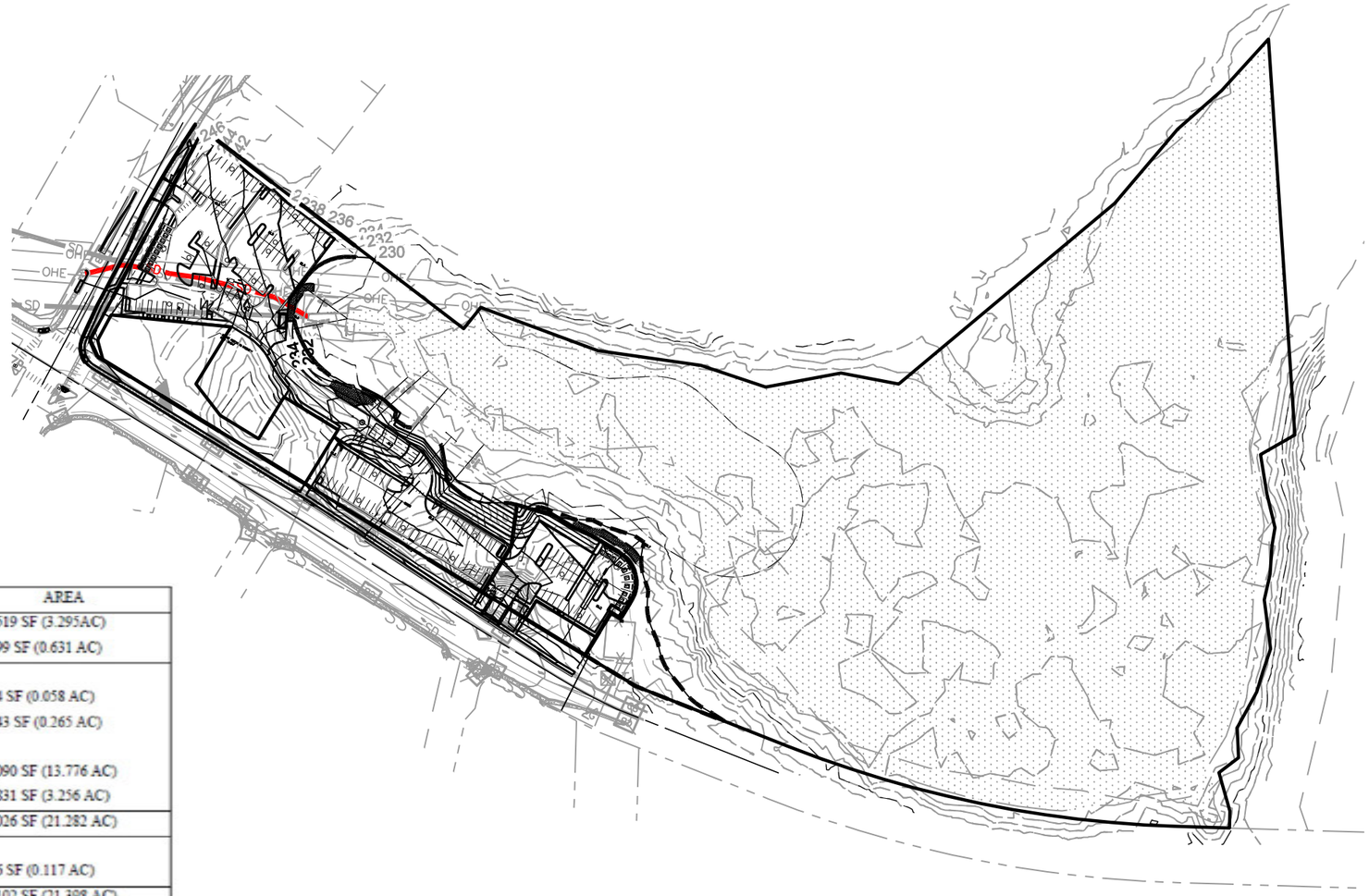
Basin Maps

GRAPHIC SCALE

0 100 200

1" = 200 FEET





LAND COVER	AREA
Parcel A: On-Site Historic: Forest	-143,519 SF (3.295AC)
Parcel B: On-site Historic: Forest	-27,499 SF (0.631 AC)
Ex. PC Util Pump Station(Parcel B):	
Gravel/Paving-Imp	-2,544 SF (0.058 AC)
Landscaping-Pasture	-11,543 SF (0.265 AC)
Wetland (Parcel C)	
Pond	-600,090 SF (13.776 AC)
Buffer-Forest	-141,831 SF (3.256 AC)
TOTAL Onsite:	-927,026 SF (21.282 AC)
Offsite:	
Contributary to Parcel A: Forest	-5,076 SF (0.117 AC)
TOTAL Area:	-932,102 SF (21.398 AC)

Table 1: Predeveloped Areas

LAND COVER	AREA
Conveyed to Parcel A Infiltration Trench:	
-Parking Main (WQ A **Lower**)-Imp	-48,065 SF (1.103 AC)
-Curb/SW (WQ A **Lower**)-Imp	-4,675 SF (0.107 AC)
-Landscape A (WQ A **Lower**)-Pasture	-13,657 SF (0.314 AC)
-Roof Church, Imp	-25,892 SF (0.594 AC)
-Roof Dumpster (WQ A **Lower**)-Imp	-200 SF (0.005 AC)
-Native Tree Save (WQ A **Lower**)-Forest	-11,725 SF (0.269 AC)
-Parking Upper (WQ A **Upper**)-Imp	-15,983 SF (0.367 AC)
-Curb/SW Upper (WA	-2,712 SF (0.062 AC)
-Landscaping Upper (WQ A **Upper**)-Pasture	-4,520 SF (0.104 AC)
Bypass Parcel A	
-Landscape-Pasture	-10,252 SF (0.235 AC)
-Gravel Access-Imp	-1,108 SF (0.025 AC)
-Landscape-Pasture Steep	-4,730 SF (0.109 AC)
Total Parcel A	-143,519 (3.295 AC)
-Offsite Run on Upper-Pasture (WQ A Upper and Infiltration Trench A)	-5,076 SF (0.117 AC)
Conveyed to Parcel B Infiltration Trench	
-Parking-Imp	-17,255 SF (0.396 AC)
-SW/Curb	-1,973 SF (0.045 AC)
-Landscape-Pasture	-1,829 SF (0.042 AC)
-Roof	-3,000 SF (0.069 AC)
Bypass Parcel B	
-Landscape-Pasture	-3,442 SF (0.079 AC)
-Ex. PC Util Pump Station (Parcel B):	
-Gravel/Paving-Imp	-2,544 SF (0.058 AC)
-Landscaping-Pasture	-11,543 SF (0.265 AC)
Total Parcel B	-41,586 SF (0.955 AC)
Parcel C - Wetland	
-Pond	600,090 SF (13.776 AC)
-Buffer-Forest	141,831 SF (3.256 AC)
Total Parcel C	741,921 SF (17.032 AC)
Total Basin Area:	927,026 SF (21.282 AC)

Table 2: Developed Areas

PARCEL NUMBERS:

0119362039, 0119362009, 0119362012, 0119362043

© LEROY SURVEYORS & ENGINEERS 09/22/23

PREDEVELOPED & DEVELOPED BASIN MAP

LEROY SURVEYORS & ENGINEERS
P.O. Box 740, Puyallup, Washington 98371
(253) 848-6608 Fax: (253) 840-4140
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CLIENT: MUSTARD SEED LEGACY DEV LLC		DESIGNER: STEVE T. NELSON, P.E.	
PHONE NUMBER:		CERT. NO.	
ADDRESS: 32706 MOUNTAIN HWY E		SUBDIVISION:	
EATONVILLE, WA 98328		LOT NO.	DRAWN: STN
PARCEL NO. SEE ABOVE		DATE: 2/2/22	JOB NO. 12895

SHEET

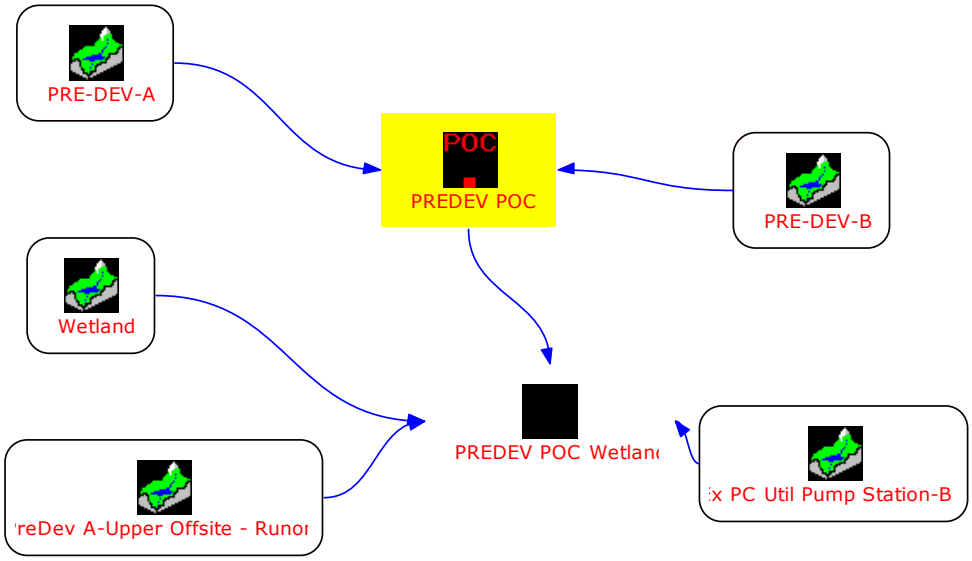
9/22/2023

K:\Jobs\12895\AutoCAD\dwg\02_Engineering\12895-Basin Maps.dwg LAST EDITED: 09/22/23 5:00PM BY: snelson

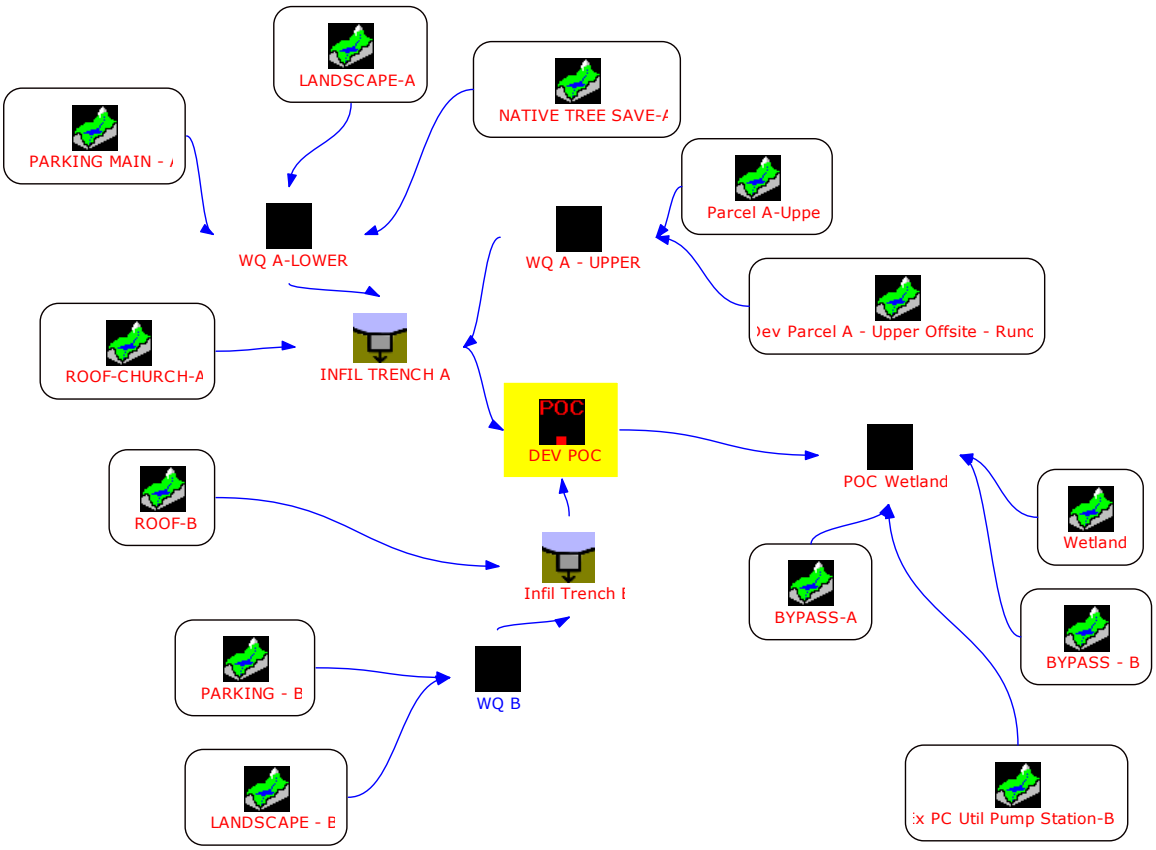
Appendix C

Stormwater Design Calculations

CHAMPIONS CENTRE
Stormwater Calculations
LSE Job #12895



Pre-Developed


LANDSCAPE-A
NATIVE TREE SAVE-A
PARKING MAIN - A
Parcel A-Uppe
WQ A-LOWER
WQ A - UPPER
Dev Parcel A - Upper Offsite - Runc
ROOF-CHURCH-A
INFIL TRENCH A
POC
DEV POC
POC Wetland
ROOF-B
Wetland
Infil Trench I
BYPASS-A
BYPASS - B
PARKING - B
WQ B
LANDSCAPE - B
Ex PC Util Pump Station-B

Developed

MGS FLOOD
PROJECT REPORT

Program Version: MGSFlood 4.58
Program License Number: 201010005
Project Simulation Performed on: 09/25/2023 3:10 PM
Report Generation Date: 09/25/2023 3:54 PM

Input File Name: 12895MuSeedA-Bwwet.fld
Project Name: Mustard Seed (12895)
Analysis Title: Storm Calculations - Parcel A
Comments: Quantity and Quality Sizing with Wetland Criteria

PRECIPITATION INPUT

Computational Time Step (Minutes): 15

Extended Precipitation Time Series Selected

Full Period of Record Available used for Routing

Climatic Region Number: 45
Precipitation Station : 920042 Pierce Co. West 42 in 10/01/1939-10/01/2097
Evaporation Station : 921042 Pierce Co. West 42 in

Evaporation Scale Factor : 0.750

HSPF Parameter Region Number: 1
HSPF Parameter Region Name : Ecology Default

********** Default HSPF Parameters Used (Not Modified by User) **********

********** **WATERSHED DEFINITION** **********

Predevelopment/Post Development Tributary Area Summary

	Predeveloped	Post Developed
Total Subbasin Area (acres)	21.399	21.399
Area of Links that Include Precip/Evap (acres)	0.000	0.000
Total (acres)	21.399	21.399

----------SCENARIO: PREDEVELOPED
Number of Subbasins: 5

---------- Subbasin : PRE-DEV-A ----------

	-------Area (Acres) --------
A/B, Forest, Steep	3.294
Subbasin Total	3.294

---------- Subbasin : Wetland ----------

	-------Area (Acres) --------
C, Forest, Flat	3.256
POND	13.776
Subbasin Total	17.032

---------- Subbasin : PreDev A-Upper Offsite - Runon ----------

	-------Area (Acres) --------
A/B, Forest, Steep	0.117
Subbasin Total	0.117

---------- Subbasin : PRE-DEV-B ----------

	-------Area (Acres) --------
A/B, Forest, Steep	0.633
Subbasin Total	0.633

---------- Subbasin : Ex PC Util Pump Station-B ----------

	-------Area (Acres) --------
A/B, Pasture, Mod	0.265
DRIVEWAYS/FLAT	0.058
Subbasin Total	0.323

----------SCENARIO: POSTDEVELOPED

Number of Subbasins: 13

---------- Subbasin : ROOF-CHURCH-A ----------

	-------Area (Acres) --------
ROOF TOPS/FLAT	0.594
Subbasin Total	0.594

---------- Subbasin : PARKING MAIN - A ----------

	-------Area (Acres) --------
ROOF TOPS/FLAT	0.005
SIDEWALKS/FLAT	0.107
PARKING/FLAT	1.103
Subbasin Total	1.215

---------- Subbasin : LANDSCAPE-A ----------

	-------Area (Acres) --------
A/B, Pasture, Flat	0.314
Subbasin Total	0.314

---------- Subbasin : NATIVE TREE SAVE-A ----------

	-------Area (Acres) --------
A/B, Forest, Steep	0.269
Subbasin Total	0.269

---------- Subbasin : BYPASS-A ----------

	-------Area (Acres) --------
A/B, Pasture, Flat	0.235
A/B, Pasture, Mod	0.109
DRIVEWAYS/FLAT	0.025
Subbasin Total	0.369

---------- Subbasin : Parcel A-Upper ----------

	-------Area (Acres) --------
A/B, Pasture, Flat	0.104
SIDEWALKS/FLAT	0.062
PARKING/FLAT	0.367
Subbasin Total	0.533

---------- Subbasin : Dev Parcel A - Upper Offsite - Runon ----------

	-------Area (Acres) --------
A/B, Pasture, Steep	0.117
Subbasin Total	0.117

---------- Subbasin : Wetland ----------

	-------Area (Acres) --------
C, Forest, Flat	3.256
POND	13.776
Subbasin Total	17.032

---------- Subbasin : Ex PC Util Pump Station-B ----------

	-------Area (Acres) --------
A/B, Pasture, Mod	0.264
DRIVEWAYS/FLAT	0.058
Subbasin Total	0.322

---------- Subbasin : BYPASS - B ----------

	-------Area (Acres) --------
A/B, Pasture, Steep	0.079
Subbasin Total	0.079

---------- Subbasin : LANDSCAPE - B ----------

	-------Area (Acres) --------
A/B, Forest, Flat	0.045
Subbasin Total	0.045

---------- Subbasin : ROOF-B ----------

	-------Area (Acres) --------
ROOF TOPS/FLAT	0.069
Subbasin Total	0.069

---------- Subbasin : PARKING - B ----------

	-------Area (Acres) --------
SIDEWALKS/FLAT	0.045
PARKING/FLAT	0.396
Subbasin Total	0.441

********** **LINK DATA** **********

----------SCENARIO: PREDEVELOPED
Number of Links: 2

Link Name: PREDEV POC Wetland
Link Type: Copy
Downstream Link: None

Link Name: PREDEV POC
Link Type: Copy
Downstream Link Name: PREDEV POC Wetland

********** **LINK DATA** **********

----------SCENARIO: POSTDEVELOPED
Number of Links: 7

Link Name: WQ A-LOWER
Link Type: Copy
Downstream Link Name: INFIL TRENCH A

Link Name: DEV POC
Link Type: Copy
Downstream Link Name: POC Wetland

Link Name: INFIL TRENCH A
Link Type: Infiltration Trench
Downstream Link Name: DEV POC

Trench Type : Trench on Embankment Sideslope
Trench Length (ft) : 75.00
Trench Width (ft) : 20.00
Trench Depth (ft) : 3.00
Trench Bottom Elev (ft) : 100.00
Trench Rockfill Porosity (%) : 30.00

Constant Infiltration Option Used
Infiltration Rate (in/hr): 30.00

Link Name: WQ A - UPPER
Link Type: Copy
Downstream Link Name: INFIL TRENCH A

Link Name: Infil Trench B
Link Type: Infiltration Trench
Downstream Link Name: DEV POC

Trench Type : Trench on Embankment Sideslope
Trench Length (ft) : 45.00
Trench Width (ft) : 8.00
Trench Depth (ft) : 2.00
Trench Bottom Elev (ft) : 100.00
Trench Rockfill Porosity (%) : 30.00

Constant Infiltration Option Used
Infiltration Rate (in/hr): 30.00

Link Name: WQ B
Link Type: Copy
Downstream Link Name: Infil Trench B

Link Name: POC Wetland
Link Type: Copy
Downstream Link: None

**********FLOOD FREQUENCY AND DURATION STATISTICS**********

----------SCENARIO: PREDEVELOPED
Number of Subbasins: 5
Number of Links: 2

********** Subbasin: PRE-DEV-A **********

Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	9.161E-03
5-Year	2.613E-02
10-Year	3.533E-02
25-Year	9.321E-02
50-Year	0.138
100-Year	0.162
200-Year	0.173
500-Year	0.187

********** Subbasin: Wetland **********

Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	6.154
5-Year	7.610
10-Year	8.959
25-Year	11.089
50-Year	13.208
100-Year	15.596
200-Year	16.302
500-Year	17.199

********** Subbasin: PreDev A-Upper Offsite - Runon **********

Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	3.254E-04
5-Year	9.281E-04
10-Year	1.255E-03
25-Year	3.311E-03
50-Year	4.891E-03
100-Year	5.761E-03
200-Year	6.139E-03
500-Year	6.625E-03

********** **Subbasin: PRE-DEV-B** **********

Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	1.760E-03
5-Year	5.021E-03
10-Year	6.790E-03
25-Year	1.791E-02
50-Year	2.646E-02
100-Year	3.117E-02
200-Year	3.321E-02
500-Year	3.584E-02

********** **Subbasin: Ex PC Util Pump Station-B** **********

Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	2.659E-02
5-Year	3.413E-02
10-Year	4.334E-02
25-Year	5.977E-02
50-Year	6.344E-02
100-Year	6.747E-02
200-Year	6.933E-02
500-Year	7.178E-02

********** Link: PREDEV POC Wetland ********** Link Inflow Frequency Stats

Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	6.183
5-Year	7.643
10-Year	9.026
25-Year	11.135
50-Year	13.298
100-Year	15.662
200-Year	16.371
500-Year	17.273

********** Link: PREDEV POC Wetland ********** Link

Outflow 1 Frequency Stats

Flood Frequency Data(cfs)

(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	6.183
5-Year	7.643
10-Year	9.026
25-Year	11.135
50-Year	13.298
100-Year	15.662
200-Year	16.371
500-Year	17.273

********** Link: PREDEV POC ********** Link Inflow

Frequency Stats

Flood Frequency Data(cfs)

(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	1.092E-02
5-Year	3.115E-02
10-Year	4.212E-02
25-Year	0.111
50-Year	0.164
100-Year	0.193
200-Year	0.206
500-Year	0.222

----------SCENARIO: POSTDEVELOPED

Number of Subbasins: 13

Number of Links: 7

********** **Subbasin: ROOF-CHURCH-A** **********

Flood Frequency Data(cfs)

(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	0.262
5-Year	0.328
10-Year	0.379
25-Year	0.474
50-Year	0.556
100-Year	0.672
200-Year	0.703
500-Year	0.742

********** **Subbasin: PARKING MAIN - A** **********

Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	0.536
5-Year	0.671
10-Year	0.775
25-Year	0.970
50-Year	1.137
100-Year	1.374
200-Year	1.437
500-Year	1.517

********** **Subbasin: LANDSCAPE-A** **********

Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	1.551E-03
5-Year	2.940E-03
10-Year	6.270E-03
25-Year	1.383E-02
50-Year	1.851E-02
100-Year	2.646E-02
200-Year	2.801E-02
500-Year	2.999E-02

********** **Subbasin: NATIVE TREE SAVE-A** **********

Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	7.481E-04
5-Year	2.134E-03
10-Year	2.886E-03
25-Year	7.612E-03
50-Year	1.124E-02
100-Year	1.325E-02
200-Year	1.411E-02
500-Year	1.523E-02

********** **Subbasin: BYPASS-A** **********

Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	1.171E-02
5-Year	1.577E-02
10-Year	2.077E-02
25-Year	3.057E-02
50-Year	3.654E-02
100-Year	4.602E-02
200-Year	4.854E-02
500-Year	5.182E-02

********** **Subbasin: Parcel A-Upper** **********

Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	0.189
5-Year	0.237
10-Year	0.276
25-Year	0.343
50-Year	0.403
100-Year	0.485
200-Year	0.508
500-Year	0.536

********** **Subbasin: Dev Parcel A - Upper Offsite - Runon** **********

Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	9.694E-04
5-Year	1.800E-03
10-Year	4.011E-03
25-Year	7.932E-03
50-Year	1.073E-02
100-Year	1.293E-02
200-Year	1.372E-02
500-Year	1.476E-02

********** **Subbasin: Wetland** **********

Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	6.154
5-Year	7.610
10-Year	8.959
25-Year	11.089
50-Year	13.208
100-Year	15.596
200-Year	16.302
500-Year	17.199

********** **Subbasin: Ex PC Util Pump Station-B** **********

Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	2.658E-02
5-Year	3.413E-02
10-Year	4.327E-02
25-Year	5.975E-02
50-Year	6.337E-02
100-Year	6.738E-02
200-Year	6.930E-02
500-Year	7.183E-02

********** **Subbasin: BYPASS - B** **********

Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	6.545E-04
5-Year	1.215E-03
10-Year	2.708E-03
25-Year	5.356E-03
50-Year	7.242E-03
100-Year	8.734E-03
200-Year	9.261E-03
500-Year	9.969E-03

********** **Subbasin: LANDSCAPE - B** **********

Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	7.393E-05
5-Year	2.122E-04
10-Year	2.879E-04
25-Year	7.251E-04
50-Year	1.131E-03
100-Year	1.452E-03
200-Year	1.500E-03
500-Year	1.555E-03

********** **Subbasin: ROOF-B** **********

Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	3.042E-02
5-Year	3.811E-02
10-Year	4.399E-02
25-Year	5.510E-02
50-Year	6.457E-02
100-Year	7.805E-02
200-Year	8.162E-02
500-Year	8.616E-02

********** **Subbasin: PARKING - B** **********

Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	0.194
5-Year	0.244
10-Year	0.281
25-Year	0.352
50-Year	0.413
100-Year	0.499
200-Year	0.522
500-Year	0.551

********** Link: WQ A-LOWER ********** Link Inflow
Frequency Stats
Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	0.536
5-Year	0.671
10-Year	0.782
25-Year	0.970
50-Year	1.144
100-Year	1.374
200-Year	1.437
500-Year	1.518

********** Link: WQ A-LOWER ********** Link
Outflow 1 Frequency Stats
Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	0.536
5-Year	0.671
10-Year	0.782
25-Year	0.970
50-Year	1.144
100-Year	1.374
200-Year	1.437
500-Year	1.518

********** Link: DEV POC ********** Link Inflow
Frequency Stats
Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	1.788E-07
5-Year	1.756E-06
10-Year	5.377E-06
25-Year	1.151E-05
50-Year	2.114E-05
100-Year	2.413E-05
200-Year	0.756
500-Year	1.775

********** Link: INFIL TRENCH A ********** Link Inflow Frequency Stats

Flood Frequency Data(cfs)

(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)	
2-Year	0.987	⇦ Sediment Trap Flow SWPPP Parcel A
5-Year	1.236	
10-Year	1.439	
25-Year	1.787	
50-Year	2.107	
100-Year	2.532	⇦ Sediment Trap Overflow Sizing Flow SWPPP Parcel A
200-Year	2.648	
500-Year	2.795	

********** Link: INFIL TRENCH A ********** Link Outflow 1 Frequency Stats

Flood Frequency Data(cfs)

(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	1.192E-07
5-Year	1.311E-06
10-Year	3.665E-06
25-Year	7.216E-06
50-Year	1.350E-05
100-Year	1.465E-05
200-Year	0.653
500-Year	1.534

********** Link: INFIL TRENCH A ********** Link WSEL Stats

WSEL Frequency Data(ft)

(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	WSEL Peak (ft)
1.05-Year	100.009
1.11-Year	100.010
1.25-Year	100.011
2.00-Year	100.014
3.33-Year	100.076
5-Year	100.263
10-Year	100.731
25-Year	101.448
50-Year	102.698
100-Year	102.928

********** Link: WQ A - UPPER ********** Link Inflow Frequency Stats

Flood Frequency Data(cfs)

(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	0.189
5-Year	0.237
10-Year	0.281
25-Year	0.343
50-Year	0.407
100-Year	0.485
200-Year	0.508
500-Year	0.536

********** Link: WQ A - UPPER ********** Link Outflow 1 Frequency Stats

Flood Frequency Data(cfs)

(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	0.189
5-Year	0.237
10-Year	0.281
25-Year	0.343
50-Year	0.407
100-Year	0.485
200-Year	0.508
500-Year	0.536

********** Link: Infil Trench B ********** Link Inflow Frequency Stats

Flood Frequency Data(cfs)

(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)	
2-Year	0.225	⇦ Sediment Trap Flow SWPPP Parcel B
5-Year	0.282	
10-Year	0.325	
25-Year	0.407	
50-Year	0.477	
100-Year	0.577	⇦ Sediment Trap Overflow Sizing Flow SWPPP Parcel B
200-Year	0.603	
500-Year	0.637	

********** Link: Infil Trench B ********** Link Outflow 1 Frequency Stats

Flood Frequency Data(cfs)

(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	5.960E-08
5-Year	4.470E-07
10-Year	2.039E-06
25-Year	4.475E-06
50-Year	7.112E-06
100-Year	9.975E-06
200-Year	0.103
500-Year	0.241

********** Link: Infil Trench B ********** Link WSEL Stats

WSEL Frequency Data(ft)

(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	WSEL Peak (ft)
1.05-Year	100.006
1.11-Year	100.006
1.25-Year	100.007
2.00-Year	100.009
3.33-Year	100.016
5-Year	100.092
10-Year	100.410
25-Year	100.894
50-Year	101.420
100-Year	101.991

********** Link: WQ B ********** Link Inflow Frequency Stats

Flood Frequency Data(cfs)

(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	0.194
5-Year	0.244
10-Year	0.281
25-Year	0.352
50-Year	0.413
100-Year	0.499
200-Year	0.522
500-Year	0.551

********** Link: WQ B ********** Link Outflow 1
Frequency Stats
Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	0.194
5-Year	0.244
10-Year	0.281
25-Year	0.352
50-Year	0.413
100-Year	0.499
200-Year	0.522
500-Year	0.551

********** Link: POC Wetland ********** Link Inflow
Frequency Stats
Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	6.190
5-Year	7.655
10-Year	9.038
25-Year	11.155
50-Year	13.302
100-Year	15.690
200-Year	16.401
500-Year	17.303

********** Link: POC Wetland ********** Link Outflow 1
Frequency Stats
Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	6.190
5-Year	7.655
10-Year	9.038
25-Year	11.155
50-Year	13.302
100-Year	15.690
200-Year	16.401
500-Year	17.303

************Groundwater Recharge Summary ***************

Recharge is computed as input to Perlnd Groundwater Plus Infiltration in Structures

Total Predeveloped Recharge During Simulation

Model Element	Recharge Amount (ac-ft)
Subbasin: PRE-DEV-A	1039.647
Subbasin: Wetland	404.046
Subbasin: PreDev A-Upper Offsi	36.927
Subbasin: PRE-DEV-B	199.787
Subbasin: Ex PC Util Pump Stat	90.057
Link: PREDEV POC Wetland	0.000
Link: PREDEV POC	0.000
Total:	1770.464

Total Post Developed Recharge During Simulation

Model Element	Recharge Amount (ac-ft)
Subbasin: ROOF-CHURCH-A	0.000
Subbasin: PARKING MAIN - A	0.000
Subbasin: LANDSCAPE-A	106.755
Subbasin: NATIVE TREE SAVE-A	84.901
Subbasin: BYPASS-A	116.939
Subbasin: Parcel A-Upper	35.358
Subbasin: Dev Parcel A - Upper	39.749
Subbasin: Wetland	404.046
Subbasin: Ex PC Util Pump Stat	89.718
Subbasin: BYPASS - B	26.839
Subbasin: LANDSCAPE - B	14.207
Subbasin: ROOF-B	0.000
Subbasin: PARKING - B	0.000
Link: WQ A-LOWER	0.000
Link: DEV POC	0.000
Link: INFIL TRENCH A	1114.139
Link: WQ A - UPPER	0.000
Link: Infil Trench B	253.810
Link: WQ B	0.000
Link: POC Wetland	0.000
Total:	2286.460

Total Predevelopment Recharge is Less than Post Developed
Average Recharge Per Year, (Number of Years= 158)
Predeveloped: 11.205 ac-ft/year, Post Developed: 14.471 ac-ft/year

**********Water Quality Facility Data **********

----------SCENARIO: PREDEVELOPED

Number of Links: 2

********** Link: PREDEV POC Wetland **********

Infiltration/Filtration Statistics----------
Inflow Volume (ac-ft): 7545.88
Inflow Volume Including PPT-Evap (ac-ft): 7545.88
Total Runoff Infiltrated (ac-ft): 0.00, 0.00%
Total Runoff Filtered (ac-ft): 0.00, 0.00%
Primary Outflow To Downstream System (ac-ft): 7545.88
Secondary Outflow To Downstream System (ac-ft): 0.00
Volume Lost to ET (ac-ft): 0.00
Percent Treated (Infiltrated+Filtered+ET)/Total Volume: 0.00%

********** Link: PREDEV POC **********

Infiltration/Filtration Statistics----------
Inflow Volume (ac-ft): 2.23
Inflow Volume Including PPT-Evap (ac-ft): 2.23
Total Runoff Infiltrated (ac-ft): 0.00, 0.00%
Total Runoff Filtered (ac-ft): 0.00, 0.00%
Primary Outflow To Downstream System (ac-ft): 2.23
Secondary Outflow To Downstream System (ac-ft): 0.00
Volume Lost to ET (ac-ft): 0.00
Percent Treated (Infiltrated+Filtered+ET)/Total Volume: 0.00%

----------SCENARIO: POSTDEVELOPED

Number of Links: 7

********** Link: WQ A-LOWER **********

2-Year Discharge Rate : 0.536 cfs

15-Minute Timestep, Water Quality Treatment Design Discharge
On-line Design Discharge Rate (91% Exceedance): 0.22 cfs
Off-line Design Discharge Rate (91% Exceedance): 0.13 cfs ⟸ WQ Flow Parcel A-Lower

Infiltration/Filtration Statistics----------
Inflow Volume (ac-ft): 605.01
Inflow Volume Including PPT-Evap (ac-ft): 605.01
Total Runoff Infiltrated (ac-ft): 0.00, 0.00%
Total Runoff Filtered (ac-ft): 0.00, 0.00%
Primary Outflow To Downstream System (ac-ft): 605.01
Secondary Outflow To Downstream System (ac-ft): 0.00
Volume Lost to ET (ac-ft): 0.00
Percent Treated (Infiltrated+Filtered+ET)/Total Volume: 0.00%

********** Link: DEV POC **********

Infiltration/Filtration Statistics----------
Inflow Volume (ac-ft): 0.03
Inflow Volume Including PPT-Evap (ac-ft): 0.03
Total Runoff Infiltrated (ac-ft): 0.00, 0.00%
Total Runoff Filtered (ac-ft): 0.00, 0.00%
Primary Outflow To Downstream System (ac-ft): 0.03
Secondary Outflow To Downstream System (ac-ft): 0.00
Volume Lost to ET (ac-ft): 0.00
Percent Treated (Infiltrated+Filtered+ET)/Total Volume: 0.00%

********** Link: INFIL TRENCH A **********

Infiltration/Filtration Statistics----------
Inflow Volume (ac-ft): 1114.27
Inflow Volume Including PPT-Evap (ac-ft): 1114.27
Total Runoff Infiltrated (ac-ft): 1114.14, 99.99%
Total Runoff Filtered (ac-ft): 0.00, 0.00%
Primary Outflow To Downstream System (ac-ft): 0.03
Secondary Outflow To Downstream System (ac-ft): 0.00
Volume Lost to ET (ac-ft): 0.00
Percent Treated (Infiltrated+Filtered+ET)/Total Volume: 99.99%

********** Link: WQ A - UPPER **********

2-Year Discharge Rate : 0.189 cfs

15-Minute Timestep, Water Quality Treatment Design Discharge
On-line Design Discharge Rate (91% Exceedance): 0.08 cfs
Off-line Design Discharge Rate (91% Exceedance): 0.05 cfs ⟸ WQ Flow Parcel A-Upper

Infiltration/Filtration Statistics----------
Inflow Volume (ac-ft): 213.68
Inflow Volume Including PPT-Evap (ac-ft): 213.68
Total Runoff Infiltrated (ac-ft): 0.00, 0.00%
Total Runoff Filtered (ac-ft): 0.00, 0.00%
Primary Outflow To Downstream System (ac-ft): 213.68
Secondary Outflow To Downstream System (ac-ft): 0.00
Volume Lost to ET (ac-ft): 0.00
Percent Treated (Infiltrated+Filtered+ET)/Total Volume: 0.00%

********** Link: Infil Trench B **********

Infiltration/Filtration Statistics----------
Inflow Volume (ac-ft): 253.81
Inflow Volume Including PPT-Evap (ac-ft): 253.81
Total Runoff Infiltrated (ac-ft): 253.81, 100.00%
Total Runoff Filtered (ac-ft): 0.00, 0.00%
Primary Outflow To Downstream System (ac-ft): 0.00
Secondary Outflow To Downstream System (ac-ft): 0.00
Volume Lost to ET (ac-ft): 0.00
Percent Treated (Infiltrated+Filtered+ET)/Total Volume: 100.00%

********** Link: WQ B **********

2-Year Discharge Rate : 0.194 cfs

15-Minute Timestep, Water Quality Treatment Design Discharge
On-line Design Discharge Rate (91% Exceedance): 0.08 cfs
Off-line Design Discharge Rate (91% Exceedance): 0.05 cfs ⟸ WQ Flow Parcel B

Infiltration/Filtration Statistics----------
Inflow Volume (ac-ft): 219.47
Inflow Volume Including PPT-Evap (ac-ft): 219.47
Total Runoff Infiltrated (ac-ft): 0.00, 0.00%
Total Runoff Filtered (ac-ft): 0.00, 0.00%
Primary Outflow To Downstream System (ac-ft): 219.47
Secondary Outflow To Downstream System (ac-ft): 0.00
Volume Lost to ET (ac-ft): 0.00
Percent Treated (Infiltrated+Filtered+ET)/Total Volume: 0.00%

********** Link: POC Wetland **********

Infiltration/Filtration Statistics----------
Inflow Volume (ac-ft): 7556.40
Inflow Volume Including PPT-Evap (ac-ft): 7556.40
Total Runoff Infiltrated (ac-ft): 0.00, 0.00%
Total Runoff Filtered (ac-ft): 0.00, 0.00%
Primary Outflow To Downstream System (ac-ft): 7556.40
Secondary Outflow To Downstream System (ac-ft): 0.00
Volume Lost to ET (ac-ft): 0.00
Percent Treated (Infiltrated+Filtered+ET)/Total Volume: 0.00%

*************Compliance Point Results **************

Scenario Predeveloped Compliance Link: PREDEV POC
Scenario Postdeveloped Compliance Link: DEV POC

***** Point of Compliance Flow Frequency Data *****
Recurrence Interval Computed Using Gringorten Plotting Position

Predevelopment Runoff		Postdevelopment Runoff	
Tr (Years)	Discharge (cfs)	Tr (Years)	Discharge (cfs)
2-Year	1.092E-02	2-Year	0.000
5-Year	3.115E-02	5-Year	0.000
10-Year	4.212E-02	10-Year	0.000
25-Year	0.111	25-Year	0.000
50-Year	0.164	50-Year	0.000
100-Year	0.193	100-Year	0.000
200-Year	0.206	200-Year	0.756
500-Year	0.222	500-Year	1.775

** Record too Short to Compute Peak Discharge for These Recurrence Intervals

****** Flow Duration Performance ******

Excursion at Predeveloped 50%Q2 (Must be Less Than or Equal to 0%):	-99.9%	PASS
Maximum Excursion from 50%Q2 to Q2 (Must be Less Than or Equal to 0%):	-99.6%	PASS
Maximum Excursion from Q2 to Q50 (Must be less than 10%):	-30.0%	PASS
Percent Excursion from Q2 to Q50 (Must be less than 50%):	0.0%	PASS

MEETS ALL FLOW DURATION DESIGN CRITERIA: PASS

****** LID Duration Performance ******

Excursion at Predeveloped 8%Q2 (Must be Less Than 0%):	-100.0%	PASS
Maximum Excursion from 8%Q2 to 50%Q2 (Must be Less Than 0%):	-99.9%	PASS

MEETS ALL LID DURATION DESIGN CRITERIA: PASS

*************Wetland Hydrologic Loading Analysis Results **************

Predeveloped Wetland Location: PREDEV POC Wetland, Inflow
Postdeveloped Wetland Location: POC Wetland, Inflow

Days out of Compliance: 0
Months out of Compliance: 0

***********Mean Daily Wetland Inflow (cfs) *************
Must be within 20% for each Day

Month	Predeveloped	Postdeveloped	Percent Difference
Oct-01	4.094E-02	4.101E-02	0.17%
Oct-02	2.627E-02	2.632E-02	0.18%
Oct-03	3.774E-02	3.780E-02	0.18%
Oct-04	4.901E-02	4.910E-02	0.18%
Oct-05	3.371E-02	3.377E-02	0.18%
Oct-06	6.838E-02	6.849E-02	0.17%
Oct-07	5.463E-02	5.472E-02	0.17%
Oct-08	5.592E-02	5.602E-02	0.17%
Oct-09	6.993E-02	7.005E-02	0.17%
Oct-10	6.820E-02	6.832E-02	0.17%
Oct-11	4.978E-02	4.986E-02	0.17%
Oct-12	4.758E-02	4.766E-02	0.17%
Oct-13	4.777E-02	4.785E-02	0.17%
Oct-14	5.478E-02	5.487E-02	0.17%
Oct-15	4.360E-02	4.367E-02	0.17%
Oct-16	3.580E-02	3.586E-02	0.17%
Oct-17	7.077E-02	7.088E-02	0.17%
Oct-18	6.261E-02	6.272E-02	0.17%
Oct-19	7.062E-02	7.074E-02	0.17%
Oct-20	8.430E-02	8.445E-02	0.17%
Oct-21	9.226E-02	9.242E-02	0.17%
Oct-22	8.831E-02	8.846E-02	0.17%
Oct-23	8.880E-02	8.895E-02	0.17%
Oct-24	6.836E-02	6.848E-02	0.17%

Oct-25	8.113E-02	8.126E-02	0.17%
Oct-26	9.596E-02	9.612E-02	0.17%
Oct-27	1.140E-01	1.142E-01	0.16%
Oct-28	8.818E-02	8.833E-02	0.16%
Oct-29	9.349E-02	9.364E-02	0.16%
Oct-30	8.042E-02	8.055E-02	0.16%
Oct-31	1.180E-01	1.182E-01	0.16%
Nov-01	9.585E-02	9.600E-02	0.16%
Nov-02	8.935E-02	8.950E-02	0.16%
Nov-03	1.374E-01	1.376E-01	0.16%
Nov-04	1.245E-01	1.247E-01	0.16%
Nov-05	7.915E-02	7.928E-02	0.16%
Nov-06	8.915E-02	8.929E-02	0.16%
Nov-07	1.062E-01	1.064E-01	0.16%
Nov-08	9.043E-02	9.057E-02	0.15%
Nov-09	1.280E-01	1.282E-01	0.16%
Nov-10	1.315E-01	1.318E-01	0.16%
Nov-11	1.395E-01	1.397E-01	0.15%
Nov-12	1.032E-01	1.034E-01	0.15%
Nov-13	1.413E-01	1.415E-01	0.15%
Nov-14	1.217E-01	1.218E-01	0.15%
Nov-15	1.204E-01	1.206E-01	0.15%
Nov-16	1.362E-01	1.364E-01	0.15%
Nov-17	1.455E-01	1.457E-01	0.15%
Nov-18	1.282E-01	1.284E-01	0.15%
Nov-19	1.703E-01	1.706E-01	0.15%
Nov-20	1.296E-01	1.298E-01	0.14%
Nov-21	1.375E-01	1.377E-01	0.14%
Nov-22	1.202E-01	1.204E-01	0.15%
Nov-23	1.880E-01	1.883E-01	0.15%
Nov-24	1.908E-01	1.911E-01	0.15%
Nov-25	1.712E-01	1.715E-01	0.14%
Nov-26	1.429E-01	1.431E-01	0.14%
Nov-27	1.620E-01	1.623E-01	0.14%
Nov-28	1.078E-01	1.080E-01	0.14%
Nov-29	1.423E-01	1.425E-01	0.14%
Nov-30	1.653E-01	1.655E-01	0.14%
Dec-01	1.480E-01	1.483E-01	0.14%
Dec-02	1.620E-01	1.622E-01	0.14%
Dec-03	1.740E-01	1.743E-01	0.14%
Dec-04	1.589E-01	1.591E-01	0.14%
Dec-05	1.547E-01	1.549E-01	0.14%
Dec-06	1.509E-01	1.511E-01	0.14%
Dec-07	1.394E-01	1.396E-01	0.14%
Dec-08	1.272E-01	1.273E-01	0.14%
Dec-09	1.274E-01	1.276E-01	0.14%
Dec-10	1.534E-01	1.536E-01	0.14%
Dec-11	1.374E-01	1.376E-01	0.14%
Dec-12	1.308E-01	1.309E-01	0.13%
Dec-13	1.234E-01	1.236E-01	0.13%
Dec-14	1.295E-01	1.297E-01	0.14%
Dec-15	1.503E-01	1.505E-01	0.14%
Dec-16	1.224E-01	1.226E-01	0.13%
Dec-17	1.313E-01	1.315E-01	0.14%
Dec-18	1.215E-01	1.217E-01	0.14%
Dec-19	1.299E-01	1.301E-01	0.14%

Dec-20	1.626E-01	1.628E-01	0.14%
Dec-21	1.529E-01	1.531E-01	0.14%
Dec-22	1.165E-01	1.166E-01	0.14%
Dec-23	1.248E-01	1.250E-01	0.14%
Dec-24	1.172E-01	1.173E-01	0.13%
Dec-25	1.144E-01	1.146E-01	0.14%
Dec-26	1.502E-01	1.504E-01	0.14%
Dec-27	1.344E-01	1.346E-01	0.14%
Dec-28	1.012E-01	1.014E-01	0.13%
Dec-29	1.583E-01	1.585E-01	0.14%
Dec-30	1.348E-01	1.349E-01	0.14%
Dec-31	9.506E-02	9.516E-02	0.11%
Jan-01	1.189E-01	1.191E-01	0.13%
Jan-02	1.427E-01	1.429E-01	0.13%
Jan-03	1.189E-01	1.191E-01	0.13%
Jan-04	1.233E-01	1.234E-01	0.12%
Jan-05	1.155E-01	1.156E-01	0.13%
Jan-06	1.217E-01	1.219E-01	0.13%
Jan-07	1.201E-01	1.203E-01	0.13%
Jan-08	1.123E-01	1.124E-01	0.13%
Jan-09	1.343E-01	1.344E-01	0.13%
Jan-10	1.398E-01	1.400E-01	0.13%
Jan-11	1.073E-01	1.074E-01	0.13%
Jan-12	1.294E-01	1.296E-01	0.13%
Jan-13	1.351E-01	1.353E-01	0.13%
Jan-14	1.711E-01	1.713E-01	0.13%
Jan-15	1.545E-01	1.547E-01	0.12%
Jan-16	1.355E-01	1.356E-01	0.12%
Jan-17	1.300E-01	1.301E-01	0.13%
Jan-18	1.381E-01	1.383E-01	0.13%
Jan-19	1.381E-01	1.383E-01	0.13%
Jan-20	1.285E-01	1.287E-01	0.11%
Jan-21	9.853E-02	9.864E-02	0.11%
Jan-22	1.111E-01	1.112E-01	0.12%
Jan-23	1.533E-01	1.535E-01	0.14%
Jan-24	1.268E-01	1.269E-01	0.13%
Jan-25	1.071E-01	1.073E-01	0.12%
Jan-26	1.025E-01	1.026E-01	0.12%
Jan-27	1.264E-01	1.266E-01	0.12%
Jan-28	9.332E-02	9.344E-02	0.12%
Jan-29	1.038E-01	1.039E-01	0.11%
Jan-30	9.895E-02	9.907E-02	0.11%
Jan-31	1.311E-01	1.312E-01	0.12%
Feb-01	1.165E-01	1.167E-01	0.13%
Feb-02	1.098E-01	1.100E-01	0.13%
Feb-03	9.014E-02	9.022E-02	0.09%
Feb-04	9.287E-02	9.299E-02	0.12%
Feb-05	9.969E-02	9.981E-02	0.13%
Feb-06	1.269E-01	1.270E-01	0.10%
Feb-07	1.012E-01	1.013E-01	0.12%
Feb-08	1.124E-01	1.125E-01	0.10%
Feb-09	1.015E-01	1.017E-01	0.12%
Feb-10	9.507E-02	9.519E-02	0.13%
Feb-11	8.775E-02	8.786E-02	0.12%
Feb-12	1.315E-01	1.317E-01	0.14%
Feb-13	1.225E-01	1.226E-01	0.13%

Feb-14	9.816E-02	9.827E-02	0.12%
Feb-15	1.134E-01	1.136E-01	0.12%
Feb-16	1.329E-01	1.330E-01	0.11%
Feb-17	1.556E-01	1.557E-01	0.11%
Feb-18	1.421E-01	1.423E-01	0.11%
Feb-19	1.283E-01	1.285E-01	0.11%
Feb-20	9.100E-02	9.110E-02	0.10%
Feb-21	9.540E-02	9.551E-02	0.11%
Feb-22	8.003E-02	8.012E-02	0.11%
Feb-23	7.725E-02	7.734E-02	0.12%
Feb-24	1.142E-01	1.144E-01	0.13%
Feb-25	1.015E-01	1.017E-01	0.12%
Feb-26	8.380E-02	8.389E-02	0.11%
Feb-27	9.736E-02	9.746E-02	0.10%
Feb-28	9.858E-02	9.869E-02	0.12%
Mar-01	8.996E-02	9.005E-02	0.10%
Mar-02	8.247E-02	8.257E-02	0.12%
Mar-03	1.021E-01	1.022E-01	0.07%
Mar-04	8.988E-02	8.999E-02	0.12%
Mar-05	9.511E-02	9.522E-02	0.11%
Mar-06	5.635E-02	5.641E-02	0.12%
Mar-07	7.113E-02	7.121E-02	0.12%
Mar-08	8.884E-02	8.895E-02	0.13%
Mar-09	1.158E-01	1.159E-01	0.12%
Mar-10	8.443E-02	8.452E-02	0.12%
Mar-11	7.625E-02	7.633E-02	0.11%
Mar-12	1.011E-01	1.012E-01	0.11%
Mar-13	6.669E-02	6.677E-02	0.11%
Mar-14	7.731E-02	7.740E-02	0.12%
Mar-15	7.576E-02	7.585E-02	0.12%
Mar-16	6.493E-02	6.500E-02	0.12%
Mar-17	7.445E-02	7.454E-02	0.11%
Mar-18	7.002E-02	7.010E-02	0.11%
Mar-19	5.885E-02	5.891E-02	0.10%
Mar-20	6.134E-02	6.142E-02	0.13%
Mar-21	5.835E-02	5.841E-02	0.10%
Mar-22	9.334E-02	9.347E-02	0.13%
Mar-23	8.854E-02	8.866E-02	0.14%
Mar-24	6.844E-02	6.853E-02	0.13%
Mar-25	6.161E-02	6.168E-02	0.13%
Mar-26	7.145E-02	7.154E-02	0.13%
Mar-27	6.251E-02	6.259E-02	0.13%
Mar-28	6.773E-02	6.781E-02	0.12%
Mar-29	9.009E-02	9.020E-02	0.13%
Mar-30	7.851E-02	7.860E-02	0.12%
Mar-31	6.977E-02	6.985E-02	0.11%
Apr-01	4.819E-02	4.825E-02	0.12%
Apr-02	4.013E-02	4.018E-02	0.13%
Apr-03	4.137E-02	4.142E-02	0.12%
Apr-04	6.060E-02	6.066E-02	0.09%
Apr-05	6.856E-02	6.864E-02	0.13%
Apr-06	5.027E-02	5.034E-02	0.13%
Apr-07	4.103E-02	4.108E-02	0.14%
Apr-08	6.897E-02	6.907E-02	0.14%
Apr-09	7.293E-02	7.303E-02	0.14%
Apr-10	4.919E-02	4.925E-02	0.13%

Apr-11	5.863E-02	5.871E-02	0.14%
Apr-12	5.545E-02	5.553E-02	0.14%
Apr-13	3.883E-02	3.889E-02	0.14%
Apr-14	4.160E-02	4.166E-02	0.14%
Apr-15	3.131E-02	3.135E-02	0.14%
Apr-16	4.541E-02	4.547E-02	0.14%
Apr-17	4.331E-02	4.337E-02	0.14%
Apr-18	2.508E-02	2.512E-02	0.14%
Apr-19	6.460E-02	6.470E-02	0.15%
Apr-20	4.766E-02	4.773E-02	0.14%
Apr-21	2.776E-02	2.779E-02	0.13%
Apr-22	4.782E-02	4.789E-02	0.14%
Apr-23	6.472E-02	6.482E-02	0.14%
Apr-24	4.231E-02	4.237E-02	0.14%
Apr-25	2.633E-02	2.636E-02	0.14%
Apr-26	2.939E-02	2.943E-02	0.14%
Apr-27	4.534E-02	4.541E-02	0.14%
Apr-28	3.568E-02	3.573E-02	0.14%
Apr-29	3.398E-02	3.403E-02	0.15%
Apr-30	4.181E-02	4.187E-02	0.14%
May-01	4.633E-02	4.639E-02	0.14%
May-02	3.918E-02	3.924E-02	0.14%
May-03	4.169E-02	4.175E-02	0.14%
May-04	2.514E-02	2.518E-02	0.14%
May-05	4.502E-02	4.509E-02	0.15%
May-06	3.695E-02	3.701E-02	0.15%
May-07	2.724E-02	2.728E-02	0.14%
May-08	2.685E-02	2.689E-02	0.15%
May-09	1.515E-02	1.517E-02	0.15%
May-10	1.794E-02	1.797E-02	0.15%
May-11	2.870E-02	2.874E-02	0.15%
May-12	3.114E-02	3.119E-02	0.15%
May-13	3.001E-02	3.005E-02	0.15%
May-14	2.697E-02	2.701E-02	0.15%
May-15	3.038E-02	3.042E-02	0.16%
May-16	2.969E-02	2.973E-02	0.15%
May-17	3.964E-02	3.969E-02	0.15%
May-18	1.912E-02	1.915E-02	0.14%
May-19	2.884E-02	2.888E-02	0.16%
May-20	2.248E-02	2.252E-02	0.15%
May-21	1.835E-02	1.838E-02	0.14%
May-22	2.558E-02	2.562E-02	0.15%
May-23	2.618E-02	2.622E-02	0.15%
May-24	2.407E-02	2.410E-02	0.15%
May-25	2.543E-02	2.547E-02	0.15%
May-26	3.475E-02	3.480E-02	0.15%
May-27	2.747E-02	2.752E-02	0.15%
May-28	2.509E-02	2.513E-02	0.15%
May-29	2.863E-02	2.867E-02	0.15%
May-30	3.077E-02	3.082E-02	0.15%
May-31	4.432E-02	4.439E-02	0.16%
Jun-01	2.921E-02	2.926E-02	0.16%
Jun-02	1.847E-02	1.850E-02	0.15%
Jun-03	2.467E-02	2.471E-02	0.15%
Jun-04	3.222E-02	3.227E-02	0.15%
Jun-05	1.992E-02	1.995E-02	0.15%

Jun-06	3.812E-02	3.817E-02	0.15%
Jun-07	2.643E-02	2.647E-02	0.16%
Jun-08	2.127E-02	2.131E-02	0.15%
Jun-09	2.550E-02	2.554E-02	0.15%
Jun-10	3.115E-02	3.120E-02	0.16%
Jun-11	2.106E-02	2.109E-02	0.15%
Jun-12	1.857E-02	1.860E-02	0.16%
Jun-13	2.034E-02	2.037E-02	0.16%
Jun-14	2.599E-02	2.603E-02	0.16%
Jun-15	1.749E-02	1.752E-02	0.16%
Jun-16	2.451E-02	2.455E-02	0.16%
Jun-17	2.373E-02	2.377E-02	0.16%
Jun-18	1.458E-02	1.460E-02	0.16%
Jun-19	1.039E-02	1.040E-02	0.16%
Jun-20	2.145E-02	2.148E-02	0.16%
Jun-21	1.578E-02	1.580E-02	0.16%
Jun-22	1.456E-02	1.458E-02	0.16%
Jun-23	1.496E-02	1.499E-02	0.16%
Jun-24	3.442E-02	3.448E-02	0.16%
Jun-25	1.472E-02	1.474E-02	0.16%
Jun-26	1.457E-02	1.460E-02	0.17%
Jun-27	1.270E-02	1.272E-02	0.17%
Jun-28	2.266E-02	2.270E-02	0.16%
Jun-29	3.708E-02	3.724E-02	0.43%
Jun-30	1.006E-02	1.008E-02	0.17%
Jul-01	1.833E-02	1.836E-02	0.16%
Jul-02	9.192E-03	9.207E-03	0.17%
Jul-03	1.423E-02	1.426E-02	0.16%
Jul-04	1.108E-02	1.110E-02	0.17%
Jul-05	2.703E-02	2.707E-02	0.17%
Jul-06	5.098E-03	5.107E-03	0.17%
Jul-07	8.913E-03	8.927E-03	0.16%
Jul-08	2.563E-02	2.568E-02	0.17%
Jul-09	1.536E-02	1.539E-02	0.17%
Jul-10	1.482E-02	1.484E-02	0.17%
Jul-11	1.464E-02	1.466E-02	0.16%
Jul-12	1.812E-02	1.815E-02	0.16%
Jul-13	7.441E-03	7.453E-03	0.17%
Jul-14	6.868E-03	6.880E-03	0.17%
Jul-15	8.472E-03	8.487E-03	0.17%
Jul-16	1.591E-02	1.594E-02	0.17%
Jul-17	1.287E-02	1.290E-02	0.17%
Jul-18	1.116E-02	1.118E-02	0.18%
Jul-19	9.445E-03	9.461E-03	0.17%
Jul-20	5.711E-03	5.721E-03	0.18%
Jul-21	8.249E-03	8.263E-03	0.17%
Jul-22	3.336E-03	3.342E-03	0.18%
Jul-23	1.016E-03	1.018E-03	0.18%
Jul-24	2.138E-03	2.141E-03	0.17%
Jul-25	6.778E-03	6.790E-03	0.18%
Jul-26	1.518E-02	1.520E-02	0.18%
Jul-27	7.754E-03	7.767E-03	0.18%
Jul-28	4.631E-03	4.639E-03	0.18%
Jul-29	2.493E-03	2.497E-03	0.17%
Jul-30	1.771E-03	1.774E-03	0.18%
Jul-31	2.223E-03	2.227E-03	0.18%

Aug-01	2.318E-03	2.322E-03	0.18%
Aug-02	1.062E-02	1.064E-02	0.18%
Aug-03	7.384E-03	7.397E-03	0.18%
Aug-04	8.919E-03	8.935E-03	0.18%
Aug-05	3.094E-03	3.100E-03	0.18%
Aug-06	9.386E-03	9.402E-03	0.17%
Aug-07	1.453E-02	1.455E-02	0.18%
Aug-08	4.003E-03	4.010E-03	0.18%
Aug-09	4.318E-03	4.326E-03	0.18%
Aug-10	1.981E-03	1.985E-03	0.18%
Aug-11	4.507E-03	4.515E-03	0.18%
Aug-12	9.073E-03	9.090E-03	0.18%
Aug-13	6.742E-03	6.754E-03	0.18%
Aug-14	1.591E-02	1.594E-02	0.18%
Aug-15	1.637E-02	1.640E-02	0.18%
Aug-16	1.207E-02	1.209E-02	0.18%
Aug-17	1.170E-02	1.172E-02	0.18%
Aug-18	1.393E-02	1.395E-02	0.18%
Aug-19	1.275E-02	1.278E-02	0.18%
Aug-20	8.409E-03	8.424E-03	0.18%
Aug-21	1.314E-02	1.317E-02	0.18%
Aug-22	9.318E-03	9.334E-03	0.18%
Aug-23	3.287E-02	3.293E-02	0.18%
Aug-24	2.317E-02	2.321E-02	0.18%
Aug-25	2.287E-02	2.291E-02	0.18%
Aug-26	2.027E-02	2.031E-02	0.18%
Aug-27	2.504E-02	2.508E-02	0.18%
Aug-28	2.267E-02	2.271E-02	0.18%
Aug-29	2.767E-02	2.772E-02	0.18%
Aug-30	2.365E-02	2.369E-02	0.17%
Aug-31	1.553E-02	1.555E-02	0.18%
Sep-01	4.031E-02	4.038E-02	0.18%
Sep-02	2.906E-02	2.911E-02	0.18%
Sep-03	2.042E-02	2.046E-02	0.18%
Sep-04	2.118E-02	2.122E-02	0.18%
Sep-05	1.893E-02	1.897E-02	0.18%
Sep-06	2.002E-02	2.006E-02	0.18%
Sep-07	1.060E-02	1.062E-02	0.18%
Sep-08	1.761E-02	1.764E-02	0.18%
Sep-09	2.529E-02	2.534E-02	0.18%
Sep-10	2.554E-02	2.559E-02	0.18%
Sep-11	1.400E-02	1.402E-02	0.18%
Sep-12	6.711E-03	6.723E-03	0.18%
Sep-13	2.117E-02	2.121E-02	0.18%
Sep-14	3.184E-02	3.189E-02	0.18%
Sep-15	3.814E-02	3.820E-02	0.18%
Sep-16	3.432E-02	3.438E-02	0.18%
Sep-17	5.186E-02	5.195E-02	0.18%
Sep-18	2.916E-02	2.921E-02	0.18%
Sep-19	4.277E-02	4.285E-02	0.18%
Sep-20	3.508E-02	3.514E-02	0.18%
Sep-21	2.409E-02	2.413E-02	0.18%
Sep-22	3.868E-02	3.875E-02	0.17%
Sep-23	3.728E-02	3.734E-02	0.17%
Sep-24	2.791E-02	2.796E-02	0.18%
Sep-25	1.600E-02	1.603E-02	0.18%

Sep-26	3.821E-02	3.827E-02	0.18%
Sep-27	3.214E-02	3.219E-02	0.18%
Sep-28	3.766E-02	3.773E-02	0.18%
Sep-29	1.945E-02	1.948E-02	0.18%
Sep-30	3.550E-02	3.556E-02	0.18%

**********Mean Monthly Wetland Inflow (cfs) **********

Must be within 15% for each Month

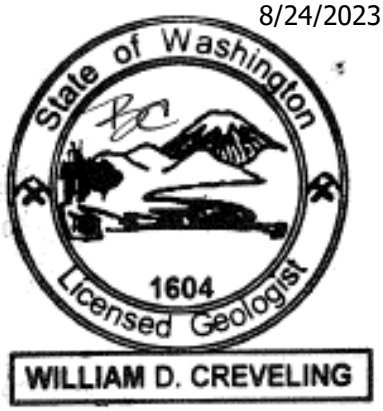
Month	Predeveloped	Postdeveloped	Percent Difference
Oct	6.711E-02	6.722E-02	0.17%
Nov	1.311E-01	1.313E-01	0.15%
Dec	1.365E-01	1.367E-01	0.14%
Jan	1.248E-01	1.249E-01	0.13%
Feb	1.070E-01	1.071E-01	0.12%
Mar	7.780E-02	7.790E-02	0.12%
Apr	4.625E-02	4.631E-02	0.13%
May	2.963E-02	2.968E-02	0.15%
Jun	2.188E-02	2.191E-02	0.17%
Jul	1.019E-02	1.021E-02	0.17%
Aug	1.336E-02	1.338E-02	0.18%
Sep	2.802E-02	2.807E-02	0.18%

Appendix D

Soils Report

Project Name Champion Centre Geotechnical Soil Observation Report		**Job #** 12895	**Inspection Report** #1
Address / Parcel No. XXX Steilacoom Dupont RD SW / 0119362043		**Date** August 24, 2023	**Page** 1 of 11
City / County Dupont / Pierce	**Permit #**	**Arrival Time:** 1:00 pm (5/18/2023) 12:30 pm, (8/11/2023)	
Client Mustard Seed Legacy Development, LLC (c/o David Rich)	**Project Manager** Damon DeRosa, P.E.		
Contractor James Moynan Excavating	**Project Geologist** Bill Creveling, L.G.		
Weather n/a			
Type of Work Performed Perform soil observations via soil pit excavation to determine characteristics applicable for foundation support, drainage, and constructability of the proposed development. Review 'Critical Slope' characteristics per Chapter 25.105.030.345			
Equipment Used Tracked Mini-Excavator			

8/24/2023



Project Description

A Licensed Geologist visited the above site on two occasions to oversee the excavation of 12 test pits to characterize subsurface conditions for the feasibility of a new development plan for the property. The development plan includes a proposed eating and drinking establishment on the north portion of the site development plan, and a religious assembly building on the south portion of the plan. The development will require the typical grading for building pad and parking lot design, and on-site stormwater control. Through our site observations and published sources study, the purpose of this report is to summarize the site characteristics and make appropriate recommendations for project development. This report will also address the 'Critical Slope' review comments from the City of Dupont Review Letter dated June 2, 2023.

Information Sources

Soil identification and mapping for this report is supported by information from the Natural Resource Conservation Service (the NRCS), and in-situ test pits excavated for our confirmation of subsurface conditions. Geologic information for this assessment is supported by information from the Washington Department of Natural Resources (DNR) Geologic Map of the Tacoma 1:100,000 Scale Quadrangle, Washington. Our understanding of site geology is supported by the review of geologic mapping, published topographic and relief map layers from the Pierce County Geographical Information System (GIS), and site observations.

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We reviewed Table 1806.2 "Presumptive Load Bearing Values" of the 2018 International Building Code; we contracted Construction Testing Laboratories for Particle Size Distribution Analysis; and evaluated published geologic and terrain mapping.

Site Description

This group of properties (the Site) comprise approximately 21 acres, albeit the proposed development will occur on the south and southeast portion of the site comprising approximately 4.75 acres. The site is undeveloped. It is partially wooded and includes well-developed understory vegetation typical for the region. It is bounded on the Southeast side and the Southwest side by Steilacoom Dupont Road Southwest and Barksdale Avenue respectively. Gentle to moderate slopes descend westward into the site from Steilacoom Dupont Road and dip slightly northward from Barksdale Avenue.

Soil

According to the NRCS, the site is situated over three soil environments. However, most of the proposed development area is situated on the Spanaway gravelly sandy loam, while a small portion may extend over a transition to the Everett-Spanaway-Spana Complex.
Figure 1 illustrates the site position in the soil mapping.

Figure 1: Site Position within NRCS Soil Environments (Excerpt)

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Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
104	Semiahmoo muck, 0 to 1 percent slopes	0.5	0.2%
992	Urban land-Spanaway complex, 0 to 2 percent slopes	69.3	24.0%
3112	Everett-Spanaway-Spana complex, 0 to 30 percent slopes	37.6	13.0%
Subtotals for Soil Survey Area		**107.4**	**37.2%**
Totals for Area of Interest		**288.5**	**100.0%**

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
12A	Dupont muck	14.4	5.0%
41A	Spanaway gravelly sandy loam	113.9	39.5%
3112	Everett-Spanaway-Spana complex, 0 to 30 percent slopes	50.7	17.6%
W	Water	2.2	0.8%
Subtotals for Soil Survey Area		**181.1**	**62.8%**
Totals for Area of Interest		**288.5**	**100.0%**

This near level to undulating Spanaway gravelly sandy loam is excessively drained. It formed in glacial outwash mixed in the upper part with volcanic ash on the very extensive plain from Lakewood to Roy. The elevation ranges from 100 to 500 feet. The annual precipitation in the region is 35 to 45 inches, and the mean annual air temperature is 51 degrees F. The frost-free season is about 170 days. Slopes range from 0 to 6 percent with the exception of anomalous Kame and Kettle features (See 'Geology' section for details).

Per the NRCS, a typical profile includes a surface layer of black gravelly sandy loam approximately 14 inches thick (but varies). The subsoil, to a depth of 18 inches, is dark grayish brown very gravelly sandy loam. The substratum, to a depth of more at least *60 inches to several tens of feet, is light brownish gray very gravelly sand. Permeability is extremely rapid. Surface runoff is slow to non-existent, and there is little erosion hazard.

Based on our test pits we can confirm the NRCS soil mapping on the site. We confirmed the site development area to be situated wholly or mostly on the Spanaway gravelly sandy loam. Figure 2 illustrates the site test pit locations on the site development plans.

*Note: the NRCS limits their analysis to the upper 60 inches of the subsurface environment even though actual depths may well exceed 60 inches (as they do in this case).

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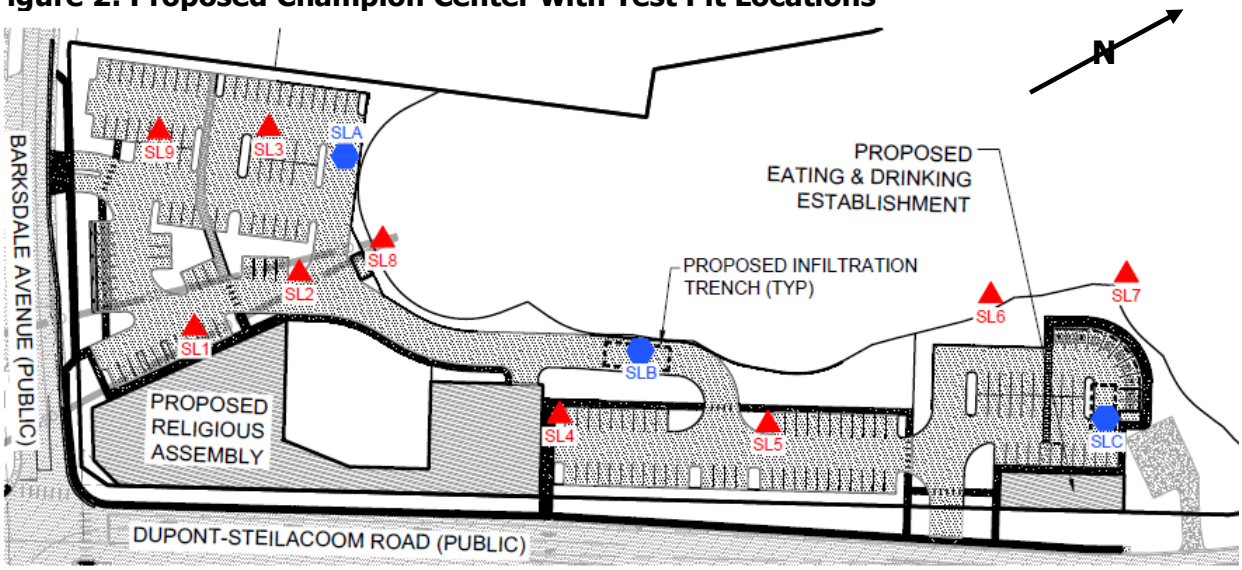
Figure 2: Proposed Champion Center with Test Pit Locations



In-Situ Soil Descriptions

SOIL LOGS:
BILL CREVELING, LS&E MAY 18, 2021

SL-1
0" - 80" ALTERNATING DARK BROWN/LIGHT BROWN VERY GRAVELLY FINE-COARSE SAND (FILL)

SL-2
0" - 60" BROWN/DARK BROWN VERY GRAVELLY FINE-MED SAND W/SILT, ORGANICS (FILL)
60" - 96" BROWN VERY GRAVELLY FINE-MED SAND

SL-3
0" - 48" DARK BROWN/BLACK VERY GRAVELLY LOAM (NATIVE)
48" - 96" BROWN EXTREMELY GRAVELLY FINE-COARSE SAND W/COBBLES (NATIVE)

SL-4
0"- 18" DARK BROWN/BLACK VERY GRAVELLY LOAM (NATIVE)
18" - 96" BROWN EXTREMELY GRAVELLY FINE-COARSE SAND W/COBBLES (NATIVE)

SL-5
0" - 18" BROWN VERY GRAVELLY LOAMY SAND
18" - 80" TAN/GRAY EXTREMELY GRAVELLY FINE-COARSE SAND, ROOTS TO 80"
80"+ WATER

SL-6
0" - 10" DARK BROWN SANDY LOAM, ORGANICS
10" - 48" BROWN GRAVELLY FINE-MED SAND, ROOTED
48" - 72" GRAY GRAVELLY MED-COARSE SAND, COBBLES

SL-7
0" - 18" DARK BROWN LOAMY SAND, ROOTED, ORGANICS
18" - 70" BROWN EXTREMELY GRAVELLY FINE-COARSE SAND, COBBLES & BOULDERS

SL-8
0" - 18" BROWN VERY GRAVELLY LOAMY FINE SAND, COMPACT (FILL)
18" - 48" DARK BROWN VERY GRAVELLY LOAM (NATIVE)
48" - 80" BROWN EXTREMELY GRAVELLY FINE-COARSE SAND W/OCCASIONAL BOULDERS

SOIL LOGS:
BILL CREVELING, LS&E AUGUST 11, 2023

SL-A
0" - 36" DARK BROWN / BLACK SILT W/ FN SAND GRAVEL, ORGANIC
36" - 120" TAN GRAVEL W/ SAND

SL-B
0" - 24" DARK BROWN / BLACK SILT W/ FN SAND GRAVEL, ORGANIC
24" - 120" TAN GRAVEL W/ SAND

SL-C
0" - 54" BROWN FN-MED SAND WITH SILT, GRAVEL
54" - 120" TAN MED. SAND & GRAVEL

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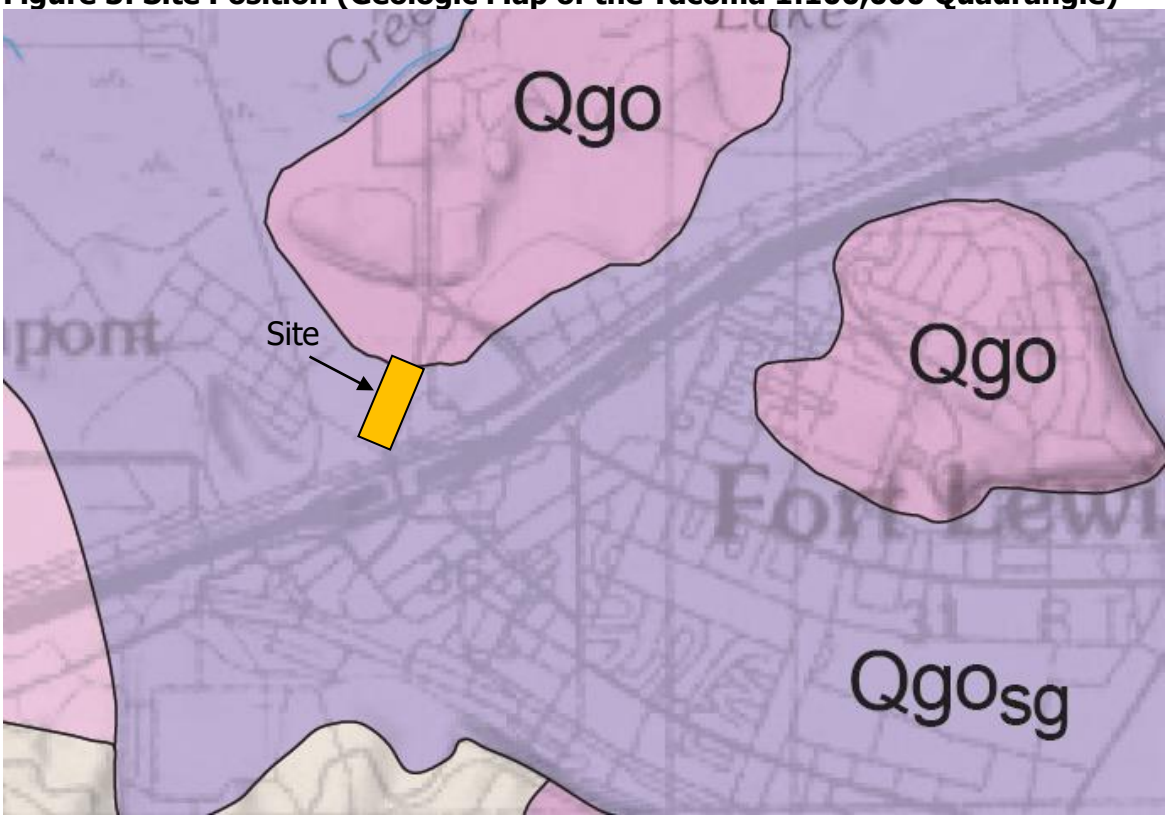
Geology

According to the Geologic Map of the Tacoma 1:100,000-scale Quadrangle, Washington, in Figure 3 below; this site is located on a coarse glacial outwash deposit emplaced during a period of glacial lake outburst flooding during the end of the Fraser glaciation period. An large regional body of water trapped between glacial ice in the lowlands, and the Cascade foothills to the east was released suddenly through ice failure. This catastrophic event produced a large scale erosion event which eroded and removed the previously emplaced glacial stratigraphy throughout the Spanaway and Lakewood area, and replaced the original material in the basin with an excessively coarse outwash referred to as the Steilacoom gravel (Qgo_{sg}).

Ice blocks were transported and deposited in the terrain during this outburst flooding. Kettle formations, found throughout the broad Steilacoom Gravel deposit, were created by these large ice blocks that were left behind by the retreating glacier. Sediment was deposited around the ice blocks, leaving kettle lakes when the ice melted. This event also deposited mounds of outwash against ice blocks present on the surface, that (following melting); left 'Kame' features (isolated mounds of gravel outwash). Spanaway Lake, Gravelly Lake, and nearby Old Fort Lake are well-known examples of kettles. The mounds and knob features in the area represent these outwash gravel kames. Figure 3 illustrates the site's position in the local geology.

Figure 3: Site Position (Geologic Map of the Tacoma 1:100,000 Quadrangle)



J. Eric Schuster, Ashley A. Cabibbo, Joseph Schilter, and Ian J. Hubert (October 2015)

Qgo_{sg} **Recessional outwash, Steilacoom Gravel**—Pebbles with boulders; local crossbedding; kettles and other ice-contact depressions.

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Critical Slope Assessment

Per the City of Dupont's June 2, 2023, review letter, the following discussion and exhibit information will address Comment No. 3 on page 7, regarding the requirement to assess the slope (the small 'knob' feature) with slopes of approximately 22 percent. The applicable regulatory section is in the Dupont Municipal Code (DMC) Chapter 25.105.030.345.

The Code defines as steep slope when all three of the following criteria are met:

(a) Slopes Steeper than 15%

(b) Hillsides intersecting geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock; and

(c) Springs or groundwater seepage

As discussed in the 'Geology' section above, the localized 'knobs' or 'mounds' are Kame features. The kames are composed of the coarse recessional flood outwash that was trapped at the time between glacial ice sheet remnants. These ice sheet blocks came to rest during the flooding on the surface where outwash became deposited against them. Upon melting, the outwash gained the appearance they have today as a mounded feature.

These deposits do not have inclined geologic contacts with permeable sediment overlying impermeable sediment, nor are any springs present per our observations (nor would they be possible in this geology). The 15% slope angle and its similar call out in other jurisdictions is only intended to warrant further analysis. In no case is such a shallow slope angle unstable. The typical angle of repose (the maximum angle an unconsolidated aggregate remains stable) for clean, well sorted, semi-rounded sand is 60 to 70 percent. The aggregate on this site has a steeper angle of repose given the poor sorting and minor sub-rounding form of the aggregate. The slope is globally stable in our opinion.

Findings/Recommendations

Foundation Bearing Capacity – The site is situated on loose gravel and sand, which is ideal for projects requiring moderate to significant bearing capacity, and limited space for drainage. However, due to the coarse nature of the aggregate, excavations may calve or settle laterally at approximately 2:1 (Vertical: Horizontal). Therefore, excavations should be laid back at 1 to 1 during construction. The 2018 International Building Code (IBC) Chapter 18 provides expected capacities for *Vertical Bearing Capacity, Lateral Bearing Pressure, and Lateral Coefficient of Friction* based on material classification. Please see Figure 3 below for an illustration of expected bearing capacity per the IBC.

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Figure 3 – 2018 International Building Code (IBC) Excerpt

TABLE 1806.2
PRESUMPTIVE LOAD-BEARING VALUES

CLASS OF MATERIALS	VERTICAL FOUNDATION PRESSURE (psf)	LATERAL BEARING PRESSURE (psf/ft below natural grade)	LATERAL SLIDING RESISTANCE	
			Coefficient of friction[a]	Cohesion (psf)[b]
1. Crystalline bedrock	12,000	1,200	0.70	—
2. Sedimentary and foliated rock	4,000	400	0.35	—
3. Sandy gravel and gravel (GW and GP)	3,000	200	0.35	—
4. Sand, silty sand, clayey sand, silty gravel and clayey gravel (SW, SP, SM, SC, GM and GC)	2,000	150	0.25	—
5. Clay, sandy clay, silty clay, clayey silt, silt and sandy silt (CL, ML, MH and CH)	1,500	100	—	130

Foundation Drainage – As discussed in the 'Soil' and 'Geology' sections, the site is situated on an excessively permeable outwash deposit with depths of ten or more feet based on our test pit observations and the characteristics of the Steilacoom gravel. There are no perching strata or water bearing formations present. Therefore, conventional footing drain systems should be considered in the typical manner for the building facility, albeit they may never encounter ground water.

Runoff Control – The subsurface soil characteristics are ideal for subsurface infiltration. The coarse outwash depth was verified to be at least nine to ten feet in depth but may continue to greater depths when considering the terrain and landform. Soils are excessively coarse and rapidly draining, such that infiltration testing is difficult to impossible. Attempts to presoak or even hold a static ponding level are not possible in this formation based on our experience on multiple occasions. Whether attempting a falling head test using a 6-inch pipe on neighboring sites with similar soil; the infiltration was too rapid to even establish ponding in the pipe. Therefore, we opted for a more conservative design rate sizing method by collecting soil samples from the approximate basal zone of the proposed trenches and delivered to Construction Testing Laboratory for analysis (copies attached).

Results: In this case, the test confirms that these very gravelly to extremely gravelly outwash soils are ideal for infiltration. The table below summarizes the sieve results for each sample along with the necessary correction factors to determine an appropriate design infiltration rate.

Table 1 – Grain Size Analysis with Correction Factors for Infiltration Rate

SOIL SAMPLE	D10	D60	D90	fines	1.90D10	0.015D60	0.013D90	2.08fines	log10 (Ksat)	Ksat (cm/s)	Ksat (in/hr)
SLA	0.00076	0.016	0.028	0.002	0.001444	0.00024	0.000364	0.00416	-1.57284	0.026739914	37.89909017
SLB	0.0098	0.015	0.029	0.001	0.01862	0.000225	0.000377	0.00208	-1.55361	0.027950398	39.61473765
SLC	0.0047	0.019	0.038	0.001	0.00893	0.000285	0.000494	0.00208	-1.56336	0.027330086	38.73555511

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Infiltration Rate for Design - Given the substantial depth and excessive permeability of these coarse outwash soils, subsurface infiltration is ideal for stormwater control. The lowest-case recommended design rate for the three samples is 37.9 inches per hour per lab results and correction factors. We recommend using 30 inches per hour for design.

Liquefaction
The subsurface soil characteristics are such that liquefaction is not a risk. The soil is highly permeable, and free of groundwater to substantial depths. Therefore, saturated conditions are not likely to exist. Liquefaction is not expected.

See Attached Soil Test Results
Below this Page

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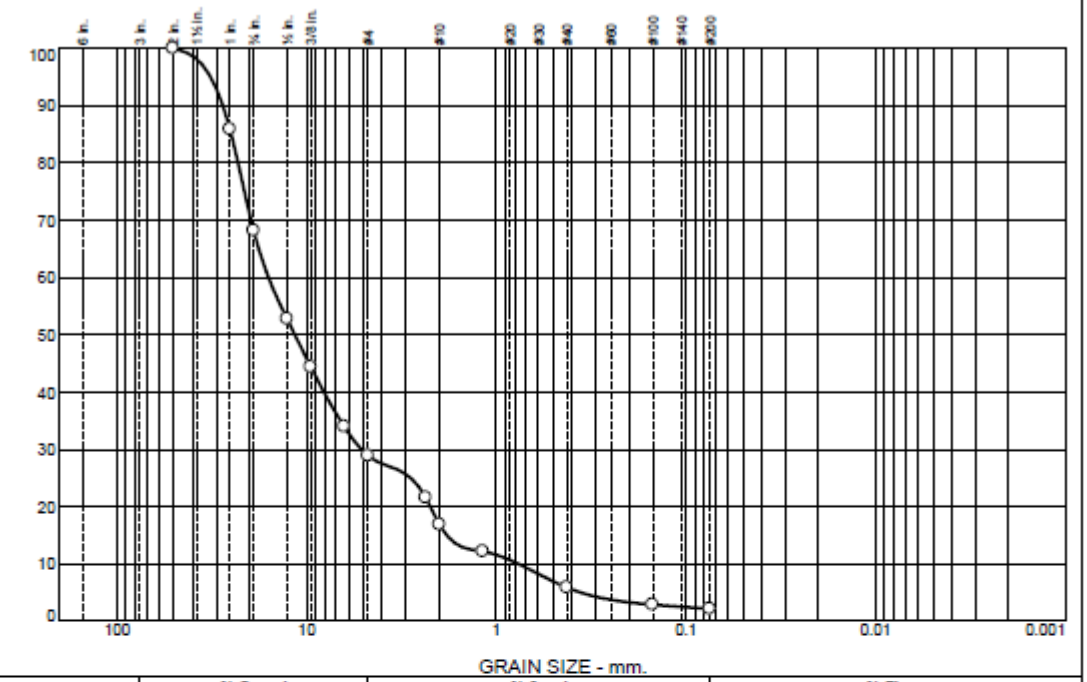
Particle Size Distribution Report ASTM C117, C136



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	32	39	12	11	4	2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100		
1"	86		
3/4"	68		
1/2"	53		
3/8"	44		
1/4"	34		
#4	29		
#8	22		
#10	17		
#16	12		
#40	6		
#100	3		
#200	2.2		

* (no specification provided)

Material Description

Brown Gravel with Sand
Sampled from SL A at 9'

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 27.6653 D_{85}= 24.9885 D_{60}= 15.9151
D_{50}= 11.5485 D_{30}= 5.1518 D_{15}= 1.8281
D_{10}= 0.7642 C_u= 20.82 C_c= 2.18

Classification

USCS= GW AASHTO=

Remarks

Report: #01

Sampled by: Client

Source of Sample: Existing
Sample Number: 23-1184

Date: 08-11-23

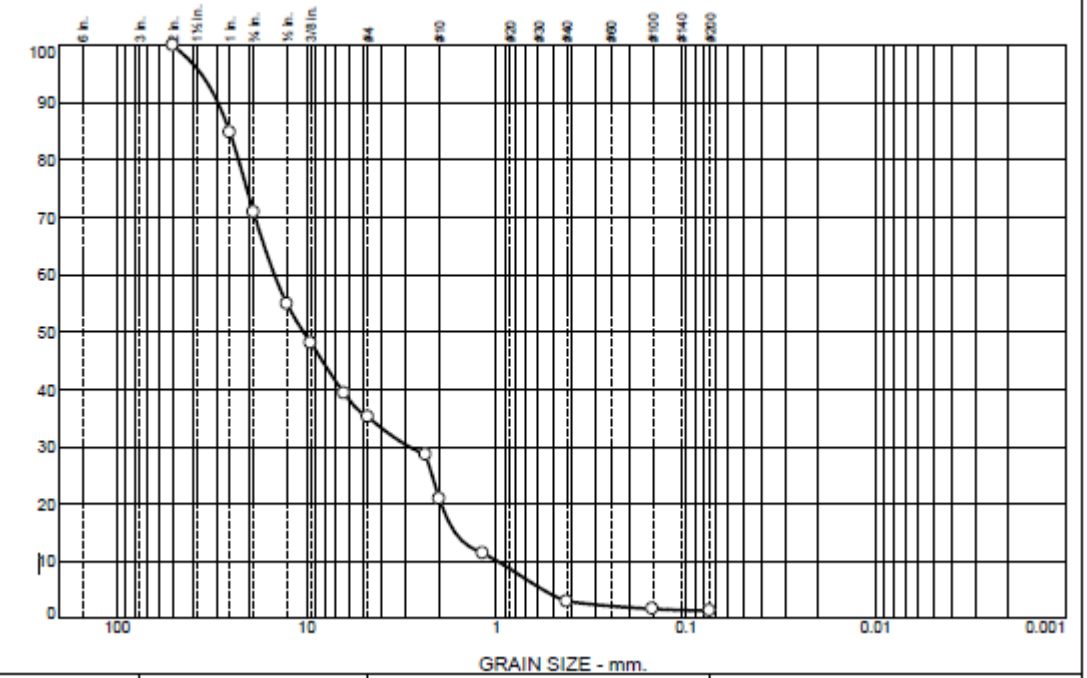
Construction Testing Laboratories
400 Valley Ave. NE, Suite #102
Puyallup WA, 98372 **Tel. (253) 383-8778**

Client: Mustard Seed Legacy Development, LLC
Project: Champion Centre
Project No: 10414 **Figure**

Tested By: R Rowden **Checked By:** C Pedersen

Report shall not be reproduced except in full without the written approval of the Laboratory. Report pertains only to the material tested.

Particle Size Distribution Report ASTM C117, C136



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	29	36	14	18	2	1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100		
1"	85		
3/4"	71		
1/2"	55		
3/8"	48		
1/4"	39		
#4	35		
#8	29		
#10	21		
#16	11		
#40	3		
#100	2		
#200	1.4		

* (no specification provided)

Material Description

Brown Gravel and Sand
Sampled from SL B at 10'

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 29.3348 D_{85}= 25.5221 D_{60}= 14.8099
D_{50}= 10.3997 D_{30}= 2.8775 D_{15}= 1.6507
D_{10}= 0.9841 C_u= 15.05 C_c= 0.57

Classification

USCS= GP AASHTO=

Remarks

Report: #02

Sampled by: Client

Source of Sample: Existing
Sample Number: 23-1185

Date: 08-11-23

Construction Testing Laboratories
400 Valley Ave. NE, Suite #102
Puyallup WA, 98372 Tel. (253) 383-8778

Client: Mustard Seed Legacy Development, LLC
Project: Champion Centre
Project No: 10414 **Figure**

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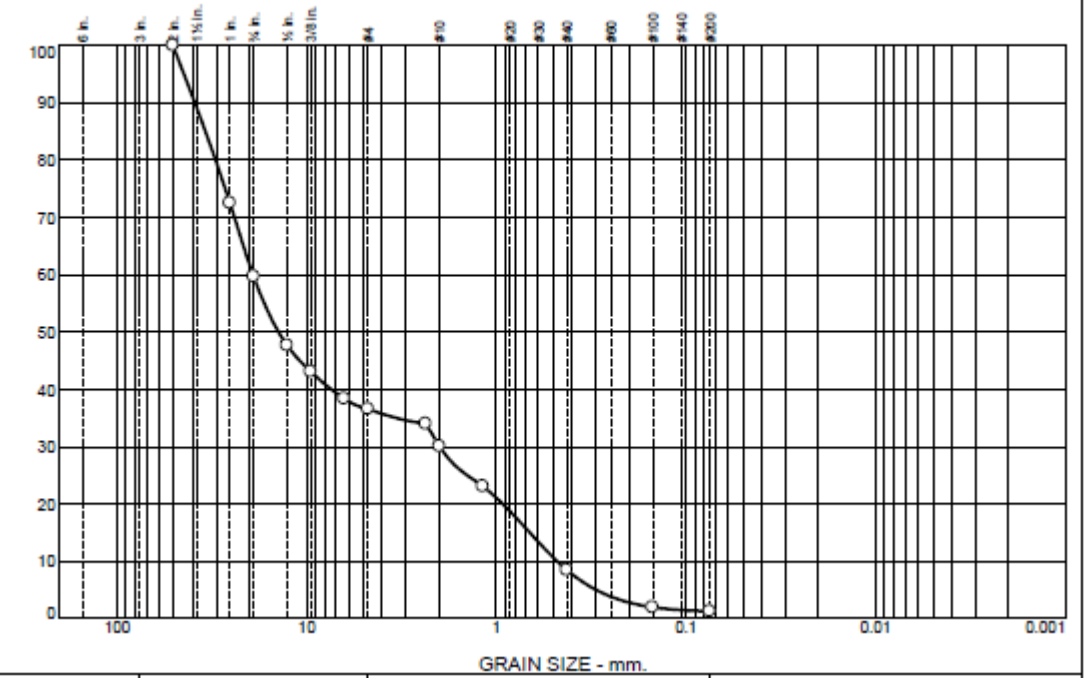
Tested By: R Rowden **Checked By:** C Pedersen

Particle Size Distribution Report ASTM C117, C136



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	40	23	7	22	7	1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100		
1"	72		
3/4"	60		
1/2"	48		
3/8"	43		
1/4"	38		
#4	37		
#8	34		
#10	30		
#16	23		
#40	8		
#100	2		
#200	1.3		

* (no specification provided)

Material Description

Brown Gravel with Sand
Sampled from SG C at 10'

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 38.8807 D_{85}= 34.1865 D_{60}= 19.1923
D_{50}= 14.0747 D_{30}= 1.9911 D_{15}= 0.6658
D_{10}= 0.4770 C_u= 40.23 C_c= 0.43

Classification

USCS= GP AASHTO=

Remarks

Report: #03

Sampled by: Client

Source of Sample: Existing
Sample Number: 23-1186

Date: 08-11-23

Construction Testing Laboratories
400 Valley Ave. NE, Suite #102
Puyallup WA, 98372 Tel. (253) 383-8778

Client: Mustard Seed Legacy Development, LLC
Project: Champion Centre
Project No: 10414 **Figure**

Tested By: R Rowden **Checked By:** C Pedersen

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Appendix E

Federal Emergency Management Agency Flood Insurance Panel

National Flood Hazard Layer FIRMette

FEMA

122°37'34"W 47°6'N

122°36'56"W 47°5'36"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/21/2023 at 3:22 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Exhibit 2.g

Maintenance and Source Control Manual
CHAMPIONS CENTRE
DuPont, Washington

For

Mustard Seed Legacy Dev. LLC
32706 Mountain Hwy E
Eatonville, WA 98328

By

LeRoy Surveyors & Engineers, Inc.
P.O. Box 740
Puyallup, Washington 98371
(253) 848-6608

Engineer: Steve T. Nelson, P.E

Contact: Steve T. Nelson
(253) 848-6608 ext. 107
snelson@lseinc.com

September 2023

Job No: 12895

Table of Contents

Section 1 – Project Description.....3

Section 2 –Maintenance Importance and Intent.....5

Section 3 – Responsible Parties.....6

Section 4 – Facilities Requiring Maintenance.....6

Section 5 – Maintenance Instructions.....6

Section 6 – Vegetation Maintenance.....8

Section 7 – Pollution Source Control Measures.....9

Section 8 – Annual Cost of Maintenance.....9

Appendix A: Project Site Map

Appendix B: Maintenance Checklists

Appendix C: Attachment B – Best Management Practices

Section 1 – Project Description

Project Name: Champions Centre

Permit Number(s): TBD

Project Site Address: XXX Barksdale Ave.
DuPont, WA 98237

Parcel Number(s): 0119362039, 0119362009, 0119362012, & 0119362043

Property Zoning: Commercial (COM)

Legal Description:

PARCEL A:

TAX PARCEL NUMBERS 0119362039, 0119362009 & 0119362012

THAT PORTION OF THE NORTHWEST QUARTER OF SECTION 36, TOWNSHIP 19 NORTH, RANGE 1 EAST, W.M., IN PIERCE COUNTY, WASHINGTON, LYING SOUTHEASTERLY OF WILMINGTON DRIVE (RE-ALIGNED DUPONT-STEILACOOM ROAD), DESCRIBED AS FOLLOWS:

COMMENCING AT THE BRONZE MONUMENT AT THE INTERSECTION OF THE CENTERLINE OF BARKSDALE AVENUE AND THE NORTHERLY LINE OF THE NORTHERN PACIFIC RAILROAD COMPANY'S RIGHT OF WAY, AS SHOWN ON THE PLAT OF REPLAT OF THE VILLAGE DUPONT, ACCORDING TO PLAT RECORDED IN VOLUME 15 OF PLATS, PAGE 65; THENCE NORTH 69°47'46" EAST 41.36 FEET ALONG SAID RAILROAD RIGHT OF WAY TO THE NORTHERLY LINE OF SAID BARKSDALE AVENUE; THENCE ALONG SAID NORTHERLY LINE OF BARKSDALE AVENUE, NORTH 63°41'54" WEST 679.50 FEET TO THE POINT OF BEGINNING; THENCE NORTH 54°19'24" WEST 6.81 FEET TO THE SOUTHEASTERLY CORNER OF BLOCK "L" IN SAID REPLAT OF THE VILLAGE OF DUPONT; THENCE NORTH 35°40'36" EAST 45.10 FEET TO THE SOUTHERLY LINE OF A 15 FOOT EASEMENT GRANTED TO THE PIERCE COUNTY SCHOOL DISTRICT 7 FOR PATH;

THENCE ON SAID SOUTHERLY LINE OF EASEMENT, EASTERLY 521.53 FEET TO THE WESTERLY LINE OF DUPONT-STEILACOOM HIGHWAY, AS ESTABLISHED IN DEED RECORDED DECEMBER 11, 1942 UNDER RECORDING NO. 1311721; THENCE SOUTHERLY ALONG SAID WESTERLY LINE 219 FEET, MORE OR LESS, TO THE NORTHERLY LINE OF BARKSDALE AVENUE; THENCE NORTH 63°41'54" WEST, ALONG SAID NORTHERLY LINE TO THE POINT OF BEGINNING;

EXCEPT THAT PORTION AS CONDEMNED IN DECREE OF APPROPRIATION ENTERED MARCH 11, 1988, IN PIERCE COUNTY SUPERIOR COURT CAUSE NO. 87-2-08765-1.

PARCEL B:

TAX PARCEL NUMBER 0119362043:

THAT PORTION OF THE SOUTHWEST QUARTER OF SECTION 25 AND OF THE NORTHWEST QUARTER OF SECTION 36, TOWNSHIP 19 NORTH, RANGE 1 EAST, W.M., CITY OF DUPONT, PIERCE COUNTY, WASHINGTON, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT FORT LEWIS MONUMENT NO. 262, BEING A 6"X6" CONCRETE MONUMENT WITH LEAD AND TACK, AS SHOWN ON THAT RECORD OF SURVEY BY ESM, INC. RECORDED UNDER PIERCE COUNTY RECORDING NO. 9303050249; THENCE SOUTH 87°57'04" EAST, 572.46 FEET TO THE WESTERLY RIGHT-OF-WAY MARGIN OF DUPONT - STEILACOOM ROAD;THENCE ALONG SAID WESTERLY MARGIN, SOUTH 01°42'01" WEST 1,488.92 FEET TO THE SOUTHEASTERLY CORNER OF THE PLAT OF "BELL HILL" AS ECORDED UNDER PIERCE COUNTY RECORDING NO. 9109060562 AND THE TRUE POINT OF BEGINNING; THENCE CONTINUING ALONG SAID WESTERLY MARGIN THE FOLLOWING COURSES: SOUTH 01°42'01" WEST, 74.27 FEET TO A POINT OF CURVATURE; SOUTHWESTERLY 589.42 FEET ALONG THE ARC OF A TANGENT CURVE TO THE RIGHT, HAVING A RADIUS OF 1846.32 FEET, THROUGH A CENTRAL ANGLE OF 19°49'02" TO A POINT OF TANGENCY; SOUTH 21°31'03" WEST, 234.08 FEET; SOUTH 31°28'47" WEST, 758.44 FEET TO THE SOUTHERLY LINE OF A 15 FOOT WIDE EASEMENT GRANTED TO PIERCE COUNTY SCHOOL DISTRICT NO. 7 FOR A PATH BY INSTRUMENT RECORDED UNDER PIERCE COUNTY RECORDING NO. 1604647; THENCE ALONG SAID SOUTHERLY LINE, THE FOLLOWING COURSES: N 73°58'12" W, 6.14 FEET; N 76°55'56" W, 137.26 FEET; N 80°45'26" W, 149.55 FEET; NORTH 83°19'26" WEST, 3.52 FEET TO THE SOUTHEASTERLY LINE OF BLOCK "L" AS SHOWN ON THE "REPLAT OF THE VILLAGE OF DUPONT" AS RECORDED IN VOLUME 15 OF PLATS, PAGE 66, RECORDS OF PIERCE COUNTY, WASHINGTON; THENCE ALONG THE SOUTHEASTERLY LINE OF SAID BLOCK "L" AND ALONG THE EASTERLY LINE OF THAT TRACT OF LAND CONVEYED BY DEED RECORDED UNDER RECORDING NO. 8609160527, NORTH 37°31'09" EAST, 421.17 FEET; THENCE ALONG THE EASTERLY AND NORTHEASTERLY LINES OF SAID TRACT, THE FOLLOWING COURSES: N 50°54'48" W, 39.71 FEET; N 20°15'28" E, 177.79 FEET; N 08°06'30" E, 148.69 FEET; N 18°28'36" E, 97.46 FEET; N 10°27'09" W, 109.27 FEET; N 10°49'00" E, 83.70 FEET; N 39°55'59" W, 402,16 FEET; N 49°44'03" W, 138.48 FEET; N 41°21'42" W, 83.79 FEET;

NORTH 47°49'04" WEST, 99.24 FEET TO THE SOUTHERLY LINE OF SAID PLAT OF "BELL HILL"; THENCE ALONG SAID SOUTHERLY LINE, THE FOLLOWING COURSES: N 86°09'51" E, 566.26 FEET; S 30°02'50" E, 66.31 FEET; N 81°03'07" E, 56.42 FEET; N 76°19'50" E, 49.78 FEET; S 80°24'24" E, 25.68 FEET; S 86°11'31" E, 41.36 FEET;

S 77°20'45" E, 37.53 FEET; N 82°37'33" E, 40.92 FEET; N 83°03'30" E, 29.71 FEET; S 71°21'32" E, 35.46 FEET; S 73°42'35" E, 28.67 FEET; S 61°30'59" E, 58.65 FEET; N 87°41'02" E, 42.60 FEET; S 37°31'32" E, 35.01 FEET; N 74°09'45" E, 57.08 FEET; S 88°17'59" E, 24.03 FEET TO THE TRUE POINT OF BEGINNING.

The Champions Centre project contains 4 existing parcels. The overall combined parcel area of the 4 parcels is 927,027 square feet (21.28 acres). This commercial project consists of a Boundary Line Adjustment to reduce the number of lots from 4 parcels into 3 parcels. Parcels A, B & C.

Parcel A will be 143,519 square feet (3.295 acre). This will be a commercial lot that will include the construction of approximately 25,892 square foot Religious Assembly that will have a maximum congregation occupancy of 350 people. The architectural footprint for this Religious Assembly is unique to allow for the existing grove of Landmark Oregon White Oak Trees that sit on an existing knoll to be protected and remain on-site. This property will also have a total of 135 parking stalls. The parking stalls will include 8 electric vehicle stalls, 4 standard ADA stalls, 1 van ADA stall and 122 standard stalls. This property will be served by Public Sewer & Water and will have on-site storm filter system(s) that will provide quality treatment of on-site stormwater runoff. After treatment onsite stormwater runoff will be conveyed to an on-site infiltration system which will provide quantity mitigation.

Parcel B will be 41,586 square feet (0.955 acres). This will be a commercial lot that will include the construction of approximately 3,000 square foot Eating and Drinking Establishment. The maximum occupancy is unknown at this time. This property will also have a total of 38 parking stalls. The parking stalls will include 10 electric vehicle stalls, 1 standard ADA stall, 1 van ADA stall and 26 standard stalls. This property will be served by Public Sewer & Water and will have an on-site cartridge-style storm filter system which will provide quality mitigation. Treated stormwater runoff will then be conveyed to and on-site stormwater infiltration system.

Parcel C will be 741,921 square feet (17.032 acres). This will include an existing wetland, wetland buffer, stream, stream buffer and Fema Flood Zone A per panel 53053C0526E effective date 3/7/2017. This parcel will be deeded to the City of DuPont upon the recording of the Boundary Line Adjustment.

Section 2 –Maintenance Importance and Intent

The importance of maintenance for the proper functioning of stormwater control facilities cannot be over-emphasized. A substantial portion of failures (clogging of filters, resuspension of sediments, loss of storage capacity, etc.) are due to inadequate maintenance. Stormwater BMP maintenance is essential to ensure that BMPs function as intended throughout their life cycle.

The fundamental goals of maintenance activities are to ensure the entire flow regime and treatment train designed for this site continue to fully function. For this site these include:

- Maintain designed infiltration capacity.

- Maintain ability to safely convey design stormwater flows.
- Maintain ability to treat stormwater runoff quality.
- Preserve soil and plant health, as well as stormwater flow contact with plant and soil systems.
- Clearly identify systems so they can be protected.
- Keep maintenance costs low.
- Prevent large-scale or extensive stormwater system failures.
- Prevent water quality violations or damage to downstream properties.

The intent of this section and manual is to pass on to the responsible party(s) all the information critical to understand the design of the system, risks and considerations for proper use, suggestions for maintenance frequencies, and cost so that realistic budgets can be established.

Section 3 – Responsible Parties

Onsite maintenance responsibilities for the conveyance system, cartridge filter system(s) and infiltration facilities will be the responsibility of the property owner. The City of DuPont will be responsible for maintaining the offsite storm drainage system, pervious walkway, and the associated conveyance piping/dispersion trench that flows through Parcel A. Refer to the approved plans for location of the dispersion trench and pervious pathway.

Section 4 – Facilities Requiring Maintenance

Stormwater Structures

Catch Basins and associated piping (onsite) – Private.

Catch Basins and associated piping (offsite) – Public.

Cartridge-style Stormwater Filter

PerkFilter for Parcel A-Lower – Private.

PerkFilter for Parcel A-Upper – Private.

PerkFilter for Parcel B. – Private.

Infiltration Systems

Infiltration Trench for Parcel A and Parcel B – Private

Pervious Pathway – Public

Dispersion Trench - Public

Section 5 – Maintenance Instructions

The parties responsible for maintenance must review and apply the maintenance requirements contained herein. These maintenance instructions outline conditions for determining if maintenance actions are required, as identified through inspection. However, they are not

intended to be measures of the facility's required condition at all times between inspections. Exceedance of these conditions at any time between inspections or maintenance activity does not automatically constitute a violation of these standards. However, based upon inspection observations, the inspection and maintenance presented in the checklists shall be adjusted to minimize the length of time that a facility is in a condition that requires a maintenance action. For facilities ***not owned*** *and maintained by the city, a log of maintenance activity that indicates what actions were taken must be kept on site and be available for inspection by the city.*

Responsibility of Property Owners

An infiltration trench with cartridge-style water quality filters system (PerkFilter) will be installed to capture, treat, and infiltrate runoff from the project for both Parcels A and B. In the case of Parcel A there will be two (2) PerkFilter systems installed (Lower and Upper).

Conveyance Systems: Maintenance should be performed when sediment and debris accumulate, or the system is damaged. Refer to maintenance checklist in the appendix of this document.

PerkFilter System(s): Maintenance should be performed in accordance with the Manufactures' recommended methods and timing. Refer to maintenance checklists within the appendix of this document.

Catch Basins & Covers: Maintenance should be performed when trash or debris accumulates, (sedimentation occurs or the structure is damaged. Refer to maintenance checklists in the appendix.

Responsibility of the City of DuPont

Sidewalks located within the City Right-of-Way along Barksdale Avenue and DuPont-Steilacooom Road with be constructed of pervious concrete, allowing stormwater to infiltrate. Currently, existing structures located on DuPont-Steilacoom Road capture stormwater and convey it onto the existing parcel. This pipe will be extended through the project site and directed to a proposed dispersion trench located near the wetland.

Catch Basin & Cover: Maintenance should be performed when trash or debris accumulates, (sedimentation occurs or the structure is damaged. Refer to maintenance checklists in the appendix.

Conveyance Systems: Maintenance should be performed when sediment and debris accumulate, or the system is damaged. Refer to maintenance checklist in the appendix.

Pervious Pathway: Maintenance should be performed when trash or debris accumulates, sedimentation occurs, the structure is damaged, or performance does not meet design expectations. Refer to maintenance checklists in the appendix.

Dispersion Trench: Maintenance should be performed when trash or debris accumulates, sedimentation occurs, the structure is damaged, or performance does not meet design expectations.

Section 6 – Vegetation Maintenance

Plant Maintenance:

- All required landscaping shall be maintained for the life of the project.
- Plants shall be maintained in a vigorous and healthy condition, free from diseases, pests, and weeds.
- All landscape areas shall be kept free of trash.
- Plants lost due to lifecycle or disease shall be replaced within 180 days, during the spring or fall growing season. Replacement plants shall meet current plant size and irrigation standards.
- Plant maintenance standards apply for the life of the project and to all future property owners.

Tree Pruning:

- All plant materials shall be pruned and trimmed as necessary to maintain a healthy growing condition or to prevent primary limb failure.
- Pruning of trees shall be limited to thinning, windowing, or skirting, unless otherwise restricted by critical area regulations.
    - Thinning: Removal of foliage evenly through the tree crown maintaining tree form and health. Not more than one quarter of the total leaf area is removed.
    - Windowing: The practice of creating a "window" within the tree crown. The overall crown remains intact. When windowing one side of a tree, it may be necessary to prune the opposite side of the tree to maintain balance.
    - Skirting: The practice of opening up views by removing the lower limbs of a tree. As a rule, do not limb up more than one-third of the tree's visible height.

Removal of Danger, Hazard, and Diseased Trees:

- Trees required to be retained pursuant to an approved conservation plan, landscape plan, or other similar plan or requirement shall not be removed unless it is demonstrated to the satisfaction of the city that a hazard exists to public safety, the safety of public or private property, or the health of surrounding trees (e.g. there is a significant chance of topping in high winds). The following requirements shall apply to the removal of a danger, hazard, or diseased tree in such areas:
    - The landowner shall submit a report and replanting plan prepared by a registered landscape architect, professional forester, or other expert approved by the Department to document the hazard, the specific actions that must occur to abate the threat, and the schedule for replanting.
    - Trees shall not be removed until after consultation and confirmation by the city that removal is necessary, unless hazard tree(s) are determined to pose an imminent threat or danger to public health or safety, or to public or private property, or serious environmental degradation.
    - Restoration plans shall consider retention of snags for wildlife habitat.
- Developer responsibility for maintenance of trees, including removal or replacement of diseased, dead, or dying trees, shall be as follows:

- Responsibility for maintaining trees shall remain in effect until such time as the property sale occurs. Upon the property sale, the new owner shall assume responsibility for maintenance.

Maintenance shall include care and pruning per ANSI 300 Standard Practices for trees, shrubs, and other woody plant maintenance. Ensure that a minimum of one (1) inch of water is supplied each week to restoration areas between May 1 and October 15 for at least the first two years following initial planting. The calculated amount of required water shall include both natural rainfall and temporary irrigation. Refer to landscape plans for additional information.

See Landscape Plan for further information.

Section 7 – Pollution Source Control Measures

Typical Commercial Pollution Source Control BMPs per Volume 4 have been provided and may be reviewed in Appendix C.

Section 8 – Annual Cost of Maintenance

The annual maintenance costs of the systems are estimated as follows:

City of DuPont's Responsibilities: $2,000/year

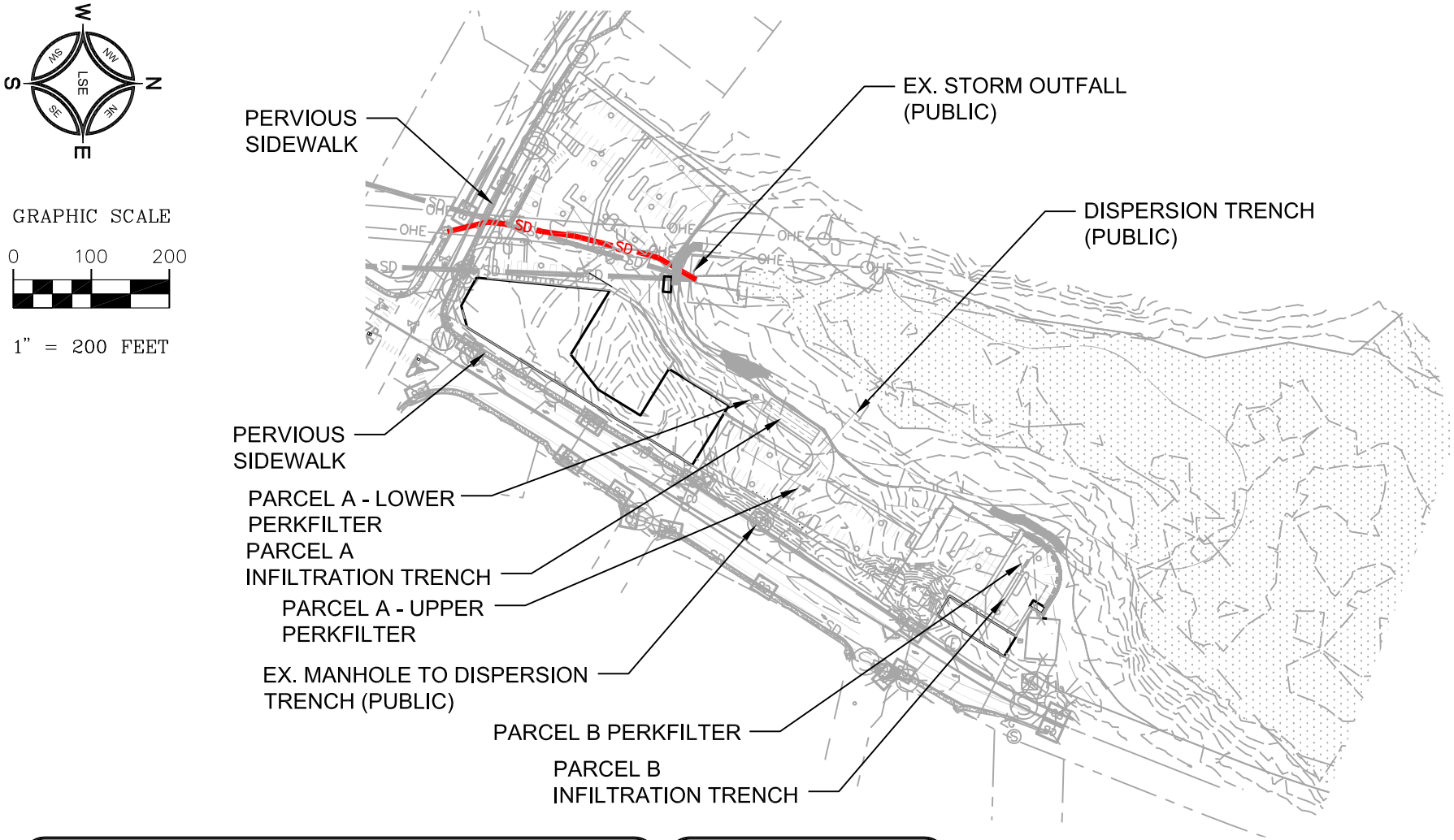
- Conveyance Piping and Dispersion Trench: $1,000
- Pervious Pathway/Sidewalk: $1,000

Property Owner's Responsibilities: $5,500/year Total

- Infiltration Trench – Parcel A: $400
- Conveyance Piping – Parcel A: $600
- PerkFilter – Parcel A-Lower: $750
- PerkFilter – Parcel A-Upper: $750
- Vegetation Maintenance: $1,200
- Infiltration Trench – Parcel B: $400
- Conveyance Piping – Parcel B: $300
- PerkFilter – Parcel B: $500
- Vegetation Maintenance: $600

Appendix A

Project Site Map



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CONTACT: STEVE T NELSON, PE

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Appendix B

Maintenance Checklists

Table V-A.5: Maintenance Standards - Catch Basins

Maintenance Component	Defect	Conditions When Maintenance is Needed	Results Expected When Maintenance is performed
General	Trash & Debris	Trash or debris which is located immediately in front of the catch basin opening or is blocking inletting capacity of the basin by more than 10%. Trash or debris (in the basin) that exceeds 60 percent of the sump depth as measured from the bottom of basin to invert of the lowest pipe into or out of the basin, but in no case less than a minimum of six inches clearance from the debris surface to the invert of the lowest pipe. Trash or debris in any inlet or outlet pipe blocking more than 1/3 of its height. Dead animals or vegetation that could generate odors that could cause complaints or dangerous gases (e.g., methane).	No Trash or debris located immediately in front of catch basin or on grate opening. No trash or debris in the catch basin. Inlet and outlet pipes free of trash or debris. No dead animals or vegetation present within the catch basin.
	Sediment	Sediment (in the basin) that exceeds 60 percent of the sump depth as measured from the bottom of basin to invert of the lowest pipe into or out of the basin, but in no case less than a minimum of 6 inches clearance from the sediment surface to the invert of the lowest pipe.	No sediment in the catch basin
	Structure Damage to Frame and/or Top Slab	Top slab has holes larger than 2 square inches or cracks wider than 1/4 inch. (Intent is to make sure no material is running into basin). Frame not sitting flush on top slab, i.e., separation of more than 3/4 inch of the frame from the top slab. Frame not securely attached	Top slab is free of holes and cracks. Frame is sitting flush on the riser rings or top slab and firmly attached.
	Fractures or Cracks in Basin Walls/ Bottom	Maintenance person judges that structure is unsound. Grout fillet has separated or cracked wider than 1/2 inch and longer than 1 foot at the joint of any inlet/outlet pipe or any evidence of soil particles entering catch basin through cracks.	Basin replaced or repaired to design standards. Pipe is regrouted and secure at basin wall.
	Settlement/ Misalignment	If failure of basin has created a safety, function, or design problem.	Basin replaced or repaired to design standards.
	Vegetation	Vegetation growing across and blocking more than 10% of the basin opening. Vegetation growing in inlet/outlet pipe joints that is more than six inches tall and less than six inches apart.	No vegetation blocking opening to basin. No vegetation or root growth present.
	Contamination and Pollution	See Table V-A.1: Maintenance Standards - Detention Ponds	No pollution present.
Catch Basin Cover	Cover Not in Place	Cover is missing or only partially in place. Any open catch basin requires maintenance.	Cover/grate is in place, meets design standards, and is secured
	Locking Mechanism Not Working	Mechanism cannot be opened by one maintenance person with proper tools. Bolts into frame have less than 1/2 inch of thread.	Mechanism opens with proper tools.
	Cover Difficult to Remove	One maintenance person cannot remove lid after applying normal lifting pressure. (Intent is keep cover from sealing off access to maintenance.)	Cover can be removed by one maintenance person.
Ladder	Ladder Rungs Unsafe	Ladder is unsafe due to missing rungs, not securely attached to basin wall, misalignment, rust, cracks, or sharp edges.	Ladder meets design standards and allows maintenance person safe access.
Metal Grates (If Applicable)	Grate opening Unsafe	Grate with opening wider than 7/8 inch.	Grate opening meets design standards.
	Trash and Debris	Trash and debris that is blocking more than 20% of grate surface inletting capacity.	Grate free of trash and debris.
	Damaged or Missing.	Grate missing or broken member(s) of the grate.	Grate is in place, meets the design standards, and is installed and aligned with the flow path.

Table V-A.6: Maintenance Standards - Debris Barriers (e.g., Trash Racks)

Maintenance Components	Defect	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
General	Trash and Debris	Trash or debris that is plugging more than 20% of the openings in the barrier.	Barrier cleared to design flow capacity.
Metal	Damaged/ Missing Bars.	Bars are bent out of shape more than 3 inches.	Bars in place with no bends more than 3/4 inch.
		Bars are missing or entire barrier missing.	Bars in place according to design.
		Bars are loose and rust is causing 50% deterioration to any part of barrier.	Barrier replaced or repaired to design standards.
	Inlet/Outlet Pipe	Debris barrier missing or not attached to pipe	Barrier firmly attached to pipe

Table V-A.7: Maintenance Standards - Energy Dissipators

Maintenance Components	Defect	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
External:			
Rock Pad	Missing or Moved Rock	Only one layer of rock exists above native soil in area five square feet or larger, or any exposure of native soil.	Rock pad replaced to design standards.
	Erosion	Soil erosion in or adjacent to rock pad.	Rock pad replaced to design standards.
Dispersion Trench	Pipe Plugged with Sediment	Accumulated sediment that exceeds 20% of the design depth.	Pipe cleaned/flushed so that it matches design.
	Not Discharging Water Properly	Visual evidence of water discharging at concentrated points along trench (normal condition is a "sheet flow" of water along trench). Intent is to prevent erosion damage.	Trench redesigned or rebuilt to standards.
	Perforations Plugged.	Over 1/2 of perforations in pipe are plugged with debris and sediment.	Perforated pipe cleaned or replaced.
	Water Flows Out Top of "Distributor" Catch Basin.	Maintenance person observes or receives credible report of water flowing out during any storm less than the design storm or its causing or appears likely to cause damage.	Facility rebuilt or redesigned to standards.
	Receiving Area Over-Saturated	Water in receiving area is causing or has potential of causing landslide problems.	No danger of landslides.
Internal:			
Manhole/Chamber	Worn or Damaged Post, Baffles, Side of Chamber	Structure dissipating flow deteriorates to 1/2 of original size or any concentrated worn spot exceeding one square foot which would make structure unsound.	Structure replaced to design standards.
	Other Defects	See Table V-A.5: Maintenance Standards - Catch Basins	See Table V-A.5: Maintenance Standards - Catch Basins

Table V-A.8: Maintenance Standards - Typical Biofiltration Swale

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Recommended Maintenance to Correct Problem
General	Sediment Accumulation on Grass	Sediment depth exceeds 2 inches.	Remove sediment deposits on grass treatment area of the bio-swale. When finished, swale should be level from side to side and drain freely toward outlet. There should be no areas of standing water once inflow has ceased.
	Standing Water	When water stands in the swale between storms and does not drain freely.	Any of the following may apply: remove sediment or trash blockages, improve grade from head to foot of swale, remove clogged check dams, add underdrains or convert to a wet biofiltration swale.
	Flow spreader	Flow spreader uneven or clogged so that flows are not uniformly distributed through entire swale width.	Level the spreader and clean so that flows are spread evenly over entire swale width.

Table V-A.13: Maintenance Standards - Sand Filters (Above Ground/Open) (continued)

Maintenance Component	Defect	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
	Flow Spreader	Flow spreader uneven or clogged so that flows are not uniformly distributed across sand filter.	Spreader leveled and cleaned so that flows are spread evenly over sand filter.
	Damaged Pipes	Any part of the piping that is crushed or deformed more than 20% or any other failure to the piping.	Pipe repaired or replaced.

Table V-A.14: Maintenance Standards - Sand Filters (Below Ground/Enclosed)

Maintenance Component	Defect	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Below Ground Vault.	Sediment Accumulation on Sand Media Section	Sediment depth exceeds 1/2-inch.	No sediment deposits on sand filter section that which would impede permeability of the filter section.
	Sediment Accumulation in Pre-Settling Portion of Vault	Sediment accumulation in vault bottom exceeds the depth of the sediment zone plus 6-inches.	No sediment deposits in first chamber of vault.
	Trash/Debris Accumulation	Trash and debris accumulated in vault, or pipe inlet/outlet, floatables and non-floatables.	Trash and debris removed from vault and inlet/outlet piping.
	Sediment in Drain Pipes/Cleanouts	When drain pipes, cleanouts become full with sediment and/or debris.	Sediment and debris removed.
	Short Circuiting	When seepage/flow occurs along the vault walls and corners. Sand eroding near inflow area.	Sand filter media section re-laid and compacted along perimeter of vault to form a semi-seal. Erosion protection added to dissipate force of incoming flow and curtail erosion.
	Damaged Pipes	Inlet or outlet piping damaged or broken and in need of repair.	Pipe repaired and/or replaced.
	Access Cover Damaged/Not Working	Cover cannot be opened, corrosion/deformation of cover. Maintenance person cannot remove cover using normal lifting pressure.	Cover repaired to proper working specifications or replaced.
	Ventilation	Ventilation area blocked or plugged	Blocking material removed or cleared from ventilation area. A specified % of the vault surface area must provide ventilation to the vault interior (see design specifications).
	Vault Structure Damaged; Includes Cracks in Walls, Bottom, Damage to Frame and/or Top Slab.	Cracks wider than 1/2-inch or evidence of soil particles entering the structure through the cracks, or maintenance/inspection personnel determine that the vault is not structurally sound. Cracks wider than 1/2-inch at the joint of any inlet/outlet pipe or evidence of soil particles entering through the cracks.	Vault replaced or repairs made so that vault meets design specifications and is structurally sound. Vault repaired so that no cracks exist wider than 1/4-inch at the joint of the inlet/outlet pipe.
	Baffles/Internal walls	Baffles or walls corroding, cracking, warping and/or showing signs of failure as determined by maintenance/inspection person.	Baffles repaired or replaced to specifications.
	Access Ladder Damaged	Ladder is corroded or deteriorated, not functioning properly, not securely attached to structure wall, missing rungs, cracks, and misaligned.	Ladder replaced or repaired to specifications, and is safe to use as determined by inspection personnel.

Table V-A.15: Maintenance Standards - Manufactured Media Filters

Maintenance Component	Defect	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Below Ground	Sediment Accumulation on Media.	Sediment depth exceeds 0.25-inches.	No sediment deposits which would impede permeability of the

Table V-A.15: Maintenance Standards - Manufactured Media Filters (continued)

Maintenance Component	Defect	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
			compost media.
Vault	Sediment Accumulation in Vault	Sediment depth exceeds 6-inches in first chamber.	No sediment deposits in vault bottom of first chamber.
	Trash/Debris Accumulation	Trash and debris accumulated on compost filter bed.	Trash and debris removed from the compost filter bed.
	Sediment in Drain Pipes/Clean-Outs	When drain pipes, clean-outs, become full with sediment and/or debris.	Sediment and debris removed.
	Damaged Pipes	Any part of the pipes that are crushed or damaged due to corrosion and/or settlement.	Pipe repaired and/or replaced.
	Access Cover Damaged/Not Working	Cover cannot be opened; one person cannot open the cover using normal lifting pressure, corrosion/deformation of cover.	Cover repaired to proper working specifications or replaced.
	Vault Structure Includes Cracks in Wall, Bottom, Damage to Frame and/or Top Slab	Cracks wider than 1/2-inch or evidence of soil particles entering the structure through the cracks, or maintenance/inspection personnel determine that the vault is not structurally sound. Cracks wider than 1/2-inch at the joint of any inlet/outlet pipe or evidence of soil particles entering through the cracks.	Vault replaced or repairs made so that vault meets design specifications and is structurally sound. Vault repaired so that no cracks exist wider than 1/4-inch at the joint of the inlet/outlet pipe.
	Baffles	Baffles corroding, cracking warping, and/or showing signs of failure as determined by maintenance/inspection person.	Baffles repaired or replaced to specifications.
	Access Ladder Damaged	Ladder is corroded or deteriorated, not functioning properly, not securely attached to structure wall, missing rungs, cracks, and misaligned.	Ladder replaced or repaired and meets specifications, and is safe to use as determined by inspection personnel.
Below Ground Cartridge Type	Media	Drawdown of water through the media takes longer than 1 hour, and/or overflow occurs frequently.	Media cartridges replaced.
	Short Circuiting	Flows do not properly enter filter cartridges.	Filter cartridges replaced.

Table V-A.21: Maintenance Standards - Bioretention Facilities (continued)

Maintenance Component	Recommended Frequency [a]		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
	vegetation management			protocols)

Note that the inspection and routine maintenance frequencies listed above are recommended by Ecology. They do not supersede or replace the municipal stormwater permit requirements for inspection frequency required of municipal stormwater permittees for "stormwater treatment and flow control BMPs/facilities".

[a] Frequency: A = Annually; B = Biannually (twice per year); M = Monthly; W = At least one visit should occur during the wet season (for debris/clog related maintenance, this inspection/maintenance visit should occur in the early fall, after deciduous trees have lost their leaves); S = Perform inspections after major storm events (24-hour storm event with a 10-year or greater recurrence interval).

IPM - Integrated Pest Management

ISA - International Society of Arboriculture

Table V-A.22: Maintenance Standards - Permeable Pavement

Component	Recommended Frequency [a]		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
Surface/Wearing Course				
Permeable Pavements, all	A, S		Runoff from adjacent pervious areas deposits soil, mulch or sediment on paving	• Clean deposited soil or other materials from permeable pavement or other adjacent surfacing • Check if surface elevation of planted area is too high, or slopes towards pavement, and can be regraded (prior to regrading, protect permeable pavement by covering with temporary plastic and secure covering in place) • Mulch and/or plant all exposed soils that may erode to pavement surface
Porous asphalt or pervious concrete		A or B	None (routine maintenance)	Clean surface debris from pavement surface using one or a combination of the following methods: • Remove sediment, debris, trash, vegetation, and other debris deposited onto pavement (rakes and leaf blowers can be used for removing leaves) • Vacuum/sweep permeable paving installation using: ◦ Walk-behind vacuum (sidewalks) ◦ High efficiency regenerative air or vacuum sweeper (roadways, parking lots) ◦ ShopVac or brush brooms (small areas) • Hand held pressure washer or power washer with rotating brushes Follow equipment manufacturer guidelines for when equipment is most effective for cleaning permeable pavement. Dry weather is more effective for some equipment.
	A_b		Surface is clogged: Ponding on surface or water flows off the permeable pavement surface during a rain event (does not infiltrate)	• Review the overall performance of the facility (note that small clogged areas may not reduce overall performance of facility) • Test the surface infiltration rate using ASTM C1701 as a corrective maintenance indicator. Perform one test per installation, up to 2,500 square feet. Perform an additional test for each additional 2,500 square feet up to 15,000 square feet total. Above 15,000 square feet, add one test for every 10,000 square feet. • If the results indicate an infiltration rate of 10 inches per hour or less, then perform corrective maintenance to restore permeability. To clean clogged pavement surfaces, use one or combination of the following methods:

Table V-A.22: Maintenance Standards - Permeable Pavement (continued)

Component	Recommended Frequency [a]		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
				◦ Combined pressure wash and vacuum system calibrated to not dislodge wearing course aggregate. ◦ Hand held pressure washer or power washer with rotating brushes ◦ Pure vacuum sweepers Note: If the annual/biannual routine maintenance standard to clean the pavement surface is conducted using equipment from the list above, corrective maintenance may not be needed.
	A		Sediment present at the surface of the pavement	• Assess the overall performance of the pavement system during a rain event. If water runs off the pavement and/or there is ponding then see above. • Determine source of sediment loading and evaluate whether or not the source can be reduced/eliminated. If the source cannot be addressed, consider increasing frequency of routine cleaning (e.g., twice per year instead of once per year).
	Summer		Moss growth inhibits infiltration or poses slip safety hazard	• Sidewalks: Use a stiff broom to remove moss in the summer when it is dry • Parking lots and roadways: Pressure wash, vacuum sweep, or use a combination of the two for cleaning moss from pavement surface. May require stiff broom or power brush in areas of heavy moss.
	A		Major cracks or trip hazards and concrete spalling and raveling	• Fill potholes or small cracks with patching mixes • Large cracks and settlement may require cutting and replacing the pavement section. Replace in-kind where feasible. Replacing porous asphalt with conventional asphalt is acceptable if it is a small percentage of the total facility area and does not impact the overall facility function. • Take appropriate precautions during pavement repair and replacement efforts to prevent clogging of adjacent porous materials
Interlocking concrete paver blocks and aggregate pavers		A or B	None (routine maintenance)	Clean pavement surface using one or a combination of the following methods: • Remove sediment, debris, trash, vegetation, and other debris deposited onto pavement (rakes and leaf blowers can be used for removing leaves) • Vacuum/sweep permeable paving installation using: ◦ Walk-behind vacuum (sidewalks) ◦ High efficiency regenerative air or vacuum sweeper (roadways, parking lots) ◦ ShopVac or brush brooms (small areas) Note: Vacuum settings may have to be adjusted to prevent excess uptake of aggregate from paver openings or joints. Vacuum surface openings in dry weather to remove dry, encrusted sediment.
	A_b		Surface is clogged: Ponding on surface or water flows off the permeable pavement surface during a rain event (does not infiltrate)	• Review the overall performance of the facility (note that small clogged areas may not reduce overall performance of facility) • Test the surface infiltration rate using ASTM C1701 as a corrective maintenance indicator. Perform one test per installation, up to 2,500 square feet. Perform an additional test for each additional 2,500 square feet up to 15,000 square feet total. Above 15,000 square feet, add one test for every 10,000 square feet. • If the results indicate an infiltration rate of 10 inches per hour or less, then perform corrective maintenance to restore permeability.

Table V-A.22: Maintenance Standards - Permeable Pavement (continued)

Component	Recommended Frequency [a]		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
				• Clogging is usually an issue in the upper 2 to 3 centimeters of aggregate. Remove the upper layer of encrusted sediment, and fines, and/or vegetation from openings and joints between the pavers by mechanical means and/or suction equipment (e.g., pure vacuum sweeper). • Replace aggregate in paver cells, joints, or openings per manufacturer's recommendations
	A		Sediment present at the surface of the pavement	• Assess the overall performance of the pavement system during a rain event. If water runs off the pavement and/or there is ponding, then see above. • Determine source of sediment loading and evaluate whether or not the source can be reduced/eliminated. If the source cannot be addressed, consider increasing frequency of routine cleaning (e.g., twice per year instead of once per year).
	Summer		Moss growth inhibits infiltration or poses slip safety hazard	• Sidewalks: Use a stiff broom to remove moss in the summer when it is dry • Parking lots and roadways: Vacuum sweep or stiff broom/power brush for cleaning moss from pavement surface
	A		Paver block missing or damaged	Remove individual damaged paver blocks by hand and replace or repair per manufacturer's recommendations
	A		Loss of aggregate material between paver blocks	Refill per manufacturer's recommendations for interlocking paver sections
	A		Settlement of surface	May require resetting
Open-celled paving grid with gravel		A or B	None (routine maintenance)	• Remove sediment, debris, trash, vegetation, and other debris deposited onto pavement (rakes and leaf blowers can be used for removing leaves) • Follow equipment manufacturer guidelines for cleaning surface.
	A_b		Aggregate is clogged: Ponding on surface or water flows off the permeable pavement surface during a rain event (does not infiltrate)	• Use vacuum truck to remove and replace top course aggregate • Replace aggregate in paving grid per manufacturer's recommendations
	A		Paving grid missing or damaged	• Remove pins, pry up grid segments, and replace gravel • Replace grid segments where three or more adjacent rings are broken or damaged • Follow manufacturer guidelines for repairing surface.
	A		Settlement of surface	May require resetting
	A		Loss of aggregate material in paving grid	Replenish aggregate material by spreading gravel with a rake (gravel level should be maintained at the same level as the plastic rings or no more than 1/4 inch above the top of rings). See manufacturer's recommendations.
		A	Weeds present	• Manually remove weeds • Presence of weeds may indicate that too many fines are present (refer to Actions Needed under "Aggregate is clogged" to address this issue)
Open-celled paving grid with grass		A or B	None (routine maintenance)	• Remove sediment, debris, trash, vegetation, and other debris deposited onto pavement (rakes and leaf blowers can be used for removing leaves) • Follow equipment manufacturer guidelines for cleaning surface.

Table V-A.22: Maintenance Standards - Permeable Pavement (continued)

Component	Recommended Frequency [a]		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
	A_b		Aggregate is clogged: Ponding on surface or water flows off the permeable pavement surface during a rain event (does not infiltrate)	Rehabilitate per manufacturer's recommendations.
	A		Paving grid missing or damaged	• Remove pins, pry up grid segments, and replace grass • Replace grid segments where three or more adjacent rings are broken or damaged • Follow manufacturer guidelines for repairing surface.
	A		Settlement of surface	May require resetting
	A		Poor grass coverage in paving grid	• Restore growing medium, reseed or plant, aerate, and/or amend vegetated area as needed • Traffic loading may be inhibiting grass growth; reconsider traffic loading if feasible
		As needed	None (routine maintenance)	Use a mulch mower to mow grass
		A	None (routine maintenance)	• Sprinkle a thin layer of compost on top of grass surface (1/2" top dressing) and sweep it in • Do not use fertilizer
		A	Weeds present	• Manually remove weeds • Mow, torch, or inoculate and replace with preferred vegetation
Inlets/Outlets/Pipes				
Inlet/outlet pipe	A		Pipe is damaged	Repair/replace
	A		Pipe is clogged	Remove roots or debris
Underdrain pipe	Clean pipe as needed	Clean orifice at least biannually (may need more frequent cleaning during wet season)	Plant roots, sediment or debris reducing capacity of underdrain (may cause prolonged drawdown period)	• Jet clean or rotary cut debris/roots from underdrain(s) • If underdrains are equipped with a flow restrictor (e.g., orifice) to attenuate flows, the orifice must be cleaned regularly
Raised subsurface overflow pipe	Clean pipe as needed	Clean orifice at least biannually (may need more frequent cleaning during wet season)	Plant roots, sediment or debris reducing capacity of underdrain	• Jet clean or rotary cut debris/roots from under-drain(s) • If underdrains are equipped with a flow restrictor (e.g., orifice) to attenuate flows, the orifice must be cleaned regularly
Outlet structure	A, S		Sediment, vegetation, or debris reducing capacity of outlet structure	• Clear the blockage • Identify the source of the blockage and take actions to prevent future blockages
Overflow	B		Native soil is exposed or other signs of erosion damage are present at discharge point	Repair erosion and stabilize surface
Aggregate Storage Reservoir				
Observation port	A, S		Water remains in the storage aggregate longer than anticipated by design after the end of a storm	If immediate cause of extended ponding is not identified, schedule investigation of subsurface materials or other potential causes of system failure.

Table V-A.22: Maintenance Standards - Permeable Pavement (continued)

Component	Recommended Frequency [a]		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
Vegetation				
Adjacent large shrubs or trees		As needed	Vegetation related fallout clogs or will potentially clog voids	• Sweep leaf litter and sediment to prevent surface clogging and ponding • Prevent large root systems from damaging subsurface structural components
		Once in May and Once in September	Vegetation growing beyond facility edge onto sidewalks, paths, and street edge	Edging and trimming of planted areas to control groundcovers and shrubs from overreaching the sidewalks, paths and street edge improves appearance and reduces clogging of permeable pavements by leaf litter, mulch and soil.
Leaves, needles, and organic debris		In fall (October to December) after leaf drop (1-3 times, depending on canopy cover)	Accumulation of organic debris and leaf litter	Use leaf blower or vacuum to blow or remove leaves, evergreen needles, and debris (i.e., flowers, blossoms) off of and away from permeable pavement

Note that the inspection and routine maintenance frequencies listed above are recommended by Ecology. They do not supersede or replace the municipal stormwater permit requirements for inspection frequency required of municipal stormwater permittees for "stormwater treatment and flow control BMPs/facilities".

a Frequency: A= Annually; B= Biannually (twice per year); S = Perform inspections after major storm events (24-hour storm event with a 10-year or greater recurrence interval).

b Inspection should occur during storm event.

Table V-A.23: Maintenance Standards - Vegetated Roofs

Activity	Objective	Schedule	Notes
Structural and Drainage Components			
Clear inlet pipes: Remove soil substrate, vegetation or other debris.	Maintain free drainage of inlet pipes.	Twice annually.	
Inspect drain pipe: Check for cracks settling and proper alignment, and correct and re-compact soils or fill material surrounding pipe, if necessary.	Maintain free drainage of inlet pipes.	Twice annually.	
Inspect fire ventilation points for proper operation	Fire and safety.	Twice annually.	
Maintain egress and ingress: Clear routes of obstructions and maintained to design standards.	Fire and safety.	Twice annually.	
Insects: (see note)			Roof garden design should provide drainage rates that do not allow pooling of water for periods that promote insect larvae development. If standing water is present for extended periods correct drainage problem. Chemical sprays should not be used.
Prevent release of contaminants: Identify activities (mechanical systems maintenance, pet access, etc.) that can potentially release pollutants to the roof garden and establish agreements to prevent release.	Water quality protection.	During construction of roof and then as determined by inspection.	Any cause of pollutant release should be corrected as soon as identified and the pollutant removed.
Vegetation and Growth Medium			
Invasive or nuisance plants: Remove manually and without herbicide applications.	Promote selected plant growth and survival, maintain aesthetics.	Twice annually.	At a minimum, schedule weeding with inspections to coincide with important horticultural cycles (e.g., prior to major weed varieties dispersing seeds).

PERKFILTER™

Inspection and Maintenance Guide

PerkFilter™ Media Filtration System

Description

The PerkFilter is a stormwater treatment device used to remove pollutants from urban runoff. Impervious surfaces and other urban and suburban landscapes generate a variety of contaminants that can enter stormwater and pollute downstream receiving waters. The PerkFilter is a media-filled cartridge filtration device designed to capture and retain sediment, gross solids, metals, nutrients, hydrocarbons, and trash and debris. As with any stormwater treatment system, the PerkFilter requires periodic maintenance to sustain optimum system performance.

Function

The PerkFilter is a water quality treatment system consisting of three chambers: an inlet chamber, a filter cartridge treatment chamber, and an outlet chamber (Figure 1). Stormwater runoff enters the inlet chamber through an inlet pipe, curb opening, or grated inlet. Gross solids are settled out, and floating trash and debris are trapped in the inlet chamber. Pretreated flow is then directed to the treatment chamber through an opening in the baffle wall between the inlet chamber and treatment chamber. The treatment chamber contains media-filled filter cartridges (Figure 2) that use physical and chemical processes to remove pollutants. During a storm event, runoff pools in the treatment chamber before passing radially through the cylindrical cartridges from the outside surface, through the media for treatment, and into the center of the cartridge. At the center of the cartridge is a center tube assembly designed to distribute the hydraulic load evenly across the surface of the filter cartridge and control the treatment flow rate. The center tube assembly discharges treated flow through the false floor and into the outlet chamber. A draindown feature built into each cartridge allows the treatment chamber to dewater between storm events.

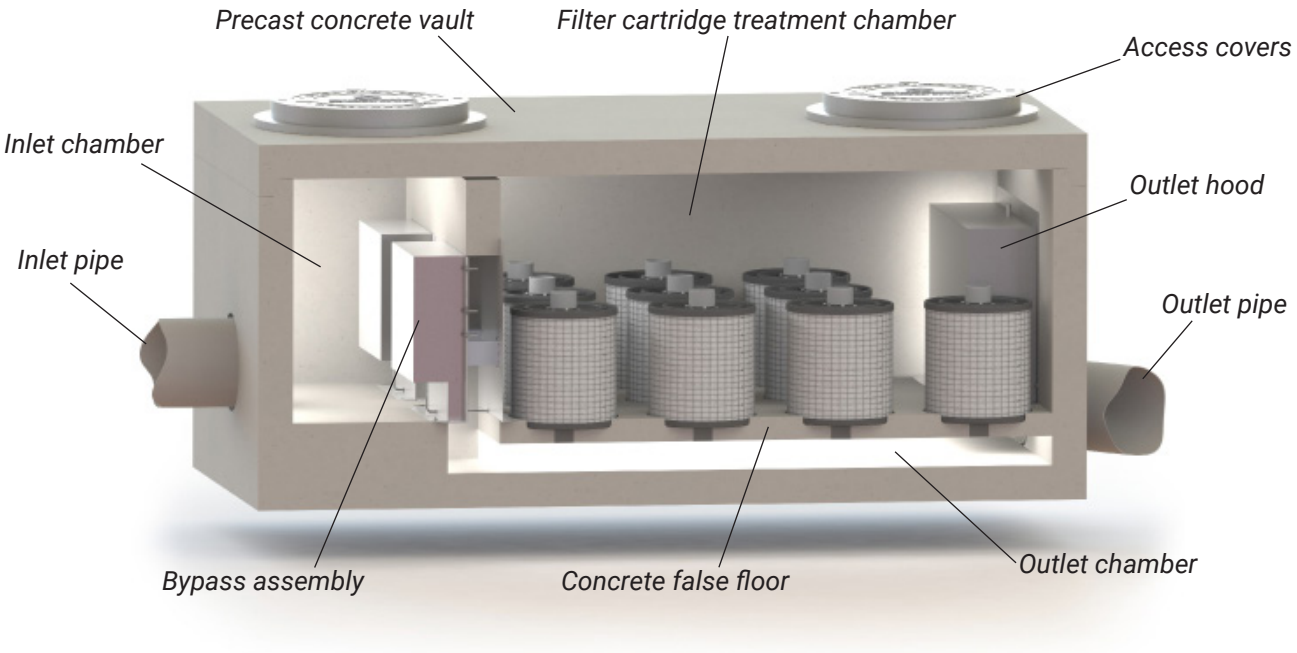

Figure 1. Schematic of the PerkFilter system.

All PerkFilter systems include a high-flow bypass assembly to divert flow exceeding the treatment capacity of the filter cartridges around the treatment chamber. The bypass assembly routes peak flow from the inlet chamber directly to the outlet chamber, bypassing the treatment chamber to prevent sediment and other captured pollutants from being scoured and re-entrained by high flow. Treated flow and bypass flow merge in the outlet chamber for discharge by a single outlet pipe.

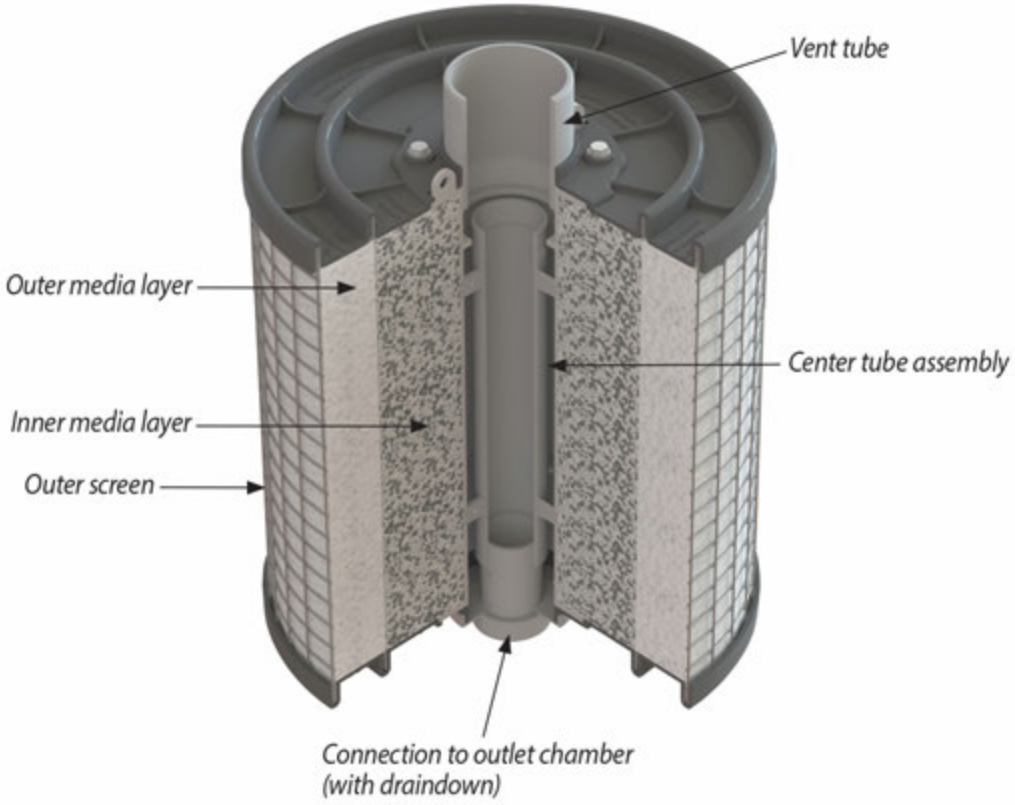

Figure 2. Schematic of PerkFilter cartridge.

Configuration

The PerkFilter structure may consist of a vault, manhole, or catch basin configuration. Catch basin units may be fabricated from concrete or steel. Internal components including the PerkFilter cartridges are manufactured from durable plastic and stainless steel components and hardware. All cartridges are 18 inches in diameter and are available in two heights: 12-inch and 18-inch. Cartridges may be used alone or may be stacked (Figure 3) to provide 24-inch and 30-inch combinations. The capacity of each cartridge or cartridge combination is dictated by the allowable operating rate of the media and the outer surface area of the cartridge. Thus, taller cartridges have greater treatment capacity than shorter cartridges, but they also require more hydraulic drop across the system. Cartridges may be filled with various media depending on the target pollutants and desired treatment rate, among other factors.

Access to an installed PerkFilter system is typically provided by ductile iron castings or hatch covers. The location and number of access appurtenances is dependent on the size and configuration of the system.

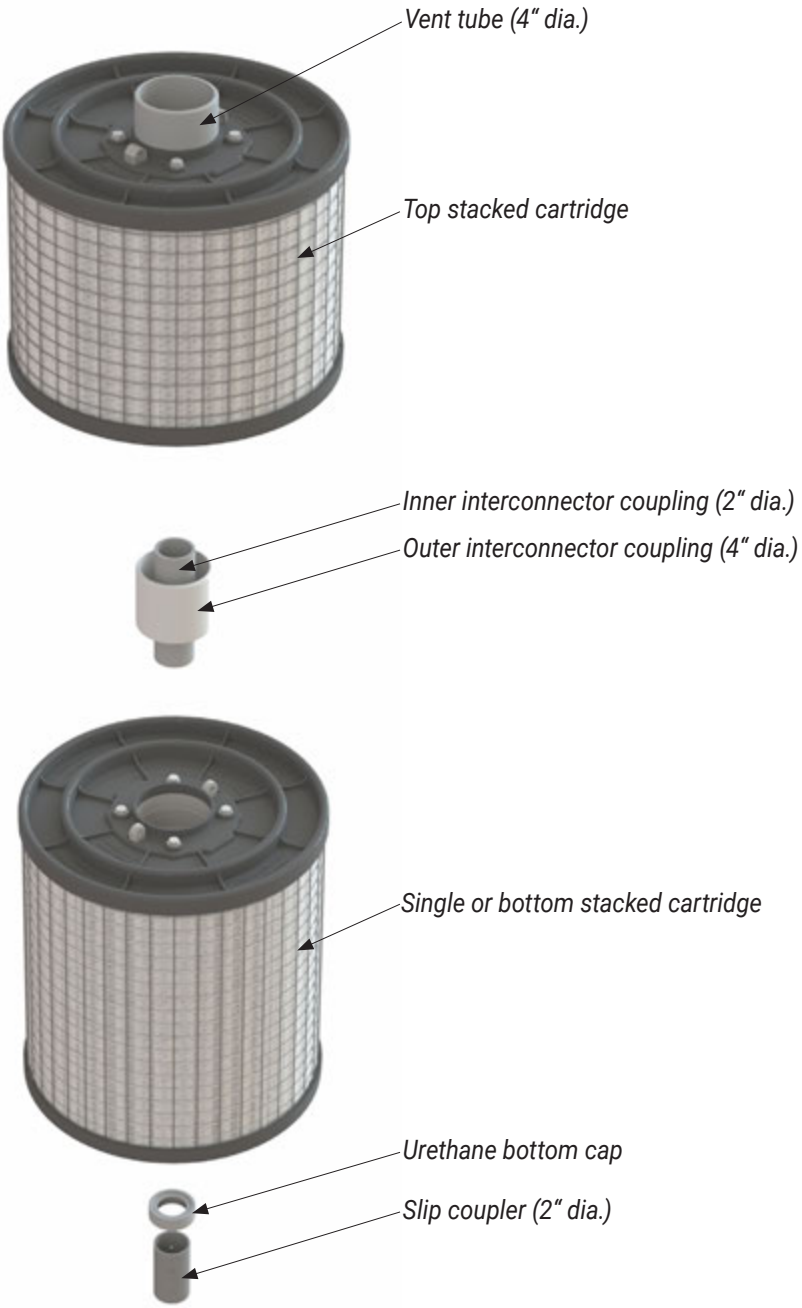

Figure 3. Schematic of stacked cartridges and connector components.

Maintenance Overview

State and local regulations require all stormwater management systems to be inspected on a periodic basis and maintained as necessary to ensure performance and protect downstream receiving waters. Maintenance prevents excessive pollutant buildup that can limit system performance by reducing the operating capacity and increasing the potential for scouring of pollutants during periods of high flow.

Inspection and Maintenance Frequency

The PerkFilter should be inspected on a periodic basis, typically twice per year, and maintained as required. Initially, inspections of a new system should be conducted more frequently to help establish an appropriate site-specific inspection frequency. The maintenance frequency will be driven by the amount of runoff and pollutant loading encountered by a given system. In most cases, the optimum maintenance interval will be one to three years. Inspection and maintenance activities should be performed only during dry weather periods.

Inspection Equipment

The following equipment is helpful when conducting PerkFilter inspections:

- Recording device (pen and paper form, voice recorder, iPad, etc.)
- Suitable clothing (appropriate footwear, gloves, hardhat, safety glasses, etc.)
- Traffic control equipment (cones, barricades, signage, flagging, etc.)
- Socket and wrench for bolt-down access covers
- Manhole hook or pry bar
- Flashlight
- Tape measure
- Measuring stick or sludge sampler
- Long-handled net (optional)

Inspection Procedures

PerkFilter inspections are visual and may be conducted from the ground surface without entering the unit. To complete an inspection, safety measures including traffic control should be deployed before the access covers are removed. Once the covers have been removed, the following items should be checked and recorded (see form provided at the end of this document) to determine whether maintenance is required:

- Inspect the internal components and note whether there are any broken or missing parts. In the unlikely event that internal parts are broken or missing, contact Oldcastle Infrastructure at (800) 579-8819 to determine appropriate corrective action.
- Note whether the inlet pipe is blocked or obstructed. The outlet pipe is covered by a removable outlet hood and cannot be observed without entering the unit.
- Observe, quantify and record the accumulation of floating trash and debris in the inlet chamber. The significance of accumulated floating trash and debris is a matter of judgment. A long-handled net may be used to retrieve the bulk of trash and debris at the time of inspection if full maintenance due to accumulation of floating oils or settled sediment is not yet warranted.

- Observe, quantify and record the accumulation of oils in the inlet chamber. The significance of accumulated floating oils is a matter of judgment. However, if there is evidence of an oil or fuel spill, immediate maintenance by appropriate certified personnel is warranted.
- Observe, quantify and record the average accumulation of sediment in the inlet chamber and treatment chamber. A calibrated dipstick, tape measure, or sludge sampler may be used to determine the amount of accumulated sediment in each chamber. The depth of sediment may be determined by calculating the difference between the measurement from the rim of the PerkFilter to the top of the accumulated sediment, and the measurement from the rim of the PerkFilter to the bottom of the PerkFilter structure. Finding the top of the accumulated sediment below standing water takes some practice and a light touch, but increased resistance as the measuring device is lowered toward the bottom of the unit indicates the top of the accumulated sediment.
- Finally, observe, quantify and record the amount of standing water in the treatment chamber around the cartridges. If standing water is present, do not include the depth of sediment that may have settled out below the standing water in the measurement.

Maintenance Triggers

Maintenance should be scheduled if any of the following conditions are identified during the inspection:

- Internal components are broken or missing.
- Inlet piping is obstructed.
- The accumulation of floating trash and debris that cannot be retrieved with a net and/or oil in the inlet chamber is significant.
- There is more than 6” of accumulated sediment in the inlet chamber.
- There is more than 4” of accumulated sediment in the treatment chamber.
- There is more than 4” of standing water in the treatment chamber more than 24 hours after end of rain event.
- A hazardous material release (e.g. automotive fluids) is observed or reported.
- The system has not been maintained for 3 years (wet climates) to 5 years (dry climates).

Maintenance Equipment

The following equipment is helpful when conducting PerkFilter maintenance:

- Suitable clothing (appropriate footwear, gloves, hardhat, safety glasses, etc.)
- Traffic control equipment (cones, barricades, signage, flagging, etc.)
- Socket and wrench for bolt-down access covers
- Manhole hook or pry bar
- Confined space entry equipment, if needed
- Flashlight
- Tape measure
- 9/16” socket and wrench to remove hold-down struts and filter cartridge tops
- Replacement filter cartridges
- Vacuum truck with water supply and water jet

Contact Oldcastle Infrastructure at (800) 579-8819 for replacement filter cartridges. A lead time of four weeks is recommended.

Maintenance Procedures

Maintenance should be conducted during dry weather when no flow is entering the system. Confined space entry is necessary to maintain vault and manhole PerkFilter configurations. Only personnel that are OSHA Confined Space Entry trained and certified may enter underground structures. Confined space entry is not required for catch basin PerkFilter configurations. Once safety measures such as traffic control are deployed, the access covers may be removed and the following activities may be conducted to complete maintenance:

- Remove floating trash, debris and oils from the water surface in the inlet chamber using the extension nozzle on the end of the boom hose of the vacuum truck. Continue using the vacuum truck to completely dewater the inlet chamber and evacuate all accumulated sediment from the inlet chamber. Some jetting may be required to fully remove sediment. The inlet chamber does not need to be refilled with water after maintenance is complete. The system will fill with water when the next storm event occurs.
- Remove the hold-down strut from each row of filter cartridges and then remove the top of each cartridge (the top is held on by four 9/16" bolts) and use the vacuum truck to evacuate the spent media. When empty, the spent cartridges may be easily lifted off their slip couplers and removed from the vault. The couplers may be left inserted into couplings cast into the false floor to prevent sediment and debris from being washed into the outlet chamber during washdown.
- Once all the spent cartridges have been removed from the structure, the vacuum truck may be used to evacuate all accumulated sediment from the treatment chamber. Some jetting may be required to fully remove sediment. Take care not to wash sediment and debris through the openings in the false floor and into the outlet chamber. All material removed from the PerkFilter during maintenance including the spent media must be disposed of in accordance with local, state, and/or federal regulations. In most cases, the material may be handled in the same manner as disposal of material removed from sumped catch basins or manholes.
- Place a fresh cartridge in each cartridge position using the existing slip couplers and urethane bottom caps. If the vault is equipped with stacked cartridges, the existing outer and inner interconnector couplers must be used between the stacked cartridges to provide hydraulic connection. Transfer the existing vent tubes from the spent cartridges to the fresh cartridges. Finally, refit the struts to hold the fresh cartridges in place.
- Securely replace access covers, as appropriate.
- Make arrangements to return the empty spent cartridges to Oldcastle Infrastructure.

PerkFilter
Inspection and Maintenance Log

Location_____

Structure Configuration and Size:

Inspection Date_____

☐ Vault _____feet x _____feet
☐ Manhole _____feet diameter
☐ Catch Basin _____feet x _____feet

Number and Height of Cartridge Stacks:

Count____each ☐12" ☐ 18" ☐ 24" ☐ 30"

Media Type:

☐ ZPC ☐ Perlite ☐ Other_____

Condition of Internal Components ☐ Good ☐ Damaged ☐ Missing	Notes:
Inlet or Outlet Blockage or Obstruction ☐ Yes ☐ No	Notes:
Floating Trash and Debris ☐ Significant ☐ Not Significant	Notes:
Floating Oils ☐ Significant ☐ Not Significant ☐ Spill	Notes:
Sediment Depth in Inlet Chamber ☐ Inches of Sediment:_____	Notes:
Sediment Depth in Treatment Chamber ☐ Inches of Sediment:_____	Notes:
Standing Water in Treatment Chamber ☐ Inches of Standing Water:_____	Notes:

Maintenance Required

☐ **Yes - Schedule Maintenance** ☐ **No - Inspect Again in _____ Months**

PERKFILTER™

OUR MARKETS

BUILDING STRUCTURES

COMMUNICATIONS

WATER

ENERGY

TRANSPORTATION

WASHINGTON STATE DEPARTMENT OF ECOLOGY

June 2016

GENERAL USE LEVEL DESIGNATION FOR BASIC AND PHOSPHORUS TREATMENT

for

Oldcastle Precast, Inc., PerkFilter™ (using ZPC Filter Media)

Ecology's Decision:

Based on Oldcastle's application submissions, including the Draft Technical Evaluation Report, dated April 2010, Ecology hereby issues the following use level designations:

1. **General Use Level Designation (GULD) for the PerkFilter™ for basic treatment:**
   - **Using a zeolite-perlite-carbon (ZPC) filter media as specified by Oldcastle.**
   - **Sized at hydraulic loading rate of no more than 1.5 gpm/ft² of media surface area, per Table 1.**

Table 1. Design Flow Rate Per Cartridge

Effective Cartridge Height (inches)	12	18
Cartridge Flow Rate (gpm/cartridge)	6.8	10.2

2. **General Use Level Designation (GULD) for the PerkFilter™ for phosphorus treatment:**
   - **Using a zeolite-perlite-carbon (ZPC) filter media as specified by Oldcastle.**
   - **Sized at hydraulic loading rate of no more than 1.5 gpm/ft² of media surface area, per Table 1.**

3. **Ecology approves PerkFilter™ units for treatment at the hydraulic loading rates shown in Table 1, and sized based on the water quality design flow rate for an off-line system. The internal weir in the inlet chamber functions as a bypass to route flow in excess of the water quality design flow rate around the treatment chamber. Calculate the water quality design flow rate using the following procedures:**

   - **Western Washington: For treatment installed upstream of detention or retention, the water quality design flow rate is the peak 15-minute flow rate as calculated using the latest version of the Western Washington Hydrology Model or other Ecology-approved continuous runoff model.**

- **Eastern Washington: For treatment installed upstream of detention or retention, the water quality design flow rate is the peak 15-minute flow rate as calculated using one of the three methods described in Chapter 2.2.5 of the Stormwater Management Manual for Eastern Washington (SWMMEW) or local manual.**

- **Entire State: For treatment installed downstream of detention, the water quality design flow rate is the full 2-year release rate of the detention facility.**

4. **These General Use Level Designations have no expiration date but may be revoked or amended by Ecology, and are subject to the conditions specified below.**

<u>Ecology's Conditions of Use:</u>

PerkFilter™ units shall comply with the following conditions:

1. **Design, assemble, install, operate, and maintain PerkFilter™ units in accordance with Oldcastle's applicable manuals and documents and the Ecology Decision.**

2. **Each site plan must undergo Oldcastle review and approval before site installation. This ensures that site grading and slope are appropriate for use of a PerkFilter™ unit.**

3. **PerkFilter™media shall conform to the specifications submitted to, and approved by, Ecology.**

4. **Maintenance: The required maintenance interval for stormwater treatment devices is often dependent upon the degree of pollutant loading from a particular drainage basin. Therefore, Ecology does not endorse or recommend a "one size fits all" maintenance cycle for a particular model/size of manufactured filter treatment device.**
   - **Typically, Oldcastle designs PerkFilter systems for a target filter media replacement interval of 12 months. Maintenance includes removing accumulated sediment from the vault, and replacing spent cartridges with recharged cartridges.**
   - **Indications of the need for maintenance include effluent flow decreasing to below the design flow rate, as indicated by the scumline above the shoulder of the cartridge.**
   - **Owners/operators must inspect PerkFilter for a minimum of twelve months from the start of post-construction operation to determine site-specific maintenance schedules and requirements. You must conduct inspections monthly during the wet season, and every other month during the dry season. (According to the SWMMWW, the wet season in western Washington is October 1 to April 30. According to SWMMEW, the wet season in eastern Washington is October 1 to June 30). After the first year of operation, owners/operators must conduct inspections based on the findings during the first year of inspections.**

- **Conduct inspections by qualified personnel, follow manufacturer's guidelines, and use methods capable of determining either a decrease in treated effluent flowrate and/or a decrease in pollutant removal ability.**
- **When inspections are performed, the following findings typically serve as maintenance triggers:**
  - **Accumulated vault sediment depths exceed an average of 2 inches, or**
  - **Accumulated sediment depths on the tops of the cartridges exceed an average of 0.5 inches, or**
  - **Standing water remains in the vault between rain events, or**
  - **Bypass occurs during storms smaller than the design storm.**
- **Note: If excessive floatables (trash and debris) are present, perform a minor maintenance consisting of gross solids removal, not cartridge replacement.**

5. Discharges from the PerkFilter™ units shall not cause or contribute to water quality standards violations in receiving waters.

Applicant: Oldcastle Precast, Inc.

Applicant's Address: 5885 Pruitt Avenue
Windsor, California 95492

Application Documents:

- PerkFilter™ Final Report, prepared by: Office of Water Programs, California State University, Sacramento (September 2007).
- Verification Phase of PerkFilter™ Tests with Zeolite-Perlite-Carbon Media and Zeolite-Carbon Media (August 2007).
- Quality Assurance Project Plan PerkFilter™ Stormwater Treatment Performance Monitoring Project, October 2008 Draft.
- Technical Evaluation Report Volume 1: PerkFilter™ Stormwater Treatment System Performance Monitoring, April 2010.
- Technical Evaluation Report Volume 2 - Appendices: PerkFilter™ Stormwater Treatment System Performance Monitoring, April 2010.

Applicant's Use Level Request:

- General Use Level Designation as a Basic and Phosphorus treatment device in accordance with Ecology's *Guidance for Evaluating Emerging Stormwater Treatment Technologies Technology Assessment Protocol – Ecology (TAPE) January 2011 Revision*.

Applicant's Performance Claims:

- Capability to remove 80% of total suspended solids from stormwater runoff from sites with influent concentrations between 100 mg/L and 200 mg/L and provide effluent concentrations of 20 mg/L or less with influent concentrations less than 100 mg/L given a typical particle size distribution.
- Capability to remove 50% of Total Phosphorus from stormwater runoff from sites with influent concentrations between 0.1 mg/l and 0.5 mg/l.

Findings of Fact:

- Based on laboratory testing at a flow rate of 12 GPM per filter, the PerkFilter™ containing ZPC media had an average total suspended solids removal efficiency of 82% using Sil-Co-Sil 106 with an average influent concentration of 102 mg/L and zero initial sediment loading.

- Based on field-testing at a flow rate of 0.57 GPM/inch of cartridge height (17.25 inch diameter cartridge) (1.5 gpm per sq ft filter surface area), the PerkFilter™ containing ZPC media had an average total suspended solids removal efficiency of 82.4% for an influent concentration between 20 mg/L and 200 mg/l. The PerkFilter™ containing ZPC media had an average removal efficiency of 85.2% for an influent concentration between 100 mg/l and 200 mg/l. Removal rates fell over time and dropped below 80% after approximately 10 months.

- Based on field testing at a flow rate of 0.57 GPM/inch of cartridge height (17.25 inch diameter cartridge) (1.5 gpm per sq ft filter surface area), the PerkFilter™ containing ZPC media had an average total Phosphorus removal efficiency of 62.4% for an influent concentration between 0.1 mg/L and 0.5 mg/l. Removal rates tended to remain relatively constant during the 10 months of monitoring.

- Field Testing indicates that sediment accumulation in the Sediment Gallery during the 10 months of sampling was within the available volume for sediment. Thus, maintenance at a 6-month frequency (vacuuming of sediment from Inlet Gallery) as suggested by the manufacturer is sufficient.

- Filter flows during bypass events utilize the full 30-inch height of the filter. Without bypass, an unknown amount of filter is used. Comparing the flow through the filter during bypass events with the design flow rate shows that the Oldcastle system falls below the design flow rate after approximately 10 months of operation.

- Percent removal of TSS falls below 80% after approximately 10 months. There are earlier data points below 80% but these are from low influent concentration storms

Other PerkFilter™ Related Issues to be Addressed by the Company:

1. Oldcastle may perform additional monitoring to better determine the maintenance frequency for the filters with respect to design flow rate and Total Suspended Solids removal. Presentation of additional data may result in a modification to the requirements in this General Use Level Designation document.

Technology Description: Download at:
www.oldcastlestormwater.com

Contact Information:

Applicant:

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Applicant website: www.oldcastlestormwater.com

Ecology web link: http://www.ecy.wa.gov/programs/wq/stormwater/newtech/index.html

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Revision History

Date	Revision
March 2008	Original draft general-use-level-designation document
June 2010	Revise Use Level to General
January 2013	Modified Design Storm Description, added Revision Table, formatted document to match Ecology standard
May 2014	Revised company name and contact information
June 2016	Designated device for off-line sizing

Appendix C

Attachment B – Best Management Practices

IV-1 Source Control BMPs Applicable to All Sites

S410 BMPs for Correcting Illicit Discharges to Storm Drains

Description of Pollutant Sources: Illicit discharges are unpermitted sanitary or process wastewater discharges to a storm sewer or to surface water, rather than to a sanitary sewer, industrial process wastewater, or other appropriate treatment. They can also include swimming pool water, filter backwash, cleaning solutions/washwaters, cooling water, etc. Experience has shown that illicit discharges are common, particularly in older buildings.

Pollutant Control Approach: Identify and eliminate unpermitted discharges or obtain an NPDES permit, where necessary, particularly at industrial and commercial facilities.

Applicable Operational BMPs:

- For all real properties, responsible parties must examine their plumbing systems to identify any potential illicit discharges. Review site plans, engineering drawings, or other sources of information for the plumbing systems on the property.
- If an illicit discharge is suspected, trace the source using an appropriate method such as visual reconnaissance, smoke test, flow test, dye test with a nontoxic dye, or closed circuit television (CCTV) inspection. These tests are to be performed by qualified personnel such as a plumbing contractor. Note: Contact Ecology prior to performing a dye test which may result in a discharge to a receiving water.
- If illicit connections are found, permanently plug or disconnect the connections.
- Eliminate prohibited discharges to storm sewer, ground water, or surface water.
- Convey unpermitted discharges to a sanitary sewer if allowed by the local sewer authority, or to other approved treatment.
- Obtain all necessary permits for altering or repairing side sewers and plumbing fixtures. Restrictions on certain types of discharges, particularly industrial process waters, may require pretreatment of discharges before they enter the sanitary sewer. It is the responsibility of the property owner or business operator to obtain the necessary permits and to replace the connection.
- Obtain appropriate state and local permits for these discharges.

Recommended Additional Operational BMPs:

At commercial and industrial facilities, conduct a survey of wastewater discharge connections to storm drains and to surface water as follows:

- Conduct a field survey of buildings, particularly older buildings, and other industrial areas to locate storm drains from buildings and paved surfaces. Note where these discharge.
- During non-stormwater conditions, inspect each storm drain for non-stormwater discharges. Record the locations of all non-stormwater discharges. Include all permitted discharges.
- If useful, prepare a map of each area. Show on the map the known location of storm sewers, sanitary sewers, and permitted and unpermitted discharges. Aerial photos may be useful. Check records such as piping schematics to identify known side sewer connections and show these on the map. Consider using smoke, dye, or chemical analysis tests to detect connections between two conveyance systems (e.g., process water and stormwater). If desirable, conduct TV inspections of the storm drains and record the footage on videotape.
- Compare the observed locations of connections with the information on the map and revise the map accordingly. Note suspect connections that are inconsistent with the field survey.
- Identify all connections to storm sewers or to surface water and take the actions specified above as applicable BMPs.

S453 BMPs for Formation of a Pollution Prevention Team

The pollution prevention team should be responsible for implementing and maintaining all BMPs and treatment for the site. This team should be able to address any corrective actions needed on site to mitigate potential stormwater contamination. The team members should:

- Consist of those people who are familiar with the facility and its operations.
- Possess the knowledge and skills to assess conditions and activities that could impact stormwater quality at your facility, and who can evaluate the effectiveness of control measures.
- Assign pollution prevention team staff to be on duty on a daily basis to cover applicable permittee facilities when those facilities are in operation.
- Have the primary responsibility for developing and overseeing facility activities necessary to comply with stormwater requirements.
- Have access to all applicable permit, monitoring, SWPPP, and other records.
- Be trained in the operation, maintenance and inspections of all BMPs and reporting procedures.
- Establish responsibilities for inspections, operation, maintenance, and emergencies.
- Regularly meet to review overall facility operations and BMP effectiveness.

S454 BMPs for Preventive Maintenance / Good Housekeeping

Preventative maintenance and good housekeeping practices reduce the potential for stormwater to come into contact with pollutants and can reduce maintenance intervals for the drainage system and sewer system.

Applicable BMPs:

- Prevent the discharge of unpermitted liquid or solid wastes, process wastewater, and sewage to ground or surface water, or to storm drains that discharge to surface water, or to the ground. Conduct all oily parts cleaning, steam cleaning, or pressure washing of equipment or containers inside a building, or on an impervious contained area, such as a concrete pad. Direct contaminated stormwater from such an area to a sanitary sewer where allowed by local sewer authority, or to other approved treatment.
- Promptly contain and clean up solid and liquid pollutant leaks and spills including oils, solvents, fuels, and dust from manufacturing operations on an exposed soil, vegetation, or paved area.
- If a contaminated surface must be pressure washed, collect the resulting washwater for proper disposal (usually involves plugging storm drains, or otherwise preventing discharge and pumping or vactoring up washwater, for discharge to sanitary sewer or for vactor truck transport to a waste water treatment plant for disposal).
- Do not hose down pollutants from any area to the ground, storm drains, conveyance ditches, or receiving water. Convey pollutants before discharge to a treatment system approved by the local jurisdiction.
- Sweep all appropriate surfaces with vacuum sweepers quarterly, or more frequently as needed, for the collection and disposal of dust and debris that could contaminate stormwater. Use mechanical sweepers, and manual sweeping as necessary to access areas that a vacuum sweeper can't reach to ensure that all surface contaminants are routinely removed.
- Do not pave over contaminated soil unless it has been determined that ground water has not been and will not be contaminated by the soil. Call Ecology for assistance.
- Construct impervious areas that are compatible with the materials handled. Portland cement concrete, asphalt, or equivalent material may be considered.
- Use drip pans to collect leaks and spills from industrial/commercial equipment such as cranes at ship/boat building and repair facilities, log stackers, industrial parts, trucks and other vehicles stored outside.
- At industrial and commercial facilities, drain oil and fuel filters before disposal. Discard empty oil and fuel filters, oily rags, and other oily solid waste into appropriately closed and properly labeled containers, and in compliance with the Uniform Fire Code or International Building Code.
- For the storage of liquids use containers, such as steel and plastic drums, that are rigid and

durable, corrosion resistant to the weather and fluid content, non-absorbent, water tight, rodent-proof, and equipped with a close fitting cover.

- For the temporary storage of solid wastes contaminated with liquids or other potential polluted materials use dumpsters, garbage cans, drums, and comparable containers, which are durable, corrosion resistant, non-absorbent, non-leaking, and equipped with either a solid cover or screen cover to prevent littering. If covered with a screen, the container must be stored under a roof or other form of adequate cover.
- Where exposed to stormwater, use containers, piping, tubing, pumps, fittings, and valves that are appropriate for their intended use and for the contained liquid.
- Clean oils, debris, sludge, etc. from all stormwater facilities regularly, including catch basins, settling/detention basins, oil/water separators, boomed areas, and conveyance systems to prevent the contamination of stormwater. Refer to Ecology Requirements for Generators of Dangerous Wastes in I-2.15 Other Requirements for references to assist in handling potentially dangerous waste.
- Promptly repair or replace all substantially cracked or otherwise damaged paved secondary containment, high-intensity parking, and any other drainage areas, subjected to pollutant material leaks or spills. Promptly repair or replace all leaking connections, pipes, hoses, valves, etc., which can contaminate stormwater.
- Do not connect floor drains in potential pollutant source areas to storm drains, surface water, or to the ground.

Recommended BMPs:

- Where feasible, store potential stormwater pollutant materials inside a building or under a cover and/or containment.
- Minimize use of toxic cleaning solvents, such as chlorinated solvents, and other toxic chemicals.
- Use environmentally safe raw materials, products, additives, etc. such as substitutes for zinc used in rubber production.
- Recycle waste materials such as solvents, coolants, oils, degreasers, and batteries to the maximum extent feasible. Contact Ecology's *Hazardous Waste & Toxics Reduction Program* at https://ecology.wa.gov/About-us/Get-to-know-us/Our-Programs/Hazardous-Waste-Toxics-Reduction for recommendations on recycling or disposal of vehicle waste liquids and other waste materials.
- Empty drip pans immediately after a spill or leak is collected in an uncovered area.
- Stencil warning signs at stormwater catch basins and drains, e.g., “Dump no waste – Drains to waterbody”.
- Use solid absorbents, e.g., clay and peat absorbents and rags for cleanup of liquid spills/leaks, where practicable.
- Promptly repair/replace/reseal damaged paved areas at industrial facilities.

- Recycle materials, such as oils, solvents, and wood waste, to the maximum extent practicable.

Note: Evidence of stormwater contamination by oils and grease can include the presence of visible sheen, color, or turbidity in the runoff, or present or historical operational problems at the facility. Operators can use simple pH tests, for example with litmus or pH paper. These tests can screen for high or low pH levels (anything outside a 6.5-8.5 range) due to contamination in stormwater.

S455 BMPs for Spill Prevention and Cleanup

Description of Pollutant Sources: Spills and leaks can damage public infrastructure, interfere with sewage treatment, and cause a threat to human health or the environment. Spills are often preventable if appropriate chemical and waste handling techniques are practiced effectively and the spill response plan is immediately implemented. Additional spill control requirements may be required based on the specific activity occurring on site.

Applicable BMPs:

Spill Prevention

- Clearly label or mark all containers that contain potential pollutants.
- Store and transport liquid materials in appropriate containers with tight-fitting lids.
- Place drip pans underneath all containers, fittings, valves, and where materials are likely to spill or leak.
- Use tarpaulins, ground cloths, or drip pans in areas where materials are mixed, carried, and applied to capture any spilled materials.
- Train employees on the safe techniques for handling materials used on the site and to check for leaks and spills.

Spill Plan

- Develop and implement a spill plan and update it annually or whenever there is a change in activities or staff responsible for spill cleanup. Post a written summary of the plan at areas with a high potential for spills, such as loading docks, product storage areas, waste storage areas, and near a phone. The spill plan may need to be posted at multiple locations. Describe the facility, including the owner's name, address, and telephone number; the nature of the facility activity; and the general types of chemicals used at the facility.
- Designate spill response employees to be on-site during business activities. Provide a current list of the names and telephone numbers (home and office) of designated spill response employees who are responsible for implementing the spill plan.
- Provide a site plan showing the locations of storage areas for chemicals, inlets/catch basins, spill kits and other relevant infrastructure or materials information.
- Describe the emergency cleanup and disposal procedures. Note the location of all spill kits in

the spill plan.

- List the names and telephone numbers of public agencies to contact in the event of a spill.

Spill Cleanup Kits

- Store all cleanup kits near areas with a high potential for spills so that they are easily accessible in the event of a spill. The contents of the spill kit must be appropriate to the types and quantities of materials stored or otherwise used at the facility, and refilled when the materials are used. Spill kits must be located within 25 feet of all fueling/fuel transfer areas, including onboard mobile fuel trucks.

  Note: Ecology recommends that the kit(s) include salvage drums or containers, such as high density polyethylene, polypropylene or polyethylene sheet-lined steel; polyethylene or equivalent disposal bags; an emergency response guidebook; safety gloves/clothes/equipment; shovels or other soil removal equipment; and oil containment booms and absorbent pads; all stored in an impervious container.

Spill Cleanup and Proper Disposal of Waste

- Stop, contain, and clean up all spills immediately upon discovery.
- Implement the spill plan immediately.
- Contact the designated spill response employees.
- Block off and seal nearby inlets/catch basins to prevent materials from entering the drainage system or combined sewer.
- Use the appropriate material to clean up the spill.
- Do not use emulsifiers or dispersants such as liquid detergents or degreasers unless disposed of proplerly. Emulsifiers and dispersants are not allowed to be used on surface water, or in a place where they may enter storm drains, surface waters, treatments systems, or sanitary sewers.
- Immediately notify Ecology and the local jurisdiction if a spill has reached or may reach a sanitary or storm sewer, ground water, or surface water. Notification must comply with state and federal spill reporting requirements.
- Do not wash absorbent material into interior floor drains or inlets/catch basins.
- Place used spill control materials in appropriate containers and dispose of according to regulations.

S456 BMPs for Employee Training

Train all employees that work in pollutant source areas about the following topics:

- Identifying Pollution Prevention Team Members.
- Identifying pollutant sources.

- Understanding pollutant control measures.
- Spill prevention and response.
- Emergency response procedures.
- Handling practices that are environmentally acceptable. Particularly those related to vehicle/equipment liquids such as fuels, and vehicle/equipment cleaning.

Additional specialized training may be needed for staff who will be responsible for handling hazardous materials.

S457 BMPS for Inspections

Qualified personnel shall conduct inspections monthly. Make and maintain a record of each inspection on-site. The following requirements apply to inspections:

- Be conducted by someone familiar with the facility's site, operations, and BMPs.
- Verify the accuracy of the pollutant source descriptions in the SWPPP.
- Assess all BMPs that have been implemented for effectiveness and needed maintenance and locate areas where additional BMPs are needed.
- Reflect current conditions on the site.
- Include written observations of the presence of floating materials, suspended solids, oil and grease, discoloration, turbidity and odor in the stormwater discharges; in outside vehicle maintenance/repair; and liquid handling, and storage areas. In areas where acid or alkaline materials are handled or stored use a simple litmus or pH paper to identify those types of stormwater contaminants where needed.
- Eliminate or obtain a permit for unpermitted non-stormwater discharges to storm drains or receiving waters, such as process wastewater and vehicle/equipment washwater.
- Identify actions to address inspection deficiencies.

S458 BMPs for Record Keeping

See the applicable permit for specific record-keeping requirements and retention schedules for the following reports. At a minimum, retain the following reports for five years:

- Inspection reports which should include:
    - Time and date of the inspection
    - Locations inspected
    - Statement on status of compliance with the permit
    - Summary report of any remediation activities required
    - Name, title, and signature of person conducting the inspection

- Reports on spills of oil or hazardous substances in greater than Reportable Quantities (Code of Federal Regulations Title 40 Parts 302.4 and 117). Report spills of the following: antifreeze, oil, gasoline, or diesel fuel, that cause:
    - A violation of the State of Washington's Water Quality Standards.
    - A film or sheen upon or discoloration of the waters of the State or adjoining shorelines.
    - A sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.

  To report a spill or to determine if a spill is a substance of a Reportable Quantity, call the Ecology regional office and ask for an oil spill operations or a dangerous waste specialist:

    - Northwest Region (425)649-7000
    - Southwest Region (360)407-6300
    - Eastern Region (509)329-3400
    - Central Region (509) 575-2490

  In addition, call the Washington Emergency Management Division at 1-800-258-5990 or 1-800-OILS-911 AND the National Response Center at 1-800-424-8802.

  Also, refer to *Focus on Emergency Spill Response* (Ecology, 2009).

The following is additional recommended record keeping:

Maintain records of all related pollutant control and pollutant generating activities such as training, materials purchased, material use and disposal, maintenance performed, etc.

IV-2 Cleaning or Washing Source Control BMPs

S431 BMPs for Washing and Steam Cleaning Vehicles / Equipment / Building Structures

Description of Pollutant Sources: Pollutant sources include the commercial cleaning of vehicles, aircraft, vessels, and other transportation, restaurant kitchens, carpets, and industrial equipment, and large buildings with low- or high-pressure water or steam. This includes "charity" car washes at gas stations and commercial parking lots. The cleaning can include hand washing, scrubbing, sanding, etc. Washwater from cleaning activities can contain oil and grease, suspended solids, heavy metals, soluble organics, soaps, and detergents that can contaminate stormwater.

Permitting Requirements: Obtain all necessary permits for installing, altering, or repairing onsite drainage and side sewers. Restrictions on certain types of discharges may require pretreatment before they enter the sanitary sewer.

Pollutant Control Approach: The preferred approach is to cover and/or contain the cleaning activity, or conduct the activity inside a building, to separate the uncontaminated stormwater from the washwater sources. Convey washwater to a sanitary sewer after approval by the local sewer authority. Provide temporary storage before proper disposal, or recycling. Under this preferred approach, no discharge to the ground, to a storm drain, or to surface water should occur.

The Industrial Stormwater General Permit prohibits the discharge of process wastewater (e.g., vehicle washing wastewater) to ground water or surface water. Stormwater that commingles with process wastewater is considered process wastewater.

Facilities not covered under the Industrial Stormwater General Permit that are unable to follow one of the preferred approaches listed above may discharge washwater to the ground only after proper treatment in accordance with *Vehicle and Equipment Washwater Discharges Best Management Practices Manual* (Ecology, 2012).

The quality of any discharge to the ground after proper treatment must comply with Ecology's Ground Water Quality Standards, Chapter 173-200 WAC.

Facilities not covered under the Industrial Stormwater General Permit that are unable to comply with one of the preferred approaches and want to discharge to storm sewer, must meet their local stormwater requirements. Local authorities may require treatment prior to discharge.

Contact the local Ecology Regional Office to discuss permitting options for discharge of washwater to surface water or to a storm drain after on-site treatment.

Applicable Structural Source Control BMPs:

Conduct vehicle/equipment washing in one of the following locations:

- At a commercial washing facility in which the washing occurs in an enclosure and drains to the sanitary sewer, or

- In a building constructed specifically for washing of vehicles and equipment, which drains to a sanitary sewer.

Conduct outside washing operations in a designated wash area with the following features:

- In a paved area, construct a spill containment pad to prevent the run-on of stormwater from adjacent areas. Slope the spill containment area to collect washwater in a containment pad drain system with perimeter drains, trench drains or catchment drains. Size the containment pad to extend out a minimum of four feet on all sides of the washed vehicles and/or equipment.
- Convey the washwater to a sump (like a grit separator) and then to a sanitary sewer (if allowed by the local Sewer Authority), or other appropriate wastewater treatment or recycle system. The containment sump must have a positive control outlet valve for spill control with live containment volume, and oil/water separation. Size the minimum live storage volume to contain the maximum expected daily washwater flow plus the sludge storage volume below the outlet pipe. Shut the outlet valve during the washing cycle to collect the washwater in the sump. The valve should remain shut for at least two hours following the washing operation to allow the oil and solids to separate before discharge to a sanitary sewer.
- Use a two way valve for discharges from the containment pad. This valve should be normally switched to direct water to treatment, but may be switched to the drainage system after that pad is clean to handle stormwater runoff. The stormwater can then drain into the conveyance/discharge system outside of the wash pad (essentially bypassing the sanitary sewer or recycle system). Post signs to inform people of the operation and purpose of the valve. Clean the concrete pad thoroughly until there is no foam or visible sheen in the washwater prior to closing the inlet valve and allowing uncontaminated stormwater to overflow and drain off the pad.

  Note that the purpose of the valve is to convey only washwater and contaminated stormwater to a treatment system.
- Collect the washwater from building structures and convey it to appropriate treatment such as a sanitary sewer system if it contains oils, soaps, or detergents. If the washwater does not contain oils, soaps, or detergents (in this case only a low pressure, clean, cold water rinse is allowed) then it could drain to soils that have sufficient natural attenuation capacity for dust and sediment.
- Sweep surfaces prior to cleaning/washing to remove excess sediment and other pollutants.
- If roof equipment or hood vents are cleaned, ensure that no washwater or process water is discharged to the roof drains or drainage systems.
- Label all mobile cleaning equipment as follows: "Properly dispose of all wastewater. Do not discharge to an inlet/catch basin, ditch, stream, or on the ground."

Recommended Additional BMPs:

- Mark the wash area at gas stations, multifamily residences and any other business where non-employees wash vehicles.

- Operators may use a manually operated positive control valve for uncovered wash pads, but a pneumatic or electric valve system is preferable. The valve may be on a timer circuit and opened upon completion of a wash cycle. After draining the sump or separator, the timer would then close the valve.
- Minimize the use of water and detergents in washing operations when practicable.
- Use phosphate-free biodegradable detergents when practicable.
- Use the least hazardous cleaning products available.
- Consider recycling the washwater.

Operators may use soluble/emulsifiable detergents in the wash medium and should use it with care and the appropriate treatment. Carefully consider the selection of soaps and detergents and treatment BMPs. Oil/water separators are ineffective in removing emulsified or water soluble detergents. Another treatment appropriate for emulsified and water soluble detergents may be required.

Exceptions:

- At gas stations (for charity car washes) or commercial parking lots, where it is not possible to discharge the washwater to a sanitary sewer, a temporary plug or a temporary sump pump can be used at the storm drain to collect the washwater for off-site disposal such as to a nearby sanitary sewer.
- New and used car dealerships may wash vehicles in the parking stalls as long as employees use a temporary plug system to collect the washwater for disposal as stated above, or an approved treatment system for the washwater is in place.

At industrial sites, contact Ecology for NPDES Permit requirements even when not using soaps, detergents, and/or other chemical cleaners in washing trucks.

S434 BMPs for Dock Washing

Description of Pollutant Sources: Washing docks (or wharves, piers, floats, and boat ramps) can result in the discharge dirt, bird feces, soaps, and detergents that can be toxic to aquatic life, especially after they take on contaminants while cleaning. The BMPs in this section do not address dry docks, graving docks, or marine railway cleaning operations.

Pollutant Control Approach: Use dry methods and equipment (scraping, sweeping, vacuuming) to remove debris and contaminants prior to cleaning with water to prevent these substances from entering surface water.

Applicable Operational BMPs:

Surface Preparation and Spot Cleaning

- Scoop and collect debris and bird feces.
- Sweep, capture, and dispose of debris from the dock as solid waste. Sweep or vacuum docks to minimize the need for chemical cleaners.

- During cleaning activities, if debris, substances, or wash water could enter surface waters through drains, temporarily block the drains and collect the water for proper disposal.
- Hose down the area if necessary and collect water as feasible.
- Try spot cleaning with water and a coarse cloth before using soaps or detergents.
- If a cleaner is needed for spot cleaning:
    - Mix it in a bucket and use it to scrub down only the areas that need extra attention.
    - Start with vinegar and baking soda and move to other options as needed. Spot clean using a rag if harsher cleaning products are needed.
    - Avoid or minimize the use of petroleum distillates, chlorinated solvents, and ammoniated cleaning agents.
    - Use degreasers or absorbent material to remove residual grease by hand and do not allow this material to enter surface water.
    - Keep cleaners in sealed containers. Keep cleaner containers closed securely when transporting between the shore and docks.
    - Properly dispose of the dirty bucket water.
- Minimize the scour impact of wash water to any exposed soil at the landward end(s) of the dock or below the dock. Place a tarp over exposed soil, plant vegetation, or put berms to contain eroded soil.

Dock Washing and Disposal

- To the extent practicable, collect any wash water generated from hosing down, pressure washing, or cleaning dock areas, and dispose of it properly.
- The following video, provided courtesy of the Port of Seattle, highlights the methods they have developed to collect wash water generated during dock washing.

  Video: Dock Scrubbing at Port of Seattle (YouTube Link): https://www.youtube.com/watch?v=7RBFdjC3K1Q
- Try pressure washing using light pressure. This uses less water and decreases the need for soap and scrubbing when washing the dock. Avoid using excessive pressure, which may damage the dock or send flakes of paint and other material into the water.
- Do not place any debris and substances resulting from cleaning activities in shoreline areas, riparian areas, or on adjacent land where these substances may erode into waters of the state.
- Where treated wood associated with the structure being washed are present, use non-abrasive methods and tools that, to the maximum extent practicable, minimize removal of the creosote or treated wood fibers when it removes marine growth from creosote or any other treated wood.
- Do not discharge removed marine growth to waters of the state where such marine growth

would accumulate on the sea bed.

- Do not discharge emulsifiers, dispersants, solvents, or other toxic deleterious materials to waters of the state.

S441 BMPs for Potable Water Line Flushing, Water Tank Maintenance, and Hydrant Testing

Description of Pollutant Sources: Flushing is a common maintenance activity used to improve pipe hydraulics and to remove pollutants in systems. Flushing done improperly can result in the discharge of solids to receiving waters. Hydrant testing may result in the discharge of rust particles.

Chemicals used in line flushing and tank maintenance are highly toxic to aquatic organisms and can degrade receiving waters.

Pollutant Control Approach: Dechlorinate and pH adjust water used for flushing, tank maintenance, or hydrant testing. Dispose of the water to the sanitary sewer if possible.

Applicable Operational BMPs:

- Remove solids from associated curbs and gutters before flushing water. Use erosion and sediment control BMPs such as BMP C235: Wattles, BMP C220: Inlet Protection, etc. to collect any solids resulting from flushing activities.
- If using super chlorination or chemical treatment as part of flushing, discharge water to the sanitary sewer. If sanitary sewer is not available, the water may be infiltrated to the ground as long as all of the following are met:
    - The water is dechlorinated to a total residual chlorine of 0.1 ppm or less.
    - Water quality standards are met.
    - A diffuser is used to prevent erosion.
    - The water does not cross property lines.
- Discharging water to a drainage system requires approval from the local jurisdiction. Check with the local jurisdiction to determine their requirements for approval. Most jurisdictions will require the water to be dechlorinated to a total residual chlorine concentration of 0.1 ppm or less and pH adjusted if necessary. Water must be volumetrically and velocity controlled to prevent resuspension of sediments or pollutants in the Municipal Separate Storm Sewer System (MS4).
- Do not over apply dechlorination agents. This can deplete the dissolved oxygen concentration and reduce the pH in discharge / receiving waters.

Optional Operational BMPs:

- If possible, design flushing to convey accumulated material to strategic locations, such as to the sanitary sewer or to a treatment facility; thus, preventing re-suspension and overflow of a

portion of the solids during storm events.

- If possible, conduct flushing and tank maintenance activities on non-rainy days and during the time of year that poses the least risk to aquatic biota.

Optional Treatment BMPs:

- Treatment for dechlorinating can include an application of a stoichiometric quantity of:
    - Ascorbic Acid, Sodium Ascorbate (Vitamin C)
    - Calcium Thiosulfate
    - Sodium Sulfite tablets
    - Sodium Thiosulfate
    - Sodium Bisulfite
    - Alternate Dechlorination Solutions

IV-3 Roads, Ditches, and Parking Lot Source Control BMPs

S405 BMPs for Deicing and Anti-Icing Operations for Airports

Refer to 40 CFR Part 449 for EPA effluent limitations guidelines and new source performance standards to control discharges of pollutants from airport deicing operations.

Description of Pollutant Sources: Operators use deicing and/or apply anti-icing compounds on airport runways, taxiways, and on aircraft to control ice and snow. Typically, ethylene glycol and propylene glycol are deicers used on aircraft. Deicers commonly used on runways, taxiways, and other hard surfaces include calcium magnesium acetate (CMA), calcium chloride, magnesium chloride, sodium chloride, urea, and potassium acetate. The deicing and anti-icing compounds become pollutants when conveyed to storm drains or to surface water after application. Leaks and spills of these chemicals can also occur during their handling and storage.

Pollutant Control Approach for Aircraft: Spent glycol discharges in aircraft application areas are regulated process wastewaters under Ecology's Industrial Stormwater General Permit. BMPs for aircraft de/anti-icers must be consistent with aviation safety and the operational needs of the aircraft operator.

Applicable BMPs for Aircraft:

- Conduct aircraft deicing or anti-icing applications in impervious containment areas. Collect aircraft deicer or anti-icer spent chemicals, such as glycol, draining from aircraft in deicing or anti-icing application areas and convey to a sanitary sewer, treatment, or other approved disposal or recovery method. Divert deicing runoff from paved gate areas to appropriate collection areas or conveyances for proper treatment or disposal.
- Do not discharge spent deicer or anti-icer chemicals or stormwater contaminated with aircraft deicer or anti-icer chemicals from application areas, including gate areas into storm drains. No discharge to surface water, or ground water, directly or indirectly should occur.
- Transfer deicing and anti-icing chemicals on an impervious containment pad, or equivalent spill/leak containment area, and store in secondary containment areas. (See S428 BMPs for Storage of Liquids in Permanent Aboveground Tanks).

  Note this applicable containment BMP of aircraft de/anti-icing applications, and applicable treatment BMPs for de/anti-icer spent chemicals such as glycols.

Recommended Additional BMPs for Aircraft:

- Establish a centralized aircraft de/anti-icing facility, if practicable, or in designated areas of the tarmac equipped with separate collection drains for the spent deicer liquids.

- Consider installing an aircraft de/anti-icing chemical recovery system, or contract with a chemical recycler.

Applicable BMPs for Airport Runways/Taxiways:

- Avoid excessive application of all de/anti-icing chemicals, which could contaminate stormwater.
- Store and transfer de/anti-icing materials on an impervious containment pad or an equivalent containment area and/or under cover in accordance with S429 BMPs for Storage or Transfer (Outside) of Solid Raw Materials, Byproducts, or Finished Products. Consider other material storage and transfer approaches only if the de/anti-icer material will not contaminate stormwater.

Recommended Additional BMPs for Airport Runways/Taxiways:

- Include limits on toxic materials and phosphorous in the specifications for de/anti-icers, where applicable.
- Consider using anti-icing materials rather than deicers if it will result in less adverse environmental impact.
- Select cost-effective de/anti-icers that cause the least adverse environmental impact.

S406 BMPs for Streets and Highways

Description of Pollutant Sources: These BMPs apply to the maintenance and deicing/anti-icing of streets and highways. Deicing products can be conveyed during storm events to inlets/catch basins or to receiving waters after application. Leaks and spills of these products can also occur during their handling and storage. Equipment and processes using during maintenance can contribute pollutants such as oil and grease, suspended solids, turbidity, high pH, and metals.

Pollutant Control Approach: Apply good housekeeping practices, preventative maintenance, properly train employees, and use materials that cause less adverse effects on the environment.

Applicable BMPs:

Deicing and Anti-Icing Operations

- Adhere to manufacturer's guidelines and industry standards of use and application.
- Store and transfer de and anti-icing materials on impervious containment pads, or an equivalent spill/leak containment area in accordance with S429 BMPs for Storage or Transfer (Outside) of Solid Raw Materials, Byproducts, or Finished Products.
- Sweep/clean up accumulated de and anti-icing materials and grit from roads as soon as possible after the road surface clears.
- Minimize use in areas where runoff or spray from the roadway immediately enters sensitive areas such as fish-bearing streams.

Maintenance Operations

- Use drip pans or absorbents wherever concrete, asphalt, asphalt emulsion, paint product, and drips are likely to spill, such as beneath discharge points from equipment.
- Cover and contain nearby storm drains to keep runoff from entering the drainage system.
- Collect and contain all solids, slurry, and rinse water. Do not allow these to enter gutters, storm drains, or drainage ditches or onto the paved surface of a roadway or driveway.
- Designate an area onsite for washing hand tools and collect that water for disposal.
- Conduct all fueling of equipment in accordance with S419 BMPs for Mobile Fueling of Vehicles and Heavy Equipment.
- Do not use diesel fuel for cleaning or prepping asphalt tools and equipment.
- Sweep areas as frequently as needed. Collect all loose aggregate and dust for disposal. Do not hose down areas into storm drains.
- Store all fuel, paint, and other products on secondary containment.
- Conduct paint striping operations during dry weather.

Recommended Additional BMPs:

- Where feasible and practicable, use roadway deicing chemicals that cause the least adverse environmental impact. Apply only as needed using minimum quantities. Consider the Pacific Northwest Snowfighters Qualified Products List when selecting roadway de-icers and anti-icers.
- Intensify roadway and drainage structure cleaning in early spring to help remove particulates from road surfaces.
- Include limits on toxic metals in the specifications for de/anti-icers.
- Install catch basin inserts to collect excess sediment and debris as necessary. Inspect and maintain catch basin inserts to ensure they are working correctly.
- Research admixtures (e.g. corrosion inhibitors, surfactants) to determine what additional pollutants may be an issue. Verify with the local jurisdiction if there are any restrictions on admixtures.

S415 BMPs for Maintenance of Public and Private Utility Corridors and Facilities

Description of Pollutant Sources: Corridors and facilities at petroleum product pipelines, natural gas pipelines, water pipelines, electrical power transmission corridors, and rights-of-way can be sources of pollutants such as herbicides used for vegetation management, and eroded soil particles from unpaved access roads. At pump stations, waste materials generated during maintenance activities may be temporarily stored outside. Additional potential pollutant sources include the leaching of

preservatives from wood utility poles, PCBs in older transformers, water removed from underground transformer vaults, and leaks/spills from petroleum pipelines. The following are potential pollutants: oil and grease, TSS, BOD, organics, PCBs, pesticides, and heavy metals.

Pollutant Control Approach: Implementation of spill control plans as well as control of fertilizer and pesticide applications, soil erosion, and site debris that can contaminate stormwater.

Applicable Operational BMPs:

- Minimize the amount of herbicides and other pesticides used to maintain access roads and facilities.
- Implement S411 BMPs for Landscaping and Lawn / Vegetation Management.
- Comply with WSDA Pesticide Regulations (see I-2.15 Other Requirements).
- When removing water or sediments from electric transformer vaults, determine the presence of contaminants before disposing of the water and sediments.
    - This includes inspecting for the presence of oil or sheen, and determining from records or testing if the transformers contain PCBs.
    - If records or tests indicate that the sediments or water are contaminated above applicable levels, manage these media in accordance with applicable federal and state regulations, including the federal PCB rules (40 CFR 761) and the state MTCA cleanup regulations (Chapter 173-340 WAC).
    - Water removed from the vaults can be discharged in accordance with the federal 40 CFR 761.79, and state regulations (Chapter 173-201A WAC and Chapter 173-200 WAC), or via the sanitary sewer if the requirements, including applicable permits, for such a discharge are met. (See also Requirements for Stormwater Discharges to Public Sanitary Sewers, Septic Systems, Dead-End Sumps, and Industrial Waste Treatment Systems and Ecology Requirements for Generators of Dangerous Wastes in I-2.15 Other Requirements).
- Stabilize access roads or areas of bare ground with gravel, crushed rock, or another method to prevent erosion. Use and manage vegetation to minimize bare ground/soils that may be susceptible to erosion.
- Provide maintenance practices to prevent stormwater from accumulating and draining across and/or onto roadways. Convey stormwater through roadside ditches and culverts. The road should be crowned, outsloped, water barred, or otherwise left in a condition not conducive to erosion. Appropriately maintaining grassy roadside ditches discharging to surface waters is an effective way of removing some pollutants associated with sediments carried by stormwater.
- Maintain ditches and culverts at an appropriate frequency to ensure that plugging and flooding across the roadbed, with resulting overflow erosion, does not occur.
- Apply the appropriate BMPs in this Volume for the storage of waste materials that can contaminate stormwater.

Recommended Operational BMPs:

- When selecting utility poles for a specific location, consider the potential environmental effects of the pole or poles during storage, handling, and end-use, as well as its cost, safety, efficacy, and expected life. Use wood products treated with chemical preservatives made in accordance with generally accepted industry standards such as the American Wood Preservers Association Standards (see http://www.awpa.com/standards/). Consider alternative materials or technologies if placing poles in or near an environmentally sensitive area, such as a wetland or a drinking water well. Alternative technologies include poles constructed with material (s) other than wood such as fiberglass composites, metal, or concrete. Consider other technologies and materials, such as sleeves or caissons for wood poles, when they are determined to be practicable and available.
- As soon as practicable remove all litter from wire cutting/replacing operations.
- Implement temporary erosion and sediment control in areas cleared of trees and vegetation and during the construction of new roads.

S416 BMPs for Maintenance of Roadside Ditches

Description of Pollutant Sources: Common road debris including eroded soil, oils, vegetative particles, and heavy metals can be sources of stormwater pollutants.

Pollutant Control Approach: Maintain roadside ditches to preserve the condition and capacity for which they were originally constructed, and to minimize bare or thinly vegetated ground surfaces. Maintenance practices should provide for erosion and sediment control (see S411 BMPs for Landscaping and Lawn / Vegetation Management).

Additional Regulations: Note that work in wet areas may be regulated by local, state, or federal regulations that impose additional obligations on the responsible party. Check with the appropriate authorities prior to beginning work in those areas.

Applicable Operational BMPs:

- Inspect roadside ditches regularly to identify sediment accumulations and localized erosion.
- Clean ditches on a regular basis, as needed. Keep ditches free of rubbish and debris.
- Vegetation in ditches often prevents erosion and cleanses runoff waters. Remove vegetation only when flow is blocked or excess sediments have accumulated. Conduct ditch maintenance (seeding, fertilizer application, harvesting) in late spring and/or early fall, where possible. This allows re-establishment of vegetative cover by the next wet season thereby minimizing erosion of the ditch as well as making the ditch effective as a biofilter.
- Do not apply fertilizer unless needed to maintain vegetative growth.
- In the area between the edge of the pavement and the bottom of the ditch, commonly known as the “bare earth zone,” use grass vegetation, wherever possible. Establish vegetation from the edge of the pavement, if possible, or at least from the top of the slope of the ditch.
- Maintain diversion ditches on top of cut slopes constructed to prevent slope erosion by

intercepting surface drainage to retain their diversion shape and capability.

- Use temporary erosion and sediment control measures or re-vegetate as necessary to prevent erosion during ditch reshaping.
- Do not leave ditch cleanings on the roadway surfaces. Sweep, collect, and dispose of dirt and debris remaining on the pavement at the completion of ditch cleaning operations as described below:
    - Consider screening roadside ditch cleanings, not contaminated by spills or other releases and not associated with a stormwater treatment system such as a bioswale, to remove litter. Separate screenings into soil and vegetative matter (leaves, grass, needles, branches, etc.) categories. Compost or dispose of the vegetative matter in a municipal waste landfill. Consult with the jurisdictional health department to discuss use or disposal options for the soil portion. For more information, see Appendix IV-B: Management of Street Waste Solids and Liquids.
    - Roadside ditch cleanings contaminated by spills or other releases known or suspected to contain dangerous waste must be handled following the Dangerous Waste Regulations (Chapter 173 303 WAC). If testing determines materials are not dangerous waste but contaminants are present, consult with the jurisdictional health department for disposal options.
- Examine culverts on a regular basis for scour or sedimentation at the inlet and outlet, and repair as necessary. Give priority to those culverts conveying perennial and/or salmon-bearing streams and culverts near streams in areas of high sediment load, such as those near subdivisions during construction. Maintain trash racks to avoid damage, blockage, or erosion of culverts.

Recommended Treatment BMPs:

Install biofiltration swales and filter strips (see V-7 Biofiltration BMPs) to treat roadside runoff wherever practicable and use engineered topsoils wherever necessary to maintain adequate vegetation. These systems can improve infiltration and stormwater pollutant control upstream of roadside ditches.

S417 BMPs for Maintenance of Stormwater Drainage and Treatment Systems

Description of Pollutant Sources: Facilities include roadside catch basins on arterials and within residential areas, conveyance systems, detention facilities such as ponds and vaults, oil/water separators, biofilters, settling basins, infiltration systems, and all other types of stormwater treatment systems presented in Volume V. Oil and grease, hydrocarbons, debris, heavy metals, sediments and contaminated water are found in catch basins, oil and water separators, settling basins, etc.

Pollutant Control Approach: Provide maintenance and cleaning of debris, sediments, and other pollutants from stormwater collection, conveyance, and treatment systems to maintain proper operation.

Applicable Operational BMPs:

Maintain stormwater treatment facilities per the operations and maintenance (O&M) procedures presented in Appendix V-A: BMP Maintenance Tables in addition to the following BMPs:

- Inspect and clean treatment BMPs, conveyance systems, and catch basins as needed, and determine necessary O&M improvements.
- Promptly repair any deterioration threatening the structural integrity of stormwater facilities. These include replacement of clean-out gates, catch basin lids, and rock in emergency spillways.
- Ensure adequacy of storm sewer capacities and prevent heavy sediment discharges to the sewer system.
- Regularly remove debris and sludge from BMPs used for peak-rate control, treatment, etc. and discharge to a sanitary sewer if approved by the sewer authority, or truck to an appropriate local or state government approved disposal site.
- Clean catch basins when the depth of deposits reaches 60 percent of the sump depth as measured from the bottom of basin to the invert of the lowest pipe into or out of the basin. However, in no case should there be less than six inches clearance from the debris surface to the invert of the lowest pipe. Some catch basins (for example, WSDOT's *Catch Basin Type 1L* (WSDOT, 2011)) may have as little as 12 inches sediment storage below the invert. These catch basins need frequent inspection and cleaning to prevent scouring. Where these catch basins are part of a stormwater collection and treatment system, the system owner/operator may choose to concentrate maintenance efforts on downstream control devices as part of a systems approach.
- Properly dispose of all solids, polluted material, and stagnant water collected through system cleaning. Do not decant water back into the drainage system from eductor trucks or vacuum equipment since there may be residual contaminants in the cleaning equipment. Do not jet material downstream into the public drainage system.
- Clean woody debris in a catch basin as frequently as needed to ensure proper operation of the catch basin.
- Post warning signs; “Dump No Waste - Drains to Ground Water,” “Streams,” “Lakes,” or emboss on or adjacent to all storm drain inlets where possible.
- Disposal of sediments and liquids from the catch basins must comply with Appendix IV-B: Management of Street Waste Solids and Liquids.

S421 BMPs for Parking and Storage of Vehicles and Equipment

Description of Pollutant Sources: Public and commercial parking lots such as retail store, fleet vehicle (including rent-a-car lots and car dealerships), equipment sale and rental parking lots, and

parking lot driveways, can be sources of toxic hydrocarbons and other organic compounds, including oils and greases, metals, and suspended solids.

Pollutant Control Approach: If the parking lot meets the site use thresholds to determine if the site is expected to generate high concentrations of oil, as defined in Step 2: Determine if an Oil Control BMP is Required in III-1.2 Choosing Your Runoff Treatment BMPs, provide oil removal equipment for the contaminated stormwater runoff.

Applicable Operational BMPs:

- If a parking lot must be washed, discharge the washwater to a sanitary sewer, if allowed by the local sewer authority, or other approved wastewater treatment system, or collect washwater for off-site disposal.
- Do not hose down the area to a storm sewer or receiving water. Vacuum sweep parking lots, storage areas, and driveways regularly to collect dirt, waste, and debris. Mechanical or hand sweeping may be necessary for areas where a vacuum sweeper cannot reach.
- Clean up vehicle and equipment fluid drips and spills immediately.
- Place drip pans below leaking vehicles (including inoperative vehicles and equipment) in a manner that catches leaks or spills, including employee vehicles. Drip pans must be managed to prevent overfilling and the contents disposed of properly.

Recommended Operational BMPs:

- Encourage employees to repair leaking personal vehicles.
- Encourage employees to carpool or use public transit through incentives.
- Encourage customers to use public transit by rewarding valid transit pass holders with discounts.
- Install catch basin inserts to collect excess sediment and oil if necessary. Inspect and maintain catch basin inserts to ensure they are working correctly.

Applicable Treatment BMPs:

Establishments subject to high-use intensity are significant sources of oil contamination of stormwater. Examples of potential high use areas include customer parking lots at fast food stores, grocery stores, taverns, restaurants, large shopping malls, discount warehouse stores, quick-lube shops, and banks.

Refer to Step 2: Determine if an Oil Control BMP is Required in III-1.2 Choosing Your Runoff Treatment BMPs for the site use thresholds that determine if an oil control BMP is required, and for a list of oil control BMPs.

S430 BMPs for Urban Streets

Description of Pollutant Sources: Urban streets can be the source of vegetative debris, paper, fine dust, vehicle liquids, tire and brake wear residues, heavy metals (lead and zinc), soil particles,

ice control salts, domestic wastes, lawn chemicals, and vehicle combustion products. Street surface contaminants contain significant concentrations of particle sizes less than 250 microns (Sartor and Boyd, 1972).

Pollutant Control Approach: Conduct efficient street sweeping where and when appropriate to minimize the contamination of stormwater. Do not wash street debris into storm drains.

Facilities not covered under the Industrial Stormwater General Permit may consider a minimum amount of water washing of streets. All facilities must comply with their local stormwater requirements for discharging to storm sewers. Municipal NPDES permittees are required to limit street wash water discharges and may have special conditions or treatment requirements.

Recommended BMPs:

- For maximum stormwater pollutant reductions on curbed streets and high volume parking lots, use efficient vacuum sweepers.

  Note: High-efficiency street sweepers utilize strong vacuums and the mechanical action of main and gutter brooms combined with an air filtration system that only returns clean air to the atmosphere (i.e., filters very fine particulates). They sweep dry and use no water since they do not emit any dust.

  High-efficiency vacuum sweepers have the capability of removing 80 percent or more of the accumulated street dirt particles whose diameters are less than 250 microns (Sutherland et al., 1998). This assumes pavements under good condition and reasonably expected accumulation conditions.

- For moderate stormwater pollutant reductions on curbed streets use regenerative air sweepers or tandem sweeping operations.

  Note: A tandem sweeping operation involves a single pass of a mechanical sweeper followed immediately by a single pass of a vacuum sweeper or regenerative air sweeper.

  - *A regenerative air sweeper blows air down on the pavement to entrain particles and uses a return vacuum to transport the material to the hopper.*
  - *These operations usually use water to control dust. This reduces their ability to pick up fine particulates.*

  These types of sweepers have the capability of removing approximately 25 to 50 percent of the accumulated street dirt particles whose diameters are less than 250 microns. (Sutherland et al., 1998). This assumes pavements under good conditions and typical accumulation conditions.

- For minimal stormwater pollutant reductions on curbed streets use mechanical sweepers.
  - *Note: The industry refers to mechanical sweepers as broom sweepers and uses the mechanical action of main and gutter brooms to throw material on a conveyor belt that transports it to the hopper.*
  - *These sweepers usually use water to control dust. This reduces their ability to pick up fine particulates.*

Mechanical sweepers have the capability of removing only 10 to 20 percent of the accumulated street dirt particles whose diameters are less than 250 microns (Sutherland et al., 1998). This assumes pavements under good condition and the most favorable accumulation conditions.

- Conduct vacuum sweeping at optimal frequencies. Optimal frequencies are those scheduled sweeping intervals that produce the most cost-effective annual reduction of pollutants normally found in stormwater and can vary depending on land use, traffic volume, receiving water, and rainfall patterns.
- Train operators in those factors that result in optimal pollutant removal. These factors include sweeper speed, brush adjustment and rotation rate, sweeping pattern, maneuvering around parked vehicles, and interim storage and disposal methods.
- Consider the use of periodic parking restrictions in low to medium density single-family residential areas to ensure the sweeper's ability to sweep along the curb.
- Establish programs for prompt vacuum sweeping, removal, and disposal of debris from special events that will generate higher than normal loadings.
- Disposal of street sweeping solids must comply with Appendix IV-B: Management of Street Waste Solids and Liquids.
- Consider developing ordinances that prohibit citizens from putting yard debris in the street gutters, or doing vehicle maintenance on the street.
- Provide incentives to property owners for installing permeable pavement parking areas and driveways.
- Consider installing catch basin inserts in high use areas to remove trash and yard debris before it enters the system.
- Implement a storm drain stenciling program to label and educate the public not to dump materials into storm drains or onto sidewalks, streets, parking lots, and gutters.
- Provide household hazardous waste collection and used oil recycling for citizens to avoid illegal dumping.

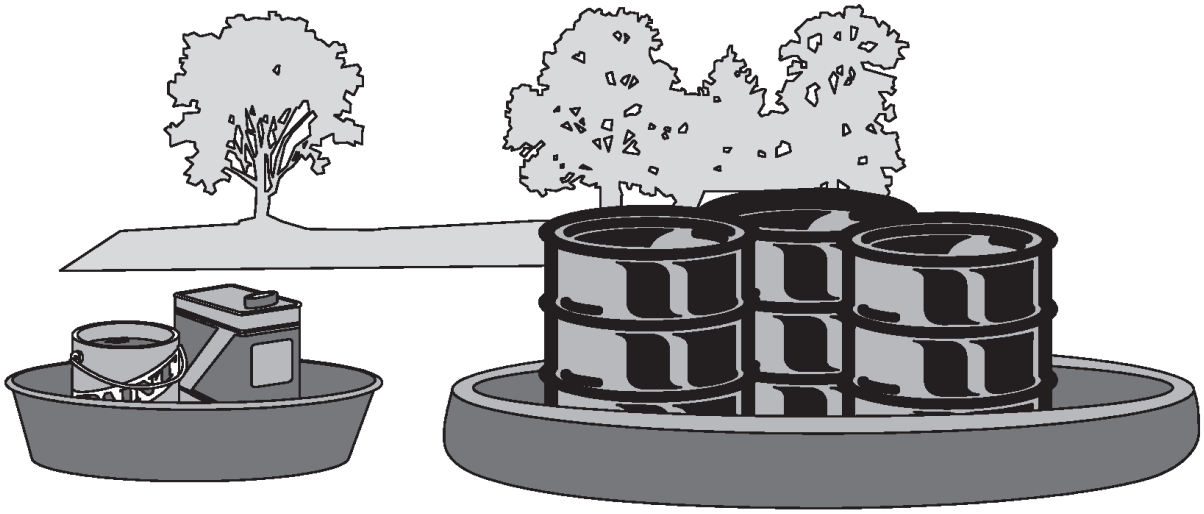
IV-5 Storage and Stockpiling Source Control BMPs

S427 BMPs for Storage of Liquid, Food Waste, or Dangerous Waste Containers

Description of Pollutant Sources: Steel and plastic drums with volumetric capacities of 55 gallons or less are typically used at industrial facilities for container storage of liquids and powders. The BMPs specified below apply to container(s) located outside a building. Use these BMPs when temporarily storing potential pollution generating materials or wastes. These BMPs do not apply when Ecology has permitted the business to store the wastes (see Standards for Solid Waste Containers in I-2.15 Other Requirements). Leaks and spills of pollutant materials during handling and storage are the primary sources of pollutants. Oil and grease, acid/alkali pH, BOD, COD are potential pollutant constituents.

Pollutant Control Approach: Store containers in impervious containment under a roof, or other appropriate cover, or in a building. For storage areas on-site for less than 30 days, consider using a portable temporary secondary system like that shown in Figure IV-5.1: Secondary Containment System in lieu of a permanent system as described above.

Figure IV-5.1: Secondary Containment System



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Secondary Containment System

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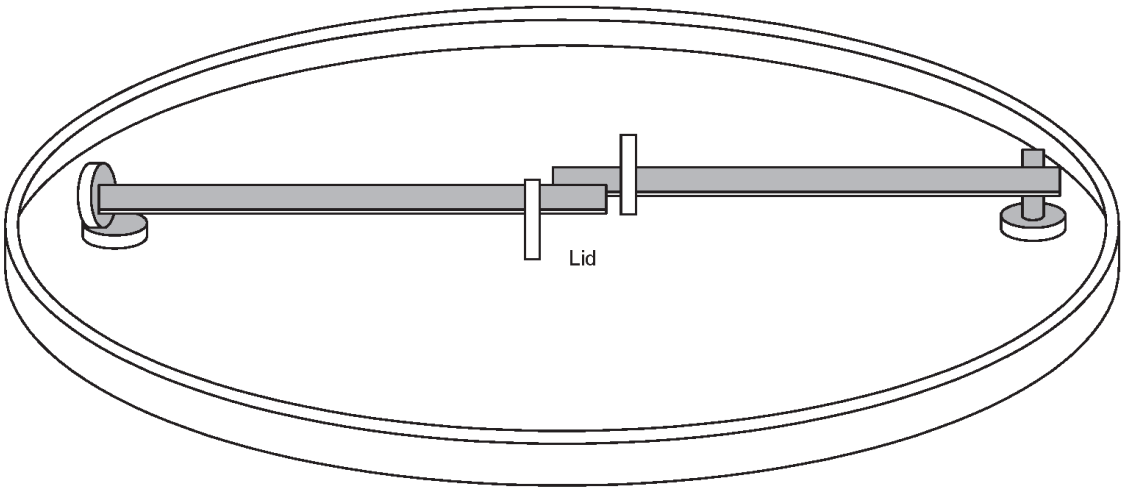
Applicable Operational BMPs:

- Place tight-fitting lids on all containers.
- Label all containers appropriately. Store containers so that the labels are clearly visible..
- Place drip pans beneath all mounted container taps and at all potential drip and spill locations during filling and unloading of containers.
- Inspect container storage areas regularly for corrosion, structural failure, spills, leaks, overfills, and failure of piping systems. Check containers daily for leaks/spills. Replace containers, and replace and tighten bungs in drums as needed.
- Empty drums containing residues should be stored to prevent stormwater from entering drum closures. Cover or tilt drums to prevent stormwater from accumulating on the top of empty drums and around drum closures.
- Store containers that do not contain free liquids in a designated sloped area with the containers elevated or otherwise protected from stormwater run-on. Comply with local fire code.
- Secure drums when stored in an area where unauthorized persons may gain access in a manner that prevents accidental spillage, pilferage, or any unauthorized use (see Figure IV-5.2: Locking System for Drum Lid).

Figure IV-5.2: Locking System for Drum Lid



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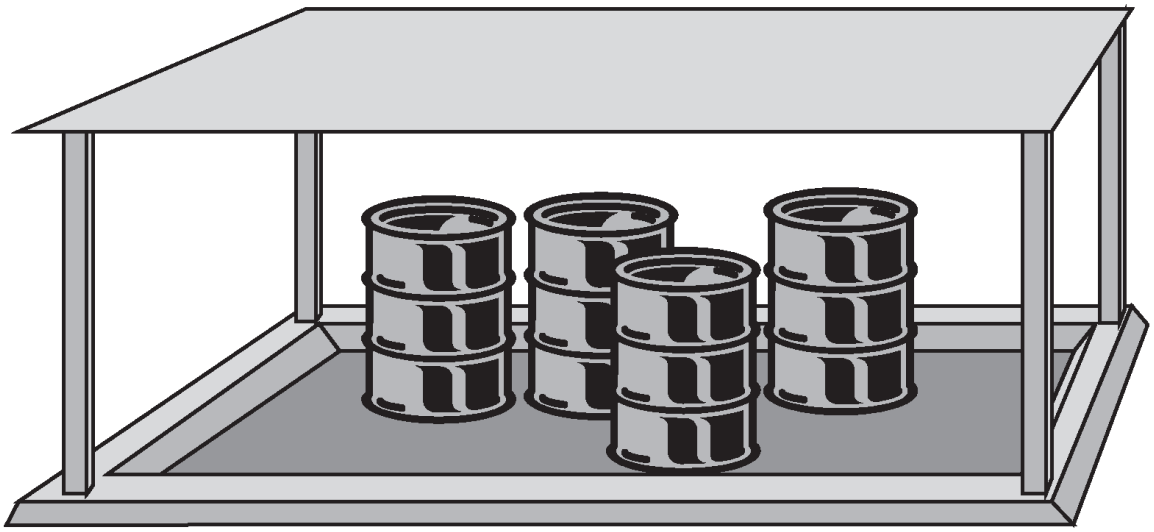
- If the material is a Dangerous Waste, the business owner must comply with any additional Ecology requirements as specified in Ecology Requirements for Generators of Dangerous Wastes within I-2.15 Other Requirements.
- Storage of flammable, ignitable, and reactive chemicals and materials must comply with the stricter of local zoning codes, local fire codes, the Uniform Fire Code (UFC), UFC standards, or the National Electric Code
- Have spill kits or cleanup materials near container storage areas.
- Clean up all spills immediately.
- Cover dumpsters, or keep them under cover such as a lean-to, to prevent the entry of storm-water. Keep dumpster lids closed.
- Replace or repair leaking garbage dumpsters, or install waterproof liners.
- Drain dumpsters and/or dumpster pads to sanitary sewer where approved by the sewer authority.
- When collection trucks directly pick up roll-containers, ensure a filet is on both sides of the curb to facilitate moving the dumpster.

Applicable Structural Source Control BMPs:

- Keep containers with Dangerous Waste, food waste, or other potential pollutant liquids inside a building unless this is not feasible due to site constraints or Uniform/International Fire Code requirements.
- Store containers in a designated area, which is covered, bermed or diked, paved and impervious in order to contain leaks and spills (see Figure IV-5.3: Covered and Bermed Containment Area). Slope the secondary containment to drain into a dead-end sump for the collection of leaks and small spills.
- For liquid materials, surround the containers with a dike as illustrated in Figure IV-5.3: Covered and Bermed Containment Area. The dike must be of sufficient height to provide a volume of either 10 percent of the total enclosed container volume or 110 percent of the volume contained in the largest container, whichever is greater.

Figure IV-5.3: Covered and Bermed Containment Area



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Covered and Bermed Containment Area

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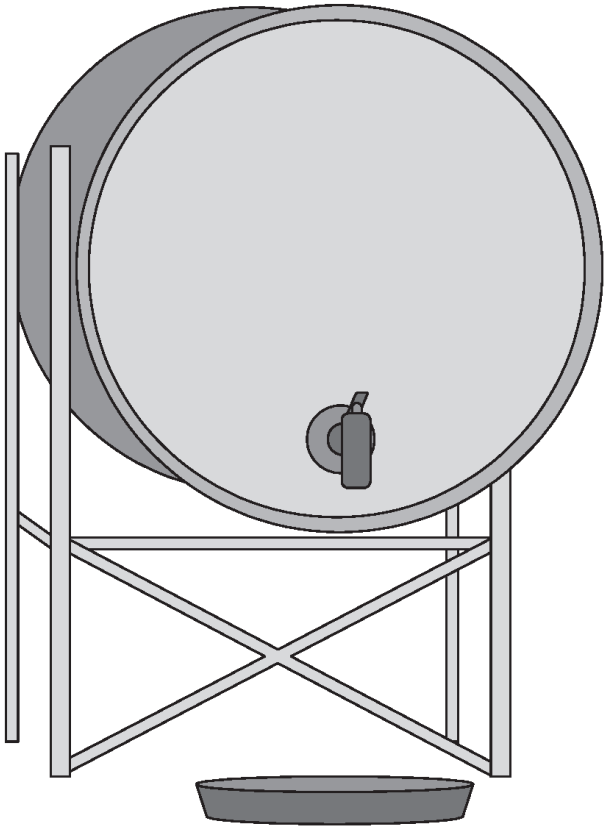
- Where material is temporarily stored in drums, use a containment system as illustrated, in lieu of the above system (see Figure IV-5.1: Secondary Containment System).
- Place containers mounted for direct removal of a liquid chemical for use by employees inside a containment area as described above. Use a drip pan during liquid transfer (see Figure IV-5.4: Mounted Container - With Drip Pan).

Figure IV-5.4: Mounted Container - With Drip Pan



*Note that the secondary containment is not shown in this figure

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Mounted Container - with Drip Pan

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Applicable Treatment BMP:

Note this treatment BMP is for contaminated stormwater from drum storage areas.

- To discharge contaminated stormwater, pump it from a dead-end sump or catchment and dispose of appropriately.

S428 BMPs for Storage of Liquids in Permanent Aboveground Tanks

Description of Pollutant Sources: Aboveground tanks containing liquids (excluding uncontaminated water) may be equipped with a valved drain, vent, pump, and bottom hose connection. Aboveground tanks may be heated with steam heat exchangers equipped with steam traps, if required. Leaks and spills can occur at connections and during liquid transfer. Oil and grease, organics, acids, alkalis, and heavy metals in tank water and condensate drainage can also cause stormwater contamination at storage tanks.

Pollutant Control Approach: Install secondary containment or a double-walled tank. Slope the containment area to a drain with a sump. Operators may need to discharge stormwater collected in the containment area to a Runoff Treatment BMP such as BMP T11.10: API (Baffle type) Separator or BMP T11.11: Coalescing Plate (CP) Separator, or an equivalent BMP. Add safeguards against accidental releases including protective guards around tanks to protect against vehicle or forklift damage, and tagging valves to reduce human error. *Tank water and condensate discharges are process wastewater that may need an NPDES Permit.*

Applicable Operational BMPs:

- Inspect the tank containment areas regularly for leaks/spills, cracks, corrosion, etc. to identify problem components such as fittings, pipe connections, and valves.
- Place adequately sized drip pans beneath all mounted taps and drip/spill locations during filling/unloading of tanks. Operators may need valved drain tubing in mounted drip pans.
- Vacuum sweep and clean the tank storage area regularly, if paved.
- Replace or repair tanks that are leaking, corroded, or otherwise deteriorating.
- Storage of flammable, ignitable, and reactive chemicals and materials must comply with the stricter of local zoning codes, local fire codes, the Uniform Fire Code (UFC), UFC standards, or the National Electric Code.

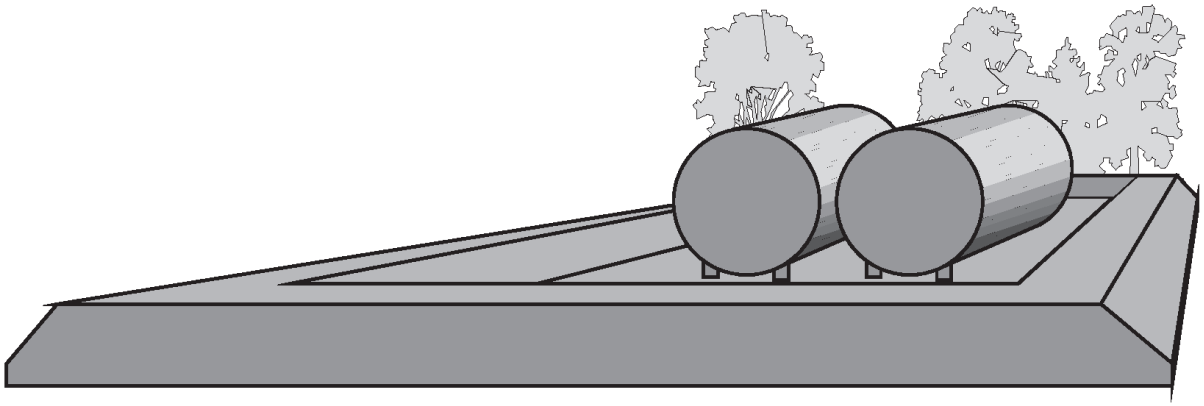
Applicable Structural BMPs:

- Locate permanent tanks in impervious (Portland cement concrete or equivalent) secondary containment surrounded by dikes as illustrated in Figure IV-5.5: Above-Ground Tank Storage, or use UL Approved double-walled tanks. The dike must be of sufficient height to provide a containment volume of either 10 percent of the total enclosed tank volume or 110 percent of the volume contained in the largest tank, whichever is greater.
- Slope the secondary containment to drain to a normally closed valve, for the collection of small

spills.

- Include a tank overfill protection system to minimize the risk of spillage during loading.

Figure IV-5.5: Above-Ground Tank Storage



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Above-Ground Tank Storage

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Applicable Treatment BMPs:

- Depending on the kind of liquid being stored, the potential and type of stormwater contamination will vary and may require specialized treatment.
- For an uncovered tank containment area, equip the outlet from the spill-containment sump with a normally closed shutoff valve. Operators may open this valve manually or automatically, only to convey contaminated stormwater to approved treatment or disposal, or to convey uncontaminated stormwater to a storm sewer. Evidence of contamination can include the presence of visible sheen, color, or turbidity in the runoff, or existing or historical operational problems at the facility. Use simple pH tests with litmus or pH paper for areas subject to acid or alkaline contamination.
- At petroleum tank farms, convey stormwater contaminated with floating oil or debris in the contained area to a sanitary sewer with the sewer authority's approval or through BMP T11.10: API (Baffle type) Separator or BMP T11.11: Coalescing Plate (CP) Separator, or other approved treatment prior to discharge to the storm drain or surface water.

S429 BMPs for Storage or Transfer (Outside) of Solid Raw Materials, Byproducts, or Finished Products

Description of Pollutant Sources: Some pollutant sources stored outside in large piles, stacks, etc. at commercial or industrial establishments include:

- Solid raw materials
- Byproducts
- Gravel
- Sand
- Salts
- Topsoil
- Compost
- Logs
- Sawdust
- Wood chips
- Lumber
- Concrete
- Metal products

Contact between outside bulk materials and stormwater can cause leachate, and erosion of the stored materials. Contaminants may include TSS, BOD, organics, and dissolved salts (sodium, calcium, and magnesium chloride, etc.).

Pollutant Control Approach: Provide impervious containment with berms, dikes, etc. and/or cover to prevent run-on and discharge of leachate pollutant(s) and TSS.

Applicable Operational BMPs:

- Do not hose down the contained stockpile area to a storm drain or a conveyance to a storm drain, or to a receiving water.
- Maintain drainage areas in and around storage of solid materials with a minimum slope of 1.5 percent to prevent pooling and minimize leachate formation. Areas should be sloped to drain stormwater to the perimeter for collection or to internal drainage "alleyways" where no stockpiled material exists.
- Sweep paved storage areas regularly for collection and disposal of loose solid materials.
- If and when feasible, collect and recycle water-soluble materials (leachates).
- Stock cleanup materials, such as brooms, dustpans, and vacuum sweepers near the storage area.

Applicable Structural BMPs:

For stockpiles less than 5 cubic yards, place temporary plastic sheeting (polyethylene, polypropylene, hypalon, or equivalent) over the material as shown in Figure IV-5.7: Material Covered with Plastic Sheeting.

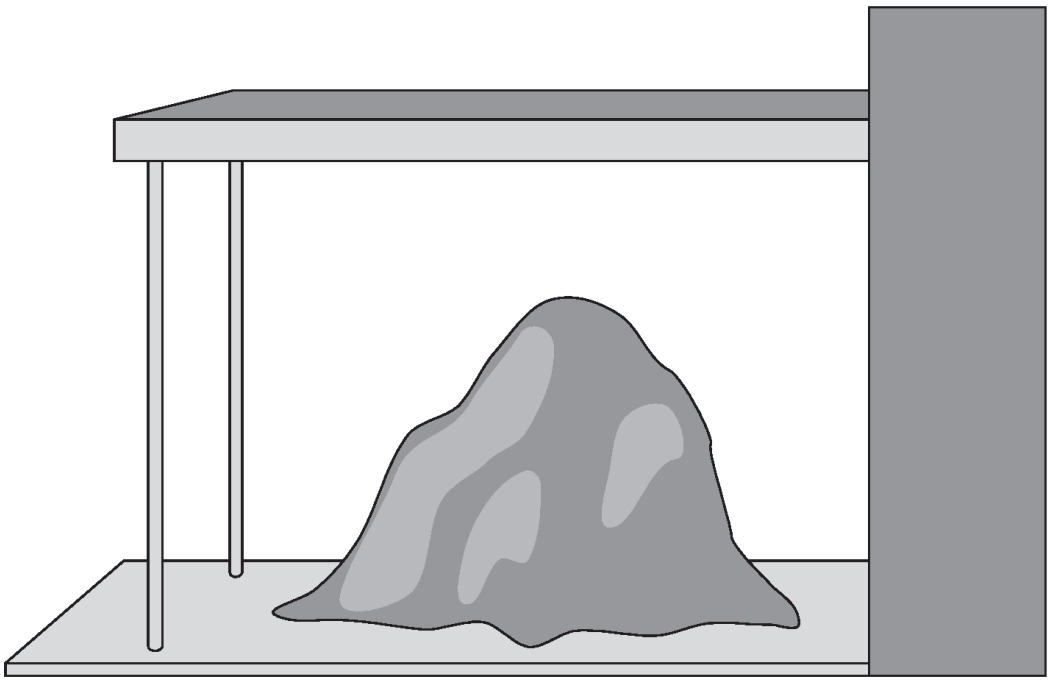
The source control BMP options listed below are applicable to:

- Stockpiles greater than 5 cubic yards of erodible or water soluble materials such as:
    - Soil
    - Road deicing salts
    - Compost
    - Unwashed sand and gravel
    - Sawdust
- Outside storage areas for solid materials such as:
    - Logs
    - Bark
    - Lumber
    - Metal products

Choose one or more of the following Source Control BMPs:

- Store in a building or paved and bermed covered area as shown in Figure IV-5.6: Covered Storage Area for Bulk Solids.
- Place temporary plastic sheeting (polyethylene, polypropylene, hypalon, or equivalent) over the material as shown in Figure IV-5.7: Material Covered with Plastic Sheeting.
- Pave the area and install a drainage system. Place curbs or berms along the perimeter of the area to prevent the run-on of uncontaminated stormwater and to collect and convey runoff to treatment. Slope the paved area in a manner that minimizes the contact between stormwater (e.g., pooling) and leachable materials in compost, logs, bark, wood chips, etc.
- For large uncovered stockpiles, implement containment practices at the perimeter of the site and at any catch basins as needed to prevent erosion and discharge of the stockpiled material off-site or to a storm drain. Ensure that no direct discharge of contaminated stormwater to catch basins exists without conveying runoff through an appropriate treatment BMP.

Figure IV-5.6: Covered Storage Area for Bulk Solids



* Include a berm if needed.

NOT TO SCALE

DEPARTMENT OF ECOLOGY
State of Washington

Covered Storage Area for Bulk Solids

Revised June 2017

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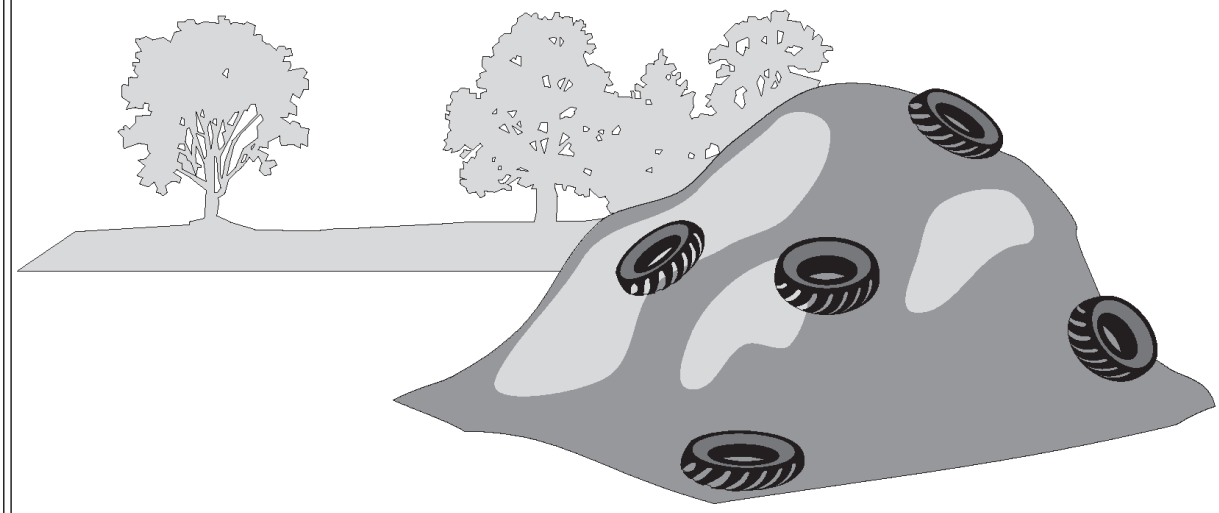
Figure IV-5.7: Material Covered with Plastic Sheeting



NOT TO SCALE

DEPARTMENT OF ECOLOGY
State of Washington

Material Covered with Plastic Sheeting

Revised June 2016

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Applicable Treatment BMPs:

Convey contaminated stormwater from the stockpile area to:

- BMP T10.10: Wetponds - Basic and Large,
- BMP T10.20: Wetvaults,
- BMP T6.10: Presettling Basin,
- Manufactured Treatment Device (see V-10 Manufactured Treatment Devices as BMPs, or
- other appropriate treatment system depending on the contamination.

S445 BMPs for Temporary Fruit Storage

Description of Pollutant Sources: This activity applies to businesses that temporarily store fruits and vegetables outdoors prior to or after packing, processing, or sale, or that crush, cut, or shred fruits or vegetables for wines, frozen juices, and other food and beverage products.

Activities involving the storage or processing of fruits, vegetables, and grains can potentially result in the delivery of pollutants to stormwater. Potential pollutants of concern from all fruit and vegetable storage and processing activities include nutrients, suspended solids, substances that increase biological oxygen demand (BOD), and color. These pollutants must not be discharged to the drainage system or directly into receiving waters.

Pollutant Control Approach: Store and process fruits and vegetables indoors or under cover whenever possible. Educate employees about proper procedures. Cover and contain operations and apply good housekeeping and preventive maintenance practices to prevent the contamination of stormwater.

Applicable Operational BMPs:

- Educate employees on the benefits of keeping a clean storage area.
- Keep fruits, vegetables, and grains stored outside for longer than a day in plastic bins or in bins lined with plastic. The edge of the plastic liner should be higher than the amount of fruit stored or should drape over the side of the bin.
- Dispose of rotten fruit, vegetables, and grains in a timely manner (typically, within a week).
- Make sure all outside materials that have the potential to leach or spill to the drainage system are covered, contained, or moved to an indoor location. For fruits, vegetables, and grains stored outside for a week or more, cover with a tarp or other waterproof material. Make sure coverings are secured from wind.
- Minimize the use of water when cleaning produce to avoid excess runoff.
- Sweep or shovel storage and processing areas daily to collect dirt and fruit and vegetable fragments for proper disposal. Keep hosing to a minimum.
- Keep cleanup materials, such as brooms and dustpans, near the storage area.

- If a holding tank is used for the storage of wastewater, pump out the contents before the tank is full and dispose of wastewater to a sanitary sewer or approved wastewater treatment system.

Applicable Structural BMPs:

- Enclose the processing area in a building or shed, or cover the area with provisions for stormwater run-on prevention. Alternatively, pave and slope the area to drain to the sanitary sewer, holding tank, or process treatment system collection drain.

Optional Structural BMPs:

- Cover outdoor storage areas for fruits and vegetables.
- Use a containment curb, dike, or berm to prevent off-site runoff from storage or processing areas and to prevent stormwater run-on.

Appendix IV-B: Management of Street Waste Solids and Liquids

Introduction

This appendix addresses street waste as defined in chapter 173-350 WAC, Solid waste handling standards. WAC 173-350 is the governing rule for management of typical street waste solids. Ecology adopted revisions to this rule that became effective September 1, 2018, in part to provide clarity on managing soils impacted by release of contaminants, such as street waste. Ecology has solid waste guidance to help ensure handlers of street waste manage it in accordance with WAC 173-350. End users and other authorities may have their own requirements for street waste reuse and handling.

- Per WAC 173-350:
    - **"Street waste"** means solids or dewatered materials collected from stormwater catch basins and similar stormwater treatment and conveyance structures, and materials collected during street and parking lot sweeping.

"Street waste," as defined here, does not include solids and liquids from street washing using detergents, cleaning of electrical vaults, vehicle wash sediment traps, restaurant grease traps, industrial process waste, sanitary sewage, mixed process, or combined sewage/stormwater wastes. Wastes from oil/water separators at sites that load fuel are not included as street waste. Street waste also does not include flood debris, landslide debris, and chip seal gravel.

Regulations for Street Waste Management

Street waste is solid waste. While street waste from routine road maintenance is likely not dangerous waste, it is presumed to be solid waste under WAC 173-350. This Rule classifies Street Waste as a likely “contaminated soil," which is included in the definition of “solid waste.” Since stormwater conveyance structures are places where contaminants from streets can accumulate at concentrations that could be harmful for indiscriminant placement, material from such structures is presumed to be “contaminated soil.”

- Per WAC 173-350:
    - **"Contaminated soil"** means soil containing one or more contaminants from a release and when moved from one location to another for placement on or into the ground:
        a. Contains contaminants at concentrations that exceed a cleanup level under chapter 173-340 WAC, Model Toxics Control Act—Cleanup, that would be established for existing land use at the location where soil is placed; or
        b. Contains contaminants that affect pH, and pH of the soil is below 4.5 or above 9.5 or is not within natural background pH limits that exist at the location where soil is placed.

Unless excluded in WAC 173-350-020, contaminated soil is solid waste and must be managed at a solid waste handling facility in conformance with this chapter or chapter 173-351 WAC, Criteria for municipal solid waste landfills. Characterization of material may be required based on solid waste facility acceptance standards. Examples of potentially contaminated soil may include, but are not limited to, street waste, petroleum contaminated soil, engineered soil, and soil likely to have contaminants from a release associated with industrial or historical activities.

Based on test results, street waste to contain contaminants at concentrations that would require either disposal at a permitted solid waste disposal facility, or treatment at a permitted solid waste handling facility for use.

Owners/operators storing or treating street waste prior to disposal or use are typically subject to permitting under the section in WAC 173-350 dealing with "piles used for storage and treatment," since most storage and treatment takes place in outdoor piles. Indoor or other storage or treatment is subject to permitting under the section dealing with "transfer stations and drop boxes." To obtain a permit, an owner/operator will need to meet design standards, operating requirements, including characterization procedures and concentration limits if propose to use materials, and record keeping and reporting.

Note: Decant facilities are not subject to solid waste permitting if they will not have intermediate storage or treatment of decanted solids between the decant part of a facility operating in conformance with water quality rules and placement into transfer vehicles going to permitted solid waste facilities.

Street waste solids may contain contaminants at levels too high to allow unrestricted use. Street waste will need to meet the definition in WAC 173-350 for "clean soil" in order for its management or use outside of permitted solid waste handling facilities. "Clean soil" is tied to meeting contaminant concentrations so as not to create a cleanup site where placement of materials would occur.

- Per WAC 173-350:
    - **"Clean soil"** means soil that does not contain contaminants from a release. It also includes soil that contains one or more contaminants from a release and when moved from one location to another for placement on or into the ground:
        a. Does not contain contaminants at concentrations that exceed a cleanup level under chapter 173-340 WAC, Model Toxics Control Act—Cleanup, that would be established for existing land use at the location where soil is placed; or
        b. Contains contaminants that affect pH, but pH of the soil is between 4.5 and 9.5 or within natural background pH limits that exist at the location where soil is placed.

        Examples of potentially clean soil may include, but are not limited to, soil from undeveloped lands unlikely to have impacts from release of contaminants associated with area-wide or local industrial or historical activities. This includes similar soils over which development may have occurred but land use is unlikely to have led to a release, such as use for residential housing, or over which development provided protection from impacts from a release, such as coverage by pavement. Soil with substances from natural background conditions, as natural background is defined in WAC 173-350-100, is clean soil under this section.

Street waste that will go directly to a permitted landfill or transfer station is not subject to the standards of WAC 173-350, though operators will need to adhere to receiving facility acceptance criteria. For street waste that will not go directly to a permitted landfill or transfer station, an operator needs to consult with their jurisdictional health department to see what solid waste regulations apply to street waste management. In Washington, chapter 70.95 RCW, Solid waste management – Reduction and recycling, gives jurisdictional health departments primary authority over solid waste handling and permitting.

As stated earlier, guidance will be available soon with more specificity on how to manage "contaminated soil" under the recently revised WAC 173-350.

Contaminants in Street Waste Solids

Street waste does not typically classify as dangerous waste. The owner of the stormwater facility and/or collector of street waste is considered the waste generator and responsible for deciding whether the waste designates as dangerous waste. However, sampling has historically shown that material from routine maintenance of roads and stormwater facilities does not classify as dangerous waste.

It is possible that street waste from spill sites has high enough concentration of contaminants to classify it as dangerous waste. Street waste suspected to be dangerous waste should not be collected with other street waste to avoid creating a larger volume of dangerous waste. Street waste with obvious contamination (unusual color, staining, corrosion, unusual odors, fumes, and oily sheen) should be left in place or segregated until tested. Base testing activities on probable contaminants. If collecting potentially dangerous waste because of emergency conditions, or if the waste becomes suspect after it is collected, an owner/operator should handle and store it separately until a determination as to proper disposal is made. Dangerous waste must be handled following chapter 173-303 WAC, Dangerous waste regulations.

Test results from sampling street waste show that it contains contaminants including total petroleum hydrocarbons (TPH), carcinogenic polycyclic aromatic hydrocarbons (c-PAHs), and several metals. These contaminants can be at concentrations high enough to be harmful to human health and the environment unless managed appropriately. The following tables provide a summary of some past test results.

Table IV-B.1: Typical TPH Levels in Street Sweeping and Catch Basin Solids

Reference	Street Sweeping (mg/kg)	Catch Basin Solid (mg/kg)
Snohomish County (1) (Landau, 1995)	390 - 4300	
King County (1) (Herrera, 1995)		123 - 11049 (Median 1036)
Snohomish County & Selected Cities (1) (W&H Pacific, 1994)	163 - 1500 (Median 760)	163 -1562 (Median 760)

Table IV-B.1: Typical TPH Levels in Street Sweeping and Catch Basin Solids (continued)

Reference	Street Sweeping (mg/kg)	Catch Basin Solid (mg/kg)
City of Portland (2) (Bretsch, 2000)		MDL - 1830 (Median 208)
City of Seattle - Diesel Range (2) (Seattle Public Utilities and Herrera, 2009)	330 - 520	780 - 1700
City of Seattle - Motor Oil (2) (Seattle Public Utilities and Herrera, 2009)	2000 - 2800	3500 - 7000
Oregon (1) (Collins, 1998)	1600 - 2380	
Oregon (3) (Collins, 1998)	98 - 125	
(1) Method WTPH 418.1; does not incorporate new methods to reduce background interference due to vegetative material (2) Method NWTPH-Dx (3) Method WTPH - HCID		

Table IV-B.2: Typical c-PAH Values in Street Waste Solids and Related Materials

Sample Source	City of Everett					WSDOT	
Analyte	Street Sweepings	Soil	3-Way Topsoil	Vactor Solids	Leaf & Sand	Sweepings - Fresh	Sweepings - Weathered
Benzo(a)anthracene	0.1U	0.076U	0.074U	0.21	0.45	0.56	0.40
Chrysene	0.14	0.09	0.074U	0.32	0.53	0.35	0.35
Benzo(b)fluoranthene	0.11	0.076U	0.074U	0.27	0.52	0.43	0.51
Benzo(k)fluoranthene	0.13	0.076U	0.074U	0.25	0.38	0.39	0.40
Benzo (a)pyrene	0.13	0.076U	0.074U	0.26	0.5	0.41	0.33U
Indeno(1,2,3-cd)pyrene	0.1U	0.076U	0.074U	0.19	0.39	NR	NR

Table IV-B.2: Typical c-PAH Values in Street Waste Solids and Related Materials (continued)

Sample Source	City of Everett					WSDOT	
Analyte	**Street Sweepings**	**Soil**	**3-Way Topsoil**	**Vactor Solids**	**Leaf & Sand**	**Sweepings - Fresh**	**Sweepings - Weathered**
Dibenzo(a,h)-anthracene	0.1U	0.076U	0.074U	0.081	0.12	0.39	0.33U
Revised MTCA Benzo (a)pyrene [ND=PQL]	0.215	0.134	0.134	0.388	0.727	0.708	0.597
Benzo (a)pyrene [ND = 1/2 PQL]	0.185	0.069	0.067	0.388	0.727	0.708	0.366
Benzo (a)pyrene [See * below]	0.185	0.069	0	0.388	0.727	0.708	0.366
Benzo (a)pyrene [ND = 0]	0.155	0.001	0	0.388	0.727	0.708	0.135

* If the analyte was not detected for any PAH, then ND=0; If analyte was detected in at least 1 PAH, then ND=1/2PQL; If the average concentration (using ND=1/2 PQL) is greater than the maximum detected value, then ND=Maximum value.

Table IV-B.3: Typical Metals Concentrations in Catch Basin Sediments

PARAMETER	Ecology 1993	Thurston 1993	King County 1995	King county 1995	City of Seattle 2003 through 2011
Metals: Total (mg/kg)	**(Min - Max)**	**(Min - Max)**	**(Min - Max)**	**Mean**	**Min - Max (Mean)**
As	< 3 - 24	.39 - 5.4	4 -56	0.250	<5 - 50 (9.3)
Cd	0.5 - 2.0	< 0.22 - 4.9	0.2 - 5.0	0.5	
Cr	19 - 241	5.9 - 71	13 - 100	25.8	
Cu	18 - 560	25 - 110	12 - 730	29	9.1 - 3,280 (166)
Pb	24 - 194	42 - 640	4 - 850	80	3 - 3,690 (154)
Ni	33 - 86	23 - 51	14 - 41	23	

Table IV-B.3: Typical Metals Concentrations in Catch Basin Sediments (continued)

PARAMETER	Ecology 1993	Thurston 1993	King County 1995	King county 1995	City of Seattle 2003 through 2011
Metals: Total (mg/kg)	(Min - Max)	(Min - Max)	(Min - Max)	Mean	Min - Max (Mean)
Zn	90 - 558	97 - 580	50 - 2000	130	44 - 4170 (479)
Hg	0.04 - 0.16	0.24 - 0.193			<0.03 - 3.8 (0.16)

Table IV-B.4: Pollutants in Catch Basin Solids - Comparison to Dangerous Waste Criteria

PARAMETER	Range of Values in Catch Basin Waste	Range of Values in Catch Basin Waste	Dangerous Waste Criteria
METALS	Total Metals (mg/kg)	TCLP Metals (mg/kg)	TCLP values (mg/l)
As	<3 - 56	< 0.02 - 0.5	5.0
Cd	< 0.22 - 5	0.0002 - 0.03	1.0
Cr	5.9 - 241	0.0025 - 0.1	5.0
Cu	12 - 730	0.002 - 0.88	none
Pb	4 - 850	0.015 - 3.8	5.0
Ni	23 - 86	< 0.01 - 0.36	none
Zn	50 - 2,000	0.04 - 6.7	none
Hg	0.02 - 0.19	0.0001 - 0.0002	0.2
Data from (Thurston County, 1993), (Herrera, 1995) and (Serdar, 1993)			

Street Waste Liquids

General Procedures:

Street waste collection should emphasize retention of solids in preference to liquids. Street waste solids are the principal objective in street waste collection and are substantially easier to store and treat than liquids.

Street waste liquids require treatment before their discharge. Street waste liquids, which include eductor and street sweeping truck decant and drainage from piles and containers, usually contain high amounts of suspended and total solids and adsorbed metals. Treatment requirements depend on the discharge location.

The entity responsible for operation and maintenance of the system must approve discharges to sanitary sewer and storm sewer systems. Ecology will not generally require waste

discharge permits for discharge of stormwater decant to sanitary sewers or to stormwater treatment BMPs constructed and maintained in accordance with this manual.

Listed below is the required order of preference for disposal of liquid from collection of Street Wastes.

1. **Discharge of Street Waste liquids to a municipal sanitary sewer connected to a Public Owned Treatment Works (POTW).** Discharge to a municipal sanitary sewer requires the approval of the sewer authority. Approvals for discharge to a POTW will likely contain pretreatment, quantity, and location conditions to protect the POTW. Following the local sewer authority's conditions is a permit requirement.

2. **Discharge of Street Waste liquids may be allowed into a Basic or Enhanced Runoff Treatment BMP, if option 1 is not available.** Only discharge street waste liquid into the storm sewer system under the following conditions:

    - The preferred disposal option of discharge to sanitary sewer is not reasonably available.
    - The discharge is to a Basic or Enhanced Runoff Treatment BMP. If pretreatment does not remove visible sheen from oils, the Runoff Treatment BMP must be able to prevent the discharge of oils causing a visible sheen.
    - The discharge from the eductor truck is as near to the inlet of the Runoff Treatment BMP as practical, to minimize contamination or recontamination of the collection system.
    - The storm sewer system owner/operator has granted approval and has determined that the Runoff Treatment BMP will accommodate the increased loading. Part of the approval process may include pretreatment conditions to protect the Runoff Treatment BMP. Following local pretreatment conditions is a requirement of this permit.
    - Ecology must approve in advance flocculants for the pretreatment of street waste liquids. The liquids must be non-toxic under the circumstances of use.

    The discharger shall determine if reasonable availability of sanitary sewer discharge exists, by evaluating such factors as distance, time of travel, load restrictions, and capacity of the Runoff Treatment BMP.

3. **Operators may return water removed from stormwater ponds, vaults, and oversized catch basins to the storm sewer system.** Stormwater ponds, vaults, and oversized catch basins contain substantial amounts of liquid, which hampers the collection of solids and poses problems in hauling the removed waste away from the site. Water removed from these facilities may be discharged back into the pond, vault, or catch basin provided:

    - Operators may discharge clear water removed from a stormwater treatment structure directly to a down gradient cell of a treatment pond or into the storm sewer system.
    - Turbid water may be discharged back into the structure it was removed from if the removed water has been stored in a clean container (eductor truck, Baker tank, or other appropriate container used specifically for handling stormwater or clean water); and

there will be no discharge from the treatment structure for at least 24 hours.

- The storm sewer system owner/operator must approve the discharge.

Table IV-B.5: Typical Street Waste Decant Values Compared to Surface Water Quality Criteria

PARAMETER	State Surface Water Quality Criteria		Range of Values Reported	
METALS	Freshwater Acute (ug/l - dissolved metals)	Freshwater Chronic (ug/l - dissolved metals)	Total Metals (ug/l)	Dissolved Metals (ug/l)
Arsenic	360	190	100 - 43,000	60 - 100
Cadmium*	2.73	0.84	64 - 2,400	2 - 5
Chromium (total)			13 - 90,000	3 - 6
Chromium (III)*	435	141		
Chromium (VI)	0.5	10		
Copper*	13.04	8.92	81 - 200,000	3 - 66
Lead*	47.3	1.85	255 - 230,000	1 - 50
Nickel*	1114	124	40 - 330	20 - 80
Zinc*	90.1	82.3	401 - 440,000	1,900 - 61,000
Mercury	2.10	0.012	0.5 - 21.9	
**Hardness dependent; hardness assumed to be 75 mg/L*				

Table IV-B.6: Typical Values for Conventional Pollutants in Street Waste Decant

PARAMETER	Ecology 1993	(Min - Max)	King County 1995	(Min - Max)
Values as mg/l; except where stated	Mean		Mean	
pH	6.94	6.18 - 7.98	8	6.18 - 11.25
Conductivity (umhos/cm)	364	184 - 1,110	480	129 - 10,100
Hardness (mg/l CaCO3)	234	73 - 762		
Fecal Coliform (MPN/100 ml)	3,000			
BOD	151	28 - 1,250		

Table IV-B.6: Typical Values for Conventional Pollutants in Street Waste Decant (continued)

PARAMETER	Ecology 1993	(Min - Max)	King County 1995	(Min - Max)
Values as mg/l; except where stated	Mean		Mean	
COD	900	120 - 26,900		
Oil & Grease	11	7.0 - 40	471	15 - 6,242
TOC	136	49 - 7,880	3,670	203 - 30,185
Total Solids	1,930	586 - 70,400		
Total Dissolved Solids	212	95 - 550		
Total Suspended Solids	2,960	265 - 111,000		
Settleable Solids (ml/l/hr)	27	2 - 234	57	1 - 740
Turbidity (ntu)	1,000	55 - 52,000	4,673	43 - 78,000

Table IV-B.7: Street Waste Decant Values Following Settling

PARAMETER; Total Metals in mg/l	Portland - Inverness Site Min - Max	King County - Renton Min - Max	METRO Pretreatment Discharge Limits
Arsenic	0.0027 - 0.015	< MDL - 0.12	4
Cadmium	0.0009 - 0.0150	< MDL - 0.11	0.6
Chromium	0.0046 - 0.0980	0.017 - 0.189	5
Copper	0.015 - 0.8600	0.0501 - 0.408	8
Lead	0.050 - 6.60	0.152 - 2.83	4
Nickel	0.0052 - 0.10	0.056 - 0.187	5
Silver	0.0003 - 0.010	< MDL	3
Zinc	0.130 - 1.90	0.152 - 3.10	10
Settleable Solids; ml/L	No Data	0.02 - 2.0	7
Nonpolar FOG	5.7 - 25	5 - 22	100
Ph (std)	6.1 - 7.2	6.74 - 8.26	5.0 - 12.0
TSS	2.8 - 1310		
Recorded Total Monthly Flow; Gallons	Data not available	31,850 - 111,050	
Recorded Max. Daily	Data not available	4,500 - 18,600	25,000 GPD

Table IV-B.7: Street Waste Decant Values Following Settling (continued)

PARAMETER; Total Metals in mg/l	Portland - Inverness Site Min - Max	King County - Renton Min - Max	METRO Pretreatment Discharge Limits
Flow; Gallons			
Calculated Average Daily Flow; GPD	Data not available	1,517 - 5,428	
1) Data from King County's Renton Facility (data from 1998 - 1999) and the City of Portland's Inverness Site (data from 1999 - 2001); detention times not provided			

Collection Site Assessment

Ecology suggests a collection site assessment to identify spills or locations that potentially contain dangerous wastes.

The collection site assessment will aid in determining if waste is a dangerous waste and in deciding what to test for if dangerous waste is suspected. The collection site assessment will also help determine if the waste meets the requirements of the receiving facility.

There are three steps to a collection site assessment:

1. A **historical review** of the site for spills, previous contamination and nearby cleanup sites or dangerous waste facilities.

   The historical review will be easier if done on an area wide basis prior to scheduling any waste collection. The historical review should be more thorough for operators who have never collected waste at the site before. At a minimum, the historical review should include operator knowledge of the area's collection history or records from previous waste collections.

   Private operators should ask the owner of the site for records of previous contamination and the timing of the most recent cleaning. Ecology's Hazardous Substance Information Office maintains a Toxic Release Inventory and a Facility/Site Database, tracking more than 15,000 sites.

   Ecology's online Facility/Site Database is available at www.ecy.wa.gov/fs/.

   The database allows anyone with web-access to search for facility information by address, facility name, town, zip code, and SIC code, etc. It lists why Ecology is tracking each one (NPDES, TSCA, RCRA, Clean Air Act, etc.), as well as who to call within Ecology to find out more about the given facility. EPA's toxic release website is http://iaspub.epa.gov/triexplorer/tri_release.chemical

2. A **visual inspection** for potential contaminant sources such as a past fire, leaking tanks and electrical transformers, and surface stains.

Take a look at the area for contaminant sources prior to collection of the waste. If the inspection finds a potential contaminant source, delay the waste collection until the potential contaminant is assessed.

A second portion of the visual inspection is a good housekeeping assessment of the area. Locations with poor housekeeping commonly cut corners in less obvious places. Inspect these sites in greater detail for illegal dumping and other contamination spreading practices.

3. **Sweeping route, catch basin, waste, and container inspection** before and during collection.

   The inspection of the waste and catch basin or vault is the last and perhaps most critical step in the collection site assessment.

   For example, if the stormwater facility has an unusual color in or around it, then it is possible someone dumped something near it or into it. Some colors to be particularly wary of are yellow/green from antifreeze dumping and black and rainbow sheen from oil and/or grease dumping. In addition, if the inspector observes any staining or corrosion, then a solvent may have been dumped.

   Fumes are also good indicators of potential contamination. Avoid deliberate smelling of catch basins for worker safety, but suspicious odors may be encountered from catch basins thought to be safe. Some suspicious odors are rotten eggs (hydrogen sulfide is present), gasoline or diesel fumes, or solvent odors. If unusual odors are noted, contact a dangerous waste inspector before cleaning the basin.

   Finally, operator experience is the best guide to avoid collection of contaminated waste.

Received 12-20-2023

Exhibit 2.h

Stormwater Pollution Prevention Plan (SWPPP)

CHAMPIONS CENTRE

DuPont, Washington

For

Mustard Seed Legacy Dev. LLC
32706 Mountain Hwy E
Eatonville, WA 98328

By

LeRoy Surveyors & Engineers, Inc.
P.O. Box 740
Puyallup, Washington 98371
(253) 848-6608

Engineer: Steve Nelson, P.E.

Contact: Steve T. Nelson
(253) 848-6608 ext. 107
snelson@lseinc.com

September 2023
Job No: 12895

I hereby state that this Stormwater Pollution Prevention Plan for the Champions Centre Project has been prepared by me or under my supervision and meets the standard of care and expertise which is usual and customary in this community for professional engineers. I understand that City of DuPont does not and will not assume liability for the sufficiency, suitability, or performance of drainage facilities prepared by me.

9/26/2023

Table of Contents

Section 1 – Thirteen Elements 4
Certified Erosion Control Lead (CESCL) 4
Element #1 – Preserve Vegetation/Mark Clearing Limits 5
Element #2 – Establish Construction Access 5
Element #3 – Control Flow Rates 5
Element #4 – Install Sediment Controls 6
Element #5 – Stabilize Soils 6
Element #6 – Protect Slopes 6
Element #7 – Protect Drain Inlets 6
Element #8 – Stabilize Channels and Outlets 6
Element #9 – Control Pollutants 7
Element #10 – Control Dewatering 7
Element #11 – Maintain BMPs 7
Element #12 – Manage the Project 7
Element #13 – Protect Low Impact Development BMPs 8
Section 2 – Project Description & Existing Site Conditions 8
Section 3 – Soils & Potential Erosion Problem Areas 11
Section 4 – Construction Phasing & Construction Schedule 11
Section 5 – Engineering Calculations 12

Appendix A: Vicinity Map
Appendix B: Geotechnical Soil Observation Report
Appendix C: Construction Best Management Practices (BMPs)

Section 1 – Thirteen Elements

Certified Erosion Control Lead (CESCL)

The project proposes 4.25 AC (185,105 SF) of on-site clearing limits. A CESCL shall be contracted for this project (per BMP C160), the CESCL shall be identified in the Construction SWPPP and shall be onsite or on-call at all times. Also, an Engineer's Inspection Report Form shall be on file with the County. The Certified Erosion and Sediment Control Lead (CESCL) shall be identified prior to commencement of construction, usually at the pre-construction meeting. This individual shall be responsible for ensuring compliance with all local, state, and federal erosion and sediment control and water quality requirements. The CESCL shall:

- Have a current certified erosion and sediment control lead (CESCL) certificate proving attendance in an erosion and sediment control training course that meets the minimum ESC training and certification requirements established by Ecology. Ecology will maintain a list of ESC training and certification providers at:
    - www.ecy.wa.gov/programs/wq/stormwater.
- Have authority to act on behalf of the contractor or developer and shall be available, on call, 24 hours per day throughout the period of construction.

Upon identification of the CESCL, this SWPPP will be amended with the inclusion of the following:

Name:

Company:

Address:

Telephone:

24-Hour Emergency Contact:

E-Mail:

The following presents a discussion of the thirteen required elements as they relate to the following project:

Element #1 – Preserve Vegetation/Mark Clearing Limits

All clearing limits will be clearly marked prior to any land disturbing activity. The project clearing limits and the landscape buffer will be clearly marked with high visibility plastic fence. The clearing limits are clearly shown on the SWPPP drawings. The native topsoil layer, where disturbed, should be stockpiled on site, covered to prevent erosion, and replaced immediately upon completion of the ground disturbing activities. The native topsoil and natural vegetation shall be retained in an undisturbed state to the maximum extent practical.

BMP's to be utilized:

- BMP C101: Preserving Natural Vegetation
- BMP C102: Buffer Zone
- BMP C103: High Visibility Plastic Fencing

Element #2 – Establish Construction Access

The Stabilized Construction Entrance location and a standard detail are shown on the SWPPP drawings. There will be two stabilized access points for the project off of Barksdale Avenue. Quarry spalls shall be added in accordance with specifications. Any quarry spalls that are loosened from the pad which end up on the roadway shall be removed immediately. If the entrance is not preventing sediment from being tracked onto pavement, then alternative measures to keep the streets free of sediment shall be used. Any sediment that is tracked onto pavement shall be removed by shoveling or street sweeping. Perform street sweeping by hand or with a high efficiency sweeper. Do not use a non-high efficiency mechanical sweeper as these sweepers create dust and throw soil into nearby storm systems or conveyance ditches. The sediment collected by sweeping shall be removed or stabilized onsite. The pavement shall not be cleaned by washing down the street, except when high efficiency sweeping is ineffective and there is a threat to public safety. If it is necessary to wash the streets, the construction of a small sump to contain the wash water may be required. The sediment would then be washed into the sump where it can be controlled.

BMP's to be utilized:

- BMP C105: Stabilized Construction Entrance
- BMP C107: Construction Road/Parking Area Stabilization

Element #3 – Control Flow Rates

The project proposes to use standard cartridge style Infiltration techniques to mitigate the quality and quantity impacts of stormwater runoff from the proposed development. The site topography contains gentle to moderate slopes which descend westward into the site from Steilacoom Dupont Road and dip slightly northward from Barksdale Avenue. The project site, in the area of development, slopes from a high point of 246' in the south corner of the site to a low of approximately 232' near the wetland buffer. The project proposes to use silt fencing along the site perimeter, as necessary, to control flow from the site during construction activities in conjunction with check dams, outlet protection, and sediment trap(s).

BMP's to be utilized:

- BMP C207: Check Dams
- BMP C209: Outlet Protection
- BMP C233: Silt Fence
- BMP C240: Sediment Trap

Element #4 – Install Sediment Controls

Silt fencing will be placed at the downgradient end of all land disturbing activities. It is not anticipated that surface water runoff will be leaving the construction site. Silt fence locations are clearly shown on the SWPPP drawings.

BMP's to be utilized:

- BMP C200: Interceptor Dike and Swale
- BMP C233: Silt Fence
- BMP C240: Sediment Trap

Element #5 – Stabilize Soils

Standard notes and details for soil stabilization are shown on the SWPPP drawings. All exposed and unworked soils shall be stabilized with mulching and/or temporary seeding to protect the soil from erosion. Topsoil stockpiles will be stabilized from erosion with plastic covering. Soils shall not remain exposed and unworked for more than 7 days during the dry season (May 1 through September 30) or 2 days during the wet season (October 1 through April 30). Soils shall be stabilized at the end of the shift before a holiday or weekend if needed based on the weather forecast. Temporary erosion control measures shall remain in place until permanent measures are established.

BMP's to be utilized:

- BMP C120: Temporary and Permanent Seeding
- BMP C121: Mulching
- BMP C123: Plastic Covering
- BMP C140: Dust Control

Element #6 – Protect Slopes

Existing or constructed slopes within the proposed land disturbing activities will utilize the following as well as those employed for Element #5:

- BMP C122: Nets and Blankets

Element #7 – Protect Drain Inlets

Drain inlets onsite and offsite will be protected utilizing the following:

- BMP C220: Inlet Protection

Element #8 – Stabilize Channels and Outlets

There are no channelized outlets on the site; however, the location of the natural drainage pattern and release from the site will be maintained as much as possible.

Element #9 – Control Pollutants

All pollutants, including waste materials and demolition debris, shall be handled and disposed of in a manner that does not contaminate stormwater. All chemicals, liquid products, and petroleum products shall be covered, contained, and protected from vandalism. Concrete handling BMPs shall be used to prevent process water and slurry that contain fine particles and high pH from leaving the project site.

BMP's to be utilized:

- BMP C151: Concrete Handling
- BMP C152: Sawcutting and Surfacing Pollution Prevention
- BMP C153: Material Delivery, Storage, and Containment
- BMP C154: Concrete Washout Area

Element #10 – Control Dewatering

Dewatering is not anticipated to be necessary on this project. If, however, groundwater is encountered, then the contractor and/or owner will need to collect and convey the water where sediment may be filtered or settled out before being released.

Element #11 – Maintain BMPs

The ESC notes on the SWPPP drawings give the contractor specific instructions on how to construct and maintain all temporary BMPs. All BMPs shall be maintained and repaired as needed to ensure continued performance of their intended function in accordance with specifications and Manufacturer recommendations. Best Management Practices installed for the permanent control of stormwater (porous pavement, bioretention) shall be protected from sediment and compaction. If sediment enters the BMPs during construction, it shall be removed, and the facility shall be returned to the condition specified in the construction documents. All temporary ESC BMPs shall be removed within 30 days after final site stabilization is achieved or after the temporary BMPs are no longer needed. Any trapped sediment shall be removed or stabilized on-site. Disturbed soil resulting from removal of BMPs or vegetation shall be permanently stabilized.

- BMP C150: Materials on Hand
- BMP C160: Certified Erosion and Sediment Control Lead

Element #12 – Manage the Project

The general contractor and/or owner representative will be responsible for managing and coordinating all construction activities, including temporary erosion and sediment control. Additionally, a CESCL will be identified and contracted for the project.

- BMP C160: Certified Erosion and Sediment Control Lead
- BMP C162: Scheduling

Element #13 – Protect Low Impact Development BMPs

- Although the project is not proposing Low Impact Development BMPs the project is proposing infiltration trench facilities. Therefore, all permanent stormwater BMPs shall be protected from sedimentation through installation and maintenance of erosion and sediment control BMPs on the portions of the site that drain into the BMPs. If sediment accumulates during construction, BMPs shall be restored to their fully functioning condition. Sediment impacting BMPs shall be removed prior to system start-up. BMP restoration shall include removal of all sediment.
- If sediment impacts infiltrative soils, the sediment-laden soils shall be removed and replaced to meet design specifications.
- To prevent compaction of the infiltration facilities, construction traffic shall be limited and the areas fenced off where the infiltration areas are proposed.

BMP's to be utilized:

- BMP C103: High Visibility Fence

Section 2 – Project Description & Existing Site Conditions

Project Name: Champions Centre

Permit Number(s): TBC

Project Site Address: XXX Barksdale Ave.

DuPont, WA 98237

Parcel Number(s): 0119362039, 0119362009, 0119362012, & 0119362043

Property Zoning: Commercial (COM)

Legal Description:

PARCEL A:

TAX PARCEL NUMBERS 0119362039, 0119362009 & 0119362012

THAT PORTION OF THE NORTHWEST QUARTER OF SECTION 36, TOWNSHIP 19 NORTH, RANGE 1 EAST, W.M., IN PIERCE COUNTY, WASHINGTON, LYING SOUTHEASTERLY OF WILMINGTON DRIVE (RE-ALIGNED DUPONT-STEILACOOM ROAD), DESCRIBED AS FOLLOWS:

COMMENCING AT THE BRONZE MONUMENT AT THE INTERSECTION OF THE CENTERLINE OF BARKSDALE AVENUE AND THE NORTHERLY LINE OF THE NORTHERN PACIFIC RAILROAD COMPANY'S RIGHT OF WAY, AS SHOWN ON THE PLAT OF REPLAT OF THE VILLAGE DUPONT, ACCORDING TO PLAT RECORDED IN VOLUME 15 OF PLATS, PAGE 65; THENCE NORTH 69°47'46" EAST 41.36 FEET ALONG SAID RAILROAD RIGHT OF WAY TO THE NORTHERLY LINE OF SAID BARKSDALE AVENUE; THENCE ALONG SAID NORTHERLY LINE OF BARKSDALE AVENUE, NORTH 63°41'54" WEST 679.50 FEET TO THE POINT OF BEGINNING; THENCE NORTH

54°19'24" WEST 6.81 FEET TO THE SOUTHEASTERLY CORNER OF BLOCK "L" IN SAID REPLAT OF THE VILLAGE OF DUPONT; THENCE NORTH 35°40'36" EAST 45.10 FEET TO THE SOUTHERLY LINE OF A 15 FOOT EASEMENT GRANTED TO THE PIERCE COUNTY SCHOOL DISTRICT 7 FOR PATH;

THENCE ON SAID SOUTHERLY LINE OF EASEMENT, EASTERLY 521.53 FEET TO THE WESTERLY LINE OF DUPONT-STEILACOOM HIGHWAY, AS ESTABLISHED IN DEED RECORDED DECEMBER 11, 1942 UNDER RECORDING NO. 1311721; THENCE SOUTHERLY ALONG SAID WESTERLY LINE 219 FEET, MORE OR LESS, TO THE NORTHERLY LINE OF BARKSDALE AVENUE; THENCE NORTH 63°41'54" WEST, ALONG SAID NORTHERLY LINE TO THE POINT OF BEGINNING;

EXCEPT THAT PORTION AS CONDEMNED IN DECREE OF APPROPRIATION ENTERED MARCH 11, 1988, IN PIERCE COUNTY SUPERIOR COURT CAUSE NO. 87-2-08765-1.

PARCEL B:

TAX PARCEL NUMBER 0119362043:

THAT PORTION OF THE SOUTHWEST QUARTER OF SECTION 25 AND OF THE NORTHWEST QUARTER OF SECTION 36, TOWNSHIP 19 NORTH, RANGE 1 EAST, W.M., CITY OF DUPONT, PIERCE COUNTY, WASHINGTON, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT FORT LEWIS MONUMENT NO. 262, BEING A 6"X6" CONCRETE MONUMENT WITH LEAD AND TACK, AS SHOWN ON THAT RECORD OF SURVEY BY ESM, INC. RECORDED UNDER PIERCE COUNTY RECORDING NO. 9303050249; THENCE SOUTH 87°57'04" EAST, 572.46 FEET TO THE WESTERLY RIGHT-OF-WAY MARGIN OF DUPONT - STEILACOOM ROAD;THENCE ALONG SAID WESTERLY MARGIN, SOUTH 01°42'01" WEST 1,488.92 FEET TO THE SOUTHEASTERLY CORNER OF THE PLAT OF "BELL HILL" AS ECORDED UNDER PIERCE COUNTY RECORDING NO. 9109060562 AND THE TRUE POINT OF BEGINNING; THENCE CONTINUING ALONG SAID WESTERLY MARGIN THE FOLLOWING COURSES: SOUTH 01°42'01" WEST, 74.27 FEET TO A POINT OF CURVATURE; SOUTHWESTERLY 589.42 FEET ALONG THE ARC OF A TANGENT CURVE TO THE RIGHT, HAVING A RADIUS OF 1846.32 FEET, THROUGH A CENTRAL ANGLE OF 19°49'02" TO A POINT OF TANGENCY; SOUTH 21°31'03" WEST, 234.08 FEET; SOUTH 31°28'47" WEST, 758.44 FEET TO THE SOUTHERLY LINE OF A 15 FOOT WIDE EASEMENT GRANTED TO PIERCE COUNTY SCHOOL DISTRICT NO. 7 FOR A PATH BY INSTRUMENT RECORDED UNDER PIERCE COUNTY RECORDING NO. 1604647; THENCE ALONG SAID SOUTHERLY LINE, THE FOLLOWING COURSES: N 73°58'12" W, 6.14 FEET; N 76°55'56" W, 137.26 FEET; N 80°45'26" W, 149.55 FEET; NORTH 83°19'26" WEST, 3.52 FEET TO THE SOUTHEASTERLY LINE OF BLOCK "L" AS SHOWN ON THE "REPLAT OF THE VILLAGE OF DUPONT" AS RECORDED IN VOLUME 15 OF PLATS, PAGE 66, RECORDS OF PIERCE COUNTY, WASHINGTON; THENCE ALONG THE SOUTHEASTERLY LINE OF SAID BLOCK "L" AND ALONG THE EASTERLY LINE OF THAT TRACT OF LAND CONVEYED BY DEED RECORDED UNDER RECORDING NO. 8609160527, NORTH 37°31'09" EAST, 421.17 FEET; THENCE ALONG THE EASTERLY AND NORTHEASTERLY LINES OF SAID TRACT, THE FOLLOWING COURSES: N

50°54'48" W, 39.71 FEET; N 20°15'28" E, 177.79 FEET; N 08°06'30" E, 148.69 FEET; N 18°28'36" E, 97.46 FEET; N 10°27'09" W, 109.27 FEET; N 10°49'00" E, 83.70 FEET; N 39°55'59" W, 402,16 FEET; N 49°44'03" W, 138.48 FEET; N 41°21'42" W, 83.79 FEET;

NORTH 47°49'04" WEST, 99.24 FEET TO THE SOUTHERLY LINE OF SAID PLAT OF "BELL HILL"; THENCE ALONG SAID SOUTHERLY LINE, THE FOLLOWING COURSES: N 86°09'51" E, 566.26 FEET; S 30°02'50" E, 66.31 FEET; N 81°03'07" E, 56.42 FEET; N 76°19'50" E, 49.78 FEET; S 80°24'24" E, 25.68 FEET; S 86°11'31" E, 41.36 FEET; S 77°20'45" E, 37.53 FEET; N 82°37'33" E, 40.92 FEET; N 83°03'30" E, 29.71 FEET; S 71°21'32" E, 35.46 FEET; S 73°42'35" E, 28.67 FEET; S 61°30'59" E, 58.65 FEET; N 87°41'02" E, 42.60 FEET; S 37°31'32" E, 35.01 FEET; N 74°09'45" E, 57.08 FEET; S 88°17'59" E, 24.03 FEET TO THE TRUE POINT OF BEGINNING.

The Champions Centre project contains 4 existing parcels. The overall combined parcel area of the 4 parcels is 927,027 square feet (21.28 acres). This commercial project consists of a Boundary Line Adjustment to reduce the number of lots from 4 parcels into 3 parcels. Parcels A, B & C.

On-Site mitigation of stormwater will be provided through onsite infiltration system(s).

Topography

This group of properties (the Site) comprise approximately 21 acres, of which the proposed development will occur within a contiguous area located on the south and east portions of the site comprising approximately 4.75 acres. The site is generally undeveloped containing an existing wetland. An existing asphalt pad is located at the southeast corner as well as a few large power poles running through the site in an existing easement. In addition, a Pierce County Sewer Utilities Pump Station is located near the middle of the property on the east side immediately adjacent to Dupont-Steilacoom Road. It is also worth noting that the site also contains existing storm pipelines which convey stormwater runoff from offsite through the property and exiting near the existing wetland. The project site is bounded on the Southeast side and the Southwest side by Steilacoom Dupont Road Southwest and Barksdale Avenue respectively. The site topography contains gentle to moderate slopes which descend westward into the site from Steilacoom Dupont Road and dip slightly northward from Barksdale Avenue. The project site, in the area of development, slopes from a high point of 246’ in the south corner of the site to a low of approximately 232’ near the wetland buffer.

Ground Cover

Ground cover, in the undisturbed areas, is partially wooded and includes well-developed understory vegetation typical for the region. While the site is generally undeveloped and contains existing wetland there are areas that have been disturbed. An existing asphalt pad is located at the southeast corner as well as a few large power poles running through the site in an existing easement. Vegetation, around the power poles is predominately scattered bushes and low-level vegetation. In addition, a Pierce County Sewer Utilities Pump Station is located near the middle of the property on the east side immediately adjacent to Dupont-Steilacoom Road.

Drainage/Soils:

According to the NRCS, the site is situated over three soil environments. However, most of the proposed development area is situated on the Spanaway gravelly sandy loam(41A), while a small

portion may extend over a transition to the Everett-Spanaway-Spana Complex. Refer to the NRCS Soil Map within the report Appendix for further information.

Section 3 – Soils & Potential Erosion Problem Areas

The site soil is not considered to be an erosion hazard. If the erosion control measures prove inadequate additional BMP's may need to be implemented.

Section 4 – Construction Phasing & Construction Schedule

Construction Phasing:

The project proposes to construct improvements in one phase.

Construction Sequence:

1. Arrange for and attend pre-construction meeting with owner/owner's representative, contractor, engineer, and City of DuPont.
2. Stake and provide high visibility fence or provide construction fence / high visibility silt fence at clearing limits as shown on the approved plans. No construction activities shall take place outside of these clearing limits unless approved by City of DuPont.
3. Provide temporary construction entrance and inlet protections as shown on the approved plans.
4. Provide perimeter protection (silt fencing, etc.)
5. Construct sediment trap(s) per plan.
6. Install high visibility fencing around infiltration and native vegetation areas.
7. Call City of DuPont for inspection no. 1, installation of erosion control facilities prior to clearing.
8. Clear and grub site. The duff layer, native topsoil, and natural vegetation shall be retained to the maximum extent possible. If retention is not practical, then stockpile it on-site, cover it to prevent erosion, and replace it to the maximum extent possible after amendment upon completion of site grading. This applies to all clearing and grubbing activities.
9. Call City of DuPont for inspection no. 2, completion of clearing.
10. Protect adjacent properties, roadways and rights-of-way from the transport of sediment. If sediment is transported to neighboring roadways, they shall be cleaned promptly by shoveling or sweeping.
11. Maintain erosion control and SWPPP measures in accordance with Pierce County standards and manufacturer recommendations. As site conditions change, relocate erosion control and SWPP measures such that the erosion and sediment control and pollutant measures are always consistent with City of DuPont and manufacturer requirements and recommendations.
12. Seed, sod or stabilize or cover any areas to remain unworked for more than seven (7) days during the dry season (May 1 to September 30) or two (2) days during the wet season (October 1 to April 30) with straw, wood fiber mulch, compost, plastic sheeting,

or equivalent. Disturbed areas not receiving hard surfacing in the final as-constructed condition shall receive amended soils at the time landscaping is installed.

13. Mass grade site. Protect native soils in infiltrative areas.
14. Construct utilities (water, power, storm, etc.) Under paving areas and building pads as required.
15. Provide infiltration facilities as shown on the approved plans. Remove sediment trap.
16. Call City of DuPont for inspection no.3, upon completion of excavation, filling, and earthwork
17. Provide remaining site improvements (i.e. landscaping, city sidewalk on frontage, etc.).
18. Call City of DuPont for inspection no. 4, completion of project.
19. Call City of DuPont for inspection no. 5, as needed, to determine compliance with approved plans and/or specifications.
20. Upon completion of the project and approval by City of DuPont, stabilize all remaining disturbed areas and remove BMPs as appropriate.

Inspection sequence:

Temporary erosion and sediment control measures requiring inspection for this project:

1. Clearing and Grading Limits, including tree protection
2. Temporary Construction Entrance
3. Temporary Siltation Fencing
4. Vegetation and stabilization of exposed surfaces
5. Stockpile plastic sheeting
6. Stabilize exposed soils.

Permanent erosion and sediment control measures required for this project:

1. Stabilize all exposed areas with soil amendments. See notes.
2. Seeding and/or landscaping of non-impervious surfaces.
3. Paving (asphalt or concrete)
4. Sediment Control as noted in plans.

Inspections shall continue until site has stabilized.

Section 5 – Engineering Calculations

A Sediment trap has been designed as part of the erosion control for the site. The required surface area for the trap was calculated per BMP C240 of the manual:

Parcel A – Sediment Trap

$$\text{Surface Area-Parcel A} = FS(Q_2/V_{sed}) = 2{,}056 \text{ SF}$$

Where:

FS = 2 = A safety factor to account for non-ideal settling

V_{sed} = 0.00096 ft/sec. = The settling velocity of the soil particle of interest.

Q_2 = 0.987 cfs = design inflow based on the 2-year recurrence interval flow rate of flows directed towards the proposed bioretention system using a 15-minute time step of an approved continuous runoff model.

The surface area of the proposed sediment trap is 2,056 SF. This requirement has been fulfilled as the surface area of the proposed sediment trap is larger than the required surface area.

Parcel B – Sediment Trap

$$\text{Surface Area-Parcel A} = FS(Q_2/V_{sed}) = 469 \text{ SF}$$

Where:

FS = 2 = A safety factor to account for non-ideal settling

V_{sed} = 0.00096 ft/sec. = The settling velocity of the soil particle of interest.

Q_2 = 0.225 cfs = design inflow based on the 2-year recurrence interval flow rate of flows directed towards the proposed bioretention system using a 15-minute time step of an approved continuous runoff model.

The surface area of the proposed sediment trap is 234 SF. This requirement has been fulfilled as the surface area of the proposed sediment trap is larger than the required surface area.

As part of the Sediment Traps, an emergency spillway has been designed for each. Per the manual, the spillway must be designed to pass the 100-year recurrence interval runoff event for developed conditions. Q_{l100} for Parcel A is 2.532 cfs while Q_{l100} for Parcel B is 0.577 cfs. Per the manual, the following equation may be used to calculate the flow that an overflow spillway is able to convey:

$$Q_{l100} = C(2g)^{½} [2/3*LH^{3/2} + 8/15 (\text{Tan}\theta) H^{5/2}] = 2.65 \text{ cfs}$$

Where:

C = 0.6 = Discharge coefficient

g = 32.3 ft/sec^2 = gravity

L = 6 ft = length of weir (must be 6 ft minimum)

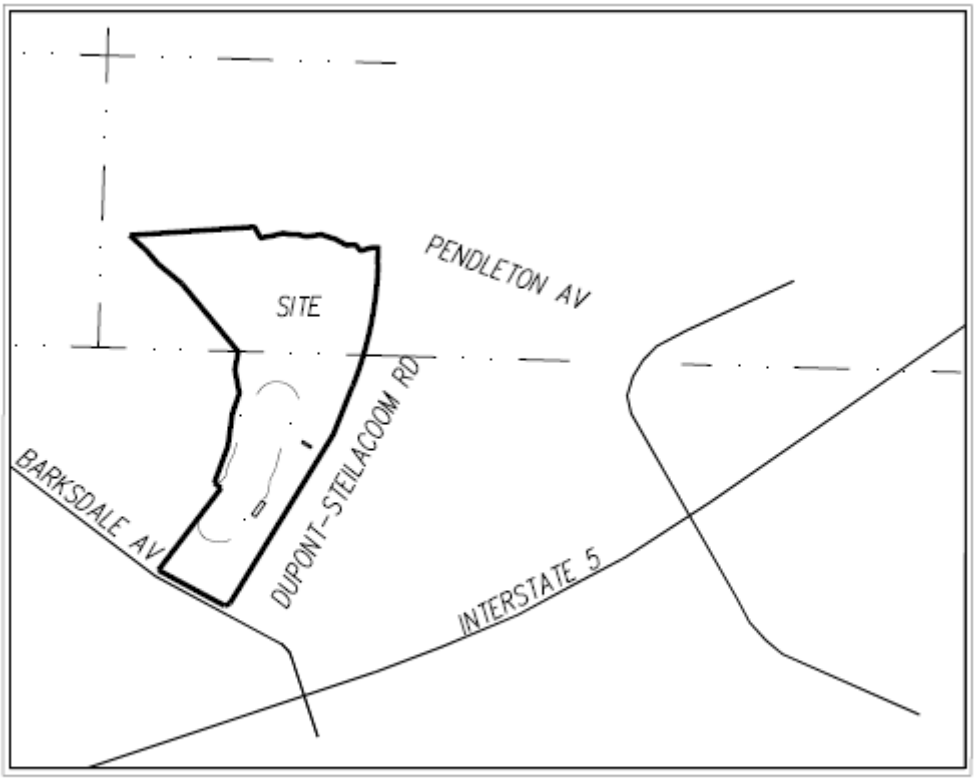
H = 0.25 ft = flow depth

Tanθ = 3 = angle of side slopes

The calculated 100-year recurrence interval runoff event for Parcel A is 2.532 cfs and 0.577 cfs for Parcel B. As designed, the sediment trap spillway can convey up to 2.65 cfs. Therefore, the spillway can handle the 100-year recurrence interval runoff event.

Appendix A

Vicinity Map



N

VICINITY MAP

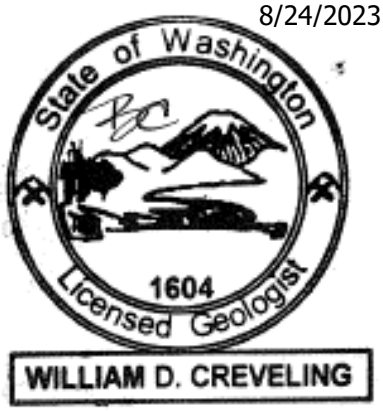
SCALE: 1" = 1000'

Appendix B

Geotechnical Soil Observation Report

Project Name Champion Centre Geotechnical Soil Observation Report		**Job #** 12895	**Inspection Report** #1
Address / Parcel No. XXX Steilacoom Dupont RD SW / 0119362043		**Date** August 24, 2023	**Page** 1 of 11
City / County Dupont / Pierce	**Permit #**	**Arrival Time:** 1:00 pm (5/18/2023) 12:30 pm, (8/11/2023)	
Client Mustard Seed Legacy Development, LLC (c/o David Rich)	**Project Manager** Damon DeRosa, P.E.		
Contractor James Moynan Excavating	**Project Geologist** Bill Creveling, L.G.		
Weather n/a			
Type of Work Performed Perform soil observations via soil pit excavation to determine characteristics applicable for foundation support, drainage, and constructability of the proposed development. Review 'Critical Slope' characteristics per Chapter 25.105.030.345			
Equipment Used Tracked Mini-Excavator			

8/24/2023



Project Description

A Licensed Geologist visited the above site on two occasions to oversee the excavation of 12 test pits to characterize subsurface conditions for the feasibility of a new development plan for the property. The development plan includes a proposed eating and drinking establishment on the north portion of the site development plan, and a religious assembly building on the south portion of the plan. The development will require the typical grading for building pad and parking lot design, and on-site stormwater control. Through our site observations and published sources study, the purpose of this report is to summarize the site characteristics and make appropriate recommendations for project development. This report will also address the 'Critical Slope' review comments from the City of Dupont Review Letter dated June 2, 2023.

Information Sources

Soil identification and mapping for this report is supported by information from the Natural Resource Conservation Service (the NRCS), and in-situ test pits excavated for our confirmation of subsurface conditions. Geologic information for this assessment is supported by information from the Washington Department of Natural Resources (DNR) Geologic Map of the Tacoma 1:100,000 Scale Quadrangle, Washington. Our understanding of site geology is supported by the review of geologic mapping, published topographic and relief map layers from the Pierce County Geographical Information System (GIS), and site observations.

We reviewed Table 1806.2 "Presumptive Load Bearing Values" of the 2018 International Building Code; we contracted Construction Testing Laboratories for Particle Size Distribution Analysis; and evaluated published geologic and terrain mapping.

Site Description

This group of properties (the Site) comprise approximately 21 acres, albeit the proposed development will occur on the south and southeast portion of the site comprising approximately 4.75 acres. The site is undeveloped. It is partially wooded and includes well-developed understory vegetation typical for the region. It is bounded on the Southeast side and the Southwest side by Steilacoom Dupont Road Southwest and Barksdale Avenue respectively. Gentle to moderate slopes descend westward into the site from Steilacoom Dupont Road and dip slightly northward from Barksdale Avenue.

Soil

According to the NRCS, the site is situated over three soil environments. However, most of the proposed development area is situated on the Spanaway gravelly sandy loam, while a small portion may extend over a transition to the Everett-Spanaway-Spana Complex.
Figure 1 illustrates the site position in the soil mapping.

Figure 1: Site Position within NRCS Soil Environments (Excerpt)

LeRoy Surveyors & Engineers, Inc. • P.O. Box 740, Puyallup, Washington 98371
253.848.6608 • fax 253.840.4140 • www.lseinc.com

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
104	Semiahmoo muck, 0 to 1 percent slopes	0.5	0.2%
992	Urban land-Spanaway complex, 0 to 2 percent slopes	69.3	24.0%
3112	Everett-Spanaway-Spana complex, 0 to 30 percent slopes	37.6	13.0%
Subtotals for Soil Survey Area		**107.4**	**37.2%**
Totals for Area of Interest		**288.5**	**100.0%**

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
12A	Dupont muck	14.4	5.0%
41A	Spanaway gravelly sandy loam	113.9	39.5%
3112	Everett-Spanaway-Spana complex, 0 to 30 percent slopes	50.7	17.6%
W	Water	2.2	0.8%
Subtotals for Soil Survey Area		**181.1**	**62.8%**
Totals for Area of Interest		**288.5**	**100.0%**

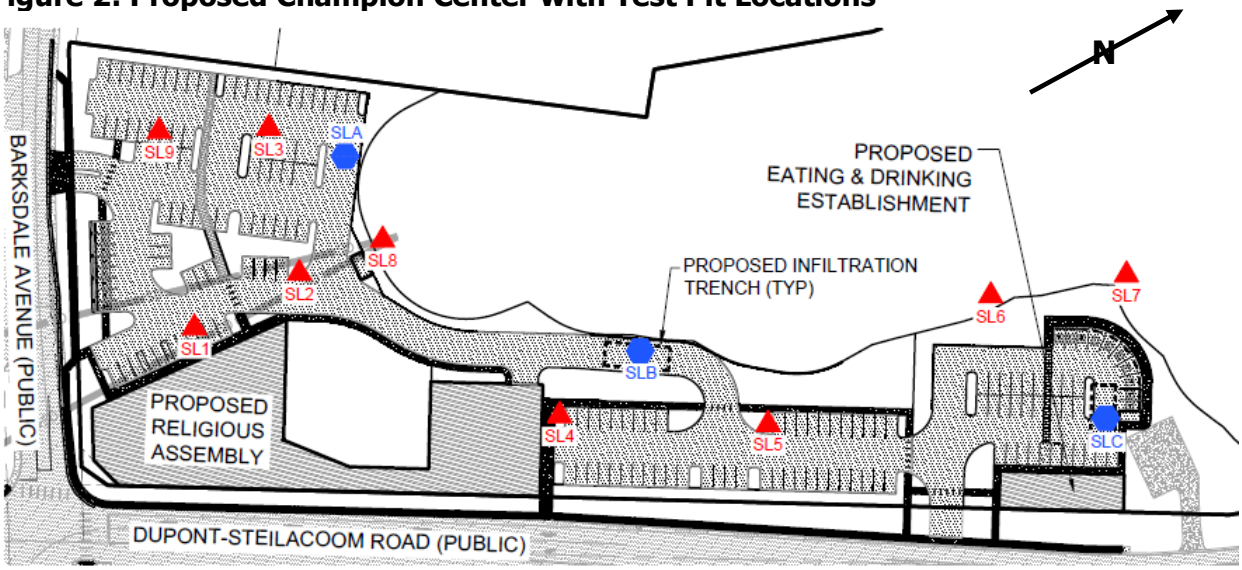
This near level to undulating Spanaway gravelly sandy loam is excessively drained. It formed in glacial outwash mixed in the upper part with volcanic ash on the very extensive plain from Lakewood to Roy. The elevation ranges from 100 to 500 feet. The annual precipitation in the region is 35 to 45 inches, and the mean annual air temperature is 51 degrees F. The frost-free season is about 170 days. Slopes range from 0 to 6 percent with the exception of anomalous Kame and Kettle features (See 'Geology' section for details).

Per the NRCS, a typical profile includes a surface layer of black gravelly sandy loam approximately 14 inches thick (but varies). The subsoil, to a depth of 18 inches, is dark grayish brown very gravelly sandy loam. The substratum, to a depth of more at least *60 inches to several tens of feet, is light brownish gray very gravelly sand. Permeability is extremely rapid. Surface runoff is slow to non-existent, and there is little erosion hazard.

Based on our test pits we can confirm the NRCS soil mapping on the site. We confirmed the site development area to be situated wholly or mostly on the Spanaway gravelly sandy loam. Figure 2 illustrates the site test pit locations on the site development plans.

*Note: the NRCS limits their analysis to the upper 60 inches of the subsurface environment even though actual depths may well exceed 60 inches (as they do in this case).

Figure 2: Proposed Champion Center with Test Pit Locations



In-Situ Soil Descriptions

SOIL LOGS:
BILL CREVELING, LS&E MAY 18, 2021

SL-1
0" - 80" ALTERNATING DARK BROWN/LIGHT BROWN VERY GRAVELLY FINE-COARSE SAND (FILL)

SL-2
0" - 60" BROWN/DARK BROWN VERY GRAVELLY FINE-MED SAND W/SILT, ORGANICS (FILL)
60" - 96" BROWN VERY GRAVELLY FINE-MED SAND

SL-3
0" - 48" DARK BROWN/BLACK VERY GRAVELLY LOAM (NATIVE)
48" - 96" BROWN EXTREMELY GRAVELLY FINE-COARSE SAND W/COBBLES (NATIVE)

SL-4
0"- 18" DARK BROWN/BLACK VERY GRAVELLY LOAM (NATIVE)
18" - 96" BROWN EXTREMELY GRAVELLY FINE-COARSE SAND W/COBBLES (NATIVE)

SL-5
0" - 18" BROWN VERY GRAVELLY LOAMY SAND
18" - 80" TAN/GRAY EXTREMELY GRAVELLY FINE-COARSE SAND, ROOTS TO 80"
80"+ WATER

SL-6
0" - 10" DARK BROWN SANDY LOAM, ORGANICS
10" - 48" BROWN GRAVELLY FINE-MED SAND, ROOTED
48" - 72" GRAY GRAVELLY MED-COARSE SAND, COBBLES

SL-7
0" - 18" DARK BROWN LOAMY SAND, ROOTED, ORGANICS
18" - 70" BROWN EXTREMELY GRAVELLY FINE-COARSE SAND, COBBLES & BOULDERS

SL-8
0" - 18" BROWN VERY GRAVELLY LOAMY FINE SAND, COMPACT (FILL)
18" - 48" DARK BROWN VERY GRAVELLY LOAM (NATIVE)
48" - 80" BROWN EXTREMELY GRAVELLY FINE-COARSE SAND W/OCCASIONAL BOULDERS

SOIL LOGS:
BILL CREVELING, LS&E AUGUST 11, 2023

SL-A
0" - 36" DARK BROWN / BLACK SILT W/ FN SAND GRAVEL, ORGANIC
36" - 120" TAN GRAVEL W/ SAND

SL-B
0" - 24" DARK BROWN / BLACK SILT W/ FN SAND GRAVEL, ORGANIC
24" - 120" TAN GRAVEL W/ SAND

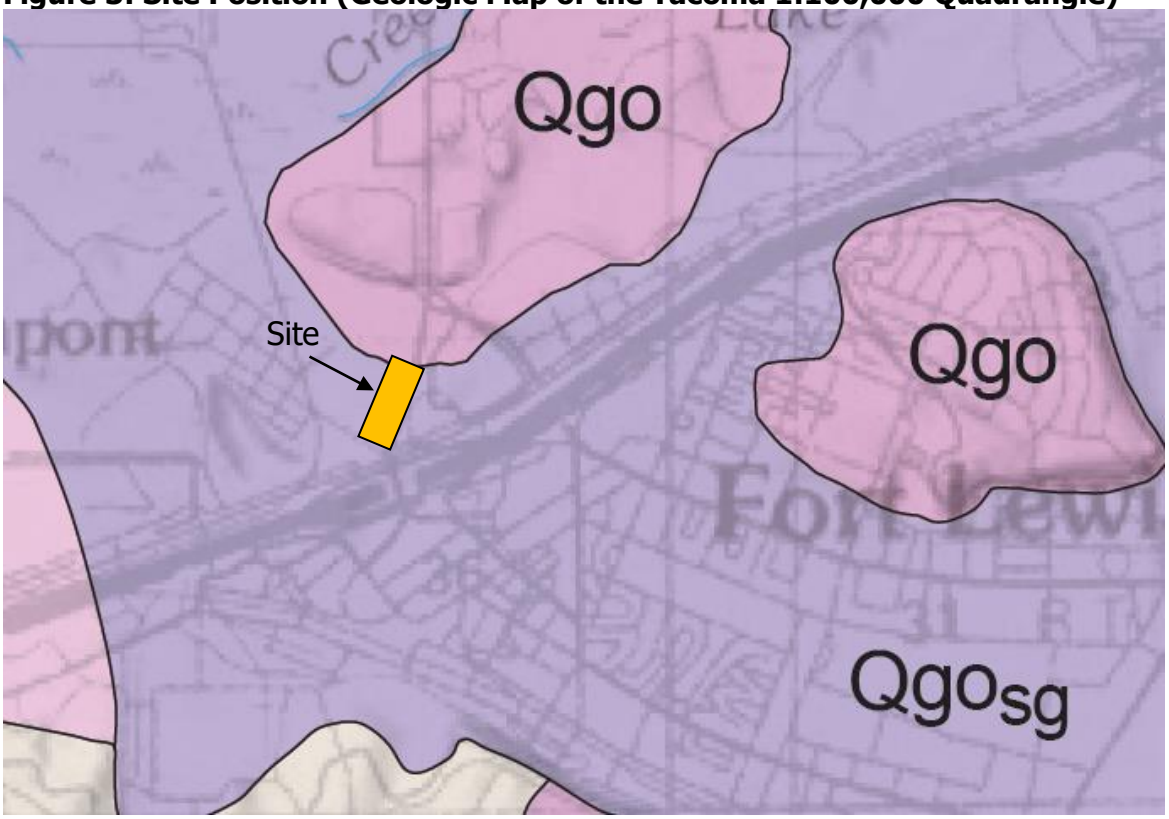
SL-C
0" - 54" BROWN FN-MED SAND WITH SILT, GRAVEL
54" - 120" TAN MED. SAND & GRAVEL

Geology

According to the Geologic Map of the Tacoma 1:100,000-scale Quadrangle, Washington, in Figure 3 below; this site is located on a coarse glacial outwash deposit emplaced during a period of glacial lake outburst flooding during the end of the Fraser glaciation period. An large regional body of water trapped between glacial ice in the lowlands, and the Cascade foothills to the east was released suddenly through ice failure. This catastrophic event produced a large scale erosion event which eroded and removed the previously emplaced glacial stratigraphy throughout the Spanaway and Lakewood area, and replaced the original material in the basin with an excessively coarse outwash referred to as the Steilacoom gravel (Qgo_{sg}).

Ice blocks were transported and deposited in the terrain during this outburst flooding. Kettle formations, found throughout the broad Steilacoom Gravel deposit, were created by these large ice blocks that were left behind by the retreating glacier. Sediment was deposited around the ice blocks, leaving kettle lakes when the ice melted. This event also deposited mounds of outwash against ice blocks present on the surface, that (following melting); left 'Kame' features (isolated mounds of gravel outwash). Spanaway Lake, Gravelly Lake, and nearby Old Fort Lake are well-known examples of kettles. The mounds and knob features in the area represent these outwash gravel kames. Figure 3 illustrates the site's position in the local geology.

Figure 3: Site Position (Geologic Map of the Tacoma 1:100,000 Quadrangle)



J. Eric Schuster, Ashley A. Cabibbo, Joseph Schilter, and Ian J. Hubert (October 2015)

Qgo_{sg} **Recessional outwash, Steilacoom Gravel**—Pebbles with boulders; local crossbedding; kettles and other ice-contact depressions

Critical Slope Assessment

Per the City of Dupont's June 2, 2023, review letter, the following discussion and exhibit information will address Comment No. 3 on page 7, regarding the requirement to assess the slope (the small 'knob' feature) with slopes of approximately 22 percent. The applicable regulatory section is in the Dupont Municipal Code (DMC) Chapter 25.105.030.345.

The Code defines as steep slope when all three of the following criteria are met:

(a) Slopes Steeper than 15%

(b) Hillsides intersecting geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock; and

(c) Springs or groundwater seepage

As discussed in the 'Geology' section above, the localized 'knobs' or 'mounds' are Kame features. The kames are composed of the coarse recessional flood outwash that was trapped at the time between glacial ice sheet remnants. These ice sheet blocks came to rest during the flooding on the surface where outwash became deposited against them. Upon melting, the outwash gained the appearance they have today as a mounded feature.

These deposits do not have inclined geologic contacts with permeable sediment overlying impermeable sediment, nor are any springs present per our observations (nor would they be possible in this geology). The 15% slope angle and its similar call out in other jurisdictions is only intended to warrant further analysis. In no case is such a shallow slope angle unstable. The typical angle of repose (the maximum angle an unconsolidated aggregate remains stable) for clean, well sorted, semi-rounded sand is 60 to 70 percent. The aggregate on this site has a steeper angle of repose given the poor sorting and minor sub-rounding form of the aggregate. The slope is globally stable in our opinion.

Findings/Recommendations

Foundation Bearing Capacity – The site is situated on loose gravel and sand, which is ideal for projects requiring moderate to significant bearing capacity, and limited space for drainage. However, due to the coarse nature of the aggregate, excavations may calve or settle laterally at approximately 2:1 (Vertical: Horizontal). Therefore, excavations should be laid back at 1 to 1 during construction. The 2018 International Building Code (IBC) Chapter 18 provides expected capacities for *Vertical Bearing Capacity, Lateral Bearing Pressure, and Lateral Coefficient of Friction* based on material classification. Please see Figure 3 below for an illustration of expected bearing capacity per the IBC.

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Figure 3 – 2018 International Building Code (IBC) Excerpt

TABLE 1806.2
PRESUMPTIVE LOAD-BEARING VALUES

CLASS OF MATERIALS	VERTICAL FOUNDATION PRESSURE (psf)	LATERAL BEARING PRESSURE (psf/ft below natural grade)	LATERAL SLIDING RESISTANCE	
			Coefficient of friction[a]	Cohesion (psf)[b]
1. Crystalline bedrock	12,000	1,200	0.70	—
2. Sedimentary and foliated rock	4,000	400	0.35	—
3. Sandy gravel and gravel (GW and GP)	3,000	200	0.35	—
4. Sand, silty sand, clayey sand, silty gravel and clayey gravel (SW, SP, SM, SC, GM and GC)	2,000	150	0.25	—
5. Clay, sandy clay, silty clay, clayey silt, silt and sandy silt (CL, ML, MH and CH)	1,500	100	—	130

Foundation Drainage – As discussed in the 'Soil' and 'Geology' sections, the site is situated on an excessively permeable outwash deposit with depths of ten or more feet based on our test pit observations and the characteristics of the Steilacoom gravel. There are no perching strata or water bearing formations present. Therefore, conventional footing drain systems should be considered in the typical manner for the building facility, albeit they may never encounter ground water.

Runoff Control – The subsurface soil characteristics are ideal for subsurface infiltration. The coarse outwash depth was verified to be at least nine to ten feet in depth but may continue to greater depths when considering the terrain and landform. Soils are excessively coarse and rapidly draining, such that infiltration testing is difficult to impossible. Attempts to presoak or even hold a static ponding level are not possible in this formation based on our experience on multiple occasions. Whether attempting a falling head test using a 6-inch pipe on neighboring sites with similar soil; the infiltration was too rapid to even establish ponding in the pipe. Therefore, we opted for a more conservative design rate sizing method by collecting soil samples from the approximate basal zone of the proposed trenches and delivered to Construction Testing Laboratory for analysis (copies attached).

Results: In this case, the test confirms that these very gravelly to extremely gravelly outwash soils are ideal for infiltration. The table below summarizes the sieve results for each sample along with the necessary correction factors to determine an appropriate design infiltration rate.

Table 1 – Grain Size Analysis with Correction Factors for Infiltration Rate

SOIL SAMPLE	D10	D60	D90	fines	1.90D10	0.015D60	0.013D90	2.08fines	log10 (Ksat)	Ksat (cm/s)	Ksat (in/hr)
SLA	0.00076	0.016	0.028	0.002	0.001444	0.00024	0.000364	0.00416	-1.57284	0.026739914	37.89909017
SLB	0.0098	0.015	0.029	0.001	0.01862	0.000225	0.000377	0.00208	-1.55361	0.027950398	39.61473765
SLC	0.0047	0.019	0.038	0.001	0.00893	0.000285	0.000494	0.00208	-1.56336	0.027330086	38.73555511

Infiltration Rate for Design - Given the substantial depth and excessive permeability of these coarse outwash soils, subsurface infiltration is ideal for stormwater control. The lowest-case recommended design rate for the three samples is 37.9 inches per hour per lab results and correction factors. We recommend using 30 inches per hour for design.

Liquefaction
The subsurface soil characteristics are such that liquefaction is not a risk. The soil is highly permeable, and free of groundwater to substantial depths. Therefore, saturated conditions are not likely to exist. Liquefaction is not expected.

See Attached Soil Test Results
Below this Page

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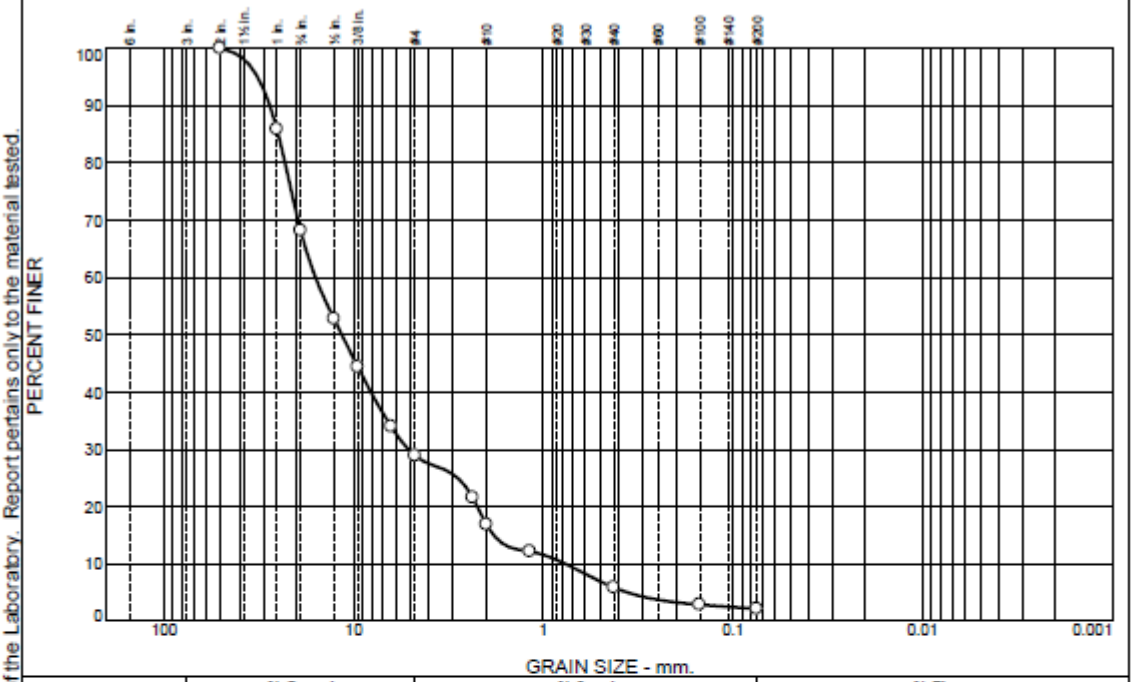
Particle Size Distribution Report ASTM C117, C136



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	32	39	12	11	4	2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100		
1"	86		
3/4"	68		
1/2"	53		
3/8"	44		
1/4"	34		
#4	29		
#8	22		
#10	17		
#16	12		
#40	6		
#100	3		
#200	2.2		

* (no specification provided)

Material Description

Brown Gravel with Sand
Sampled from SL A at 9'

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 27.6653 D_{85}= 24.9885 D_{60}= 15.9151
D_{50}= 11.5485 D_{30}= 5.1518 D_{15}= 1.8281
D_{10}= 0.7642 C_u= 20.82 C_c= 2.18

Classification

USCS= GW AASHTO=

Remarks

Report: #01

Sampled by: Client

Source of Sample: Existing
Sample Number: 23-1184

Date: 08-11-23

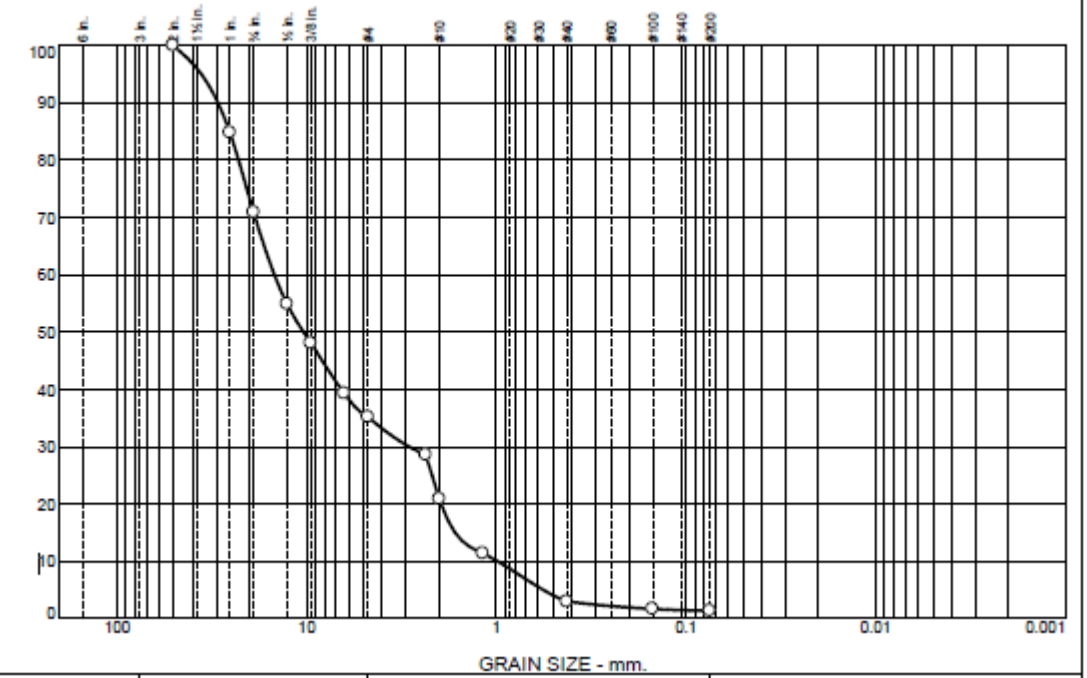
Construction Testing Laboratories
400 Valley Ave. NE, Suite #102
Puyallup WA, 98372 Tel. (253) 383-8778

Client: Mustard Seed Legacy Development, LLC
Project: Champion Centre
Project No: 10414 **Figure**

Tested By: R Rowden **Checked By:** C Pedersen

Report shall not be reproduced except in full without the written approval of the Laboratory. Report pertains only to the material tested.

Particle Size Distribution Report ASTM C117, C136



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	29	36	14	18	2	1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100		
1"	85		
3/4"	71		
1/2"	55		
3/8"	48		
1/4"	39		
#4	35		
#8	29		
#10	21		
#16	11		
#40	3		
#100	2		
#200	1.4		

* (no specification provided)

Material Description

Brown Gravel and Sand
Sampled from SL B at 10'

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 29.3348 D_{85}= 25.5221 D_{60}= 14.8099
D_{50}= 10.3997 D_{30}= 2.8775 D_{15}= 1.6507
D_{10}= 0.9841 C_u= 15.05 C_c= 0.57

Classification

USCS= GP AASHTO=

Remarks

Report: #02

Sampled by: Client

Source of Sample: Existing
Sample Number: 23-1185

Date: 08-11-23

Construction Testing Laboratories
400 Valley Ave. NE, Suite #102
Puyallup WA, 98372 Tel. (253) 383-8778

Client: Mustard Seed Legacy Development, LLC
Project: Champion Centre
Project No: 10414 **Figure**

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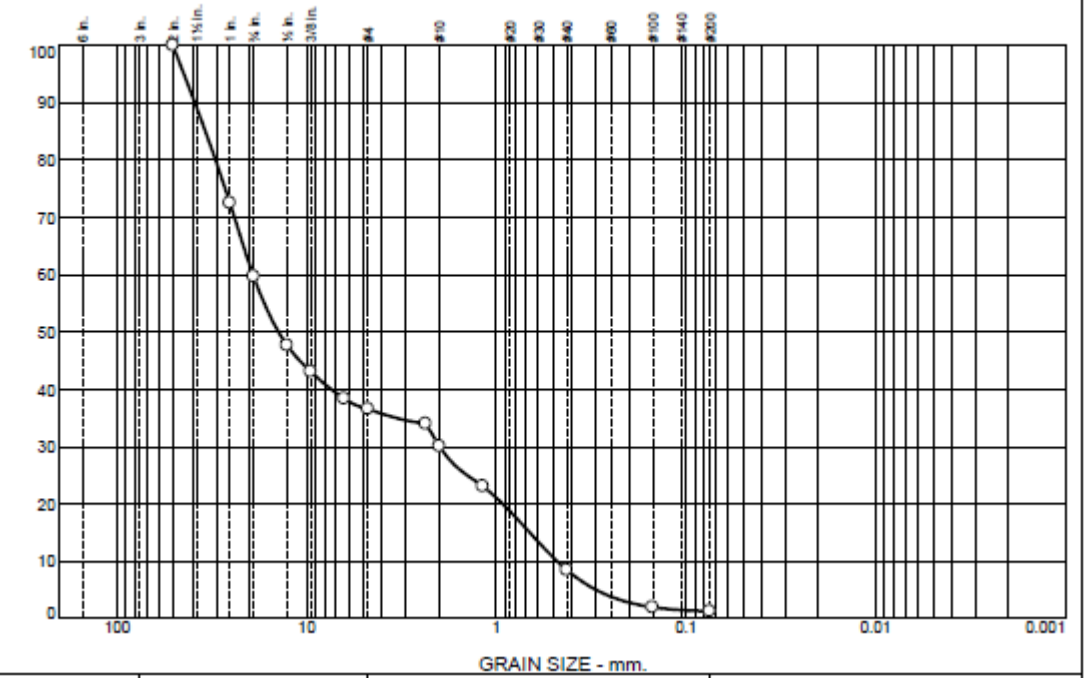
Tested By: R Rowden **Checked By:** C Pedersen

Particle Size Distribution Report ASTM C117, C136



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	40	23	7	22	7	1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100		
1"	72		
3/4"	60		
1/2"	48		
3/8"	43		
1/4"	38		
#4	37		
#8	34		
#10	30		
#16	23		
#40	8		
#100	2		
#200	1.3		

* (no specification provided)

Material Description

Brown Gravel with Sand
Sampled from SG C at 10'

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 38.8807 D_{85}= 34.1865 D_{60}= 19.1923
D_{50}= 14.0747 D_{30}= 1.9911 D_{15}= 0.6658
D_{10}= 0.4770 C_u= 40.23 C_c= 0.43

Classification

USCS= GP AASHTO=

Remarks

Report: #03

Sampled by: Client

Source of Sample: Existing
Sample Number: 23-1186

Date: 08-11-23

Construction Testing Laboratories
400 Valley Ave. NE, Suite #102
Puyallup WA, 98372 Tel. (253) 383-8778

Client: Mustard Seed Legacy Development, LLC
Project: Champion Centre
Project No: 10414 **Figure**

Tested By: R Rowden **Checked By:** C Pedersen

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Appendix C

Construction Best Management Practices (BMPs)

BMP C101: Preserving Natural Vegetation

Purpose

The purpose of preserving natural vegetation is to reduce erosion wherever practicable. Limiting site disturbance is the single most effective method for reducing erosion. For example, conifers can hold up to about 50 percent of all rain that falls during a storm. Up to 20-30 percent of this rain may never reach the ground but is taken up by the tree or evaporates. Another benefit is that the rain held in the tree can be released slowly to the ground after the storm.

Conditions of Use

Natural vegetation should be preserved on steep slopes, near perennial and intermittent water-courses or swales, and on building sites in wooded areas.

- As required by local governments.
- Phase construction to preserve natural vegetation on the project site for as long as possible during the construction period.

Design and Installation Specifications

Natural vegetation can be preserved in natural clumps or as individual trees, shrubs and vines.

The preservation of individual plants is more difficult because heavy equipment is generally used to remove unwanted vegetation. The points to remember when attempting to save individual plants are:

- Is the plant worth saving? Consider the location, species, size, age, vigor, and the work involved. Local governments may also have ordinances to save natural vegetation and trees.
- Fence or clearly mark areas around trees that are to be saved. It is preferable to keep ground disturbance away from the trees at least as far out as the dripline.

Plants need protection from three kinds of injuries:

- *Construction Equipment* - This injury can be above or below the ground level. Damage results from scarring, cutting of roots, and compaction of the soil. Placing a fenced buffer zone around plants to be saved prior to construction can prevent construction equipment injuries.
- *Grade Changes* - Changing the natural ground level will alter grades, which affects the plant's ability to obtain the necessary air, water, and minerals. Minor fills usually do not cause problems although sensitivity between species does vary and should be checked. Trees can typically tolerate fill of 6 inches or less. For shrubs and other plants, the fill should be less.

  When there are major changes in grade, it may become necessary to supply air to the roots of plants. This can be done by placing a layer of gravel and a tile system over the roots before the fill is made. The tile system should be laid out on the original grade leading from a dry well

around the tree trunk. The system should then be covered with small stones to allow air to circulate over the root area.

Lowering the natural ground level can seriously damage trees and shrubs. The highest percentage of the plant roots are in the upper 12 inches of the soil and cuts of only 2-3 inches can cause serious injury. To protect the roots it may be necessary to terrace the immediate area around the plants to be saved. If roots are exposed, construction of retaining walls may be needed to keep the soil in place. Plants can also be preserved by leaving them on an undisturbed, gently sloping mound. To increase the chances for survival, it is best to limit grade changes and other soil disturbances to areas outside the dripline of the plant.

- *Excavations* - Protect trees and other plants when excavating for drainfields, power, water, and sewer lines. Where possible, the trenches should be routed around trees and large shrubs. When this is not possible, it is best to tunnel under them. This can be done with hand tools or with power augers. If it is not possible to route the trench around plants to be saved, then the following should be observed:
    - Cut as few roots as possible. When you have to cut, cut clean. Paint cut root ends with a wood dressing like asphalt base paint if roots will be exposed for more than 24-hours.
    - Backfill the trench as soon as possible.
    - Tunnel beneath root systems as close to the center of the main trunk to preserve most of the important feeder roots.

Some problems that can be encountered with a few specific trees are:

- Maple, Dogwood, Red alder, Western hemlock, Western red cedar, and Douglas fir do not readily adjust to changes in environment and special care should be taken to protect these trees.
- The windthrow hazard of Pacific silver fir and madrona is high, while that of Western hemlock is moderate. The danger of windthrow increases where dense stands have been thinned. Other species (unless they are on shallow, wet soils less than 20 inches deep) have a low windthrow hazard.
- Cottonwoods, maples, and willows have water-seeking roots. These can cause trouble in sewer lines and infiltration fields. On the other hand, they thrive in high moisture conditions that other trees would not.
- Thinning operations in pure or mixed stands of Grand fir, Pacific silver fir, Noble fir, Sitka spruce, Western red cedar, Western hemlock, Pacific dogwood, and Red alder can cause serious disease problems. Disease can become established through damaged limbs, trunks, roots, and freshly cut stumps. Diseased and weakened trees are also susceptible to insect attack.

Maintenance Standards

Inspect flagged and/or fenced areas regularly to make sure flagging or fencing has not been removed or damaged. If the flagging or fencing has been damaged or visibility reduced, it shall be repaired or replaced immediately and visibility restored.

If tree roots have been exposed or injured, “prune” cleanly with an appropriate pruning saw or loppers directly above the damaged roots and recover with native soils. Treatment of sap flowing trees (fir, hemlock, pine, soft maples) is not advised as sap forms a natural healing barrier.

BMP C102: Buffer Zones

Purpose

Creation of an undisturbed area or strip of natural vegetation or an established suitable planting that will provide a living filter to reduce soil erosion and stormwater runoff velocities.

Conditions of Use

Buffer zones are used along streams, wetlands and other bodies of water that need protection from erosion and sedimentation. Contractors can use vegetative buffer zone BMPs to protect natural swales and they can incorporate them into the natural landscaping of an area.

Do not use critical-areas buffer zones as sediment treatment areas. These areas shall remain completely undisturbed. The local permitting authority may expand the buffer widths temporarily to allow the use of the expanded area for removal of sediment.

The types of buffer zones can change the level of protection required as shown below:

Designated Critical Area Buffers - buffers that protect Critical Areas, as defined by the Washington State Growth Management Act, and are established and managed by the local permitting authority. These should not be disturbed and must protected with sediment control BMPs to prevent impacts. The local permitting authority may expand the buffer widths temporarily to allow the use of the expanded area for removal of sediment.

Vegetative Buffer Zones - areas that may be identified in undisturbed vegetation areas or managed vegetation areas that are outside any Designated Critical Area Buffer. They may be utilized to provide an additional sediment control area and/or reduce runoff velocities. If being used for preservation of natural vegetation, they should be arranged in clumps or strips. They can be used to protect natural swales and incorporated into the natural landscaping area.

Design and Installation Specifications

- Preserving natural vegetation or plantings in clumps, blocks, or strips is generally the easiest and most successful method.
- Leave all unstable steep slopes in natural vegetation.
- Mark clearing limits and keep all equipment and construction debris out of the natural areas and buffer zones. Steel construction fencing is the most effective method to protect sensitive areas and buffers. Alternatively, wire-backed silt fence on steel posts is marginally effective. Flagging alone is typically not effective.
- Keep all excavations outside the dripline of trees and shrubs.
- Do not push debris or extra soil into the buffer zone area because it will cause damage by

burying and smothering vegetation.

- Vegetative buffer zones for streams, lakes or other waterways shall be established by the local permitting authority or other state or federal permits or approvals.

Maintenance Standards

Inspect the area frequently to make sure flagging remains in place and the area remains undisturbed. Replace all damaged flagging immediately. Remove all materials located in the buffer area that may impede the ability of the vegetation to act as a filter.

BMP C103: High-Visibility Fence

Purpose

High-visibility fencing is intended to:

- Restrict clearing to approved limits.
- Prevent disturbance of sensitive areas, their buffers, and other areas required to be left undisturbed.
- Limit construction traffic to designated construction entrances, exits, or internal roads.
- Protect areas where marking with survey tape may not provide adequate protection.

Conditions of Use

To establish clearing limits plastic, fabric, or metal fence may be used:

- At the boundary of sensitive areas, their buffers, and other areas required to be left uncleared.
- As necessary to control vehicle access to and on the site.

Design and Installation Specifications

High-visibility plastic fence shall be composed of a high-density polyethylene material and shall be at least four feet in height. Posts for the fencing shall be steel or wood and placed every 6 feet on center (maximum) or as needed to ensure rigidity. The fencing shall be fastened to the post every six inches with a polyethylene tie. On long continuous lengths of fencing, a tension wire or rope shall be used as a top stringer to prevent sagging between posts. The fence color shall be high-visibility orange. The fence tensile strength shall be 360 lbs/ft using the ASTM D4595 testing method.

If appropriate install fabric silt fence in accordance with BMP C233: Silt Fence to act as high-visibility fence. Silt fence shall be at least 3 feet high and must be highly visible to meet the requirements of this BMP.

Metal fences shall be designed and installed according to the manufacturer's specifications.

Metal fences shall be at least 3 feet high and must be highly visible.

Fences shall not be wired or stapled to trees.

Maintenance Standards

If the fence has been damaged or visibility reduced, it shall be repaired or replaced immediately and visibility restored.

BMP C105: Stabilized Construction Access

Purpose

Stabilized construction accesses are established to reduce the amount of sediment transported onto paved roads outside the project site by vehicles or equipment. This is done by constructing a stabilized pad of quarry spalls at entrances and exits for project sites.

Conditions of Use

Construction accesses shall be stabilized wherever traffic will be entering or leaving a construction site if paved roads or other paved areas are within 1,000 feet of the site.

For residential subdivision construction sites, provide a stabilized construction access for each residence, rather than only at the main subdivision entrance. Stabilized surfaces shall be of sufficient length/width to provide vehicle access/parking, based on lot size and configuration.

On large commercial, highway, and road projects, the designer should include enough extra materials in the contract to allow for additional stabilized accesses not shown in the initial Construction SWPPP. It is difficult to determine exactly where access to these projects will take place; additional materials will enable the contractor to install them where needed.

Design and Installation Specifications

See Figure II-3.1: Stabilized Construction Access for details. Note: the 100' minimum length of the access shall be reduced to the maximum practicable size when the size or configuration of the site does not allow the full length (100').

Construct stabilized construction accesses with a 12-inch thick pad of 4-inch to 8-inch quarry spalls, a 4-inch course of asphalt treated base (ATB), or use existing pavement. Do not use crushed concrete, cement, or calcium chloride for construction access stabilization because these products raise pH levels in stormwater and concrete discharge to waters of the State is prohibited.

A separation geotextile shall be placed under the spalls to prevent fine sediment from pumping up into the rock pad. The geotextile shall meet the standards listed in Table II-3.2: Stabilized Construction Access Geotextile Standards.

Table II-3.2: Stabilized Construction Access Geotextile Standards

Geotextile Property	Required Value
Grab Tensile Strength (ASTM D4751)	200 psi min.

Table II-3.2: Stabilized Construction Access Geotextile Standards (continued)

Geotextile Property	Required Value
Grab Tensile Elongation (ASTM D4632)	30% max.
Mullen Burst Strength (ASTM D3786-80a)	400 psi min.
AOS (ASTM D4751)	20-45 (U.S. standard sieve size)

- Consider early installation of the first lift of asphalt in areas that will be paved; this can be used as a stabilized access. Also consider the installation of excess concrete as a stabilized access. During large concrete pours, excess concrete is often available for this purpose.
- Fencing (see BMP C103: High-Visibility Fence) shall be installed as necessary to restrict traffic to the construction access.
- Whenever possible, the access shall be constructed on a firm, compacted subgrade. This can substantially increase the effectiveness of the pad and reduce the need for maintenance.
- Construction accesses should avoid crossing existing sidewalks and back of walk drains if at all possible. If a construction access must cross a sidewalk or back of walk drain, the full length of the sidewalk and back of walk drain must be covered and protected from sediment leaving the site.

Alternative Material Specification

WSDOT has raised safety concerns about the Quarry Spall rock specified above. WSDOT observes that the 4-inch to 8-inch rock sizes can become trapped between Dually truck tires, and then released off-site at highway speeds. WSDOT has chosen to use a modified specification for the rock while continuously verifying that the Stabilized Construction Access remains effective. To remain effective, the BMP must prevent sediment from migrating off site. To date, there has been no performance testing to verify operation of this new specification. Jurisdictions may use the alternative specification, but must perform increased off-site inspection if they use, or allow others to use, it.

Stabilized Construction Accesses may use material that meets the requirements of WSDOT's *Standard Specifications for Road, Bridge, and Municipal Construction* Section 9-03.9(1) (WSDOT, 2016) for ballast except for the following special requirements.

The grading and quality requirements are listed in Table II-3.3: Stabilized Construction Access Alternative Material Requirements.

Table II-3.3: Stabilized Construction Access Alternative Material Requirements

Sieve Size	Percent Passing
2½"	99-100

Table II-3.3: Stabilized Construction Access Alternative Material Requirements (continued)

Sieve Size	Percent Passing
2″	65-100
¾″	40-80
No. 4	5 max.
No. 100	0-2
% Fracture	75 min.

- All percentages are by weight.
- The sand equivalent value and dust ratio requirements do not apply.
- The fracture requirement shall be at least one fractured face and will apply the combined aggregate retained on the No. 4 sieve in accordance with FOP for AASHTO T 335.

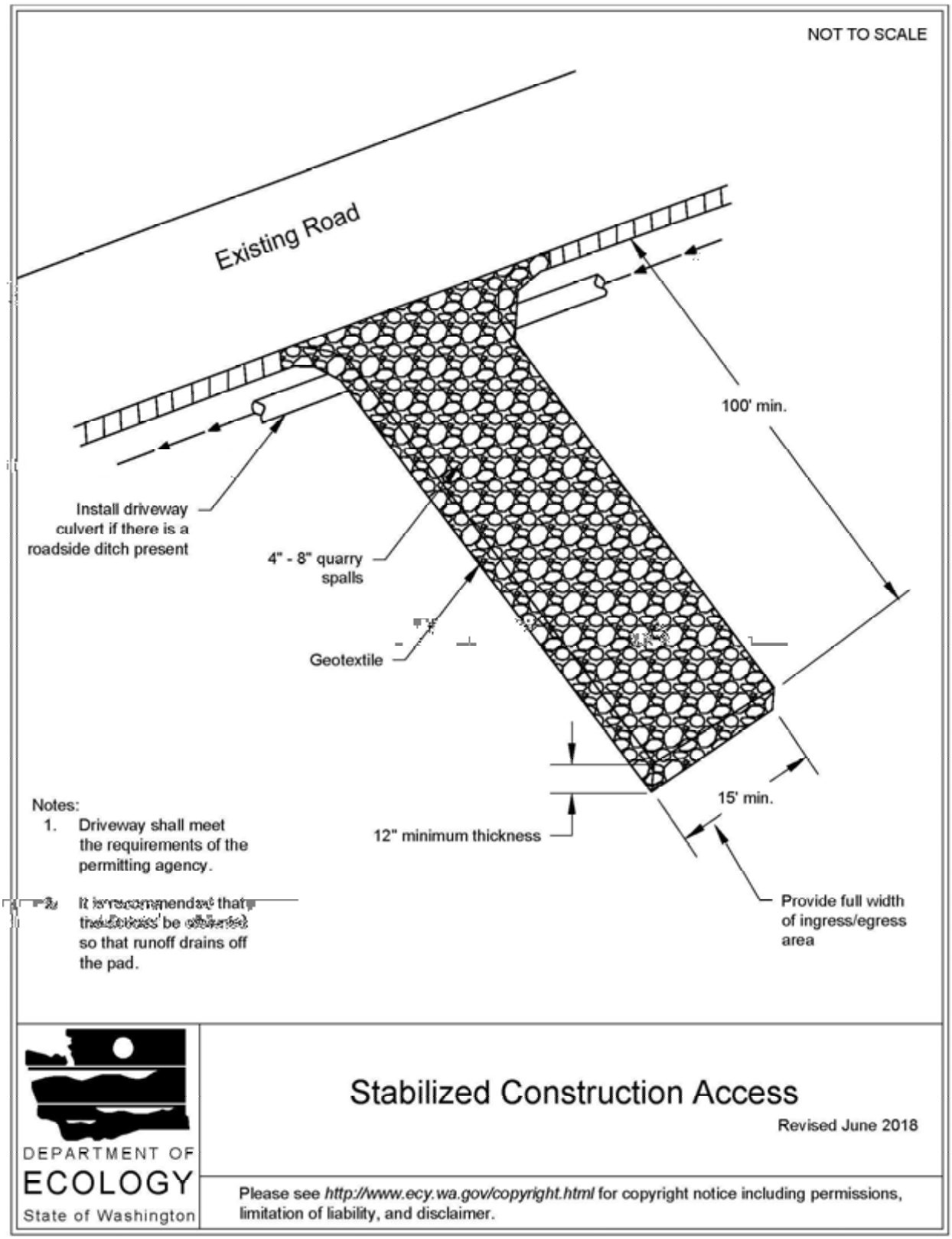
Maintenance Standards

Quarry spalls shall be added if the pad is no longer in accordance with the specifications.

- If the access is not preventing sediment from being tracked onto pavement, then alternative measures to keep the streets free of sediment shall be used. This may include replacement/cleaning of the existing quarry spalls, street sweeping, an increase in the dimensions of the access, or the installation of BMP C106: Wheel Wash.
- Any sediment that is tracked onto pavement shall be removed by shoveling or street sweeping. The sediment collected by sweeping shall be removed or stabilized on site. The pavement shall not be cleaned by washing down the street, except when high efficiency sweeping is ineffective and there is a threat to public safety. If it is necessary to wash the streets, the construction of a small sump to contain the wash water shall be considered. The sediment would then be washed into the sump where it can be controlled.
- Perform street sweeping by hand or with a high efficiency sweeper. Do not use a non-high efficiency mechanical sweeper because this creates dust and throws soils into storm systems or conveyance ditches.
- Any quarry spalls that are loosened from the pad, which end up on the roadway shall be removed immediately.
- If vehicles are entering or exiting the site at points other than the construction access(es), BMP C103: High-Visibility Fence shall be installed to control traffic.

- Upon project completion and site stabilization, all construction accesses intended as permanent access for maintenance shall be permanently stabilized.

Figure II-3.1: Stabilized Construction Access



Approved as Functionally Equivalent

Ecology has approved products as able to meet the requirements of this BMP. The products did not pass through the Technology Assessment Protocol – Ecology (TAPE) process. Local jurisdictions may choose not to accept these products, or may require additional testing prior to consideration for local use. Products that Ecology has approved as functionally equivalent are available for review on Ecology's website at:

https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Stormwater-permittee-guidance-resources/Emerging-stormwater-treatment-technologies

BMP C107: Construction Road / Parking Area Stabilization

Purpose

Stabilizing roads, parking areas, and other on-site vehicle transportation routes immediately after grading reduces erosion caused by construction traffic or stormwater runoff.

Conditions of Use

Roads and parking areas shall be stabilized wherever they are constructed, whether permanent or temporary, for use by construction traffic.

BMP C103: High-Visibility Fence shall be installed, if necessary, to limit the access of vehicles to only those roads and parking areas that are stabilized.

Design and Installation Specifications

- On areas that will receive asphalt as part of the project, install the first lift as soon as possible.
- A 6-inch depth of 2- to 4-inch crushed rock, gravel base, or crushed surfacing base course shall be applied immediately after grading or utility installation. A 4-inch course of asphalt treated base (ATB) may also be used, or the road/parking area may be paved. It may also be possible to use cement or calcium chloride for soil stabilization. If cement or cement kiln dust is used for roadbase stabilization, pH monitoring and BMP C252: Treating and Disposing of High pH Water is necessary to evaluate and minimize the effects on stormwater. If the area will not be used for permanent roads, parking areas, or structures, a 6-inch depth of hog fuel may also be used, but this is likely to require more maintenance. Whenever possible, construction roads and parking areas shall be placed on a firm, compacted subgrade.
- Temporary road gradients shall not exceed 15 percent. Roadways shall be carefully graded to drain. Drainage ditches shall be provided on each side of the roadway in the case of a crowned section, or on one side in the case of a super-elevated section. Drainage ditches shall be directed to a sediment control BMP.
- Rather than relying on ditches, it may also be possible to grade the road so that runoff sheetflows into a heavily vegetated area with a well-developed topsoil. Landscaped areas are not adequate. If this area has at least 50 feet of vegetation that water can flow through, then it is generally preferable to use the vegetation to treat runoff, rather than a sediment pond or trap. The 50 feet shall not include wetlands or their buffers. If runoff is allowed to sheetflow through adjacent vegetated areas, it is vital to design the roadways and parking areas so that no concentrated runoff is created.
- Storm drain inlets shall be protected to prevent sediment-laden water entering the drainage system (see BMP C220: Inlet Protection).

Maintenance Standards

Inspect stabilized areas regularly, especially after large storm events.

Crushed rock, gravel base, etc., shall be added as required to maintain a stable driving surface and to stabilize any areas that have eroded.

Following construction, these areas shall be restored to pre-construction condition or better to prevent future erosion.

Perform street cleaning at the end of each day or more often if necessary.

BMP C120: Temporary and Permanent Seeding

Purpose

Seeding reduces erosion by stabilizing exposed soils. A well-established vegetative cover is one of the most effective methods of reducing erosion.

Conditions of Use

Use seeding throughout the project on disturbed areas that have reached final grade or that will remain unworked for more than 30 days.

The optimum seeding windows for western Washington are April 1 through June 30 and September 1 through October 1.

Between July 1 and August 30 seeding requires irrigation until 75 percent grass cover is established.

Between October 1 and March 30 seeding requires a cover of mulch or an erosion control blanket until 75 percent grass cover is established.

Review all disturbed areas in late August to early September and complete all seeding by the end of September. Otherwise, vegetation will not establish itself enough to provide more than average protection.

Mulch is required at all times for seeding because it protects seeds from heat, moisture loss, and transport due to runoff. Mulch can be applied on top of the seed or simultaneously by hydroseeding. See BMP C121: Mulching for specifications.

Seed and mulch all disturbed areas not otherwise vegetated at final site stabilization. Final stabilization means the completion of all soil disturbing activities at the site and the establishment of a permanent vegetative cover, or equivalent permanent stabilization measures (such as pavement, riprap, gabions, or geotextiles) which will prevent erosion. See BMP T5.13: Post-Construction Soil Quality and Depth.

Design and Installation Specifications

General

- Install channels intended for vegetation before starting major earthwork and hydroseed with a Bonded Fiber Matrix. For vegetated channels that will have high flows, install erosion control blankets over the top of hydroseed. Before allowing water to flow in vegetated channels, establish 75 percent vegetation cover. If vegetated channels cannot be established by seed

before water flow; install sod in the channel bottom — over top of hydromulch and erosion control blankets.

- Confirm the installation of all required surface water control measures to prevent seed from washing away.
- Hydroseed applications shall include a minimum of 1,500 pounds per acre of mulch with 3 percent tackifier. See BMP C121: Mulching for specifications.
- Areas that will have seeding only and not landscaping may need compost or meal-based mulch included in the hydroseed in order to establish vegetation. Re-install native topsoil on the disturbed soil surface before application. See BMP T5.13: Post-Construction Soil Quality and Depth.
- When installing seed via hydroseeding operations, only about 1/3 of the seed actually ends up in contact with the soil surface. This reduces the ability to establish a good stand of grass quickly. To overcome this, consider increasing seed quantities by up to 50 percent.
- Enhance vegetation establishment by dividing the hydromulch operation into two phases:
    - Phase 1- Install all seed and fertilizer with 25-30 percent mulch and tackifier onto soil in the first lift.
    - Phase 2- Install the rest of the mulch and tackifier over the first lift.

  Or, enhance vegetation by:
    - Installing the mulch, seed, fertilizer, and tackifier in one lift.
    - Spread or blow straw over the top of the hydromulch at a rate of 800-1000 pounds per acre.
    - Hold straw in place with a standard tackifier.

  Both of these approaches will increase cost moderately but will greatly improve and enhance vegetative establishment. The increased cost may be offset by the reduced need for:
    - Irrigation.
    - Reapplication of mulch.
    - Repair of failed slope surfaces.

  This technique works with standard hydromulch (1,500 pounds per acre minimum) and Bonded Fiber Matrix/ Mechanically Bonded Fiber Matrix (BFM/MBFMs) (3,000 pounds per acre minimum).
- Seed may be installed by hand if:
    - Temporary and covered by straw, mulch, or topsoil.
    - Permanent in small areas (usually less than 1 acre) and covered with mulch, topsoil, or erosion blankets.
- The seed mixes listed in Table II-3.4: Temporary and Permanent Seed Mixes include

recommended mixes for both temporary and permanent seeding.

- Apply these mixes, with the exception of the wet area seed mix, at a rate of 120 pounds per acre. This rate can be reduced if soil amendments or slow-release fertilizers are used. Apply the wet area seed mix at a rate of 60 pounds per acre.
- Consult the local suppliers or the local conservation district for their recommendations. The appropriate mix depends on a variety of factors, including location, exposure, soil type, slope, and expected foot traffic. Alternative seed mixes approved by the local authority may be used, depending on the soil type and hydrology of the area.

Table II-3.4: Temporary and Permanent Seed Mixes

Common Name	Latin Name	% Weight	% Purity	% Germination
Temporary Erosion Control Seed Mix A standard mix for areas requiring a temporary vegetative cover.				
Chewings or annual blue grass	*Festuca rubra var. commutata* or *Poa anna*	40	98	90
Perennial rye	*Lolium perenne*	50	98	90
Redtop or colonial bentgrass	*Agrostis alba* or *Agrostis tenuis*	5	92	85
White dutch clover	*Trifolium repens*	5	98	90
Landscaping Seed Mix A recommended mix for landscaping seed.				
Perennial rye blend	*Lolium perenne*	70	98	90
Chewings and red fescue blend	*Festuca rubra var. commutata* or *Festuca rubra*	30	98	90
Low-Growing Turf Seed Mix A turf seed mix for dry situations where there is no need for watering. This mix requires very little maintenance.				
Dwarf tall fescue (several varieties)	*Festuca arundinacea var.*	45	98	90
Dwarf perennial rye (Barclay)	*Lolium perenne var. barclay*	30	98	90
Red fescue	*Festuca rubra*	20	98	90
Colonial bentgrass	*Agrostis tenuis*	5	98	90
Bioswale Seed Mix A seed mix for bioswales and other intermittently wet areas.				
Tall or meadow fes-	*Festuca arundin-*	75-80	98	90

Table II-3.4: Temporary and Permanent Seed Mixes (continued)

Common Name	Latin Name	% Weight	% Purity	% Germination
cue	*acea* or *Festuca elatior*			
Seaside/Creeping bentgrass	*Agrostis palustris*	10-15	92	85
Redtop bentgrass	*Agrostis alba* or *Agrostis gigantea*	5-10	90	80
Wet Area Seed Mix A low-growing, relatively non-invasive seed mix appropriate for very wet areas that are not regulated wetlands. Consult Hydraulic Permit Authority (HPA) for seed mixes if applicable.				
Tall or meadow fescue	*Festuca arundinacea* or *Festuca elatior*	60-70	98	90
Seaside/Creeping bentgrass	*Agrostis palustris*	10-15	98	85
Meadow foxtail	*Alepocurus pratensis*	10-15	90	80
Alsike clover	*Trifolium hybridum*	1-6	98	90
Redtop bentgrass	*Agrostis alba*	1-6	92	85
Meadow Seed Mix A recommended meadow seed mix for infrequently maintained areas or non-maintained areas where colonization by native plants is desirable. Likely applications include rural road and utility right-of-way. Seeding should take place in September or very early October in order to obtain adequate establishment prior to the winter months. Consider the appropriateness of clover, a fairly invasive species, in the mix. Amending the soil can reduce the need for clover.				
Redtop or Oregon bentgrass	*Agrostis alba* or *Agrostis oregonensis*	20	92	85
Red fescue	*Festuca rubra*	70	98	90
White dutch clover	*Trifolium repens*	10	98	90

Roughening and Rototilling

- The seedbed should be firm and rough. Roughen all soil no matter what the slope. Track walk slopes before seeding if engineering purposes require compaction. Backblading or smoothing of slopes greater than 4H:1V is not allowed if they are to be seeded.
- Restoration-based landscape practices require deeper incorporation than that provided by a simple single-pass rototilling treatment. Wherever practical, initially rip the subgrade to improve long-term permeability, infiltration, and water inflow qualities. At a minimum,

permanent areas shall use soil amendments to achieve organic matter and permeability performance defined in engineered soil/landscape systems. For systems that are deeper than 8 inches complete the rototilling process in multiple lifts, or prepare the engineered soil system per specifications and place to achieve the specified depth.

Fertilizers

- Conducting soil tests to determine the exact type and quantity of fertilizer is recommended. This will prevent the over-application of fertilizer.
- Organic matter is the most appropriate form of fertilizer because it provides nutrients (including nitrogen, phosphorus, and potassium) in the least water-soluble form.
- In general, use 10-4-6 N-P-K (nitrogen-phosphorus-potassium) fertilizer at a rate of 90 pounds per acre. Always use slow-release fertilizers because they are more efficient and have fewer environmental impacts. Do not add fertilizer to the hydromulch machine, or agitate, more than 20 minutes before use. Too much agitation destroys the slow-release coating.
- There are numerous products available that take the place of chemical fertilizers. These include several with seaweed extracts that are beneficial to soil microbes and organisms. If 100 percent cottonseed meal is used as the mulch in hydroseed, chemical fertilizer may not be necessary. Cottonseed meal provides a good source of long-term, slow-release, available nitrogen.

Bonded Fiber Matrix and Mechanically Bonded Fiber Matrix

- On steep slopes use Bonded Fiber Matrix (BFM) or Mechanically Bonded Fiber Matrix (MBFM) products. Apply BFM/MBFM products at a minimum rate of 3,000 pounds per acre with approximately 10 percent tackifier. Achieve a minimum of 95 percent soil coverage during application. Numerous products are available commercially. Most products require 24-36 hours to cure before rainfall and cannot be installed on wet or saturated soils. Generally, products come in 40-50 pound bags and include all necessary ingredients except for seed and fertilizer.
- Install products per manufacturer's instructions.
- BFMs and MBFMs provide good alternatives to blankets in most areas requiring vegetation establishment. Advantages over blankets include:
    - BFM and MBFMs do not require surface preparation.
    - Helicopters can assist in installing BFM and MBFMs in remote areas.
    - On slopes steeper than 2.5H:1V, blanket installers may require ropes and harnesses for safety.
    - Installing BFM and MBFMs can save at least $1,000 per acre compared to blankets.

Maintenance Standards

Reseed any seeded areas that fail to establish at least 75 percent cover (100 percent cover for areas that receive sheet or concentrated flows). If reseeding is ineffective, use an alternate method such as sodding, mulching, nets, or blankets.

- Reseed and protect by mulch any areas that experience erosion after achieving adequate cover. Reseed and protect by mulch any eroded area.
- Supply seeded areas with adequate moisture, but do not water to the extent that it causes run-off.

Approved as Functionally Equivalent

Ecology has approved products as able to meet the requirements of this BMP. The products did not pass through the Technology Assessment Protocol – Ecology (TAPE) process. Local jurisdictions may choose not to accept these products, or may require additional testing prior to consideration for local use. Products that Ecology has approved as functionally equivalent are available for review on Ecology's website at:

https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Stormwater-permittee-guidance-resources/Emerging-stormwater-treatment-technologies

BMP C121: Mulching

Purpose

Mulching soils provides immediate temporary protection from erosion. Mulch also enhances plant establishment by conserving moisture, holding fertilizer, seed, and topsoil in place, and moderating soil temperatures. There are a variety of mulches that can be used. This section discusses only the most common types of mulch.

Conditions of Use

As a temporary cover measure, mulch should be used:

- For less than 30 days on disturbed areas that require cover.
- At all times for seeded areas, especially during the wet season and during the hot summer months.
- During the wet season on slopes steeper than 3H:1V with more than 10 feet of vertical relief.

Mulch may be applied at any time of the year and must be refreshed periodically.

For seeded areas, mulch may be made up of 100 percent:

- cottonseed meal;
- fibers made of wood, recycled cellulose, hemp, or kenaf;

- compost;
- or blends of these.

Tackifier shall be plant-based, such as guar or alpha plantago, or chemical-based such as polyacrylamide or polymers.

Generally, mulches come in 40-50 pound bags. Seed and fertilizer are added at time of application.

Recycled cellulose may contain polychlorinated biphenyl (PCBs). Ecology recommends that products should be evaluated for PCBs prior to use.

Refer to BMP C126: Polyacrylamide (PAM) for Soil Erosion Protection for conditions of use. PAM shall not be directly applied to water or allowed to enter a water body.

Any mulch or tackifier product used shall be installed per the manufacturer's instructions.

Design and Installation Specifications

For mulch materials, application rates, and specifications, see Table II-3.6: Mulch Standards and Guidelines. Consult with the local supplier or the local conservation district for their recommendations. Increase the application rate until the ground is 95% covered (i.e. not visible under the mulch layer). Note: Thickness may be increased for disturbed areas in or near sensitive areas or other areas highly susceptible to erosion.

Where the option of "Compost" is selected, it should be a coarse compost that meets the size gradations listed in Table II-3.5: Size Gradations of Compost as Mulch Material when tested in accordance with Test Method 02.02-B found in *Test Methods for the Examination of Composting and Compost* (Thompson, 2001).

Table II-3.5: Size Gradations of Compost as Mulch Material

Sieve Size	Percent Passing
3"	100%
1"	90% - 100%
3/4"	70% - 100%
1/4"	40% - 100%

Mulch used within the ordinary high-water mark of surface waters should be selected to minimize potential flotation of organic matter. Composted organic materials have higher specific gravities (densities) than straw, wood, or chipped material. Consult the Hydraulic Permit Authority (HPA) for mulch mixes if applicable.

Maintenance Standards

The thickness of the mulch cover must be maintained.

Any areas that experience erosion shall be remulched and/or protected with a net or blanket. If the erosion problem is drainage related, then the problem shall be fixed and the eroded area remulched.

Table II-3.6: Mulch Standards and Guidelines

Mulch Material	Guideline	Description
Straw	**Quality Standards**	Air-dried; free from undesirable seed and coarse material.
	Application Rates	2"-3" thick; 5 bales per 1,000 sf or 2-3 tons per acre
	Remarks	Cost-effective protection when applied with adequate thickness. Hand-application generally requires greater thickness than blown straw. The thickness of straw may be reduced by half when used in conjunction with seeding. In windy areas straw must be held in place by crimping, using a tackifier, or covering with netting. Blown straw always has to be held in place with a tackifier as even light winds will blow it away. Straw, however, has several deficiencies that should be considered when selecting mulch materials. It often introduces and/or encourages the propagation of weed species and it has no significant long-term benefits It should also not be used within the ordinary high-water elevation of surface waters (due to flotation).
Hydromulch	**Quality Standards**	No growth inhibiting factors.
	Application Rates	Approx. 35-45 lbs per 1,000 sf or 1,500 - 2,000 lbs per acre
	Remarks	Shall be applied with hydromulcher. Shall not be used without seed and tackifier unless the application rate is at least doubled. Fibers longer than about 3/4 - 1 inch clog hydromulch equipment. Fibers should be kept to less than 3/4 inch.
Compost	**Quality Standards**	No visible water or dust during handling. Must be produced per WAC 173-350, Solid Waste Handling Standards, but may have up to 35% biosolids.
	Application Rates	2" thick min.; approx. 100 tons per acre (approx. 750 lbs per cubic yard)
	Remarks	More effective control can be obtained by increasing thickness to 3". Excellent mulch for protecting final grades until landscaping because it can be directly seeded or tilled into soil as an amendment. Compost used for mulch has a coarser size gradation than compost used for BMP C125: Topsoiling / Composting or BMP T5.13: Post-Construction Soil Quality and Depth. It is more stable and practical to use in wet areas and during rainy weather conditions. Do not use near wetlands or near phosphorous impaired water bodies.
Chipped Site Vegetation	**Quality Standards**	Gradations from fines to 6 inches in length for texture, variation, and interlocking properties. Include a mix of various sizes so that the average size is between 2- and 4- inches.
	Application Rates	2" thick min.;

Table II-3.6: Mulch Standards and Guidelines (continued)

Mulch Material	Guideline	Description
	Remarks	This is a cost-effective way to dispose of debris from clearing and grubbing, and it eliminates the problems associated with burning. Generally, it should not be used on slopes above approx. 10% because of its tendency to be transported by runoff. It is not recommended within 200 feet of surface waters. If permanent seeding or planting is expected shortly after mulch, the decomposition of the chipped vegetation may tie up nutrients important to grass establishment. Note: thick application of this material over existing grass, herbaceous species, and some groundcovers could smother and kill vegetation.
Wood-Based Mulch	**Quality Standards**	No visible water or dust during handling. Must be purchased from a supplier with a Solid Waste Handling Permit or one exempt from solid waste regulations.
	Application Rates	2" thick min.; approx. 100 tons per acre (approx. 750 lbs. per cubic yard)
	Remarks	This material is often called "wood straw" or "hog fuel". The use of mulch ultimately improves the organic matter in the soil. Special caution is advised regarding the source and composition of wood-based mulches. Its preparation typically does not provide any weed seed control, so evidence of residual vegetation in its composition or known inclusion of weed plants or seeds should be monitored and prevented (or minimized).
Wood Strand Mulch	**Quality Standards**	A blend of loose, long, thin wood pieces derived from native conifer or deciduous trees with high length-to-width ratio.
	Application Rates	2" thick min.
	Remarks	Cost-effective protection when applied with adequate thickness. A minimum of 95-percent of the wood strand shall have lengths between 2 and 10-inches, with a width and thickness between 1/16 and 1/2-inches. The mulch shall not contain resin, tannin, or other compounds in quantities that would be detrimental to plant life. Sawdust or wood shavings shall not be used as mulch. [Specification 9-14.4(4) from the *Standard Specifications for Road, Bridge, and Municipal Construction* (WSDOT, 2016)

BMP C122: Nets and Blankets

Purpose

Erosion control nets and blankets are intended to prevent erosion and hold seed and mulch in place on steep slopes and in channels so that vegetation can become well established. In addition, some nets and blankets can be used to permanently reinforce turf to protect drainage ways during high flows.

Nets (commonly called matting) are strands of material woven into an open, but high-tensile strength net (for example, coconut fiber matting). Blankets are strands of material that are not tightly woven, but instead form a layer of interlocking fibers, typically held together by a biodegradable or photodegradable netting (for example, excelsior or straw blankets). They generally have lower tensile strength than nets, but cover the ground more completely. Coir (coconut fiber) fabric comes as both nets and blankets.

Conditions of Use

Erosion control netting and blankets shall be made of natural plant fibers unaltered by synthetic materials.

Erosion control nets and blankets should be used:

- To aid permanent vegetated stabilization of slopes 2H:1V or greater and with more than 10 feet of vertical relief.
- For drainage ditches and swales (highly recommended). The application of appropriate netting or blanket to drainage ditches and swales can protect bare soil from channelized runoff while vegetation is established. Nets and blankets also can capture a great deal of sediment due to their open, porous structure. Nets and blankets can be used to permanently stabilize channels and may provide a cost-effective, environmentally preferable alternative to riprap.

Disadvantages of nets and blankets include:

- Surface preparation is required.
- On slopes steeper than 2.5H:1V, net and blanket installers may need to be roped and harnessed for safety.
- They cost at least $4,000-6,000 per acre installed.

Advantages of nets and blankets include:

- Installation without mobilizing special equipment.
- Installation by anyone with minimal training
- Installation in stages or phases as the project progresses.
- Installers can hand place seed and fertilizer as they progress down the slope.
- Installation in any weather.
- There are numerous types of nets and blankets that can be designed with various parameters in mind. Those parameters include: fiber blend, mesh strength, longevity, biodegradability, cost, and availability.

An alternative to nets and blankets in some limited conditions is BMP C202: Riprap Channel Lining. Ensure that BMP C202: Riprap Channel Lining is appropriate before using it as a substitute for nets and blankets.

Design and Installation Specifications

- See Figure II-3.3: Channel Installation (Clackamas County et al., 2008) and Figure II-3.4: Slope Installation for typical orientation and installation of nets and blankets used in channels and as slope protection. Note: these are typical only; all nets and blankets must be installed per manufacturer's installation instructions.
- Installation is critical to the effectiveness of these products. If good ground contact is not achieved, runoff can concentrate under the product, resulting in significant erosion.
- Installation of nets and blankets on slopes:
    1. Complete final grade and track walk up and down the slope.
    2. Install hydromulch with seed and fertilizer.
    3. Dig a small trench, approximately 12 inches wide by 6 inches deep along the top of the slope.
    4. Install the leading edge of the net/blanket into the small trench and staple approximately every 18 inches. NOTE: Staples are metal, "U"-shaped, and a minimum of 6 inches long. Longer staples are used in sandy soils. Biodegradable stakes are also available.
    5. Roll the net/blanket slowly down the slope as the installer walks backward. NOTE: The net/blanket rests against the installer's legs. Staples are installed as the net/blanket is unrolled. It is critical that the proper staple pattern is used for the net/blanket being installed. The net/blanket is not to be allowed to roll down the slope on its own as this stretches the net/blanket, making it impossible to maintain soil contact. In addition, no one is allowed to walk on the net/blanket after it is in place.
    6. If the net/blanket is not long enough to cover the entire slope length, the trailing edge of the upper net/blanket should overlap the leading edge of the lower net/blanket and be stapled. On steeper slopes, this overlap should be installed in a small trench, stapled, and covered with soil.
- With the variety of products available, it is impossible to cover all the details of appropriate use and installation. Therefore, it is critical that the designer consult the manufacturer's information and that a site visit takes place in order to ensure that the product specified is appropriate. Information is also available in WSDOT's *Standard Specifications for Road, Bridge, and Municipal Construction* Division 8-01 and Division 9-14 (WSDOT, 2016).
- Use jute matting in conjunction with mulch (BMP C121: Mulching). Excelsior, woven straw blankets and coir (coconut fiber) blankets may be installed without mulch. There are many other types of erosion control nets and blankets on the market that may be appropriate in certain circumstances.
- In general, most nets (e.g., jute matting) require mulch in order to prevent erosion because they have a fairly open structure. Blankets typically do not require mulch because they usually provide complete protection of the surface.
- Extremely steep, unstable, wet, or rocky slopes are often appropriate candidates for use of synthetic blankets, as are riverbanks, beaches and other high-energy environments. If

synthetic blankets are used, the soil should be hydromulched first.

- 100-percent biodegradable blankets are available for use in sensitive areas. These organic blankets are usually held together with a paper or fiber mesh and stitching which may last up to a year.
- Most netting used with blankets is photodegradable, meaning it breaks down under sunlight (not UV stabilized). However, this process can take months or years even under bright sun. Once vegetation is established, sunlight does not reach the mesh. It is not uncommon to find non-degraded netting still in place several years after installation. This can be a problem if maintenance requires the use of mowers or ditch cleaning equipment. In addition, birds and small animals can become trapped in the netting.

Maintenance Standards

- Maintain good contact with the ground. Erosion must not occur beneath the net or blanket.
- Repair and staple any areas of the net or blanket that are damaged or not in close contact with the ground.
- Fix and protect eroded areas if erosion occurs due to poorly controlled drainage.

Figure II-3.3: Channel Installation

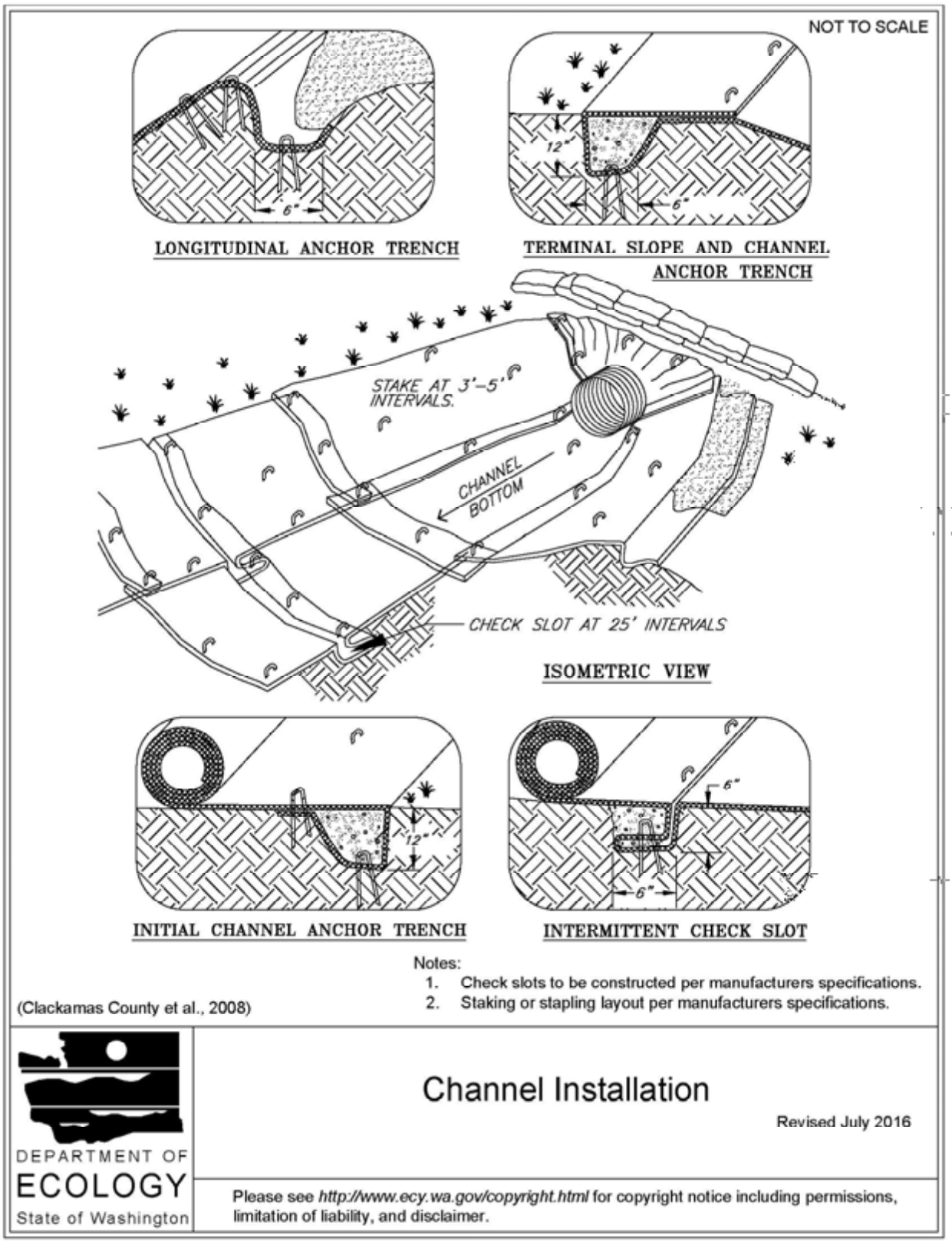
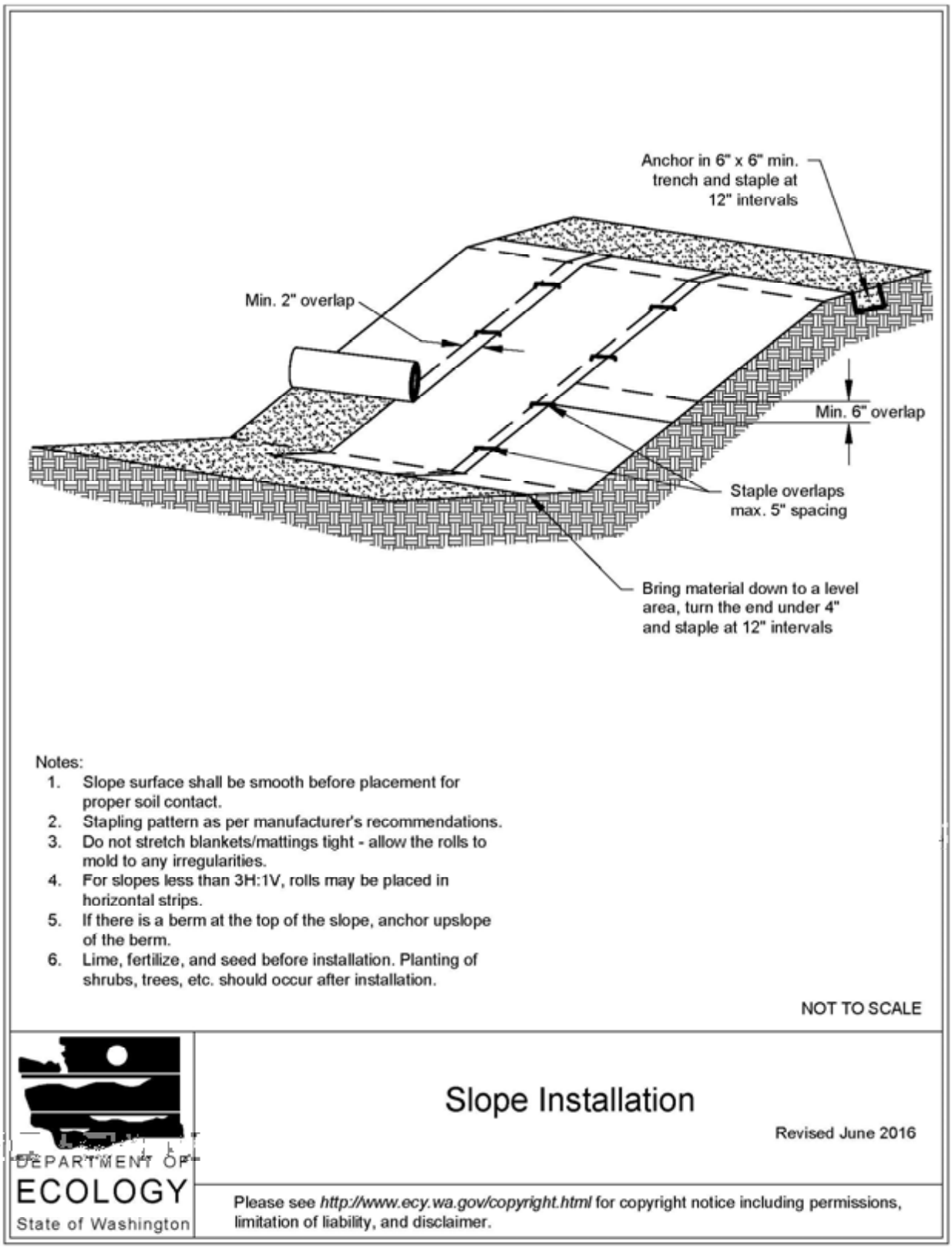


Figure II-3.4: Slope Installation



BMP C123: Plastic Covering

Purpose

Plastic covering provides immediate, short-term erosion protection to slopes and disturbed areas.

Conditions of Use

Plastic covering may be used on disturbed areas that require cover measures for less than 30 days, except as stated below.

- Plastic is particularly useful for protecting cut and fill slopes and stockpiles. However, the relatively rapid breakdown of most polyethylene sheeting makes it unsuitable for applications greater than six months.
- Due to rapid runoff caused by plastic covering, do not use this method upslope of areas that might be adversely impacted by concentrated runoff. Such areas include steep and/or unstable slopes.
- Plastic sheeting may result in increased runoff volumes and velocities, requiring additional on-site measures to counteract the increases. Creating a trough with wattles or other material can convey clean water away from these areas.
- To prevent undercutting, trench and backfill rolled plastic covering products.
- Although the plastic material is inexpensive to purchase, the cost of installation, maintenance, removal, and disposal add to the total costs of this BMP.
- Whenever plastic is used to protect slopes, install water collection measures at the base of the slope. These measures include plastic-covered berms, channels, and pipes used to convey clean rainwater away from bare soil and disturbed areas. Do not mix clean runoff from a plastic covered slope with dirty runoff from a project.
- Other uses for plastic include:
    - Temporary ditch liner.
    - Pond liner in temporary sediment pond.
    - Liner for bermed temporary fuel storage area if plastic is not reactive to the type of fuel being stored.
    - Emergency slope protection during heavy rains.
    - Temporary drainpipe (“elephant trunk”) used to direct water.

Design and Installation Specifications

- Plastic slope cover must be installed as follows:
    1. Run plastic up and down the slope, not across the slope.
    2. Plastic may be installed perpendicular to a slope if the slope length is less than 10 feet.

3. Provide a minimum of 8-inch overlap at the seams.
4. On long or wide slopes, or slopes subject to wind, tape all seams.
5. Place plastic into a small (12-inch wide by 6-inch deep) slot trench at the top of the slope and backfill with soil to keep water from flowing underneath.
6. Place sand filled burlap or geotextile bags every 3 to 6 feet along seams and tie them together with twine to hold them in place.
7. Inspect plastic for rips, tears, and open seams regularly and repair immediately. This prevents high velocity runoff from contacting bare soil, which causes extreme erosion.
8. Sandbags may be lowered into place tied to ropes. However, all sandbags must be staked in place.

- Plastic sheeting shall have a minimum thickness of 0.06 millimeters.
- If erosion at the toe of a slope is likely, a gravel berm, riprap, or other suitable protection shall be installed at the toe of the slope in order to reduce the velocity of runoff.

Maintenance Standards

- Torn sheets must be replaced and open seams repaired.
- Completely remove and replace the plastic if it begins to deteriorate due to ultraviolet radiation.
- Completely remove plastic when no longer needed.
- Dispose of old tires used to weight down plastic sheeting appropriately.

Approved as Functionally Equivalent

Ecology has approved products as able to meet the requirements of this BMP. The products did not pass through the Technology Assessment Protocol – Ecology (TAPE) process. Local jurisdictions may choose not to accept these products, or may require additional testing prior to consideration for local use. Products that Ecology has approved as functionally equivalent are available for review on Ecology's website at:

https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Stormwater-permittee-guidance-resources/Emerging-stormwater-treatment-technologies

BMP C140: Dust Control

Purpose

Dust control prevents wind transport of dust from disturbed soil surfaces onto roadways, drainage ways, and surface waters.

Conditions of Use

Use dust control in areas (including roadways) subject to surface and air movement of dust where on-site or off-site impacts to roadways, drainage ways, or surface waters are likely.

Design and Installation Specifications

- Vegetate or mulch areas that will not receive vehicle traffic. In areas where planting, mulching, or paving is impractical, apply gravel or landscaping rock.
- Limit dust generation by clearing only those areas where immediate activity will take place, leaving the remaining area(s) in the original condition. Maintain the original ground cover as long as practical.
- Construct natural or artificial windbreaks or windscreens. These may be designed as enclosures for small dust sources.
- Sprinkle the site with water until the surface is wet. Repeat as needed. To prevent carryout of mud onto the street, refer to BMP C105: Stabilized Construction Access and BMP C106: Wheel Wash.
- Irrigation water can be used for dust control. Irrigation systems should be installed as a first step on sites where dust control is a concern.
- Spray exposed soil areas with a dust palliative, following the manufacturer's instructions and cautions regarding handling and application. Used oil is prohibited from use as a dust suppressant. Local governments may approve other dust palliatives such as calcium chloride or PAM.
- PAM (BMP C126: Polyacrylamide (PAM) for Soil Erosion Protection) added to water at a rate of 0.5 pounds per 1,000 gallons of water per acre and applied from a water truck is more effective than water alone. This is due to increased infiltration of water into the soil and reduced evaporation. In addition, small soil particles are bonded together and are not as easily transported by wind. Adding PAM may reduce the quantity of water needed for dust control. Note that the application rate specified here applies to this BMP, and is not the same application rate that is specified in BMP C126: Polyacrylamide (PAM) for Soil Erosion Protection, but the downstream protections still apply.

  Refer to BMP C126: Polyacrylamide (PAM) for Soil Erosion Protection for conditions of use. PAM shall not be directly applied to water or allowed to enter a water body.
- Contact your local Air Pollution Control Authority for guidance and training on other dust control measures. Compliance with the local Air Pollution Control Authority constitutes

compliance with this BMP.

- Use vacuum street sweepers.
- Remove mud and other dirt promptly so it does not dry and then turn into dust.
- Techniques that can be used for unpaved roads and lots include:
    - Lower speed limits. High vehicle speed increases the amount of dust stirred up from unpaved roads and lots.
    - Upgrade the road surface strength by improving particle size, shape, and mineral types that make up the surface and base materials.
    - Add surface gravel to reduce the source of dust emission. Limit the amount of fine particles (those smaller than .075 mm) to 10 to 20 percent.
    - Use geotextile fabrics to increase the strength of new roads or roads undergoing reconstruction.
    - Encourage the use of alternate, paved routes, if available.
    - Apply chemical dust suppressants using the admix method, blending the product with the top few inches of surface material. Suppressants may also be applied as surface treatments.
    - Limit dust-causing work on windy days.
    - Pave unpaved permanent roads and other trafficked areas.

Maintenance Standards

Respray area as necessary to keep dust to a minimum.

BMP C150: Materials on Hand

Purpose

Keep quantities of erosion prevention and sediment control materials on the project site at all times to be used for regular maintenance and emergency situations such as unexpected heavy rains. Having these materials on-site reduces the time needed to replace existing or implement new BMPs when inspections indicate that existing BMPs are not meeting the Construction SWPPP requirements. In addition, contractors can save money by buying some materials in bulk and storing them at their office or yard.

Conditions of Use

- Construction projects of any size or type can benefit from having materials on hand. A small commercial development project could have a roll of plastic and some gravel available for immediate protection of bare soil and temporary berm construction. A large earthwork project, such as highway construction, might have several tons of straw, several rolls of plastic, flexible

pipe, sandbags, geotextile fabric and steel “T” posts.

- Materials should be stockpiled and readily available before any site clearing, grubbing, or earthwork begins. A large contractor or project proponent could keep a stockpile of materials that are available for use on several projects.
- If storage space at the project site is at a premium, the contractor could maintain the materials at their office or yard. The office or yard must be less than an hour from the project site.

Design and Installation Specifications

Depending on project type, size, complexity, and length, materials and quantities will vary. A good minimum list of items that will cover numerous situations includes:

- Clear Plastic, 6 mil
- Drainpipe, 6 or 8 inch diameter
- Sandbags, filled
- Straw Bales for mulching
- Quarry Spalls
- Washed Gravel
- Geotextile Fabric
- Catch Basin Inserts
- Steel "T" Posts
- Silt fence material
- Straw Wattles

Maintenance Standards

- All materials with the exception of the quarry spalls, steel “T” posts, and gravel should be kept covered and out of both sun and rain.
- Re-stock materials as needed.

BMP C151: Concrete Handling

Purpose

Concrete work can generate process water and slurry that contain fine particles and high pH, both of which can violate water quality standards in the receiving water. Concrete spillage or concrete discharge to waters of the State is prohibited. Use this BMP to minimize and eliminate concrete, concrete process water, and concrete slurry from entering waters of the State.

Conditions of Use

Any time concrete is used, utilize these management practices. Concrete construction project components include, but are not limited to:

- Curbs
- Sidewalks
- Roads
- Bridges
- Foundations
- Floors
- Runways

Disposal options for concrete, in order of preference are:

1. Off-site disposal
2. Concrete wash-out areas (see BMP C154: Concrete Washout Area)
3. De minimus washout to formed areas awaiting concrete

Design and Installation Specifications

- Wash concrete truck drums at an approved off-site location or in designated concrete washout areas only. Do not wash out concrete trucks onto the ground (including formed areas awaiting concrete), or into storm drains, open ditches, streets, or streams. Refer to BMP C154: Concrete Washout Area for information on concrete washout areas.
    - Return unused concrete remaining in the truck and pump to the originating batch plant for recycling. Do not dump excess concrete on site, except in designated concrete washout areas as allowed in BMP C154: Concrete Washout Area.
- Wash small concrete handling equipment (e.g. hand tools, screeds, shovels, rakes, floats, trowels, and wheelbarrows) into designated concrete washout areas or into formed areas awaiting concrete pour.
- At no time shall concrete be washed off into the footprint of an area where an infiltration feature will be installed.
- Wash equipment difficult to move, such as concrete paving machines, in areas that do not directly drain to natural or constructed stormwater conveyance or potential infiltration areas.
- Do not allow washwater from areas, such as concrete aggregate driveways, to drain directly (without detention or treatment) to natural or constructed stormwater conveyances.
- Contain washwater and leftover product in a lined container when no designated concrete washout areas (or formed areas, allowed as described above) are available. Dispose of contained concrete and concrete washwater (process water) properly.

- Always use forms or solid barriers for concrete pours, such as pilings, within 15-feet of surface waters.
- Refer to BMP C252: Treating and Disposing of High pH Water for pH adjustment requirements.
- Refer to the Construction Stormwater General Permit (CSWGP) for pH monitoring requirements if the project involves one of the following activities:
    - Significant concrete work (as defined in the CSWGP).
    - The use of soils amended with (but not limited to) Portland cement-treated base, cement kiln dust or fly ash.
    - Discharging stormwater to segments of water bodies on the 303(d) list (Category 5) for high pH.

Maintenance Standards

Check containers for holes in the liner daily during concrete pours and repair the same day.

BMP C152: Sawcutting and Surfacing Pollution Prevention

Purpose

Sawcutting and surfacing operations generate slurry and process water that contains fine particles and high pH (concrete cutting), both of which can violate the water quality standards in the receiving water. Concrete spillage or concrete discharge to waters of the State is prohibited. Use this BMP to minimize and eliminate process water and slurry created through sawcutting or surfacing from entering waters of the State.

Conditions of Use

Utilize these management practices anytime sawcutting or surfacing operations take place. Sawcutting and surfacing operations include, but are not limited to:

- Sawing
- Coring
- Grinding
- Roughening
- Hydro-demolition
- Bridge and road surfacing

Design and Installation Specifications

- Vacuum slurry and cuttings during cutting and surfacing operations.
- Slurry and cuttings shall not remain on permanent concrete or asphalt pavement overnight.
- Slurry and cuttings shall not drain to any natural or constructed drainage conveyance including stormwater systems. This may require temporarily blocking catch basins.
- Dispose of collected slurry and cuttings in a manner that does not violate ground water or surface water quality standards.
- Do not allow process water generated during hydro-demolition, surface roughening or similar operations to drain to any natural or constructed drainage conveyance including stormwater systems. Dispose of process water in a manner that does not violate ground water or surface water quality standards.
- Handle and dispose of cleaning waste material and demolition debris in a manner that does not cause contamination of water. Dispose of sweeping material from a pick-up sweeper at an appropriate disposal site.

Maintenance Standards

Continually monitor operations to determine whether slurry, cuttings, or process water could enter waters of the state. If inspections show that a violation of water quality standards could occur, stop operations and immediately implement preventive measures such as berms, barriers, secondary containment, and/or vacuum trucks.

BMP C153: Material Delivery, Storage, and Containment

Purpose

Prevent, reduce, or eliminate the discharge of pollutants to the stormwater system or watercourses from material delivery and storage. Minimize the storage of hazardous materials on-site, store materials in a designated area, and install secondary containment.

Conditions of Use

Use at construction sites with delivery and storage of the following materials:

- Petroleum products such as fuel, oil and grease
- Soil stabilizers and binders (e.g., Polyacrylamide)
- Fertilizers, pesticides and herbicides
- Detergents
- Asphalt and concrete compounds

- Hazardous chemicals such as acids, lime, adhesives, paints, solvents, and curing compounds
- Any other material that may be detrimental if released to the environment

Design and Installation Specifications

- The temporary storage area should be located away from vehicular traffic, near the construction entrance(s), and away from waterways or storm drains.
- Safety Data Sheets (SDS) should be supplied for all materials stored. Chemicals should be kept in their original labeled containers.
- Hazardous material storage on-site should be minimized.
- Hazardous materials should be handled as infrequently as possible.
- During the wet weather season (Oct 1 – April 30), consider storing materials in a covered area.
- Materials should be stored in secondary containments, such as an earthen dike, horse trough, or even a children's wading pool for non-reactive materials such as detergents, oil, grease, and paints. Small amounts of material may be secondarily contained in "bus boy" trays or concrete mixing trays.
- Do not store chemicals, drums, or bagged materials directly on the ground. Place these items on a pallet and, when possible, within secondary containment.
- If drums must be kept uncovered, store them at a slight angle to reduce ponding of rainwater on the lids to reduce corrosion. Domed plastic covers are inexpensive and snap to the top of drums, preventing water from collecting.
- Liquids, petroleum products, and substances listed in 40 CFR Parts 110, 117, or 302 shall be stored in approved containers and drums and shall not be overfilled. Containers and drums shall be stored in temporary secondary containment facilities.
- Temporary secondary containment facilities shall provide for a spill containment volume able to contain 10% of the total enclosed container volume of all containers, or 110% of the capacity of the largest container within its boundary, whichever is greater.
- Secondary containment facilities shall be impervious to the materials stored therein for a minimum contact time of 72 hours.
- Sufficient separation should be provided between stored containers to allow for spill cleanup and emergency response access.
- During the wet weather season (Oct 1 – April 30), each secondary containment facility shall be covered during non-working days, prior to and during rain events.
- Keep material storage areas clean, organized and equipped with an ample supply of appropriate spill clean-up material (spill kit).
- The spill kit should include, at a minimum:

- 1-Water Resistant Nylon Bag
- 3-Oil Absorbent Socks 3”x 4’
- 2-Oil Absorbent Socks 3”x 10’
- 12-Oil Absorbent Pads 17”x19”
- 1-Pair Splash Resistant Goggles
- 3-Pair Nitrile Gloves
- 10-Disposable Bags with Ties
- Instructions

Maintenance Standards

- Secondary containment facilities shall be maintained free of accumulated rainwater and spills. In the event of spills or leaks, accumulated rainwater and spills shall be collected and placed into drums. These liquids shall be handled as hazardous waste unless testing determines them to be non-hazardous.
- Re-stock spill kit materials as needed.

BMP C154: Concrete Washout Area

Purpose

Prevent or reduce the discharge of pollutants from concrete waste to stormwater by conducting washout off-site, or performing on-site washout in a designated area.

Conditions of Use

Concrete washout areas are implemented on construction projects where:

- Concrete is used as a construction material
- It is not possible to dispose of all concrete wastewater and washout off-site (ready mix plant, etc.).
- Concrete truck drums are washed on-site.

  Note that auxiliary concrete truck components (e.g. chutes and hoses) and small concrete handling equipment (e.g. hand tools, screeds, shovels, rakes, floats, trowels, and wheel-barrows) may be washed into formed areas awaiting concrete pour.

At no time shall concrete be washed off into the footprint of an area where an infiltration feature will be installed.

Design and Installation Specifications

Implementation

- Perform washout of concrete truck drums at an approved off-site location or in designated concrete washout areas only.
- Do not wash out concrete onto non-formed areas, or into storm drains, open ditches, streets, or streams.
- Wash equipment difficult to move, such as concrete paving machines, in areas that do not directly drain to natural or constructed stormwater conveyance or potential infiltration areas.
- Do not allow excess concrete to be dumped on-site, except in designated concrete washout areas as allowed above.
- Concrete washout areas may be prefabricated concrete washout containers, or self-installed structures (above-grade or below-grade).
- Prefabricated containers are most resistant to damage and protect against spills and leaks. Companies may offer delivery service and provide regular maintenance and disposal of solid and liquid waste.
- If self-installed concrete washout areas are used, below-grade structures are preferred over above-grade structures because they are less prone to spills and leaks.
- Self-installed above-grade structures should only be used if excavation is not practical.
- Concrete washout areas shall be constructed and maintained in sufficient quantity and size to contain all liquid and concrete waste generated by washout operations.

Education

- Discuss the concrete management techniques described in this BMP with the ready-mix concrete supplier before any deliveries are made.
- Educate employees and subcontractors on the concrete waste management techniques described in this BMP.
- Arrange for the contractor's superintendent or Certified Erosion and Sediment Control Lead (CESCL) to oversee and enforce concrete waste management procedures.
- A sign should be installed adjacent to each concrete washout area to inform concrete equipment operators to utilize the proper facilities.

Contracts

Incorporate requirements for concrete waste management into concrete supplier and subcontractor agreements.

Location and Placement

- Locate concrete washout areas at least 50 feet from sensitive areas such as storm drains, open ditches, water bodies, or wetlands.
- Allow convenient access to the concrete washout area for concrete trucks, preferably near the area where the concrete is being poured.
- If trucks need to leave a paved area to access the concrete washout area, prevent track-out with a pad of rock or quarry spalls (see BMP C105: Stabilized Construction Access). These areas should be far enough away from other construction traffic to reduce the likelihood of accidental damage and spills.
- The number of concrete washout areas you install should depend on the expected demand for storage capacity.
- On large sites with extensive concrete work, concrete washout areas should be placed in multiple locations for ease of use by concrete truck drivers.

Concrete Truck Washout Procedures

- Washout of concrete truck drums shall be performed in designated concrete washout areas only.
- Concrete washout from concrete pumper bins can be washed into concrete pumper trucks and discharged into designated concrete washout areas or properly disposed of off-site.

Concrete Washout Area Installation

- Concrete washout areas should be constructed as shown in the figures below, with a recommended minimum length and minimum width of 10 ft, but with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations.
- Plastic lining material should be a minimum of 10 mil polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material.
- Lath and flagging should be commercial type.
- Liner seams shall be installed in accordance with manufacturers' recommendations.
- Soil base shall be prepared free of rocks or other debris that may cause tears or holes in the plastic lining material.

Maintenance Standards

Inspection and Maintenance

- Inspect and verify that concrete washout areas are in place prior to the commencement of concrete work.
- Once concrete wastes are washed into the designated washout area and allowed to harden,

the concrete should be broken up, removed, and disposed of per applicable solid waste regulations. Dispose of hardened concrete on a regular basis.

- During periods of concrete work, inspect the concrete washout areas daily to verify continued performance.
    - Check overall condition and performance.
    - Check remaining capacity (% full).
    - If using self-installed concrete washout areas, verify plastic liners are intact and sidewalls are not damaged.
    - If using prefabricated containers, check for leaks.
- Maintain the concrete washout areas to provide adequate holding capacity with a minimum freeboard of 12 inches.
- Concrete washout areas must be cleaned, or new concrete washout areas must be constructed and ready for use once the concrete washout area is 75% full.
- If the concrete washout area is nearing capacity, vacuum and dispose of the waste material in an approved manner.
    - Do not discharge liquid or slurry to waterways, storm drains or directly onto ground.
    - Do not discharge to the sanitary sewer without local approval.
    - Place a secure, non-collapsing, non-water collecting cover over the concrete washout area prior to predicted wet weather to prevent accumulation and overflow of precipitation.
    - Remove and dispose of hardened concrete and return the structure to a functional condition. Concrete may be reused on-site or hauled away for disposal or recycling.
- When you remove materials from a self-installed concrete washout area, build a new structure; or, if the previous structure is still intact, inspect for signs of weakening or damage, and make any necessary repairs. Re-line the structure with new plastic after each cleaning.

Removal of Concrete Washout Areas

- When concrete washout areas are no longer required for the work, the hardened concrete, slurries and liquids shall be removed and properly disposed of.
- Materials used to construct concrete washout areas shall be removed from the site of the work and disposed of or recycled.
- Holes, depressions or other ground disturbance caused by the removal of the concrete washout areas shall be backfilled, repaired, and stabilized to prevent erosion.

Figure II-3.7: Concrete Washout Area with Wood Planks

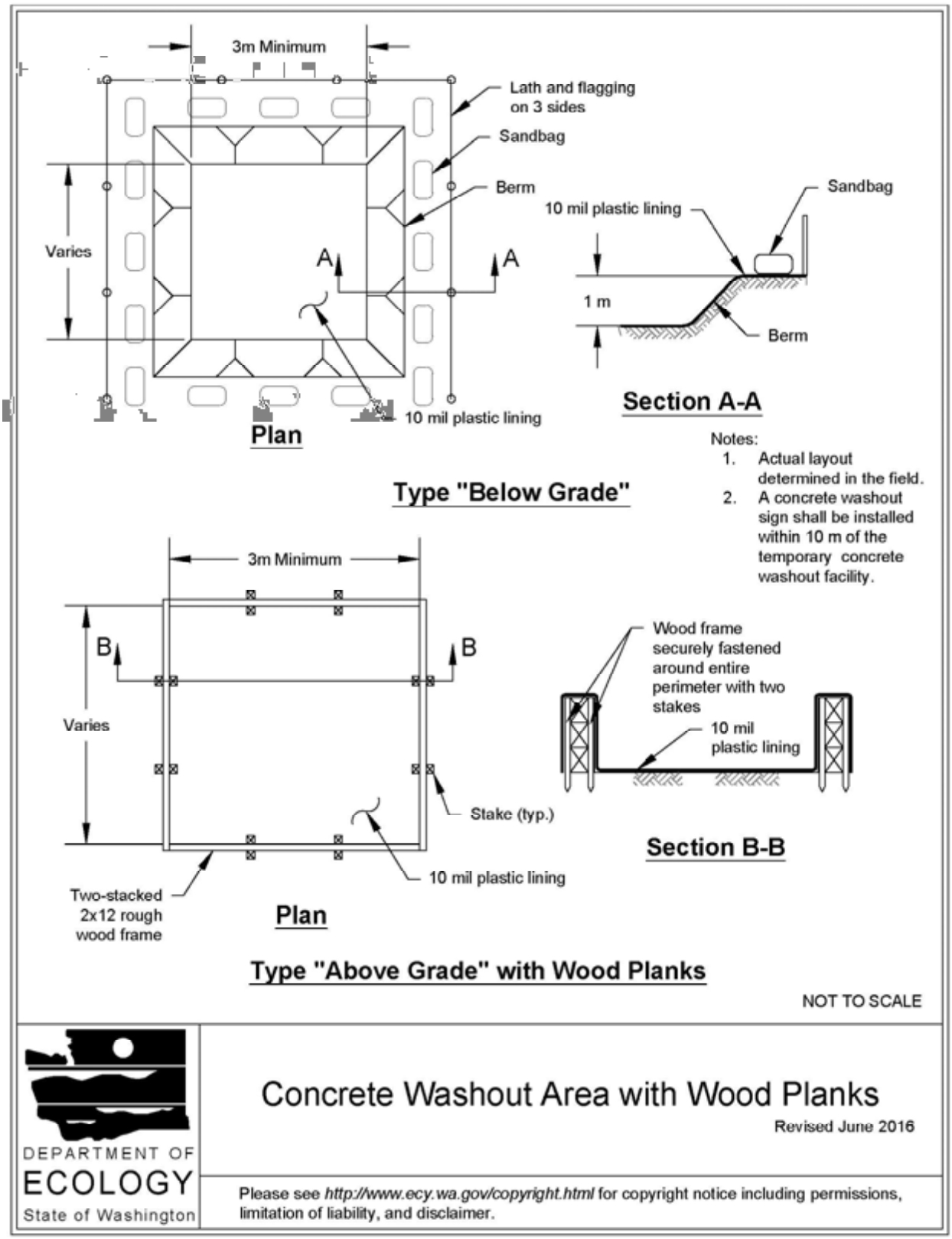


Figure II-3.8: Concrete Washout Area with Straw Bales

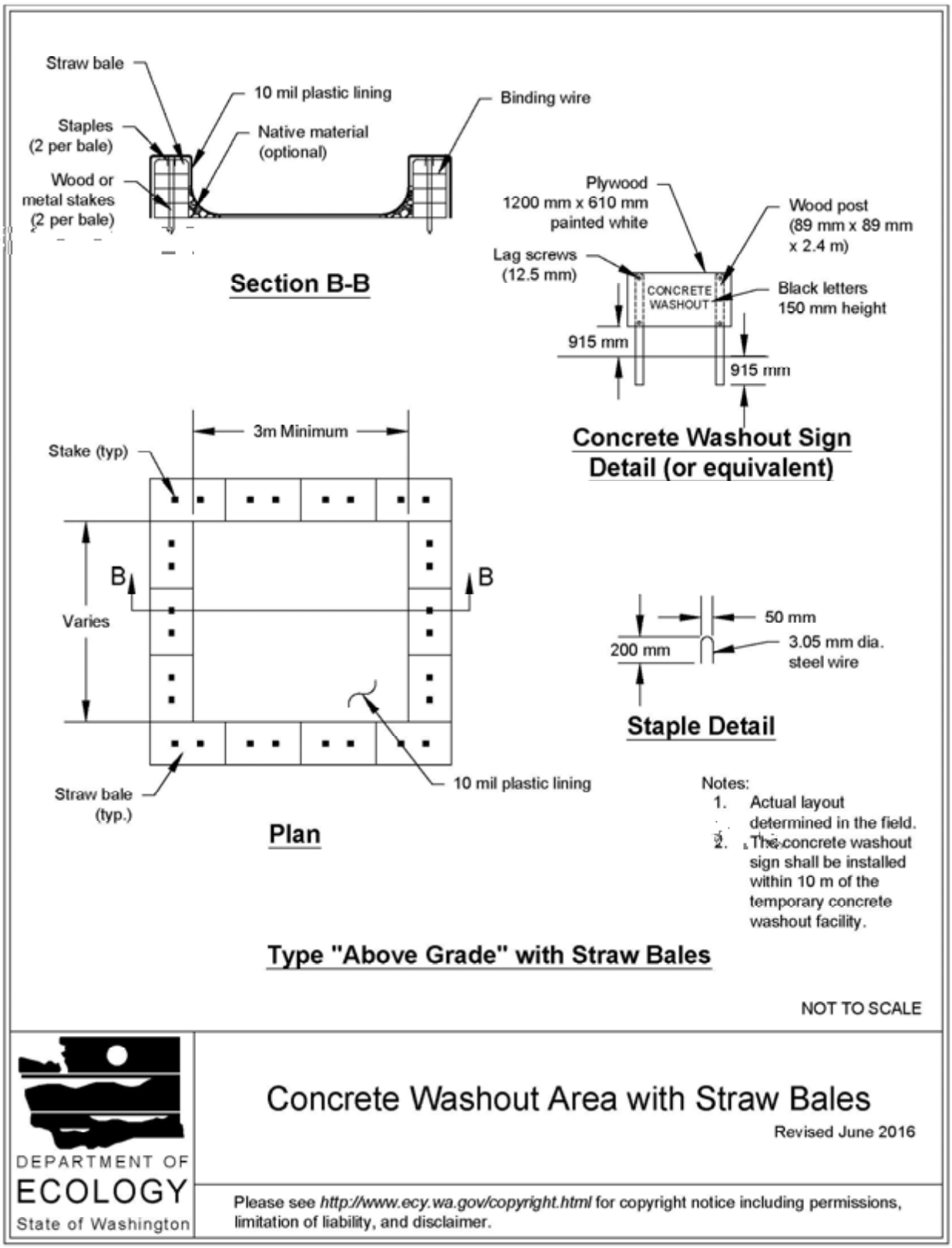
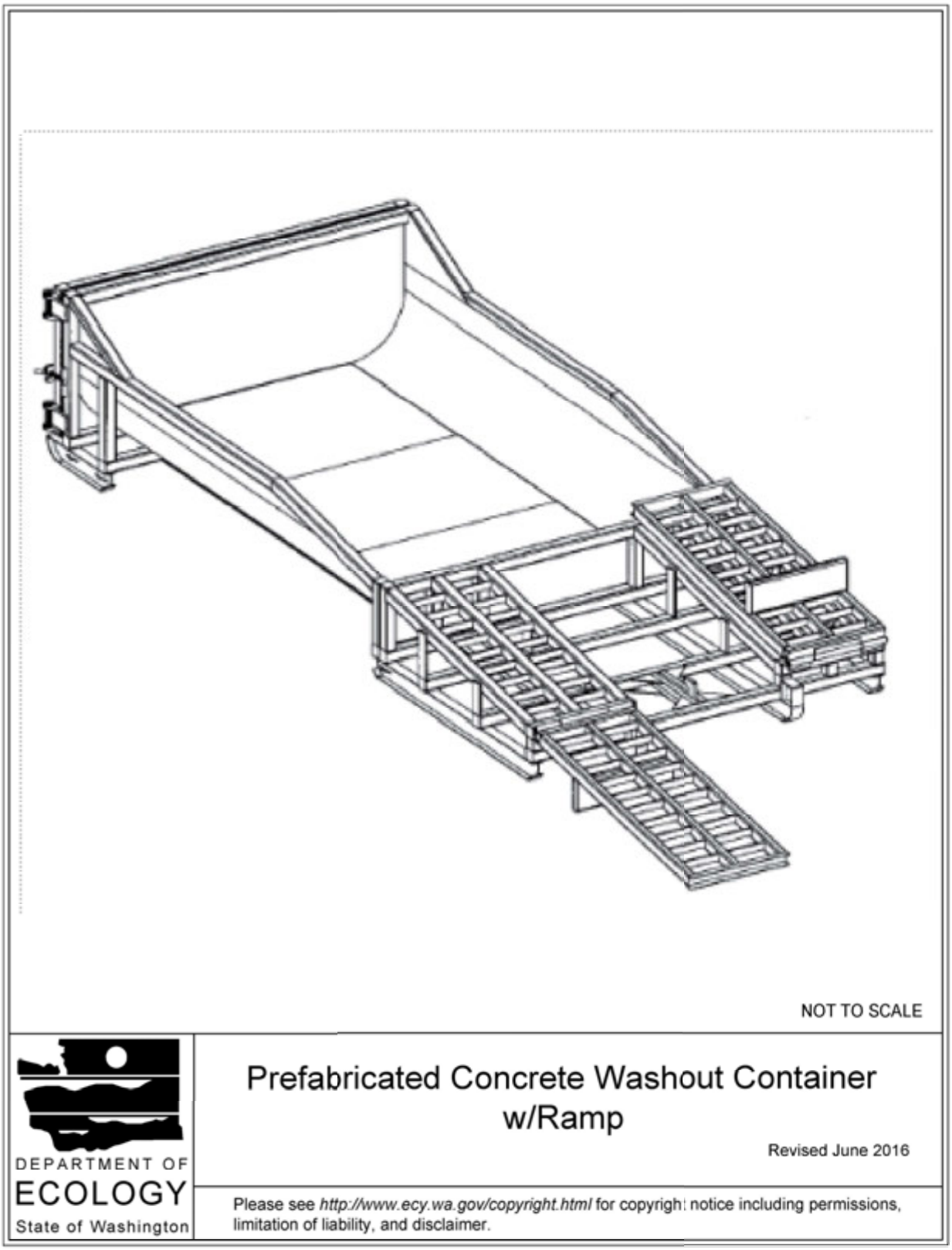


Figure II-3.9: Prefabricated Concrete Washout Container w/Ramp



BMP C160: Certified Erosion and Sediment Control Lead

Purpose

The project proponent designates at least one person as the responsible representative in charge of erosion and sediment control (ESC), and water quality protection. The designated person shall be responsible for ensuring compliance with all local, state, and federal erosion and sediment control and water quality requirements. Construction sites one acre or larger that discharge to waters of the State must designate a Certified Erosion and Sediment Control Lead (CESCL) as the responsible representative.

Conditions of Use

A CESCL shall be made available on projects one acre or larger that discharge stormwater to surface waters of the state. Sites less than one acre may have a person without CESCL certification conduct inspections.

The CESCL shall:

- Have a current certificate proving attendance in an erosion and sediment control training course that meets the minimum ESC training and certification requirements established by Ecology.

  Ecology has provided the minimum requirements for CESCL course training, as well as a list of ESC training and certification providers at:

  https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Certified-erosion-sediment-control

  OR

- Be a Certified Professional in Erosion and Sediment Control (CPESC). For additional information go to:

  http://www.envirocertintl.org/cpesc/

Specifications

- CESCL certification shall remain valid for three years.
- The CESCL shall have authority to act on behalf of the contractor or project proponent and shall be available, or on-call, 24 hours per day throughout the period of construction.
- The Construction SWPPP shall include the name, telephone number, fax number, and address of the designated CESCL. See II-2 Construction Stormwater Pollution Prevention Plans (Construction SWPPPs).
- A CESCL may provide inspection and compliance services for multiple construction projects in the same geographic region, but must be on site whenever earthwork activities are

occurring that could generate release of turbid water.

- Duties and responsibilities of the CESCL shall include, but are not limited to the following:
    - Maintaining a permit file on site at all times which includes the Construction SWPPP and any associated permits and plans.
    - Directing BMP installation, inspection, maintenance, modification, and removal.
    - Updating all project drawings and the Construction SWPPP with changes made.
    - Completing any sampling requirements including reporting results using electronic Discharge Monitoring Reports (WebDMR).
    - Facilitate, participate in, and take corrective actions resulting from inspections performed by outside agencies or the owner.
    - Keeping daily logs, and inspection reports. Inspection reports should include:
        - Inspection date/time.
        - Weather information; general conditions during inspection and approximate amount of precipitation since the last inspection.
        - Visual monitoring results, including a description of discharged stormwater. The presence of suspended sediment, turbid water, discoloration, and oil sheen shall be noted, as applicable.
        - Any water quality monitoring performed during inspection.
        - General comments and notes, including a brief description of any BMP repairs, maintenance or installations made as a result of the inspection.
        - A summary or list of all BMPs implemented, including observations of all erosion/sediment control structures or practices. The following shall be noted:
            1. Locations of BMPs inspected.
            2. Locations of BMPs that need maintenance.
            3. Locations of BMPs that failed to operate as designed or intended.
            4. Locations of where additional or different BMPs are required.

BMP C162: Scheduling

Purpose

Sequencing a construction project reduces the amount and duration of soil exposed to erosion by wind, rain, runoff, and vehicle tracking.

Conditions of Use

The construction sequence schedule is an orderly listing of all major land-disturbing activities together with the necessary erosion and sedimentation control measures planned for the project. This type of schedule guides the contractor on work to be done before other work is started so that serious erosion and sedimentation problems can be avoided.

Following a specified work schedule that coordinates the timing of land-disturbing activities and the installation of control measures is perhaps the most cost-effective way of controlling erosion during construction. The removal of ground cover leaves a site vulnerable to erosion. Construction sequencing that limits land clearing, provides timely installation of erosion and sedimentation controls, and restores protective cover quickly can significantly reduce the erosion potential of a site.

Design Considerations

- Minimize construction during rainy periods.
- Schedule projects to disturb only small portions of the site at any one time. Complete grading as soon as possible. Immediately stabilize the disturbed portion before grading the next portion. Practice staged seeding in order to revegetate cut and fill slopes as the work progresses.

II-3.3 Construction Runoff BMPs

BMP C200: Interceptor Dike and Swale

Purpose

Provide a dike of compacted soil or a swale at the top or base of a disturbed slope or along the perimeter of a disturbed construction area to convey stormwater. Use the dike and/or swale to intercept the runoff from unprotected areas and direct it to areas where erosion can be controlled. This can prevent storm runoff from entering the work area or sediment-laden runoff from leaving the construction site.

Conditions of Use

Use an interceptor dike or swale where runoff from an exposed site or disturbed slope must be conveyed to an erosion control BMP which can safely convey the stormwater.

- Locate upslope of a construction site to prevent runoff from entering the disturbed area.
- When placed horizontally across a disturbed slope, it reduces the amount and velocity of runoff flowing down the slope.
- Locate downslope to collect runoff from a disturbed area and direct it to a sediment BMP (e.g. BMP C240: Sediment Trap or BMP C241: Sediment Pond (Temporary)).

Design and Installation Specifications

- Dike and/or swale and channel must be stabilized with temporary or permanent vegetation or other channel protection during construction.
- Steep grades require channel protection and check dams.
- Review construction for areas where overtopping may occur.
- Can be used at the top of new fill before vegetation is established.
- May be used as a permanent diversion channel to carry the runoff.
- Contributing area for an individual dike or swale should be one acre or less.
- Design the dike and/or swale to contain flows calculated by one of the following methods:
    - Single Event Hydrograph Method: The peak volumetric flow rate calculated using a 10-minute time step from a Type 1A, 10-year, 24-hour frequency storm for the worst-case land cover condition.

      OR

    - Continuous Simulation Method: The 10-year peak flow rate, as determined by an approved continuous runoff model with a 15-minute time step for the worst-case land cover condition.

  Worst-case land cover conditions (i.e., producing the most runoff) should be used for analysis (in most cases, this would be the land cover conditions just prior to final landscaping).

Interceptor Dikes

Interceptor dikes shall meet the following criteria:

- Top Width: 2 feet minimum.
- Height: 1.5 feet minimum on berm.
- Side Slope: 2H:1V or flatter.
- Grade: Depends on topography, however, dike system minimum is 0.5%, and maximum is 1%.
- Compaction: Minimum of 90 percent ASTM D698 standard proctor.
- Stabilization: Depends on velocity and reach. Inspect regularly to ensure stability.
- Ground Slopes <5%: Seed and mulch applied within 5 days of dike construction (see BMP C121: Mulching).
- Ground Slopes 5 - 40%: Dependent on runoff velocities and dike materials. Stabilization should be done immediately using either sod or riprap, or other measures to avoid erosion.
- The upslope side of the dike shall provide positive drainage to the dike outlet. No erosion shall

occur at the outlet. Provide energy dissipation measures as necessary. Sediment-laden runoff must be released through a sediment trapping facility.

- Minimize construction traffic over temporary dikes. Use temporary cross culverts for channel crossing.
- See Table II-3.8: Horizontal Spacing of Interceptor Dikes Along Ground Slope for recommended horizontal spacing between dikes.

Table II-3.8: Horizontal Spacing of Interceptor Dikes Along Ground Slope

Average Slope	Slope Percent	Flowpath Length
20H:1V or less	3-5%	300 feet
(10 to 20)H:1V	5-10%	200 feet
(4 to 10)H:1V	10-25%	100 feet
(2 to 4)H:1V	25-50%	50 feet

Interceptor Swales

Interceptor swales shall meet the following criteria:

- Bottom Width: 2 feet minimum; the cross-section bottom shall be level.
- Depth: 1-foot minimum.
- Side Slope: 2H:1V or flatter.
- Grade: Maximum 5 percent, with positive drainage to a suitable outlet (such as BMP C241: Sediment Pond (Temporary)).
- Stabilization: Seed as per BMP C120: Temporary and Permanent Seeding, or BMP C202: Riprap Channel Lining, 12 inches thick riprap pressed into the bank and extending at least 8 inches vertical from the bottom.

Maintenance Standards

- Inspect diversion dikes and interceptor swales once a week and after every rainfall. Immediately remove sediment from the flow area.
- Damage caused by construction traffic or other activity must be repaired before the end of each working day.
- Check outlets and make timely repairs as needed to avoid gully formation. When the area below the temporary diversion dike is permanently stabilized, remove the dike and fill and stabilize the channel to blend with the natural surface.

BMP C207: Check Dams

Purpose

Construction of check dams across a swale or ditch reduces the velocity of concentrated flow and dissipates energy at the check dam.

Conditions of Use

Use check dams where temporary or permanent channels are not yet vegetated, channel lining is infeasible, and/or velocity checks are required.

- Check dams may not be placed in streams unless approved by the State Department of Fish and Wildlife.
- Check dams may not be placed in wetlands without approval from a permitting agency.
- Do not place check dams below the expected backwater from any salmonid bearing water between October 1 and May 31 to ensure that there is no loss of high flow refuge habitat for overwintering juvenile salmonids and emergent salmonid fry.

Design and Installation Specifications

- Construct rock check dams from appropriately sized rock. The rock used must be large enough to stay in place given the expected design flow through the channel. The rock must be placed by hand or by mechanical means (do not dump the rock to form the dam) to achieve complete coverage of the ditch or swale and to ensure that the center of the dam is lower than the edges.
- Check dams may also be constructed of either rock or pea-gravel filled bags. Numerous new products are also available for this purpose. They tend to be re-usable, quick and easy to install, effective, and cost efficient.
- Place check dams perpendicular to the flow of water.
- The check dam should form a triangle when viewed from the side. This prevents undercutting as water flows over the face of the check dam rather than falling directly onto the ditch bottom.
- Before installing check dams, impound and bypass upstream water flow away from the work area. Options for bypassing include pumps, siphons, or temporary channels.
- Check dams combined with sumps work more effectively at slowing flow and retaining sediment than a check dam alone. A deep sump should be provided immediately upstream of the check dam.
- In some cases, if carefully located and designed, check dams can remain as permanent installations with very minor regrading. They may be left as either spillways, in which case accumulated sediment would be graded and seeded, or as check dams to prevent further sediment from leaving the site.
- The maximum spacing between check dams shall be such that the downstream toe of the

upstream dam is at the same elevation as the top of the downstream dam.

- Keep the maximum height at 2 feet at the center of the check dam.
- Keep the center of the check dam at least 12 inches lower than the outer edges at natural ground elevation.
- Keep the side slopes of the check dam at 2H:1V or flatter.
- Key the stone into the ditch banks and extend it beyond the abutments a minimum of 18 inches to avoid washouts from overflow around the dam.
- Use filter fabric foundation under a rock or sand bag check dam. If a blanket ditch liner is used, filter fabric is not necessary. A piece of organic or synthetic blanket cut to fit will also work for this purpose.
- In the case of grass-lined ditches and swales, all check dams and accumulated sediment shall be removed when the grass has matured sufficiently to protect the ditch or swale - unless the slope of the swale is greater than 4 percent. The area beneath the check dams shall be seeded and mulched immediately after dam removal.
- Ensure that channel appurtenances, such as culvert entrances below check dams, are not subject to damage or blockage from displaced stones.
- See Figure II-3.16: Rock Check Dam.

Maintenance Standards

Check dams shall be monitored for performance and sediment accumulation during and after each rainfall that produces runoff. Sediment shall be removed when it reaches one half the sump depth.

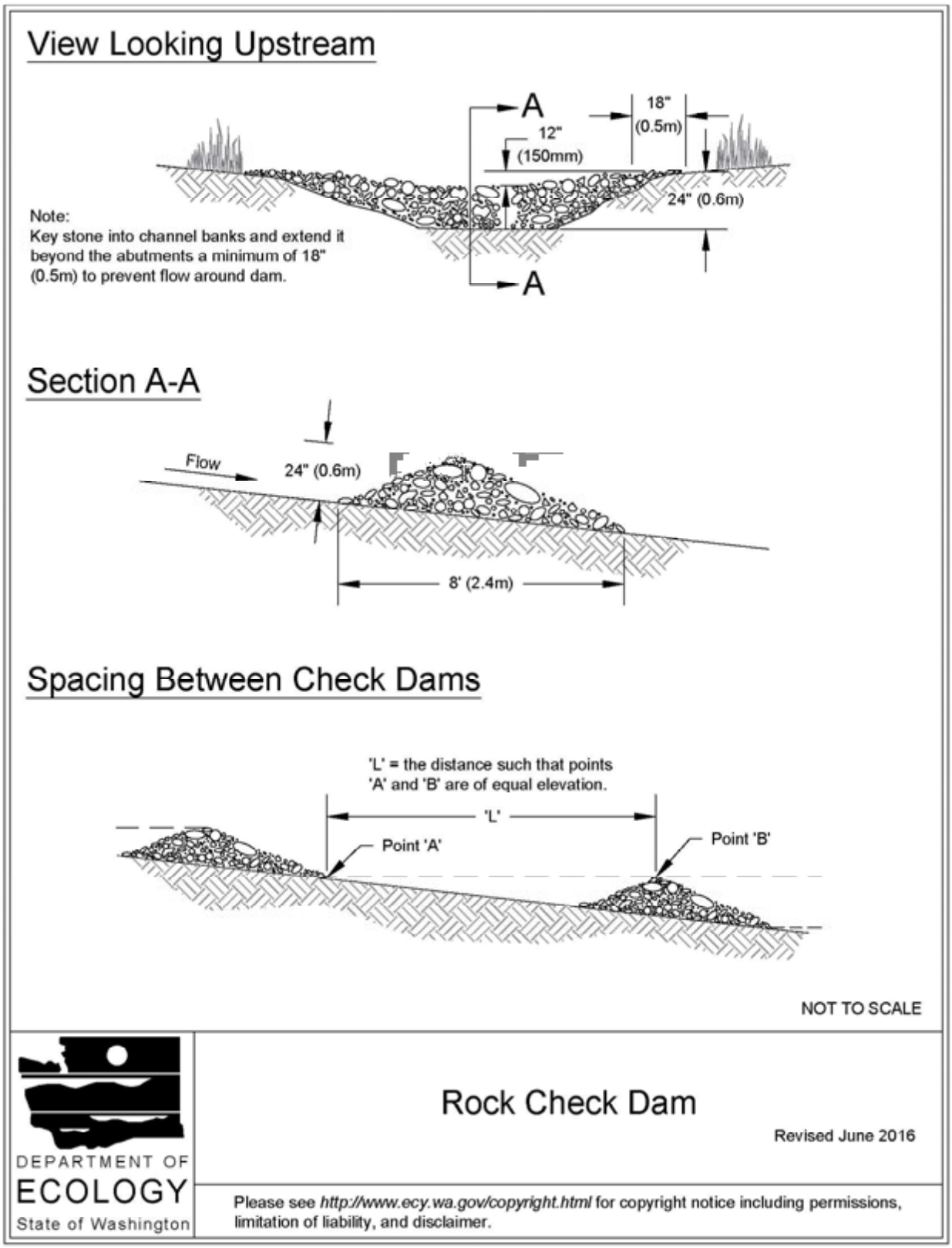
- Anticipate submergence and deposition above the check dam and erosion from high flows around the edges of the dam.
- If significant erosion occurs between dams, install a protective riprap liner in that portion of the channel. See BMP C202: Riprap Channel Lining.

Approved as Functionally Equivalent

Ecology has approved products as able to meet the requirements of this BMP. The products did not pass through the Technology Assessment Protocol – Ecology (TAPE) process. Local jurisdictions may choose not to accept these products, or may require additional testing prior to consideration for local use. Products that Ecology has approved as functionally equivalent are available for review on Ecology's website at:

https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Stormwater-permittee-guidance-resources/Emerging-stormwater-treatment-technologies

Figure II-3.16: Rock Check Dam



BMP C209: Outlet Protection

Purpose

Outlet protection prevents scour at conveyance outlets and minimizes the potential for downstream erosion by reducing the velocity of concentrated stormwater flows.

Conditions of Use

Use outlet protection at the outlets of all ponds, pipes, ditches, or other conveyances that discharge to a natural or manmade drainage feature such as a stream, wetland, lake, or ditch.

Design and Installation Specifications

- The receiving channel at the outlet of a pipe shall be protected from erosion by lining a minimum of 6 feet downstream and extending up the channel sides a minimum of 1–foot above the maximum tailwater elevation, or 1-foot above the crown, whichever is higher. For pipes larger than 18 inches in diameter, the outlet protection lining of the channel shall be four times the diameter of the outlet pipe.
- Standard wingwalls, tapered outlets, and paved channels should also be considered when appropriate for permanent culvert outlet protection (WSDOT, 2015).
- BMP C122: Nets and Blankets or BMP C202: Riprap Channel Lining provide suitable options for lining materials.
- With low flows, BMP C201: Grass-Lined Channels can be an effective alternative for lining material.
- The following guidelines shall be used for outlet protection with riprap:
    - If the discharge velocity at the outlet is less than 5 fps, use 2-inch to 8-inch riprap. Minimum thickness is 1-foot.
    - For 5 to 10 fps discharge velocity at the outlet, use 24-inch to 48-inch riprap. Minimum

thickness is 2 feet.

- For outlets at the base of steep slope pipes (pipe slope greater than 10 percent), use an engineered energy dissipator.
- Filter fabric or erosion control blankets should always be used under riprap to prevent scour and channel erosion. See BMP C122: Nets and Blankets.

- Bank stabilization, bioengineering, and habitat features may be required for disturbed areas. This work may require a Hydraulic Project Approval (HPA) from the Washington State Department of Fish and Wildlife. See I-2.11 Hydraulic Project Approvals.

Maintenance Standards

- Inspect and repair as needed.
- Add rock as needed to maintain the intended function.
- Clean energy dissipator if sediment builds up.

BMP C220: Inlet Protection

Purpose

Inlet protection prevents coarse sediment from entering drainage systems prior to permanent stabilization of the disturbed area.

Conditions of Use

Use inlet protection at inlets that are operational before permanent stabilization of the disturbed areas that contribute runoff to the inlet. Provide protection for all storm drain inlets downslope and within 500 feet of a disturbed or construction area, unless those inlets are preceded by a sediment trapping BMP.

Also consider inlet protection for lawn and yard drains on new home construction. These small and numerous drains coupled with lack of gutters can add significant amounts of sediment into the roof drain system. If possible, delay installing lawn and yard drains until just before landscaping, or cap these drains to prevent sediment from entering the system until completion of landscaping. Provide 18-inches of sod around each finished lawn and yard drain.

Table II-3.10: Storm Drain Inlet Protection lists several options for inlet protection. All of the methods for inlet protection tend to plug and require a high frequency of maintenance. Limit contributing drainage areas for an individual inlet to one acre or less. If possible, provide emergency overflows with additional end-of-pipe treatment where stormwater ponding would cause a hazard.

Table II-3.10: Storm Drain Inlet Protection

Type of Inlet Protection	Emergency Overflow	Applicable for Paved/ Earthen Surfaces	Conditions of Use
Drop Inlet Protection			
Excavated drop inlet protection	Yes, temporary flooding may occur	Earthen	Applicable for heavy flows. Easy to maintain. Large area requirement: 30'x30'/acre
Block and gravel drop inlet protection	Yes	Paved or Earthen	Applicable for heavy concentrated flows. Will not pond.
Gravel and wire drop inlet protection	No	Paved or Earthen	Applicable for heavy concentrated flows. Will pond. Can withstand traffic.
Catch basin filters	Yes	Paved or Earthen	Frequent maintenance required.
Curb Inlet Protection			
Curb inlet protection with wooden weir	Small capacity overflow	Paved	Used for sturdy, more compact installation.
Block and gravel curb inlet protection	Yes	Paved	Sturdy, but limited filtration.
Culvert Inlet Protection			
Culvert inlet sediment trap	N/A	N/A	18 month expected life.

Design and Installation Specifications

Excavated Drop Inlet Protection

Excavated drop inlet protection consists of an excavated impoundment around the storm drain inlet. Sediment settles out of the stormwater prior to entering the storm drain. Design and installation specifications for excavated drop inlet protection include:

- Provide a depth of 1-2 ft as measured from the crest of the inlet structure.
- Slope sides of excavation should be no steeper than 2H:1V.
- Minimum volume of excavation is 35 cubic yards.
- Shape the excavation to fit the site, with the longest dimension oriented toward the longest inflow area.
- Install provisions for draining to prevent standing water.
- Clear the area of all debris.

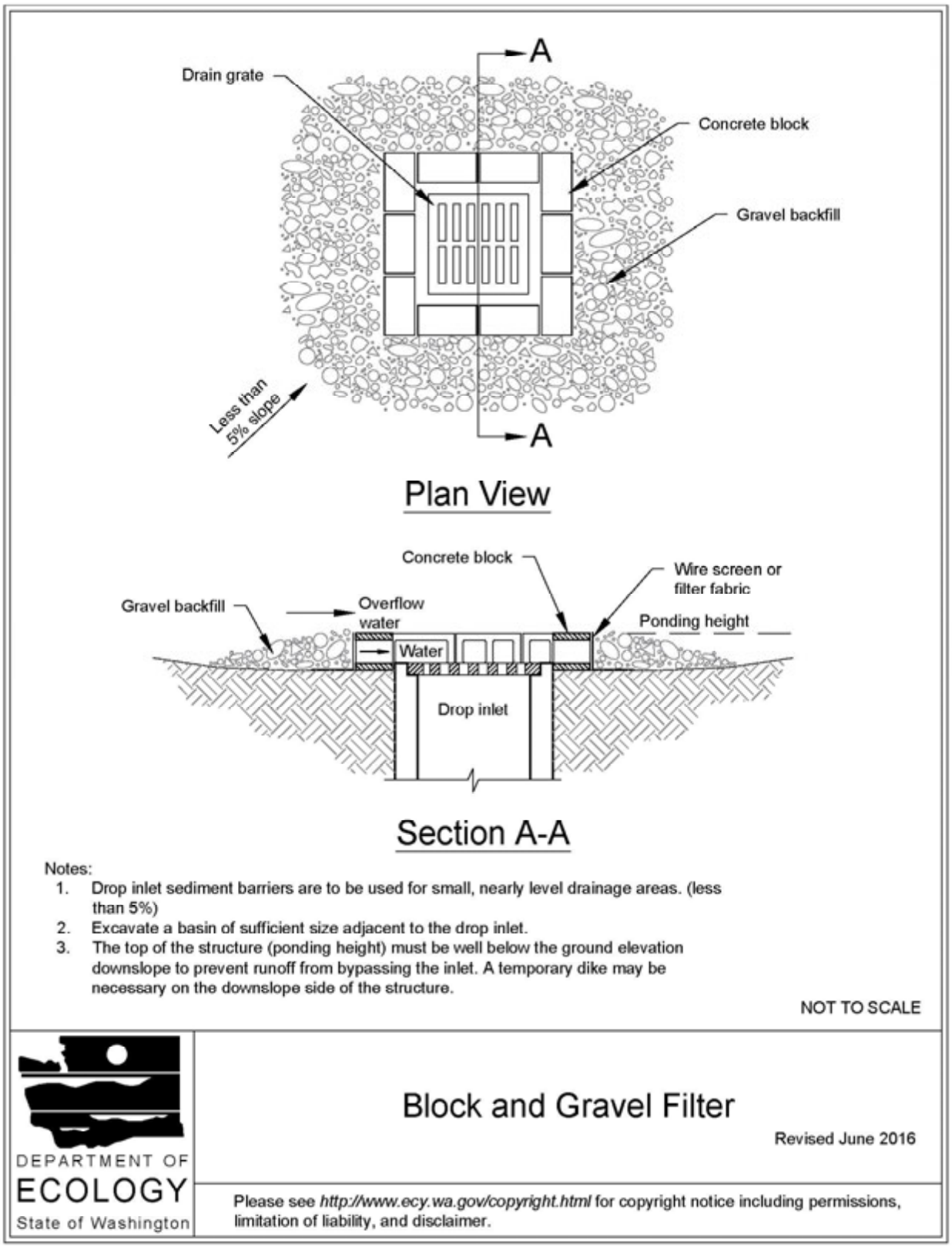
- Grade the approach to the inlet uniformly.
- Drill weep holes into the side of the inlet.
- Protect weep holes with screen wire and washed aggregate.
- Seal weep holes when removing structure and stabilizing area.
- Build a temporary dike, if necessary, to the down slope side of the structure to prevent bypass flow.

Block and Gravel Filter

A block and gravel filter is a barrier formed around the inlet with standard concrete blocks and gravel. See Figure II-3.17: Block and Gravel Filter. Design and installation specifications for block gravel filters include:

- Provide a height of 1 to 2 feet above the inlet.
- Recess the first row of blocks 2-inches into the ground for stability.
- Support subsequent courses by placing a pressure treated wood 2x4 through the block opening.
- Do not use mortar.
- Lay some blocks in the bottom row on their side to allow for dewatering the pool.
- Place hardware cloth or comparable wire mesh with ½-inch openings over all block openings.
- Place gravel to just below the top of blocks on slopes of 2H:1V or flatter.
- An alternative design is a gravel berm surrounding the inlet, as follows:
    - Provide a slope of 3H:1V on the upstream side of the berm.
    - Provide a slope of 2H:1V on the downstream side of the berm.
    - Provide a 1-foot wide level stone area between the gravel berm and the inlet.
    - Use stones 3 inches in diameter or larger on the upstream slope of the berm.
    - Use gravel ½- to ¾-inch at a minimum thickness of 1-foot on the downstream slope of the berm.

Figure II-3.17: Block and Gravel Filter



Gravel and Wire Mesh Filter

Gravel and wire mesh filters are gravel barriers placed over the top of the inlet. This method does not provide an overflow. Design and installation specifications for gravel and wire mesh filters include:

- Use a hardware cloth or comparable wire mesh with ½-inch openings.
    - Place wire mesh over the drop inlet so that the wire extends a minimum of 1-foot beyond each side of the inlet structure.
    - Overlap the strips if more than one strip of mesh is necessary.
- Place coarse aggregate over the wire mesh.
    - Provide at least a 12-inch depth of aggregate over the entire inlet opening and extend at least 18-inches on all sides.

Catch Basin Filters

Catch basin filters are designed by manufacturers for construction sites. The limited sediment storage capacity increases the amount of inspection and maintenance required, which may be daily for heavy sediment loads. To reduce maintenance requirements, combine a catch basin filter with another type of inlet protection. This type of inlet protection provides flow bypass without overflow and therefore may be a better method for inlets located along active rights-of-way. Design and installation specifications for catch basin filters include:

- Provides 5 cubic feet of storage.
- Requires dewatering provisions.
- Provides a high-flow bypass that will not clog under normal use at a construction site.
- Insert the catch basin filter in the catch basin just below the grating.

Curb Inlet Protection with Wooden Weir

Curb inlet protection with wooden weir is an option that consists of a barrier formed around a curb inlet with a wooden frame and gravel. Design and installation specifications for curb inlet protection with wooden weirs include:

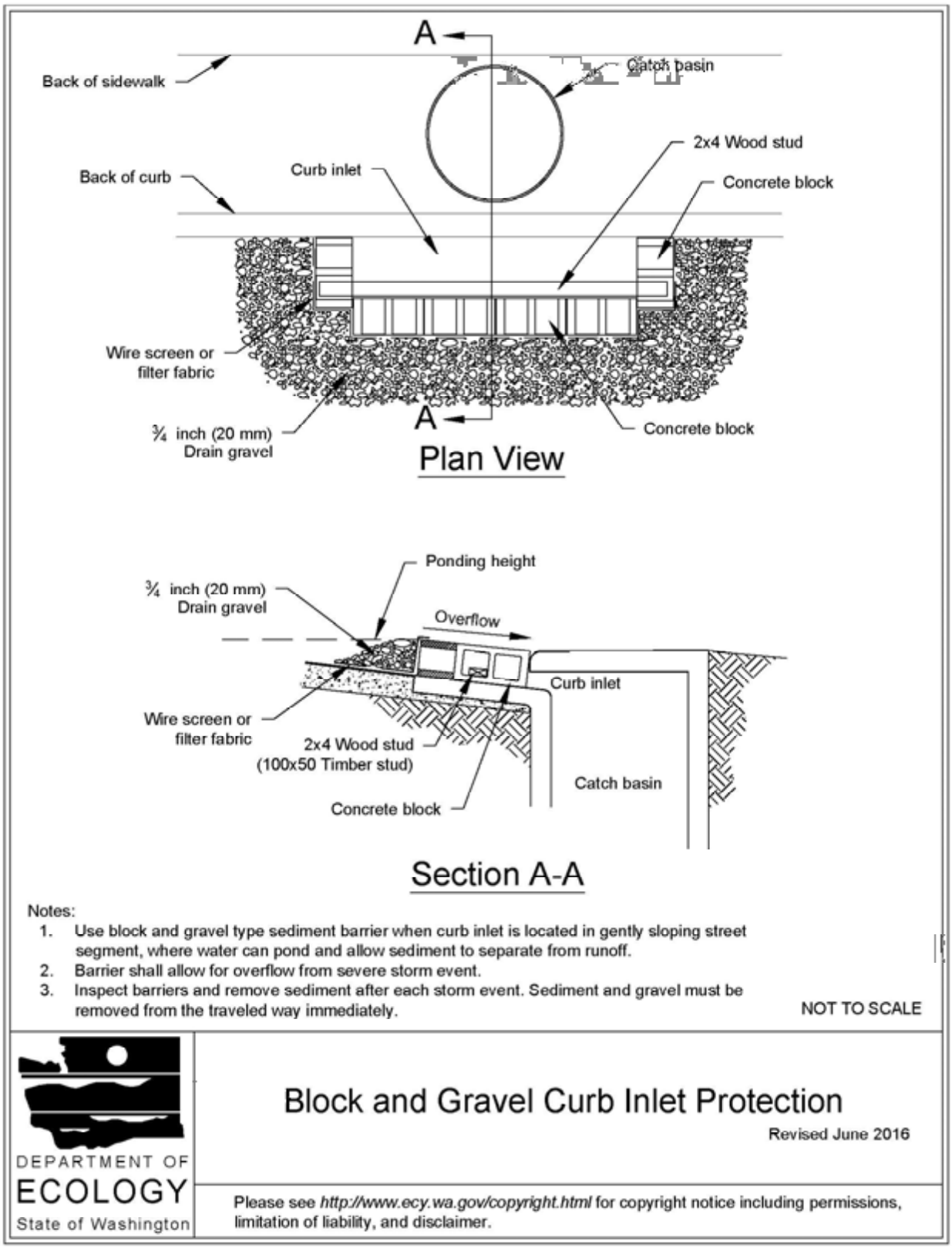
- Use wire mesh with ½-inch openings.
- Use extra strength filter cloth.
- Construct a frame.
- Attach the wire and filter fabric to the frame.
- Pile coarse washed aggregate against the wire and fabric.
- Place weight on the frame anchors.

Block and Gravel Curb Inlet Protection

Block and gravel curb inlet protection is a barrier formed around a curb inlet with concrete blocks and gravel. See Figure II-3.18: Block and Gravel Curb Inlet Protection. Design and installation specifications for block and gravel curb inlet protection include:

- Use wire mesh with ½-inch openings.
- Place two concrete blocks on their sides abutting the curb at either side of the inlet opening. These are spacer blocks.
- Place a 2x4 stud through the outer holes of each spacer block to align the front blocks.
- Place blocks on their sides across the front of the inlet and abutting the spacer blocks.
- Place wire mesh over the outside vertical face.
- Pile coarse aggregate against the wire to the top of the barrier.

Figure II-3.18: Block and Gravel Curb Inlet Protection

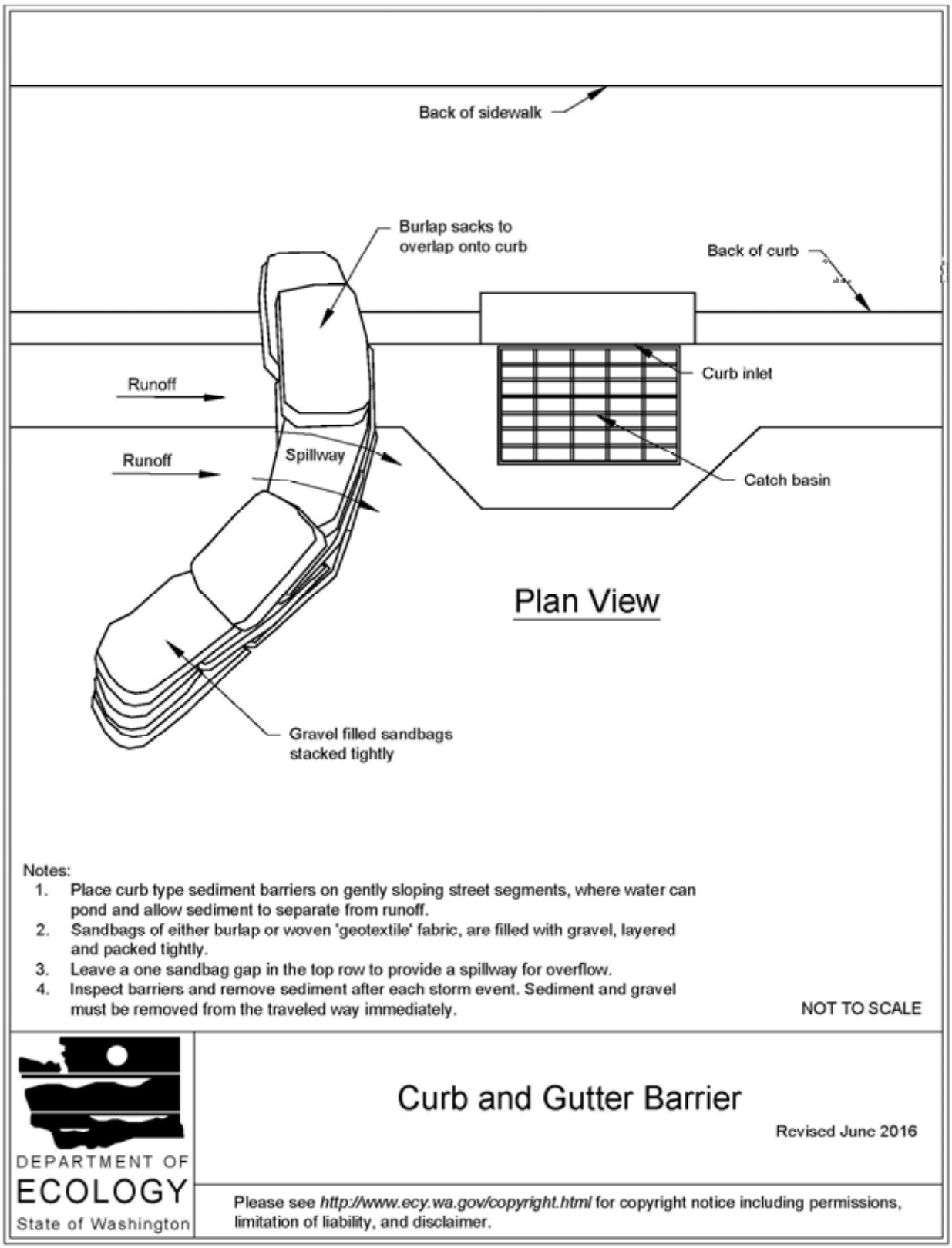


Curb and Gutter Sediment Barrier

Curb and gutter sediment barrier is a sandbag or rock berm (riprap and aggregate) 3 feet high and 3 feet wide in a horseshoe shape. See Figure II-3.19: Curb and Gutter Barrier. Design and installation specifications for curb and gutter sediment barrier include:

- Construct a horseshoe shaped berm, faced with coarse aggregate if using riprap, 3 feet high and 3 feet wide, at least 2 feet from the inlet.
- Construct a horseshoe shaped sedimentation trap on the upstream side of the berm. Size the trap to sediment trap standards for protecting a culvert inlet.

Figure II-3.19: Curb and Gutter Barrier



Maintenance Standards

- Inspect all forms of inlet protection frequently, especially after storm events. Clean and replace clogged catch basin filters. For rock and gravel filters, pull away the rocks from the inlet and clean or replace. An alternative approach would be to use the clogged rock as fill and put fresh rock around the inlet.
- Do not wash sediment into storm drains while cleaning. Spread all excavated material evenly over the surrounding land area or stockpile and stabilize as appropriate.

Approved as Functionally Equivalent

Ecology has approved products as able to meet the requirements of this BMP. The products did not pass through the Technology Assessment Protocol – Ecology (TAPE) process. Local jurisdictions may choose not to accept these products, or may require additional testing prior to consideration for local use. Products that Ecology has approved as functionally equivalent are available for review on Ecology's website at:

https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Stormwater-permittee-guidance-resources/Emerging-stormwater-treatment-technologies

BMP C233: Silt Fence

Purpose

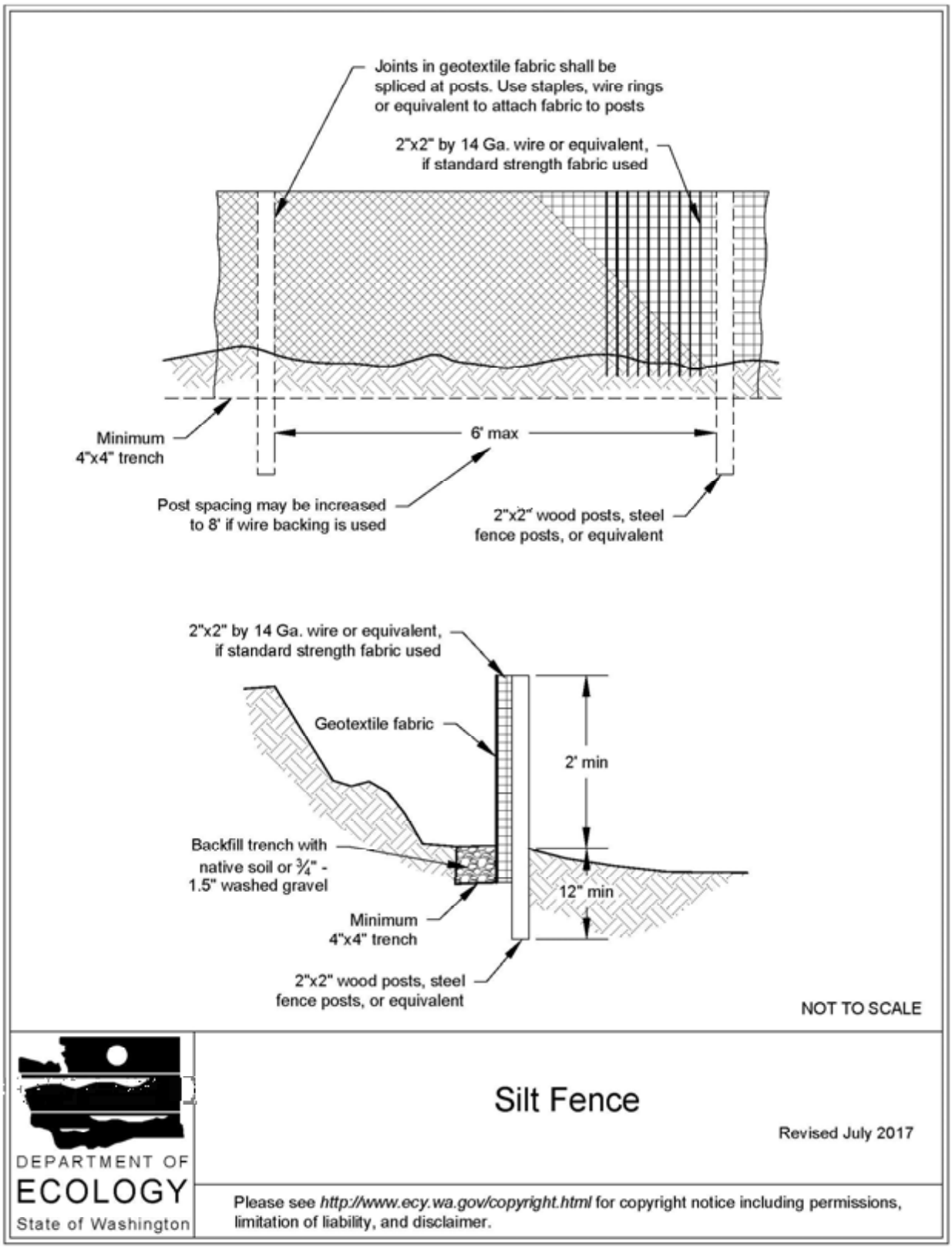
Silt fence reduces the transport of coarse sediment from a construction site by providing a temporary physical barrier to sediment and reducing the runoff velocities of overland flow.

Conditions of Use

Silt fence may be used downslope of all disturbed areas.

- Silt fence shall prevent sediment carried by runoff from going beneath, through, or over the top of the silt fence, but shall allow the water to pass through the fence.
- Silt fence is not intended to treat concentrated flows, nor is it intended to treat substantial amounts of overland flow. Convey any concentrated flows through the drainage system to a sediment trapping BMP.
- Do not construct silt fences in streams or use in V-shaped ditches. Silt fences do not provide an adequate method of silt control for anything deeper than sheet or overland flow.

Figure II-3.22: Silt Fence



Design and Installation Specifications

- Use in combination with other construction stormwater BMPs.
- Maximum slope steepness (perpendicular to the silt fence line) 1H:1V.
- Maximum sheet or overland flow path length to the silt fence of 100 feet.
- Do not allow flows greater than 0.5 cfs.
- Use geotextile fabric that meets the following standards. All geotextile properties listed below are minimum average roll values (i.e., the test result for any sampled roll in a lot shall meet or exceed the values shown in Table II-3.11: Geotextile Fabric Standards for Silt Fence):

Table II-3.11: Geotextile Fabric Standards for Silt Fence

Geotextile Property	Minimum Average Roll Value
Polymeric Mesh AOS (ASTM D4751)	0.60 mm maximum for slit film woven (#30 sieve). 0.30 mm maximum for all other geotextile types (#50 sieve). 0.15 mm minimum for all fabric types (#100 sieve).
Water Permittivity (ASTM D4491)	0.02 sec^{-1} minimum
Grab Tensile Strength (ASTM D4632)	180 lbs. Minimum for extra strength fabric. 100 lbs minimum for standard strength fabric.
Grab Tensile Strength (ASTM D4632)	30% maximum
Ultraviolet Resistance (ASTM D4355)	70% minimum

- Support standard strength geotextiles with wire mesh, chicken wire, 2-inch x 2-inch wire, safety fence, or jute mesh to increase the strength of the geotextile. Silt fence materials are available that have synthetic mesh backing attached.
- Silt fence material shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six months of expected usable construction life at a temperature range of 0°F to 120°F.
- One-hundred percent biodegradable silt fence is available that is strong, long lasting, and can be left in place after the project is completed, if permitted by the local jurisdiction.
- Refer to Figure II-3.22: Silt Fence for standard silt fence details. Include the following Standard Notes for silt fence on construction plans and specifications:

    1. The Contractor shall install and maintain temporary silt fences at the locations shown in the Plans.
    2. Construct silt fences in areas of clearing, grading, or drainage prior to starting those activities.

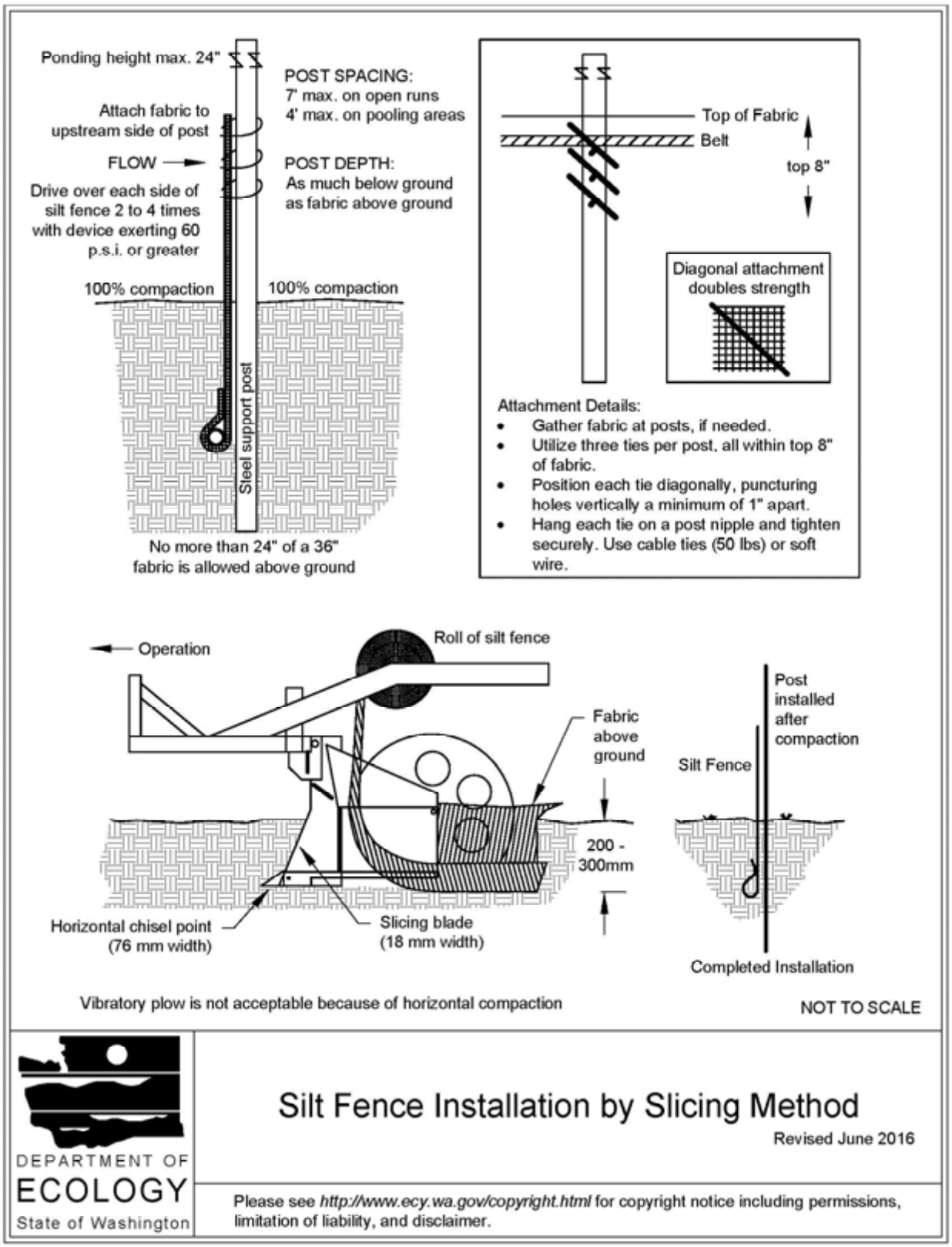
3. The silt fence shall have a 2-feet min. and a 2½-feet max. height above the original ground surface.
4. The geotextile fabric shall be sewn together at the point of manufacture to form fabric lengths as required. Locate all sewn seams at support posts. Alternatively, two sections of silt fence can be overlapped, provided that the overlap is long enough and that the adjacent silt fence sections are close enough together to prevent silt laden water from escaping through the fence at the overlap.
5. Attach the geotextile fabric on the up-slope side of the posts and secure with staples, wire, or in accordance with the manufacturer's recommendations. Attach the geotextile fabric to the posts in a manner that reduces the potential for tearing.
6. Support the geotextile fabric with wire or plastic mesh, dependent on the properties of the geotextile selected for use. If wire or plastic mesh is used, fasten the mesh securely to the up-slope side of the posts with the geotextile fabric up-slope of the mesh.
7. Mesh support, if used, shall consist of steel wire with a maximum mesh spacing of 2-inches, or a prefabricated polymeric mesh. The strength of the wire or polymeric mesh shall be equivalent to or greater than 180 lbs. grab tensile strength. The polymeric mesh must be as resistant to the same level of ultraviolet radiation as the geotextile fabric it supports.
8. Bury the bottom of the geotextile fabric 4-inches min. below the ground surface. Backfill and tamp soil in place over the buried portion of the geotextile fabric, so that no flow can pass beneath the silt fence and scouring cannot occur. When wire or polymeric back-up support mesh is used, the wire or polymeric mesh shall extend into the ground 3-inches min.
9. Drive or place the silt fence posts into the ground 18-inches min. A 12–inch min. depth is allowed if topsoil or other soft subgrade soil is not present and 18-inches cannot be reached. Increase fence post min. depths by 6 inches if the fence is located on slopes of 3H:1V or steeper and the slope is perpendicular to the fence. If required post depths cannot be obtained, the posts shall be adequately secured by bracing or guying to prevent overturning of the fence due to sediment loading.
10. Use wood, steel or equivalent posts. The spacing of the support posts shall be a maximum of 6-feet. Posts shall consist of either:
    - Wood with minimum dimensions of 2 inches by 2 inches by 3 feet. Wood shall be free of defects such as knots, splits, or gouges.
    - No. 6 steel rebar or larger.
    - ASTM A 120 steel pipe with a minimum diameter of 1-inch.
    - U, T, L, or C shape steel posts with a minimum weight of 1.35 lbs./ft.
    - Other steel posts having equivalent strength and bending resistance to the post sizes listed above.
11. Locate silt fences on contour as much as possible, except at the ends of the fence,

where the fence shall be turned uphill such that the silt fence captures the runoff water and prevents water from flowing around the end of the fence.

12. If the fence must cross contours, with the exception of the ends of the fence, place check dams perpendicular to the back of the fence to minimize concentrated flow and erosion. The slope of the fence line where contours must be crossed shall not be steeper than 3H:1V.
    - Check dams shall be approximately 1-foot deep at the back of the fence. Check dams shall be continued perpendicular to the fence at the same elevation until the top of the check dam intercepts the ground surface behind the fence.
    - Check dams shall consist of crushed surfacing base course, gravel backfill for walls, or shoulder ballast. Check dams shall be located every 10 feet along the fence where the fence must cross contours.

- Refer to Figure II-3.23: Silt Fence Installation by Slicing Method for slicing method details. The following are specifications for silt fence installation using the slicing method:
    1. The base of both end posts must be at least 2- to 4-inches above the top of the geotextile fabric on the middle posts for ditch checks to drain properly. Use a hand level or string level, if necessary, to mark base points before installation.
    2. Install posts 3- to 4-feet apart in critical retention areas and 6- to 7-feet apart in standard applications.
    3. Install posts 24-inches deep on the downstream side of the silt fence, and as close as possible to the geotextile fabric, enabling posts to support the geotextile fabric from upstream water pressure.
    4. Install posts with the nipples facing away from the geotextile fabric.
    5. Attach the geotextile fabric to each post with three ties, all spaced within the top 8-inches of the fabric. Attach each tie diagonally 45 degrees through the fabric, with each puncture at least 1-inch vertically apart. Each tie should be positioned to hang on a post nipple when tightening to prevent sagging.
    6. Wrap approximately 6-inches of the geotextile fabric around the end posts and secure with 3 ties.
    7. No more than 24-inches of a 36-inch geotextile fabric is allowed above ground level.
    8. Compact the soil immediately next to the geotextile fabric with the front wheel of the tractor, skid steer, or roller exerting at least 60 pounds per square inch. Compact the upstream side first and then each side twice for a total of four trips. Check and correct the silt fence installation for any deviation before compaction. Use a flat-bladed shovel to tuck the fabric deeper into the ground if necessary.

Figure II-3.23: Silt Fence Installation by Slicing Method



Maintenance Standards

- Repair any damage immediately.
- Intercept and convey all evident concentrated flows uphill of the silt fence to a sediment trapping BMP.
- Check the uphill side of the silt fence for signs of the fence clogging and acting as a barrier to flow and then causing channelization of flows parallel to the fence. If this occurs, replace the fence and remove the trapped sediment.
- Remove sediment deposits when the deposit reaches approximately one-third the height of the silt fence, or install a second silt fence.
- Replace geotextile fabric that has deteriorated due to ultraviolet breakdown.

BMP C240: Sediment Trap

Purpose

A sediment trap is a small temporary ponding area with a gravel outlet used to collect and store sediment from sites during construction. Sediment traps, along with other perimeter controls, shall be installed before any land disturbance takes place in the drainage area.

Conditions of Use

- Sediment traps are intended for use on sites where the tributary drainage area is less than 3 acres, with no unusual drainage features, and a projected build-out time of six months or less. The sediment trap is a temporary measure (with a design life of approximately 6 months) and shall be maintained until the tributary area is permanently protected against erosion by vegetation and/or structures.
- Sediment traps are only effective in removing sediment down to about the medium silt size fraction. Runoff with sediment of finer grades (fine silt and clay) will pass through untreated, emphasizing the need to control erosion to the maximum extent first.
- Projects that are constructing permanent Flow Control BMPs, or Runoff Treatment BMPs that use ponding for treatment, may use the rough-graded or final-graded permanent BMP footprint for the temporary sediment trap. When permanent BMP footprints are used as temporary sediment traps, the surface area requirement of the sediment trap must be met. If the surface area requirement of the sediment trap is larger than the surface area of the permanent BMP, then the sediment trap shall be enlarged beyond the permanent BMP footprint to comply with the surface area requirement.

- A floating pond skimmer may be used for the sediment trap outlet if approved by the Local Permitting Authority.
- Sediment traps may not be feasible on utility projects due to the limited work space or the short-term nature of the work. Portable tanks may be used in place of sediment traps for utility projects.

Design and Installation Specifications

- See Figure II-3.26: Cross Section of Sediment Trap and Figure II-3.27: Sediment Trap Outlet for details.
- To determine the sediment trap geometry, first calculate the design surface area (SA) of the trap, measured at the invert of the weir. Use the following equation:

$$SA = FS(Q_2/V_s)$$

where

Q_2 =

  - Option 1 - Single Event Hydrograph Method:

    Q_2 = Peak volumetric flow rate calculated using a 10-minute time step from a Type 1A, 2-year, 24-hour frequency storm for the developed condition. The 10-year peak volumetric flow rate shall be used if the project size, expected timing and duration of construction, or downstream conditions warrant a higher level of protection.

  - Option 2 - For construction sites that are less than 1 acre, the Rational Method may be used to determine Q_2.

V_s = The settling velocity of the soil particle of interest. The 0.02 mm (medium silt) particle with an assumed density of 2.65 g/cm3 has been selected as the particle of interest and has a settling velocity (Vs) of 0.00096 ft/sec.

FS = A safety factor of 2 to account for non-ideal settling.

Therefore, the equation for computing sediment trap surface area becomes:

$$SA = 2 \times Q_2/0.00096$$

or

2080 square feet per cfs of inflow

- Sediment trap depth shall be 3.5 feet minimum from the bottom of the trap to the top of the overflow weir.
- To aid in determining sediment depth, all sediment traps shall have a staff gauge with a prominent mark 1-foot above the bottom of the trap.

- Design the discharge from the sediment trap by using the guidance for discharge from temporary sediment ponds in BMP C241: Sediment Pond (Temporary).

Maintenance Standards

- Sediment shall be removed from the trap when it reaches 1-foot in depth.
- Any damage to the trap embankments or slopes shall be repaired.

Figure II-3.26: Cross Section of Sediment Trap

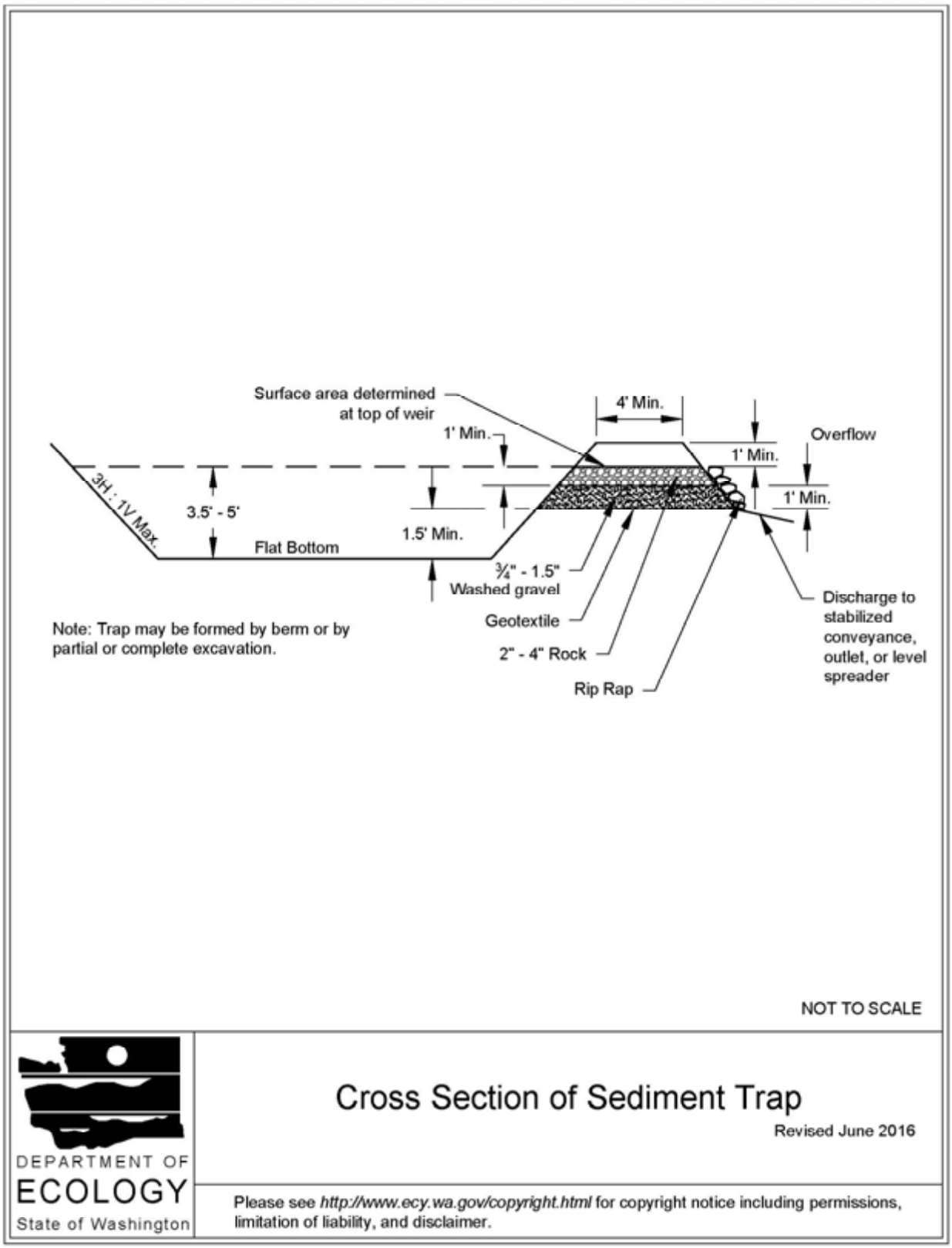


Figure II-3.27: Sediment Trap Outlet

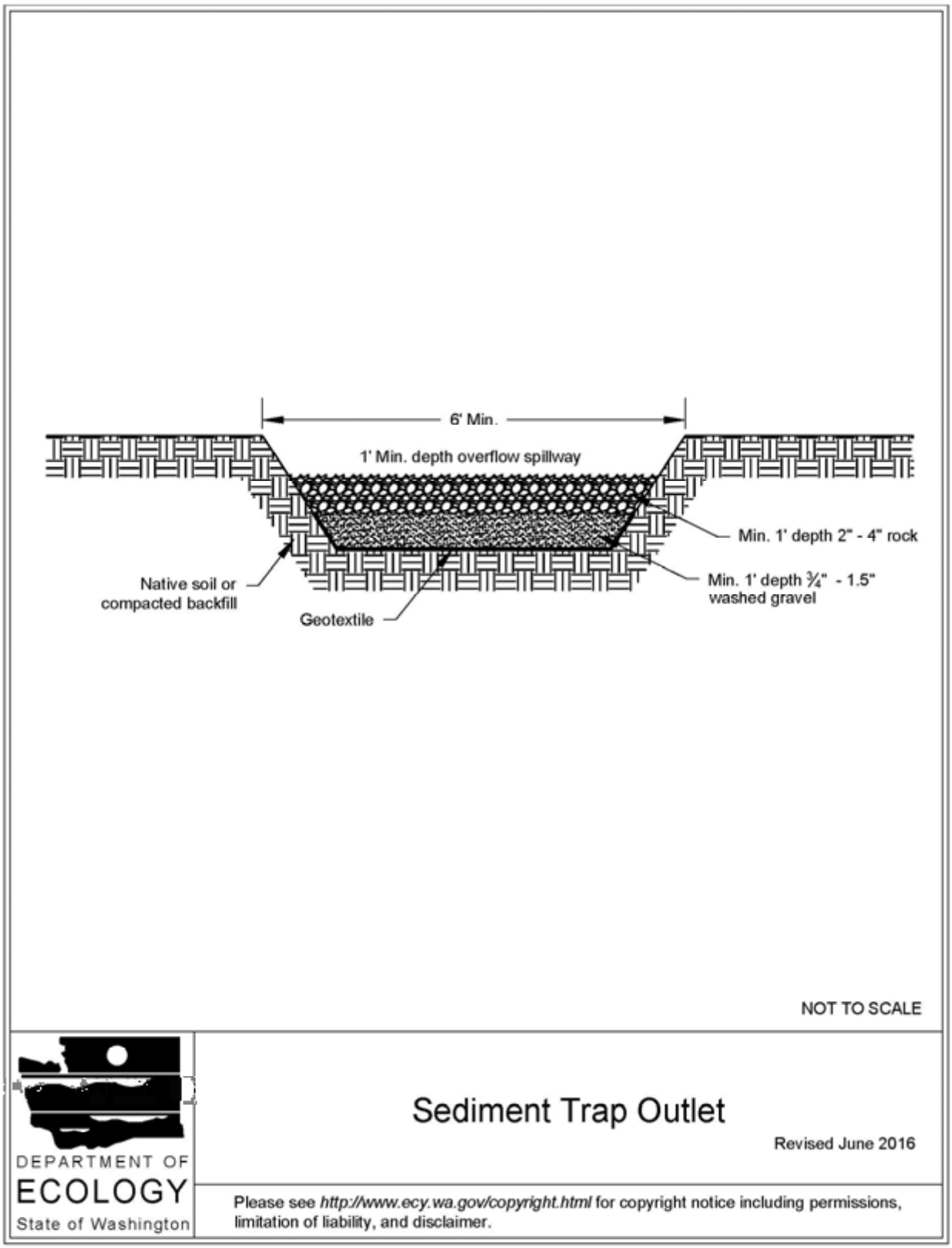


Exhibit 2.i

APPROVED FOR CONSTRUCTION

BY:_____ DATE:_____
City of Dupont

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Special Notes For Garry Oak Trees:

1). 3 existing Landmark Oak trees (#16, 20, & 21) will be removed due to their close proximity to the proposed building.
2). 75 new Garry Oak trees will be planted at a ratio of 25:1. 3 Landmark Oak trees to be removed x 25 = 75 new Oak trees provided.
3). The new Oak trees will be placed in the existing prairie and wetland buffer areas along with a native prairie seed mix specifically designed for Garry Oak habitats.
4). Irrigate new trees the first three years and as needed during drought times. Contractor to verify irrigation schedule with Owner.
5). No fertilizer, herbicide, or pesticide is recommended for newly planted trees. Any use of chemicals shall be in accordance with ANSI A-300 Standards and BMPS.
6). Trees shall not be topped, allow trees to grow naturally. At time of planting pruning shall be limited to removal of broken branches, defective roots, or to improve overall tree structure.
7). Garry Oaks grow best with minimal interference, other than ample water to establish a good root system.
8). Do not overmulch, keep mulch level over roots 1-2" depth.

Project Information:

Parcel Numbers: 0119362039, 0119362009, 0119362012, & 0119362043
Property Size: 927,027 Sf. or 21.3 Ac
Total Developed Property (Parcel A & B): 179,281 Sf.
Total Landscape Area Required, 20% x 179,281 = 35,856 Sf.
Total Landscape Area Provided: 58,788 Sf. or 33% (not including ROW)
Total Landscape Area in ROW: 18,151 Sf.
Zoning: COM (Commercial)
Applicable Code: DMC 25.90, 25.70.060, 25.120

Tree Retention Notes:

(Per DMC 25.120.030)
(Refer to sheet T1 Tree Retention Plan by Leroy Surveyors & Engineers for Tree Table, and Arborist Report Prepared By Favero Greenforest, Greenforest Inc.)
Existing Trees To Be Removed In The ROW: 6
Total Existing Trees On Site To Be Removed: 52
Total Existing Trees To Be Retained On Site: 32
Total Garry Oak Trees To Be Planted: 75
Total New Trees To Be Planted On Site: 168

Estimated Annual Irrigation Usage Statement And Calculations:

(Per DMC 25.90.040.2 & 3)
All new planting beds, eco-lawn, and native seed mix areas to be watered with an automatic underground irrigation system, except for native seed mix areas. High efficiency spray heads will be used for all eco-lawn areas (which require watering only during a "heat dome event" after the first growing season). All planting beds will be watered using high efficiency driplines. The native seed mix areas shall be watered by an above ground temporary irrigation system for three years, then only as needed. The eco-lawn areas require minimal mowing and may be mowed one or two times a month during the growing season. After three growing seasons only irrigate planting beds during times of drought, two to three times a week.

Total Area To Be Irrigated (Including ROW): 70,300 Sf.
Landscape Areas With Drip Irrigation: 21,550 Sf.
Eco-Lawn Areas With Spray Heads: 17,600 Sf.
Native Seed Mix Areas With Low GPM Rotors: 31,190 Sf.

Total GPM For Drip Zones: 550 G (Gallons) / Day Running for 8 Minutes
Total GPM for Lawn & Seed Areas: 2000 G / Day Running for 3 Minutes
Total GPM for All Landscape Areas: 2550 G

2550 G x 5 Days / Week = 12,750 G / Week
12,275 G x 26 Weeks = 331,500 G / Year

331,500 G x 30% (additional usage during drought times) = 99,450 G
331,500 + 99,450 G = 430,950 G / Year

Total G/Sf. Required: 7.2
430,950 G / 70,300 Sf. = 6.13 G Per Sf. Provided or 1.07 G less than Code requirement of 7.2 G per Sf.

Tree Protection Zone, (Typ.)

Provide Tree Protection fencing for any trees close to work zones. Tree protection zones shall be established and fenced prior to site clearing.

Garry Oak trees, typ. of 75

Proposed Church Building

Steilacoom Dupont Rd SW

Provide Tree Protection fencing for any trees close to work zones. Tree protection zones shall be established and fenced prior to site clearing.

Bell Marsh

Client Logo:

Mustard Seed Legacy Development, LLC

Champions Centre Church - DuPont

X Barksdale Ave.,
DuPont, Wa. 98237

Overall Landscape Plan & Notes

Revisions	Date
#1 - Updated per City comments, new civil bases, and added irrigation plan	10/24/24
1 Updated per new wall location to screen neighbors property from parking lot, added gravel access road to remain and to be removed	08/01/25

Project #:
25120

Date:
08/01/25

Sheet Size / Scale:
34"x22" / 1" = 50'

Stamp:

STATE OF WASHINGTON
AMY RUSHO WOLFE
21551
EXP. 04/01/2025
LICENSED LANDSCAPE ARCHITECT

Landscape Architect:
ARW Landscape Design
Amy R. Wolfe, PLA, ASLA
7530 23rd St W
University Place, Wa. 98466
t. 253.223.1162
e. amyw@arwlandscapedesign.com
www.arwlandscapedesign.com

0 1/2" 1" 2"
Scale: 1" = 50'

Proposed wall to screen parking lot from neighboring property

R-3 (RESIDENTIAL 3)

Vaccinium ovatum
Evergreen Huckleberry
No trimming needed

Mahonia nervosa
Longleaf Mahonia
No trimming needed

Proposed wall

10' Min. Width Moderate Buffer with 50% screening and shrubs (mostly evergreen) that grow about 6' height, and
25.70.030(3)(g) Interior Parking
1 tree per 4 stalls
22 stalls / 4 = 6 Trees
7 Trees Provided

Holodiscus discolor
Ocean Spray
No trimming needed

COM (COMMERCIAL)

25.70.030(2)(iii) Parking Facing Streets
10' buffer with trees @ 25' o.c., evergreen shrubs at 5 per 100 sf., and groundcover
11 Stalls / 4 = 3 Trees
2600 sf. bed / 100 = 26 x 5 shrubs = 130 shrubs
7 Trees Provided
133 Shrubs Provided

Potentilla fruticosa 'Gold Star'
Gold Star Cinquefoil
No trimming needed

Prunus laurocerasus 'Otto Luyken'
Otto Luyken Laurel
Trim to maintain 3.5' height

6' height solid wood fence

Acer circinatum
Vine Maple
Do not top

Amelanchier alnifolia
Saskatoon Serviceberry
Do not top

6' Height solid wood fence

Mahonia aquifolium
Oregon Grape
No trimming needed

Ribes sanguineum
Red Flowering Currant
No trimming needed

Ginkgo biloba 'Tubifolia'
Maidenhair Tree
Do not top

Existing Cherry Trees, to remain, except as noted on the Tree Retention Plan

Existing tree, to be removed

Ex. trees and lawn in median, to remain

Eco-lawn

Prunus laurocerasus 'Mt. Vernon'
Mt. Vernon English Laurel
Trim to maintain 2' height

Helictotrichon sempervirens 'Saphirspruden'
Blue Oat Grass
Trim only as needed

25.70.030(3)(g) Interior Parking
1 tree per 4 stalls
86 stalls / 4 = 22 Trees
25 Trees Provided

Gravel access road, to remain

Provide 3' dia. mulch circle

Tree Protection Zone, (typ.)

Chionanthus retusus
Chinese Fringe Tree
Do not top

Ilex crenata 'Sky Pencil'
Sky Pencil Japanese Holly
Trim to maintain 5-6' height

PT 456 - Native Oak Woodland Seed Mix by PT Lawn Seed, extremely drought tolerant, minimal watering needed

Gravel access road, to be removed

Ex. gravel road

Quercus robur 'Skyrocket'
Skyrocket Oak
Do not top

(27), 2x2' accent rocks, no sharp edges

Remove all invasive plants and weeds before installing seed mix

Barksdale Ave

Gravel access road, to be removed

RELIGIOUS ASSEMBLY
FFE = 248.00

25.90.030(1) Street Trees
1 Tree per 40-50 of street frontage
820 lf / 40 = 21 Trees Required
21 Trees Provided, with 4' dia. mulch ring around each tree

Sight Distance Triangle

RELIGIOUS
UPPER FFE
LOWER FFE

25.70.030(3)(g) Interior Parking
1 tree per 4 stalls
47 stalls / 4 = 12 Trees
12 Trees Provided

25.70.030(2)(iii) Parking Facing Streets
10' buffer with trees @ 25' o.c., evergreen shrubs at 5 per 100 sf., and groundcover
27 Stalls / 4 = 7 Trees
2900 sf. bed / 100 = 29 x 5 shrubs = 145 shrubs
7 Trees Provided
152 Shrubs Provided

Quercus robur 'Skyrocket'
Skyrocket Oak
Do not top

Prunus laurocerasus 'Otto Luyken'
Otto Luyken Laurel
Trim to maintain 3.5' height

Potentilla fruticosa 'Gold Star'
Gold Star Cinquefoil
No trimming needed

ROW (Along Building Edge)

Eco-lawn

(4) existing street trees, to be removed, indicated with an "X"

Styrax japonicus
Japanese Snowbell
Do not top

PT 769 R&R Eco-Turf Mix with Microclover, extremely drought tolerant mix, minimal watering needed

Steilacoom Dupont Rd SW

MATCHLINE SEE SHEET L1.3

APPROVED FOR CONSTRUCTION

BY:_____ DATE:_____
City of Dupont

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Special Landscape & Irrigation Note:

1). Owner/Applicant to be responsible for abandoning and/or reconfiguring the existing landscape and irrigation on Barksdale Avenue and DuPont-Steilacoom Road.

Client Logo:

Mustard Seed Legacy Development, LLC

Champions Centre Church - DuPont

X Barksdale Ave.,
DuPont, Wa. 98237

Landscape plan

Revisions	Date
#1 - Updated per City comments, new civil bases, and added irrigation plan	10/24/24
2 Updated per new wall location to screen neighbors property from parking lot, added gravel access road to remain and to be removed	08/01/25

Project #: 25120

Date: 08/01/25

Sheet Size / Scale: 34"x22" / 1" = 20'

Stamp:

STATE OF WASHINGTON
AMY RUSHO WOLFE
21551 EXP 04.01.2026
LICENSED LANDSCAPE ARCHITECT

Landscape Architect:

ARW Landscape Design

Amy R. Wolfe, PLA, ASLA
7530 23rd St W
University Place, Wa. 98466
t. 253.223.1162
e. amyw@arwlandscapedesign.com
www.arwlandscapedesign.com

0 1/2" 1" 2"
Scale: 1" = 20'

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Gravel access road, to be removed

PT 456 - Native Oak Woodland Seed Mix by PT Lawn Seed, extremely drought tolerant seed mix, minimal watering needed

25.70.030(3)(g) Interior Parking
1 tree per 4 stalls
39 stalls / 4 = 10 Trees
11 Trees Provided

Tree Protection Zone, (typ.)

Acer circinatum
Vine Maple
Do not top

Ilex crenata 'Sky Pencil'
Sky Pencil Japanese Holly
Trim to maintain 5-6' height

Chionanthus retusus
Chinese Fringe Tree
Do not top

Prunus laurocerasus 'Mt. Vernon'
Mt. Vernon English Laurel
Trim to maintain 2' height

Liriope gigantea
Giant Lilyturf
Trim tips only as needed

(27), 2x2' accent rocks, no sharp edges

25.70.030(3)(g) Interior Parking
1 tree per 4 stalls
47 stalls / 4 = 12 Trees
12 Trees Provided

25.70.030(2)(iii) Parking Facing Streets
10' buffer with trees @ 25' o.c., evergreen shrubs at 5 per 100 sf., and groundcover
27 Stalls / 4 = 7 Trees
2900 sf. bed / 100 = 29 x 5 shrubs = 145 shrubs
7 Trees Provided
152 Shrubs Provided

Helictotrichon sempervirens 'Saphirsprudel'
Blue Oat Grass
Trim only as needed

10' - 0"

ROW

ROW

ROW (Along Building Edge)

ROW

EATING & DRINKING ESTABLISHMENT
FFE=242.80

TTD

25.90.030(1) Street Trees
1 Tree per 40-50 of street frontage
820 lf / 40 = 21 Trees Required
21 Trees Provided, with 4' dia. mulch ring around each tree

PT 769 R&R Eco-Turf Mix with Microclover, extremely drought tolerant seed mix, minimal watering needed

Steilacoom Dupont Rd SW

Styrax japonicus;
Japanese Snowbell
Do not top

CITY OF DUPONT
PIERCE COUNTY

PIERCE COUNTY
CITY OF DUPONT

MATCHLINE SEE SHEET L1.2

Client Logo:

Mustard Seed Legacy Development, LLC

Champions Centre Church - DuPont

X Barksdale Ave.,
DuPont, Wa. 98237

Landscape Plan

Revisions	Date
#1 - Updated per City comments, new civil bases, and added irrigation plan	10/24/24
1 Updated per new wall location to screen neighbors property from parking lot, added gravel access road to remain and to be removed	08/01/25

Project #:
25120

Date:
08/01/25

Sheet Size / Scale:
34"x22" / 1" = 20'

Stamp:

STATE OF WASHINGTON
AMY RUSHO WOLFE
21551
REGISTERED LANDSCAPE ARCHITECT
EXP. 04/01/2025

Landscape Architect:

ARW Landscape Design

Amy R. Wolfe, PLA, ASLA
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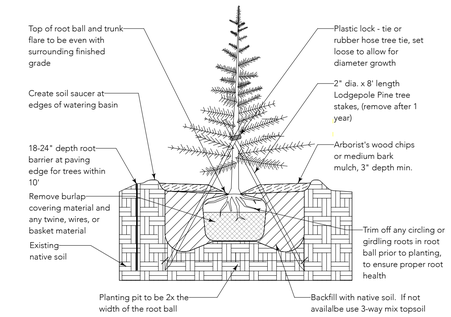
University Place, Wa. 98466
t. 253.223.1162
e. amyw@arwlandscapedesign.com
www.arwlandscapedesign.com

0 1/2" 1" 2"
Scale: 1" = 20'

Plant List*

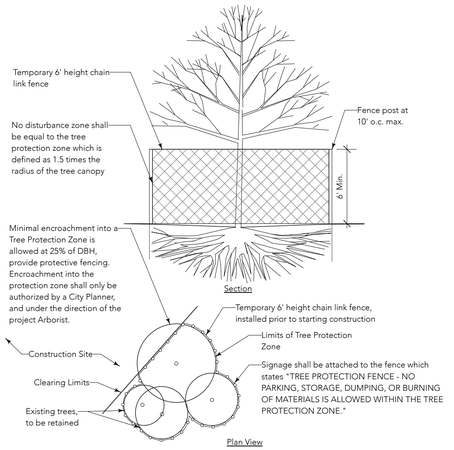
***Any plant substitutions should be similar to the listed plant in size, foliage type, and growth habit. For example, a native species on the plant list should be substituted with a similar native plant.**

	Qty	Latin Name	Common Name	Size	Spacing	Comments
Trees						
	14	Acer circinatum	Vine Maple	2" cal.	20'0"	B&B, nursery grown, deciduous, native, multi-trunk
	5	Amelanchier alnifolia	Saskatoon Serviceberry	2" cal.	25'0"	B&B, nursery grown, deciduous, native, edible berries, do not top
	30	Chionanthus retusus	Chinese Fringe Tree	2" cal.	20'0"	B&B, nursery grown, white flowers in spring, street tree quality, branched at 5' height
	16	Ginkgo biloba 'Tubifolia'	Maidenhair Tree	2" cal.	25'0"	B&B, nursery grown, golden-yellow fall color
	75	Quercus garryana	Garry Oak	4-8' height	20'0"	Provided by Owner
	8	Quercus robur 'Skyrocket'	Skyrocket Oak	2" cal.	20'0"	B&B, nursery grown, branched at 5' height, street tree quality
	21	Styrax japonicus	Japanese Snowbell	2" cal.	40'0"	B&B, nursery grown, street tree quality, branched at 5' height
Shrubs						
	17	Holodiscus discolor	Ocean Spray	2 gal.	5'0"	Nursery grown, deciduous, native, cream flowers in spring, do not top
	16	Ilex crenata 'Sky Pencil'	Sky Pencil Japanese Holly	2 gal.	2'6"	Nursery grown, evergreen, berries in fall
	34	Mahonia aquifolium	Oregon Grape	2 gal.	4'0"	Nursery grown, evergreen, native, yellow flowers in spring
	139	Mahonia nervosa	Longleaf Mahonia	2 gal.	3'0"	Nursery grown, evergreen, native, yellow flowers in spring
	25	Pieris japonica 'Little Heath'	Little Heath Pieris	2 gal.	3'0"	Nursery grown, evergreen, leaves striped with white edges, numerous flowers in spring
	155	Potentilla fruticosa 'Gold Star'	Gold Star Cinquefoil	2 gal.	3'0"	Nursery grown,deciduous, bright yellow flowers in summer
	147	Prunus laurocerasus 'Otto Luyken'	Otto Luyken Laurel	2 gal.	3'6"	Nursery grown, evergreen, trim as needed to maintain 3.5' height
	22	Ribes sanguineum	Red Flowering Currant	2 gal.	4'0"	Nursery grown, deciduous, native, pink flowers in spring
	52	Vaccinium ovatum	Evergreen Huckleberry	2 gal.	4'0"	Nursery grown, evergreen, native, blue-black berries are edible
Perennials & Grasses						
	15	Echinacea purpurea	Purple Coneflower	4" pot	2'0"	Nursery grown, purple-pink flowers all summer, trim back in fall
	213	Helictotrichon sempervirens 'Saphirsprudel'	Blue Oat Grass	4" pot	2'6"	Nursery grown, bluish foliage year round
	140	Liriope gigantea	Giant Lilyturf	4" pot	2'0"	Nursery grown, evergreen, purple flowers in spring, trim tips only as needed
Groundcover						
	308	Arctostaphylos uva-ursi	Kinnikinick	1 gal.	3'6"	Nursery grown, evergreen, native, small flowers in spring
	76	Ceanothus gloriosus 'Pt Reyes'	Pt Reyes Wild Lilac	1 gal.	3'0"	Nursery grown, evergreen, blue-violet flowers
	301	Fragaria chiloensis	Coastal Strawberry	4" pot	3'0"	Nursery grown, evergreen, small flowers in summer
	155	Geranium macrorrhizum	Hardy Geranium	1 gal.	3'6"	Nursery grown, evergreen, magenta flowers in summer
	323	Prunus laurocerasus 'Mt. Vernon'	Mt. Vernon English Laurel	2 gal.	3'0"	Nursery grown, evergreen, very tough, no trimming needed
Total Number of Plants	1939					
Total Number of Native Plants (49%)	967					



Notes:
1) Contractor to ensure roots are not kinked, circling, or girdling the trunk, prior to installation.
2) If roots are found to be defective, contractor to correct or replace plant material prior to installation.
3) Tree planting and support systems (staking), shall comply with ANSI A-300 Part 6 (2018) and ISA BMPS.

Coniferous Tree Planting Detail
NTS



1. Minimum 6' high temporary chainlink fence shall be placed at the Tree Protection Zone or designated limit of disturbance of the tree to be saved. Fence shall completely encircle tree(s). Install fence posts using pier block ony. Avoid post or stakes into major roots. Modifications to fencing material and location must be approved by planning official.

2. Treatment of roots exposed during construction: for roots over 1" dia. damaged during construction, make a clean straight cut to remove damaged portion of root. All exposed roots shall be temporarily covered with damp burlap to prevent drying and covered with soil as soon as possible.

3. No stockpiling of materials,vehicular traffic, or storage of equipment or machinery shall be allowed within the limit of the fencing. Fencing shall not be moved or removed unless approved by the city Planning Official. Work within protection fence shall be done manually under the supervision of the on site Arborist and with prior approval by the city Planning Official.

4. Fencing signage as detailed above must be posted every 15' along the fence.

Tree Protection Fencing Detail
NTS

Materials Schedule:

PT 456 - Native Oak Woodland Mix by PT Lawn Seed: 31,190 Sf. Install per manufacturer's specifications. nstall seed mix in the fall or spring and irrigate daily until the grass is established then water only during extreme drought times. Mow monthly or as needed. Follow PT Lawn Seed maintenance and care specifications

PT 769 R&R Eco-Turf Mix by PT Lawn Seed: 17,600 Sf. Install per manufacturer's specifications. Install seed mix in the fall or spring and irrigate daily until the grass is established then water only during extreme drought times. Mow monthly or as needed. Follow PT Lawn Seed maintenance and care specifications

Re-use native stockpiled topsoil for all landscape areas. If not available use 3-Way Mix Topsoil: 75,000 Sf. at 4" depth = 925 Cyds. For landscape and lawn areas, mix with native soil to a depth of 8".

Arborist's Wood Chips or Medium Bark Mulch for all landscape beds, 24,000 Sf. at 3" depth min. = 296 Cyds. Spread evenly around new plants.

Arborist's Wood Chips or Medium Bark Mulch for Garry Oak Prairie areas, 34,000 Sf. at 2" depth = 210 Cyds.

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City of Dupont

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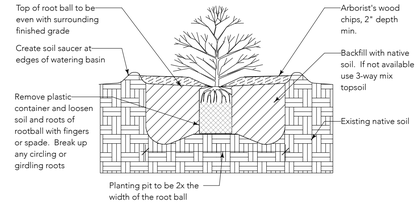
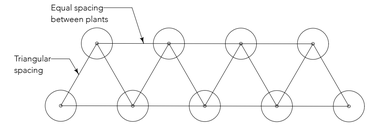
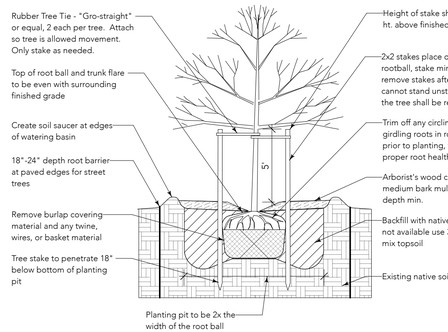


Shrub/Ground Cover Planting Detail
NTS



Ground Cover Triangular Spacing Detail
NTS



Notes:
1) Contractor to ensure roots are not kinked, circling, or girdling the trunk, prior to installation.
2) If roots are found to be defective, contractor to correct or replace plant material prior to installation.
3) Tree planting and support systems (staking), shall comply with ANSI A-300 Part 6 (2018) and ISA BMPS.

Deciduous Tree Planting Detail
NTS

Landscape Notes:

1. The landscape bed shall be free of weeds, rocks > 2"Ø, tree stumps and limbs, construction debris, slurry, and other construction material prior to soil preparation of planting beds.
2. Remove native topsoil and store on site for reuse. Protect native topsoil by covering with tarp or mulch until ready for installation. If topsoil has been removed from the site then de-compact the landscape beds by roto-tilling, disking or ripping to a depth of at least 12", to thoroughly loosen soil before adding topsoil to the beds.
3. Contractor to verify proposed tree locations in field and avoid underground and overhead utilities, and adjust tree locations as needed prior to digging.
4. Landscape Architect to be notified of any discrepancies between the planting plan and on site locations of buildings, paving, and utilities that may interfere with the proposed plant layout as needed.
5. Contractor to test soil conditions (pH level, nutrient content, etc..) and correct with proper soil amendment as needed.
6. Landscape Architect to be notified as needed and approve of any plant substitutions prior to delivery. Plant material shall be delivered to the site free of diseases, pests, and damaged or broken branches, trunks or limbs.
7. All plants shall conform to the Z60.1 "American Standard for Nursery Stock" manual as published by the American Association of Nurseryman (AAN).
8. Contractor to guarantee all plants for 1 year and replace any dead or dying plants as notified by the owner.
9. Any damaged plant material delivered on site shall be returned and replaced by the grower or contractor.
10. Landscape Architect to review plant layout locations via photos or on site as needed.
11. Fertilizer, herbicides, and pesticides are not required or needed for the survival of the newly installed plants.
12. All proposed plants should be allowed to grow naturally. Trimming is not needed, except for the occasional removal of broken, dead, damaged branches.
13. New plants shall be watered weekly in the first growing season or as needed, bi-weekly in the second growing season or as needed, and monthly in the third growing season or as needed, in the spring, summer, and fall months.
14. Check plants for burned or brown leaves, wilting branches or leaves, and dry soil during the summer months. Apply irrigation as needed, or take action appropriate to resolve the issue and restore plant vitality.
15. Tree planting and support systems (staking), shall comply with ANSI A-300 Part 6 (2018) and ISA BMPS.
16. Tree support systems shall be removed after 1 year from planting. If tree cannot stand unstaked at this time, the tree shall be replaced.
17. Arborist's wood chips are the preferred mulch at 4" depth and should be reapplied annually or as needed to maintain soil health.

Client Logo:

Mustard Seed Legacy Development, LLC

Champions Centre Church - DuPont

X Barksdale Ave.,
DuPont, Wa. 98237

Landscape Schedule, Notes, & Details

Revisions	Date
#1 - Updated per City comments, new civil bases, and added irrigation plan	10/24/24
2 Updated per new wall location to screen neighbors property from parking lot, added gravel access road to remain and to be removed	08/01/25

Project #:
25120

Date:
08/01/25

Sheet Size / Scale:
34"x22" / NTS

Stamp:

Landscape Architect:

ARW Landscape Design

Amy R. Wolfe, PLA, ASLA
7530 23rd St W
University Place, Wa. 98466
t. 253.223.1162
e. amyw@arwlandscapedesign.com
www.arwlandscapedesign.com

R-3 (RESIDENTIAL 3)

COM (COMMERCIAL)

Barksdale Ave

Steilacoom Dupont Rd SW

ROW (Along Building Edge)

RELIGIOUS ASSEMBLY
FFE = 248.00

RELIGIOUS ASSEMBLY
UPPER FFE = 246.00
LOWER FFE = 234.00

Control Valve, typ.

1 1/2" Mainline, typ.

Provide sleeving, typ.

Eco-lawn

1 1/2" Mainline, typ.

Distribution Dripline, typ.

Provide sleeving, 2 times the pipe diameter, typ.

Lateral line, typ.

1" Meter, POC to be verified in field by Contractor

Gate Ball Valve

Backflow Prevention Assembly, install City approved BFPV

Flow Sensor, wire to Controller

Controller A, wall mounted in metal cabinet

Rain Sensor, gutter mount to west or south side of building

MATCHLINE SEE SHEET IR1.2

APPROVED FOR CONSTRUCTION

BY:_____ DATE:_____
City of Dupont

These drawings are approved for construction for a period of 12 months from the date shown hereon. The City reserves the right to make revisions, additions, deletions, or modifications should construction be delayed beyond this time limitation. The City, by approving these drawings, assumes no liability in regards to their accuracy or omissions.

Special Landscape & Irrigation Note:

1). Owner/Applicant to be responsible for abandoning and/or reconfiguring the existing landscape and irrigation on Barksdale Avenue and DuPont-Steilacoom Road.

Client Logo:

Mustard Seed Legacy Development, LLC

Champions Centre Church - DuPont

X Barksdale Ave.,
DuPont, Wa. 98237

Irrigation Plan

Revisions	Date
#1 - Updated per City comments, new civil bases, and added irrigation plan	10/24/24
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Project #:
25120

Date:
08/01/25

Sheet Size / Scale:
34"x22" / 1" = 20'

Stamp:

STATE OF WASHINGTON
AMY RUSHO WOLFE
21551
REGISTERED LANDSCAPE ARCHITECT
EXP. 04.01.2026

Landscape Architect:
ARW Landscape Design
Amy R. Wolfe, PLA, ASLA
7530 23rd St W
University Place, Wa. 98466
t. 253.223.1162
e. amyw@arwlandscapedesign.com
www.arwlandscapedesign.com

0 1/2" 1" 2"
Scale: 1" = 20'

APPROVED FOR CONSTRUCTION

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City of Dupont

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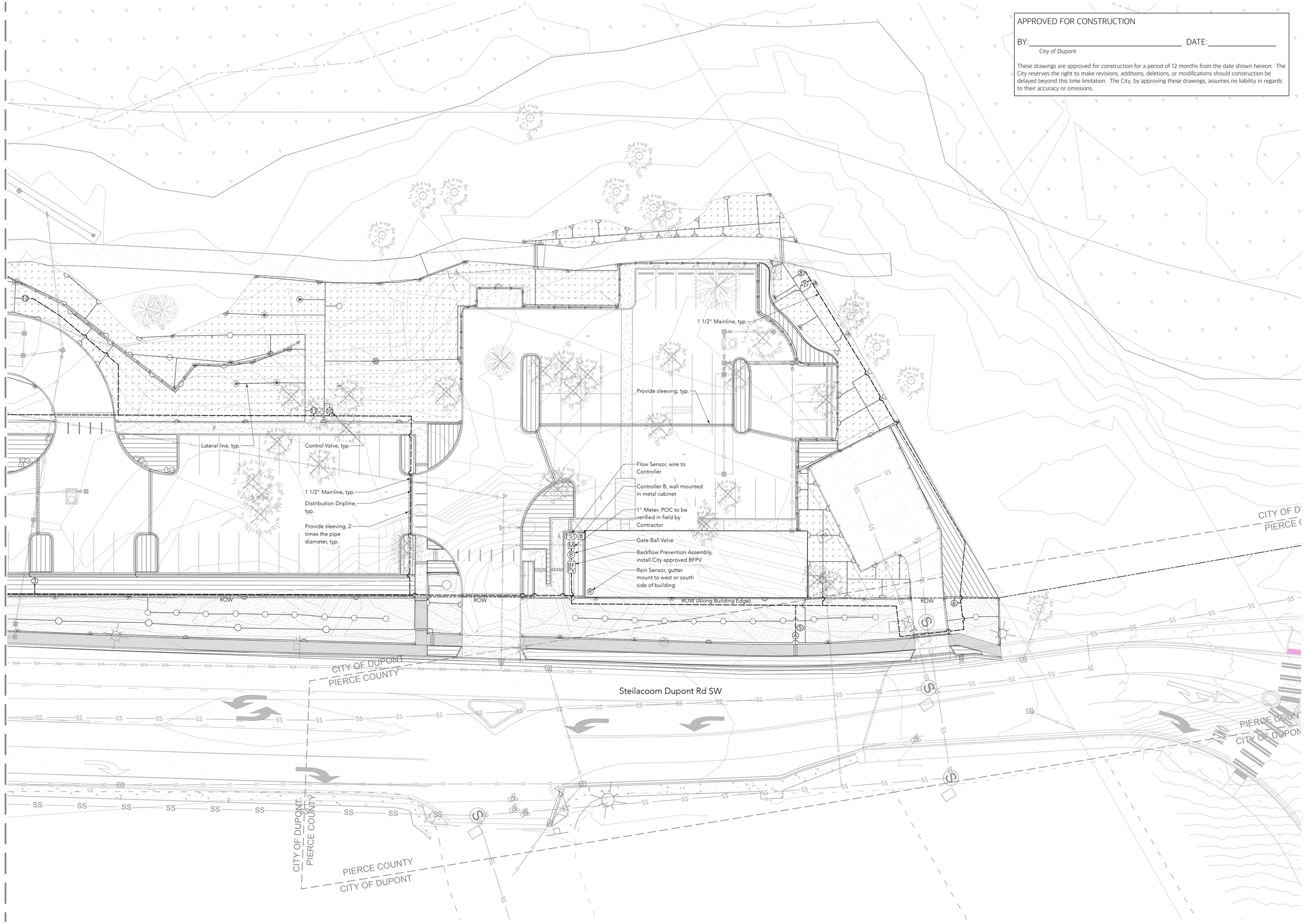

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Mustard Seed Legacy Development, LLC

Champions Centre Church - DuPont

X Barksdale Ave.,
DuPont, Wa. 98237

Irrigation Plan

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AMY RUSHO WOLFE
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REGISTERED LANDSCAPE ARCHITECT
EXP. 04.01.2026

Landscape Architect:
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0 1/2" 1" 2"
Scale: 1" = 20'

IRRIGATION LEGEND

SYMBOL	MANUFACTURER/ DESCRIPTION	MODEL	COMMENTS
M	(2), 1" IRRIGATION METER (BY OTHERS, COORDINATE P.O.C. WITH CONSTRUCTION MANAGER)		75 PSI AVAILABLE ON SITE STATIC PRESSURE
B	BRASS GATE VALVE	RUB BALL VALVE, S95F43 (ROUND HANDLE)	SIZE TO FIT MAINLINE
BF PV	1" BACK FLOW PREVENTOR	FEBCO 850	SIZE TO MATCH METER
R	HUNTER RAIN SENSOR	RAIN-CLIK-SGM	WIRELESS RAIN SENSOR W/GUTTER MOUNT
FS1	HUNTER 1" FLOW SENSOR	HFS W/ FCT-150	WIRE DIRECTLY TO CONTROLLER
X	HUNTER 1 1/2" AUTOMATIC CONTROL VALVE	ICV-101G WITH PRESSURE REGULATOR	WIRE DIRECTLY TO CONTROLLER, SEE VALVE KEY
A B	HUNTER CONTROLLER	I-CORE, IC-600-M	WALL MOUNTED METAL CABINET

PIPE

SYMBOL	MANUFACTURER/ DESCRIPTION	MODEL	COMMENTS
– – – – – – – –	IRRIGATION MAIN LINE 1 1/2"	SCH 40 PVC	
	IRRIGATION LATERAL LINE SIZE VARIES	SCH 40 PVC	SEE PIPE SIZING LEGEND
---------- ----------	PIPE AND WIRE SLEEVING	SCH 40 PVC	DIAMETER TO BE TWICE THE SIZE OF THE PIPE BEING SLEEVED

POP-UP HEADS AND ROTORS

SYMBOL	MANUFACTURER/ DESCRIPTION	RAD.	MODEL	PSI
	HUNTER MP ROTATOR SPRAY HEAD	8'	MP1000 CORNER HEAD	35
	HUNTER MP ROTATOR SPRAY HEAD	8'	MP1000 HALF HEAD	35
	HUNTER MP ROTATOR SPRAY HEAD	8'	MP1000 FULL HEAD	35
	HUNTER MP ROTATOR SPRAY HEAD	13'	MP1000 CORNER HEAD	35
	HUNTER MP ROTATOR SPRAY HEAD	13'	MP1000 HALF HEAD	35
	HUNTER MP ROTATOR SPRAY HEAD	13'	MP1000FULL HEAD	35
	HUNTER MP ROTATOR SPRAY HEAD	18'	MP2000 CORNER HEAD	35
	HUNTER MP ROTATOR SPRAY HEAD	18'	MP2000 HALF HEAD	35
	HUNTER MP ROTATOR SPRAY HEAD	18'	MP2000 FULL HEAD	35
	HUNTER MP ROTATOR SPRAY HEAD	28'	MP3000 CORNER HEAD	35
	HUNTER MP ROTATOR SPRAY HEAD	28'	MP3000 HALF HEAD	35
	HUNTER MP ROTATOR SPRAY HEAD	28'	MP3000 FULL HEAD	35

DRIP LINES

SYMBOL	MANUFACTURER/ DESCRIPTION	MODEL	GPM	PSI
	HUNTER MICRO IRRIGATION DRIPLINE SYSTEM	HDL-09-24-250-CV 24" SPACING	.90 GPH	25
	DISTRIBUTION LINE	HDL-BLNK-250		25
V	HUNTER AIR RELIEF VALVE INSTALL ONE IN EACH ZONE	PLD-ARV		25
F	HUNTER AUTOMATIC FLUSH VALVE, INSTALL ONE IN EACH ZONE			25

CONTROLLER A VALVE KEY

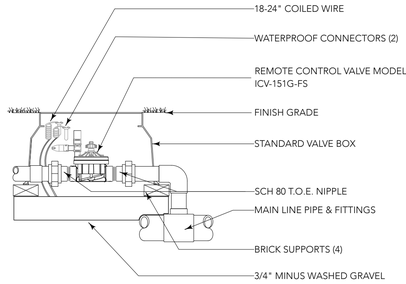
VALVE	SIZE	GPM	TYPE	NOTES
1	1 1/2"	24.6	Spray Heads	Garry Oak Prairie, temporary above ground irrigation, remove or abandon after 3 years
2	1 1/2"	26.1	Spray Heads	
3	1 1/2"	6.10	Spray Heads	
4	1 1/2"	16.5	Dripline Bed	
5	1 1/2"	4.70	Dripline Bed	
6	1 1/2"	15.20	Dripline Bed	
7	1 1/2"	13.50	Spray Heads	Eco-lawn
8	1 1/2"	10.1	Dripline Bed	
9	1 1/2"	12.0	Dripline Bed	
10	1 1/2"	8.4	Dripline Bed	
11	1 1/2"	13.2	Spray Heads	Eco-lawn
12	1 1/2"	6.5	Dripline Bed	

PIPE SIZING LEGEND

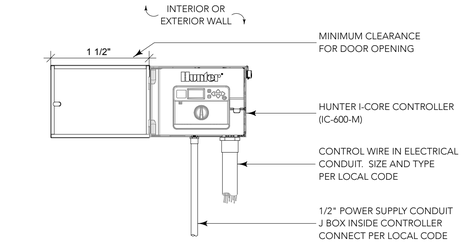
3/4" SCH 40 PVC	(0-8 GPM)
1" SCH 40 PVC	(8-12 GPM)
1-1/4" SCH 40 PVC	(12-22 GPM)
1-1/2" SCH 40 PVC	(22-30 GPM)
2" SCH 40 PVC	(30-50 GPM)

CONTROLLER B VALVE KEY

VALVE	SIZE	GPM	TYPE	NOTES
1	1 1/2"	17.8	Spray Heads	Eco-lawn
2	1 1/2"	15.2	Dripline Bed	
3	1 1/2"	7.5	Dripline Bed	
4	1 1/2"	7.5	Dripline Bed	
5	1 1/2"	20.2	Spray Heads	Eco-lawn
6	1 1/2"	4.2	Dripline Bed	
7	1 1/2"	8.7	Spray Heads	*Garry Oak Prairie, temporary above ground irrigation, remove or abandon after 3 years
8	1 1/2"	13.0	Spray Heads	
9	1 1/2"	5.6	Dripline Bed	
10	1 1/2"	21.0	Spray Heads	Garry Oak Prairie, see note above*
11	1 1/2"	20.5	Spray Heads	Garry Oak Prairie, see note above*
12	1 1/2"	6.9	Spray Heads	Garry Oak Prairie, see note above*
13	1 1/2"	12.6	Spray Heads	Garry Oak Prairie, see note above*

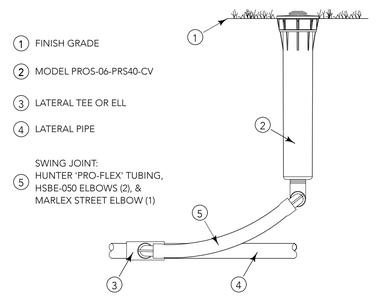


ICV GLOBE VALVE
NTS

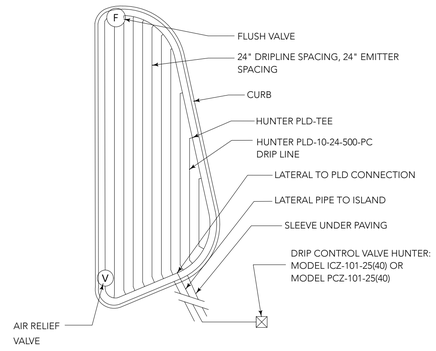


NOTE
SPECIFY 6, 12, 18, 24, 30, 36, 42 STATION MODEL CONTROLLER. MOUNT CONTROLLER WITH LCD SCREEN AT EYE LEVEL. CONTROLLER SHALL BE HARD-WIRED TO GROUNDED 110 or 220 VAC SOURCE.

METAL CONTROLLER DETAIL
NTS



MP ROTATOR SPRINKLER HEAD
NTS



DRIPLINE LAYOUT DETAIL
NTS

APPROVED FOR CONSTRUCTION

BY:_____ DATE:_____
City of Dupont

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Irrigation Notes:

1. Design assumes static water pressure at the source to be 50 PSI. Notify designer if PSI is below 50 PSI.
2. All irrigation laterals, driplines, valves, controllers, and mainlines are shown diagrammatically, align in planting beds next to paved areas.
3. Landscape architect is not responsible for correcting any irrigation connections, inconsistencies, or piping layout. Contractor is responsible for verifying all irrigation component locations and layout prior to construction.
4. Contractor to provide sleeving under all paved areas for irrigation piping.
5. Contractor to verify irrigation sleeve locations under all paving as needed to avoid underground utilities.
6. Group at least two control valves in valve boxes, locations shown on the plan are diagrammatic.
7. Rain sensor to be mounted on a west or south facing wall, metal cabinet, pole, or gutter.
8. Contractor to verify irrigation P.O.C, and at least 50 PSI at the source, and install approved backflow prevention device.
9. Contractor to verify irrigation system is functioning properly and will provide full coverage for all planting areas.
10. Water new plants immediately after installation, and every other day during the spring and summer months, and as needed in the fall.
11. All plants and lawn areas shall be watered for the first three seasons to help plant roots get established. After three seasons, reduce the amount of irrigation applied. Only run irrigation during drought and/or hot summer days.

Client Logo:

Mustard Seed Legacy Development, LLC

Champions Centre Church - DuPont

XX Barksdale Ave., DuPont, Wa. 98237

Irrigation Notes, & Details

Revisions	Date
#1 - Updated per City comments, new civil bases, and added irrigation plan	10/24/24
2 Updated per new wall location to screen neighbors property from parking lot, added gravel access road to remain and to be removed	08/01/25

Project #: 25120

Date: 08/01/25

Sheet Size / Scale: 34"x22" / NTS

Stamp:

STATE OF WASHINGTON · AMY RUSHO WOLFE · 21551 EXP. 04.01.2026 · LICENSED LANDSCAPE ARCHITECT

Landscape Architect:

ARW Landscape Design
Amy R. Wolfe, PLA, ASLA
7530 23rd St W
University Place, Wa. 98466
t. 253.223.1162
e. amyw@arwlandscapedesign.com
www.arwlandscapedesign.com

Received 12-20-2023

Exhibit 2.j

Greenforest Incorporated

Consulting Arborist

MEMORANDUM TO: Loren Combs
VSI Law Group, PLLC

REFERENCE: Landscape Plan Review

PROJECT: Champions Centre, DuPont WA

DATE: December 4, 2023

PREPARED BY: Favero Greenforest, ISA Certified Arborist # PN -0143A
ISA Tree Risk Assessment Qualified
ASCA Registered Consulting Arborist® #379

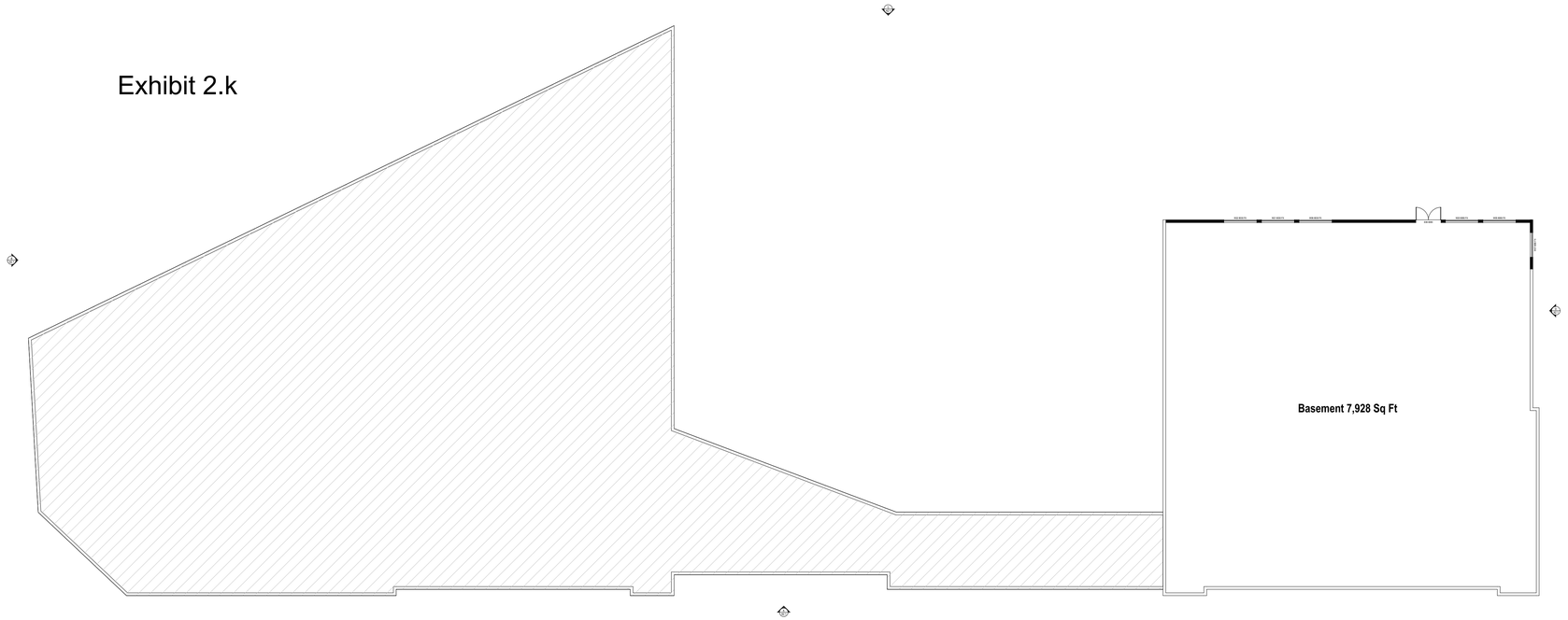
Favero Greenforest

Digitally signed by Favero Greenforest
DN: cn=Favero Greenforest, o, ou, email=greenforestinc@mindspring.com, c=US
Date: 2023.12.04 10:23:08 -08'00'

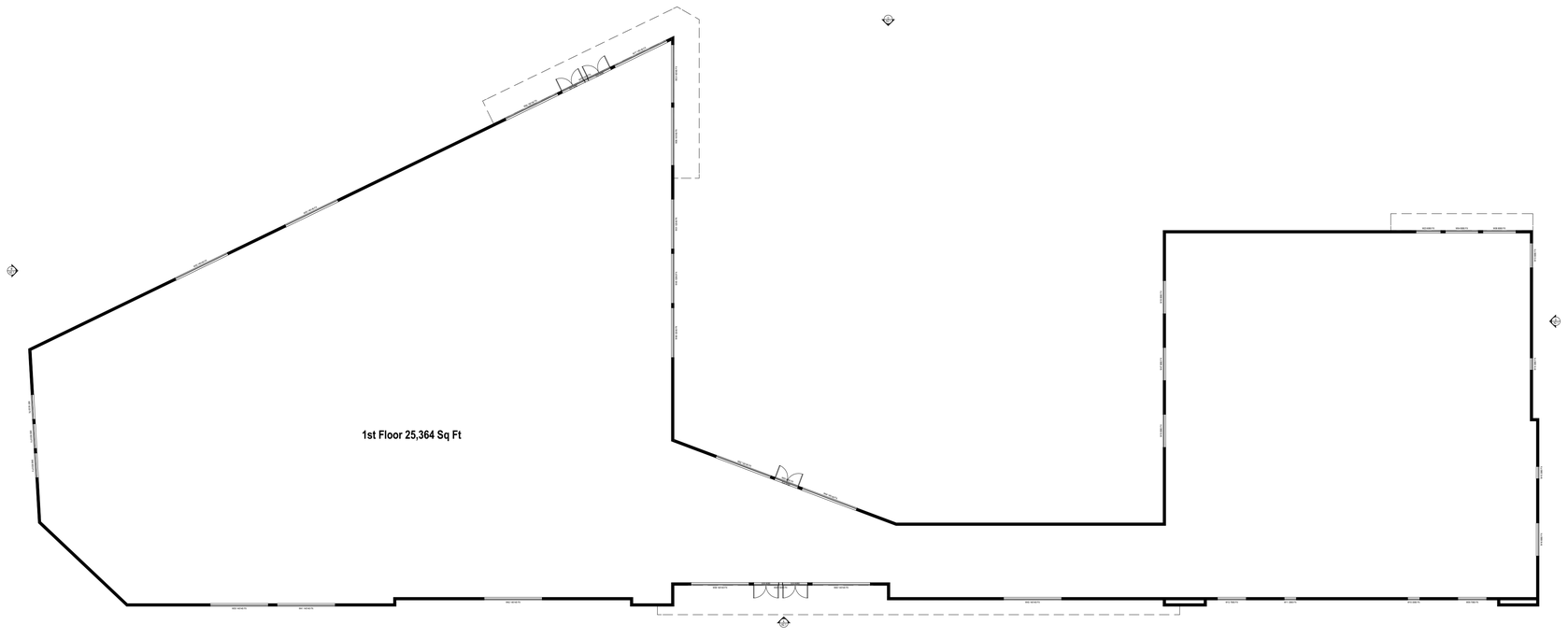
I reviewed landscape plans for the above referenced project prepared by Amy R. Wolfe, PLA, ASLA, and dated 11/29/2023, which includes 4 sheets of drawings. I concur with the proposed placement of the 75 native Garry oak trees, as shown on the plans.

greenforestinc@mindspring.com Tel. 206-723-0656

Exhibit 2.k



Foundation Plan - EHD-1XXXXX1-C - Dupont
Scale: 1/16 in = 1 ft



1st Floor Plan - EHD-1XXXXX1-C - Dupont
Scale: 1/16 in = 1 ft

Received 12-20-2023

11/15/2023

STRUCTURAL WORKS
253.533.0835
es@structuralworks.net

ELEVATION
Elevation Home Designs LLC
2102 E Main #105 Puyallup, WA 98372
PH: 866.657.4371 | elevationhd.com

CC Dupont

xxx Barksdale Ave
Dupont, WA 98237
Phone
Parcel # - Parcel

*** Plans are designed for ARCH D (24" x 36") Size Paper Only UNO – Do Not Scale ***

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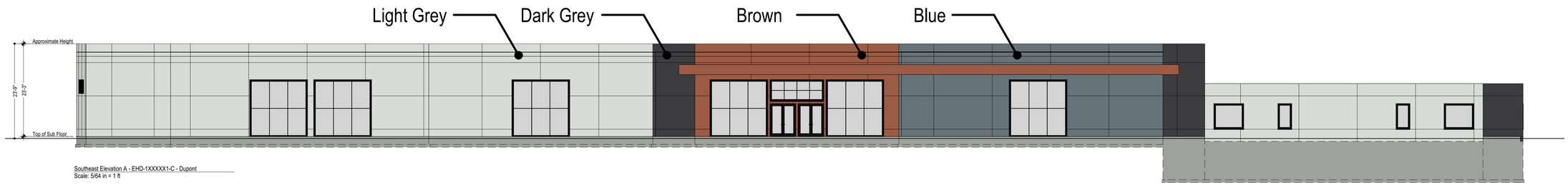
1st Floor Plan

Elevation Home Designs
Job # : 23-0178

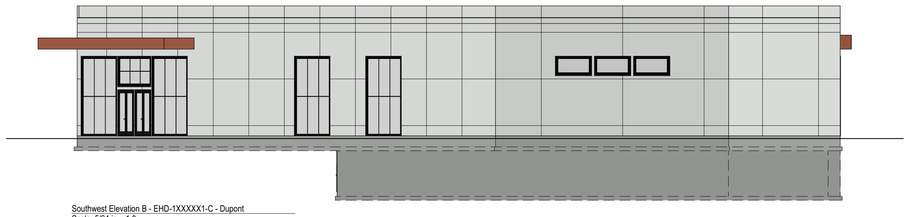
Printed On:
11/15/2023 10:48:23

Layout Sheet #
1 of 2

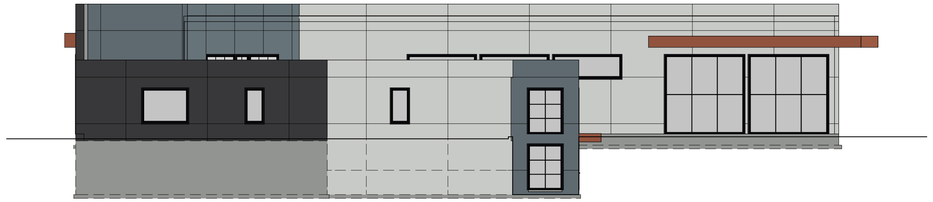
Sheet:
A1.1



Southeast Elevation A - EHD-1XXXXX1-C - Dupont
Scale: 5/64 in = 1 ft



Southwest Elevation B - EHD-1XXXXX1-C - Dupont
Scale: 5/64 in = 1 ft



Northeast Elevation D - EHD-1XXXXX1-C - Dupont
Scale: 5/64 in = 1 ft

Building will be either Wood Construction or Tilt-Up Construction.

Northwest Elevation C - EHD-1XXXXX1-C - Dupont
Scale: 5/64 in = 1 ft

11/15/2023

STRUCTURAL WORKS
253.533.0835
es@structuralworks.net

ELEVATION
Elevation Home Designs LLC
2102 E Main #105 Puyallup, WA 98372
PH: 866.657.4371 | elevationhd.com

CC Dupont

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Elevations

Elevation Home Designs
Job # : 23-0178

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11/15/2023 10:48:24

Layout Sheet #
2 of 2

Sheet:
A2.1

N

1st Floor Plan - EHD-1XXXXX1-C - Mustard Seed Restaurant

Scale: 1/4 in = 1 ft

11/15/2023

STRUCTURAL WORKS
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Mustard Seed Restaurant

xxx Barksdale Ave
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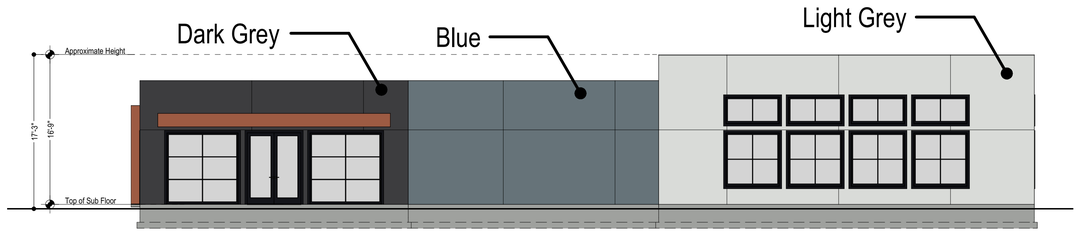
1st Floor Plan

Elevation Home Designs
Job # : 23-0178

Printed On:
11/15/2023 10:51:55

Layout Sheet #
1 of 3

Sheet:
A1.1

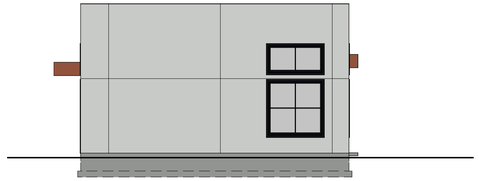


Southeast Elevation A - EHD-1XXXXX1-C - Mustard Seed Restaurant
Scale: 1/8 in = 1 ft

Southwest Elevation B - EHD-1XXXXX1-C - Mustard Seed Restaurant
Scale: 1/8 in = 1 ft

Building will be either Wood Construction or Tilt-Up Construction.

Northwest Elevation C - EHD-1XXXXX1-C - Mustard Seed Restaurant
Scale: 1/8 in = 1 ft



Northeast Elevation D - EHD-1XXXXX1-C - Mustard Seed Restaurant
Scale: 1/8 in = 1 ft

11/15/2023

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---NOTICE: DO NOT SCALE - The written dimensions on this plan supersede any scaled measurements.
---Copyright notice: these plans are copyrighted and are subject to copyright protection as an "architectural work" under sec. 102 of the copyright act. 17 USC as amended December 1990. The protection includes but is not limited to the overall form as well as the arrangement and composition of spaces and elements of the design. Unauthorized use or reproduction of these plans without the express written consent of EHD will result in monetary compensation to Elevation Home Designs. Written permission must be obtained and granted prior to any use and/or design changes to these plans.

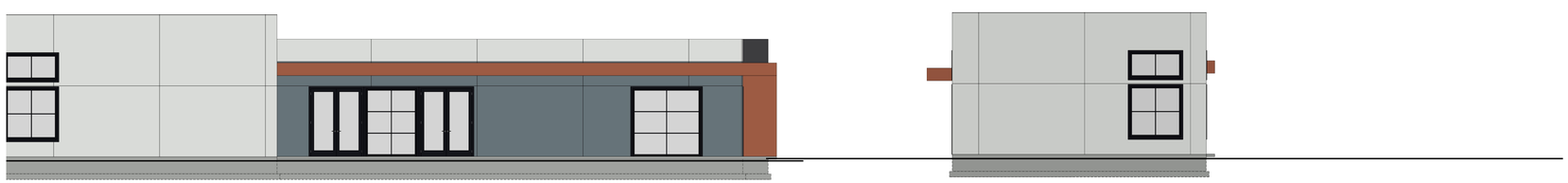
Elevations

Elevation Home Designs
Job # : 23-0178

Printed On:
11/15/2023 10:51:55

Layout Sheet #
2 of 3

Sheet:
A2.1



on C - EHD-1XXXXX1-C - Mustard Seed Restaurant
t

Northeast Elevation D - EHD-1XXXXX1-C - Mustard Seed Restaurant
Scale: 1/8 in = 1 ft

11/15/2023

STRUCTURAL WORKS
253.533.0835
es@structuralworks.net

ELEVATION
Elevation Home Designs LLC
2102 E Main #105 Puyallup, WA 98372
PH: 866.657.4371 | elevationhd.com

Mustard Seed Restaurant

xxx Barksdale Ave
Dupont, WA 98237
Phone
Parcel # - Parcel

*** Plans are designed for ARCH D (24" x 36") Size Paper Only UNO -- Do Not Scale ***

Disclaimers:
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Elevations

Elevation Home Designs
Job # : 23-0178

Printed On:
11/15/2023 10:51:57

Layout Sheet #
3 of 3

Sheet:
A2.2

Received 12-11-2024

Exhibit 2.I

CHAMPIONS CENTRE

A PORTION OF THE SE 1/4 OF THE SW 1/4 OF SECTION 25 AND NE 1/4 OF SECTION 26, TOWNSHIP 19 N, RANGE 4x E, W.M. CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____

City of DuPont

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TRES WEST ENGINEERS

TRES WEST ENGINEERS, INC.
2702 SOUTH 42ND STREET, SUITE 301
TACOMA, WA 98409-7315
Phone: 253.472.3300
www.treswest.com

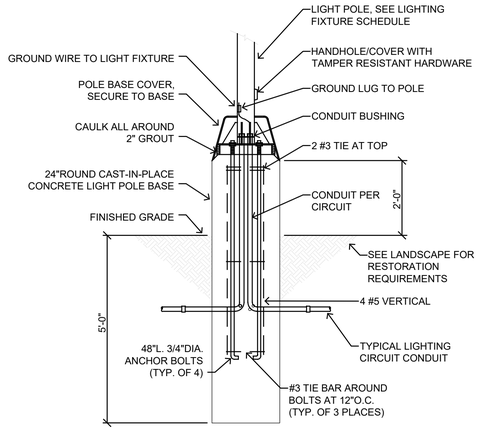
LEGEND

(# = POLE #) #	PARKING AREA LIGHT AND FOUNDATION. SEE POLE BASE DETAIL AND LIGHT FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.

LIGHT FIXTURE SCHEDULE

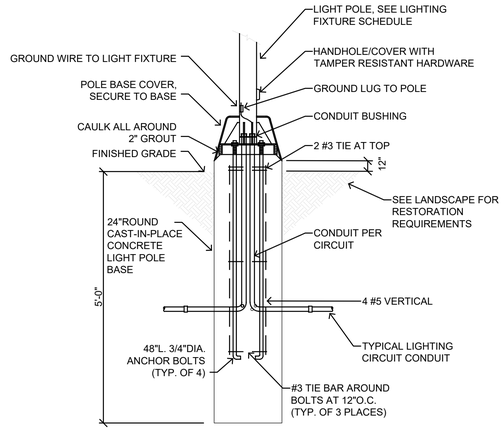
POLE #	STATION & OFFSET *	DESCRIPTION	MANUFACTURER	LUMINAIRE CATALOG NUMBER	POLE CATALOG NUMBER
1	50+92, 29' LT	AREA LIGHT (4 HEAD) - 25' POLE	COOPER LIGHTING-MCGRAW EDISON	GALN-SA1A-730-U-T4FT [FINISH]-[CONTROLS]	RSS-5-M-25-S-[FINISH]-[MOUNTING]-4
2	51+97, 31' LT	AREA LIGHT (4 HEAD) - 25' POLE	COOPER LIGHTING-MCGRAW EDISON	GALN-SA1A-730-U-T4FT [FINISH]-[CONTROLS]	RSS-5-M-25-S-[FINISH]-[MOUNTING]-4
3	101+83, 40' RT	AREA LIGHT (1 HEAD) - 25' POLE	COOPER LIGHTING-MCGRAW EDISON	GALN-SA2A-730-U-T2-HSS [FINISH]-[CONTROLS]	RSS-5-M-25-S-[FINISH]-[MOUNTING]-1
4	31+34, 16' LT	AREA LIGHT (3 HEAD) - 25' POLE	COOPER LIGHTING-MCGRAW EDISON	GALN-SA1A-730-U-T4FT [FINISH]-[CONTROLS]	RSS-5-M-25-S-[FINISH]-[MOUNTING]-3
5	32+25, 24' LT	AREA LIGHT (3 HEAD) - 25' POLE	COOPER LIGHTING-MCGRAW EDISON	GALN-SA1A-730-U-T4FT [FINISH]-[CONTROLS]	RSS-5-M-25-S-[FINISH]-[MOUNTING]-3
6	33+47 17' RT	AREA LIGHT (1 HEAD) - 25' POLE	COOPER LIGHTING-MCGRAW EDISON	GALN-SA2A-730-U-T2-HSS [FINISH]-[CONTROLS]	RSS-5-M-25-S-[FINISH]-[MOUNTING]-1
7	34+95 16' LT	AREA LIGHT (1 HEAD) - 25' POLE	COOPER LIGHTING-MCGRAW EDISON	GALN-SA2A-730-U-T2-HSS [FINISH]-[CONTROLS]	RSS-5-M-25-S-[FINISH]-[MOUNTING]-1
8	41+62 38' LT	AREA LIGHT (1 HEAD) - 25' POLE	COOPER LIGHTING-MCGRAW EDISON	GALN-SA1A-730-U-T4FT-HSS [FINISH]-[CONTROLS]	RSS-5-M-25-S-[FINISH]-[MOUNTING]-1
9	40+65 34' RT	AREA LIGHT (1 HEAD) - 25' POLE	COOPER LIGHTING-MCGRAW EDISON	GALN-SA1A-730-U-T4FT-HSS [FINISH]-[CONTROLS]	RSS-5-M-25-S-[FINISH]-[MOUNTING]-1
10	42+58 34' RT	AREA LIGHT (1 HEAD) - 25' POLE	COOPER LIGHTING-MCGRAW EDISON	GALN-SA1A-730-U-T4FT-HSS [FINISH]-[CONTROLS]	RSS-5-M-25-S-[FINISH]-[MOUNTING]-1
11	43+43 15' RT	AREA LIGHT (1 HEAD) - 25' POLE	COOPER LIGHTING-MCGRAW EDISON	GALN-SA1A-730-U-T4FT-HSS [FINISH]-[CONTROLS]	RSS-5-M-25-S-[FINISH]-[MOUNTING]-1
12	43+10 55' LT	AREA LIGHT (1 HEAD) - 25' POLE	COOPER LIGHTING-MCGRAW EDISON	GALN-SA1A-730-U-T4FT-HSS [FINISH]-[CONTROLS]	RSS-5-M-25-S-[FINISH]-[MOUNTING]-1
13	71+19 27' LT	AREA LIGHT (4 HEAD) - 25' POLE	COOPER LIGHTING-MCGRAW EDISON	GALN-SA1A-730-U-T4FT [FINISH]-[CONTROLS]	RSS-5-M-25-S-[FINISH]-[MOUNTING]-4

* STATION/OFFSET DISTANCES FOR AREA LIGHTS INDICATED ARE APPROXIMATE. PRIOR TO PLACEMENT, COORDINATE LOCATION WITH OTHER SITE WORK AND AMENITIES THAT ARE SHOWN ON PLAN, I.E. LANDSCAPE, PAVING, CURBING, SIDEWALKS, STRIPING, ETC. WHERE AREA LIGHTS ARE LOCATED BEHIND CURBING, ALLOW A MINIMUM OF 3' FROM FACE OF POLE TO FACE OF CURB.



1 / PL1 POLE BASE DETAIL FOR PARKING AREA LIGHTS 1, 2, 3, 4, 5, 9, 10, 13

SCALE: NTS



2 / PL1 POLE BASE DETAIL FOR PARKING AREA LIGHTS 6, 7, 8, 11, 12

SCALE: NTS

DRAWING LIST

SHEET	TITLE
PL1	LEGEND, NOTES, SCHEDULES & DETAILS
PL2	OVERALL SITE LIGHTING PLAN
PL3	SITE LIGHTING PLAN & ANALYSIS
PL4	SITE LIGHTING PLAN & ANALYSIS

JAMES J. CHONG
STATE OF WASHINGTON
53813
REGISTERED
PROFESSIONAL ENGINEER

11/19/2024

PROJECT TITLE

CHAMPIONS CENTRE

PROJECT ADDRESS
XXX BARKSDALE AVE.
DUPONT, WA. 98237

KEY PLAN

KEY PLAN
SCALE: NONE

REVISION	DATE
3	
2	
1	
PERMIT SET ISSUED	11/19/2024

SHEET TITLE

LEGEND, NOTES, SCHEDULES & DETAILS

DRAWN	DPH
CHECKED	DPH
TWE JOB #	240811
CLIENT JOB #	
SHEET SCALE	AS SHOWN

SHEET NUMBER

PL1

SHEET 1 OF 4

CHAMPIONS CENTRE

A PORTION OF THE SE 1/4 OF THE SW 1/4 OF SECTION 25 AND NE 1/4 OF SECTION 26, TOWNSHIP 19 N, RANGE 4x E, W.M. CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____

City of DuPont

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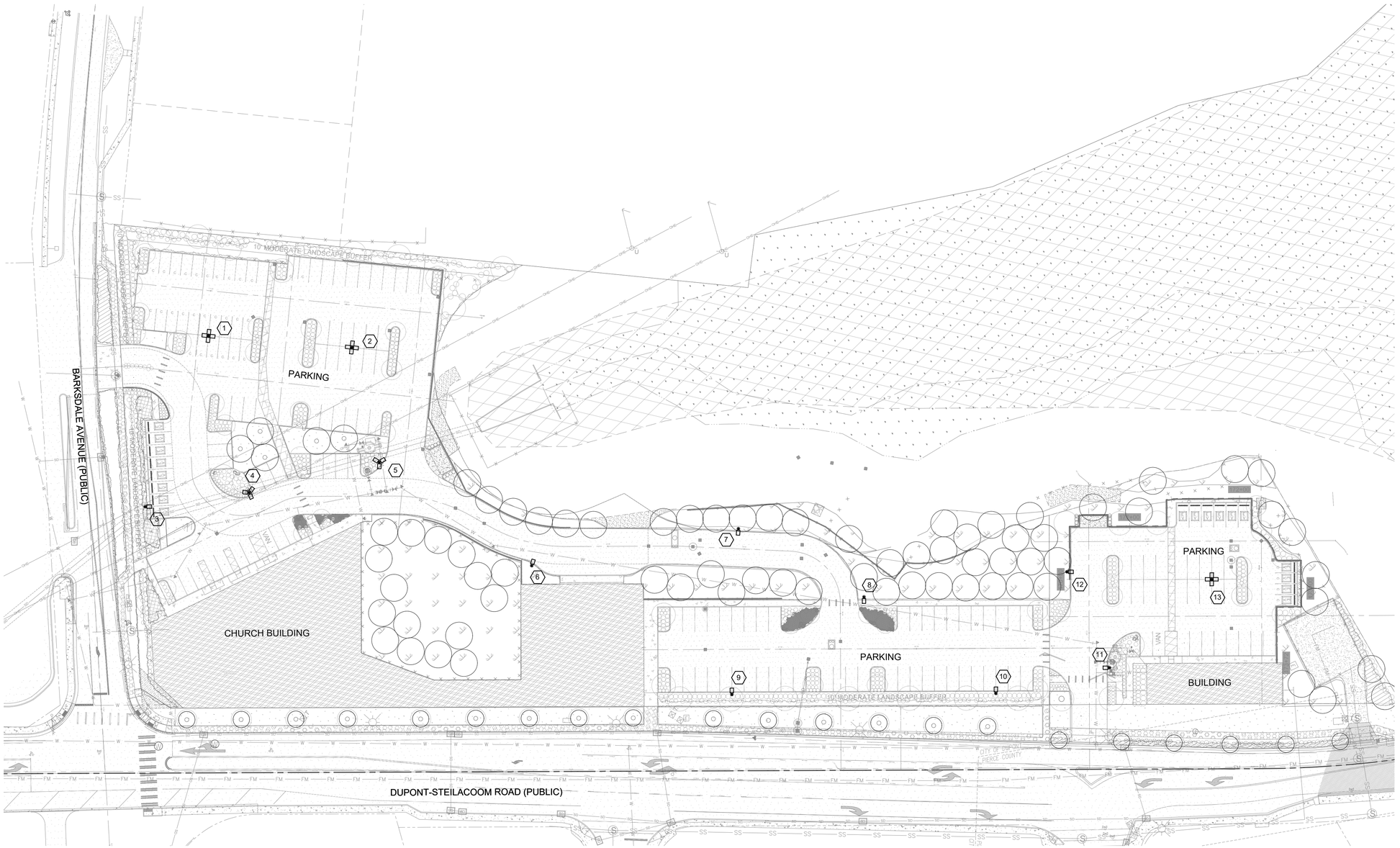

OVERALL SITE LIGHTING PLAN

SCALE: 1"=40'-0"

0 40 80

TRES WEST ENGINEERS

TRES WEST ENGINEERS, INC.
2702 SOUTH 42ND STREET, SUITE 301
TACOMA, WA 98409-7315
Phone: 253.472.3300
www.treswest.com

JAMES J. CHONG
STATE OF WASHINGTON
53813
REGISTERED
PROFESSIONAL ENGINEER

11/19/2024

PROJECT TITLE

CHAMPIONS CENTRE

PROJECT ADDRESS
XXX BARKSDALE AVE.
DUPONT, WA. 98237

KEY PLAN

KEY PLAN
SCALE: NONE

REVISION	DATE
3	
2	
1	
PERMIT SET ISSUED	11/19/2024

SHEET TITLE

OVERALL SITE LIGHTING PLAN

DRAWN	DPH
CHECKED	DPH
TWE JOB #	240811
CLIENT JOB #	
SHEET SCALE	1' = 40'

SHEET NUMBER

PL2

SHEET 2 OF 4

CHAMPIONS CENTRE

A PORTION OF THE SE 1/4 OF THE SW 1/4 OF SECTION 25 AND NE 1/4 OF SECTION 26, TOWNSHIP 19 N, RANGE 4x E, W.M. CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

SITE LIGHTING PLAN & ANALYSIS
SCALE: 1"=20'-0"
0 20 40

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
City of DuPont

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PHOTOMETRIC ANALYSIS

LOCATION	TARGET VALUES (FC)	ACTUAL VALUES (FC)
PARKING AREA - NORTH	0.2 MINIMUM 20:1 MAX/MIN RATIO	0.2 MINIMUM 17.50:1 MAX/MIN RATIO
PARKING AREA - CONNECTING DRIVE	0.2 MINIMUM 20:1 MAX/MIN RATIO	0.2 MINIMUM 8.00:1 MAX/MIN RATIO
PARKING AREA - SOUTH	0.2 MINIMUM 20:1 MAX/MIN RATIO	0.2 MINIMUM 17.50:1 MAX/MIN RATIO

NOTE:
- IESNA RECOMMENDED ILLUMINATION VALUES
- LIGHT LOSS FACTOR OF 0.85 USED IN CALCULATION

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Phone: 253.472.3300
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JAMES J. CHONG
STATE OF WASHINGTON
53813
REGISTERED
PROFESSIONAL ENGINEER

11/19/2024

PROJECT TITLE

CHAMPIONS CENTRE

PROJECT ADDRESS
XXX BARKSDALE AVE.
DUPONT, WA. 98237

KEY PLAN

KEY PLAN
SCALE: NONE

REVISION	DATE
3	
2	
1	
PERMIT SET ISSUED	11/19/2024

SHEET TITLE

SITE LIGHTING PLAN & ANALYSIS

DRAWN	DPH
CHECKED	DPH
TWE JOB #	240811
CLIENT JOB #	
SHEET SCALE	1" = 30'

SHEET NUMBER

PL3

SHEET 3 OF 4

CHAMPIONS CENTRE

A PORTION OF THE SE 1/4 OF THE SW 1/4 OF SECTION 25 AND NE 1/4 OF SECTION 26, TOWNSHIP 19 N, RANGE 4x E, W.M. CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____

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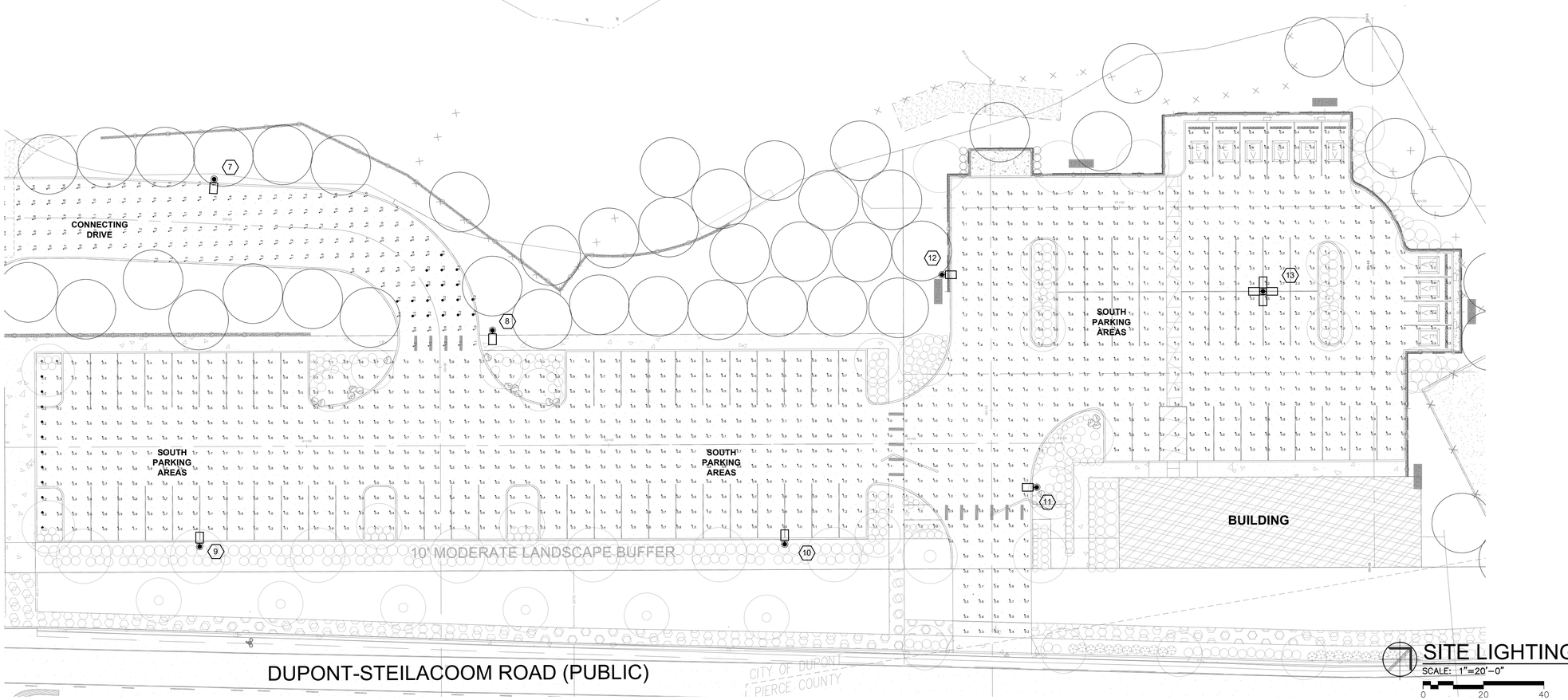
PHOTOMETRIC ANALYSIS

LOCATION	TARGET VALUES (FC)	ACTUAL VALUES (FC)
PARKING AREA - NORTH	0.2 MINIMUM 20:1 MAX/MIN RATIO	0.2 MINIMUM 17.50:1 MAX/MIN RATIO
PARKING AREA - CONNECTING DRIVE	0.2 MINIMUM 20:1 MAX/MIN RATIO	0.2 MINIMUM 8.00:1 MAX/MIN RATIO
PARKING AREA - SOUTH	0.2 MINIMUM 20:1 MAX/MIN RATIO	0.2 MINIMUM 17.50:1 MAX/MIN RATIO

NOTE:
- IESNA RECOMMENDED ILLUMINATION VALUES
- LIGHT LOSS FACTOR OF 0.85 USED IN CALCULATION



SITE LIGHTING PLAN & ANALYSIS

SCALE: 1"=20'-0"

0 20 40

TRES WEST ENGINEERS

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2702 SOUTH 42ND STREET, SUITE 301
TACOMA, WA 98409-7315
Phone: 253.472.3300
www.treswest.com

JAMES J. CHONG
STATE OF WASHINGTON
53813
REGISTERED
PROFESSIONAL ENGINEER

11/19/2024

PROJECT TITLE

CHAMPIONS CENTRE

PROJECT ADDRESS
XXX BARKSDALE AVE.
DUPONT, WA. 98237

KEY PLAN

KEY PLAN
SCALE: NONE

REVISION	DATE
3	
2	
1	
PERMIT SET ISSUED	11/19/2024

SHEET TITLE

SITE LIGHTING PLAN & ANALYSIS

DRAWN	DPH
CHECKED	DPH
TWE JOB #	240811
CLIENT JOB #	
SHEET SCALE	1" = 20'

SHEET NUMBER

PL4

SHEET 4 OF 4

CHAMPIONS CENTRE
PARKING PLAN EXHIBIT

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE4x E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE
40 0 20 40 80 160
1 INCH = 40 FEET

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
City of DuPont

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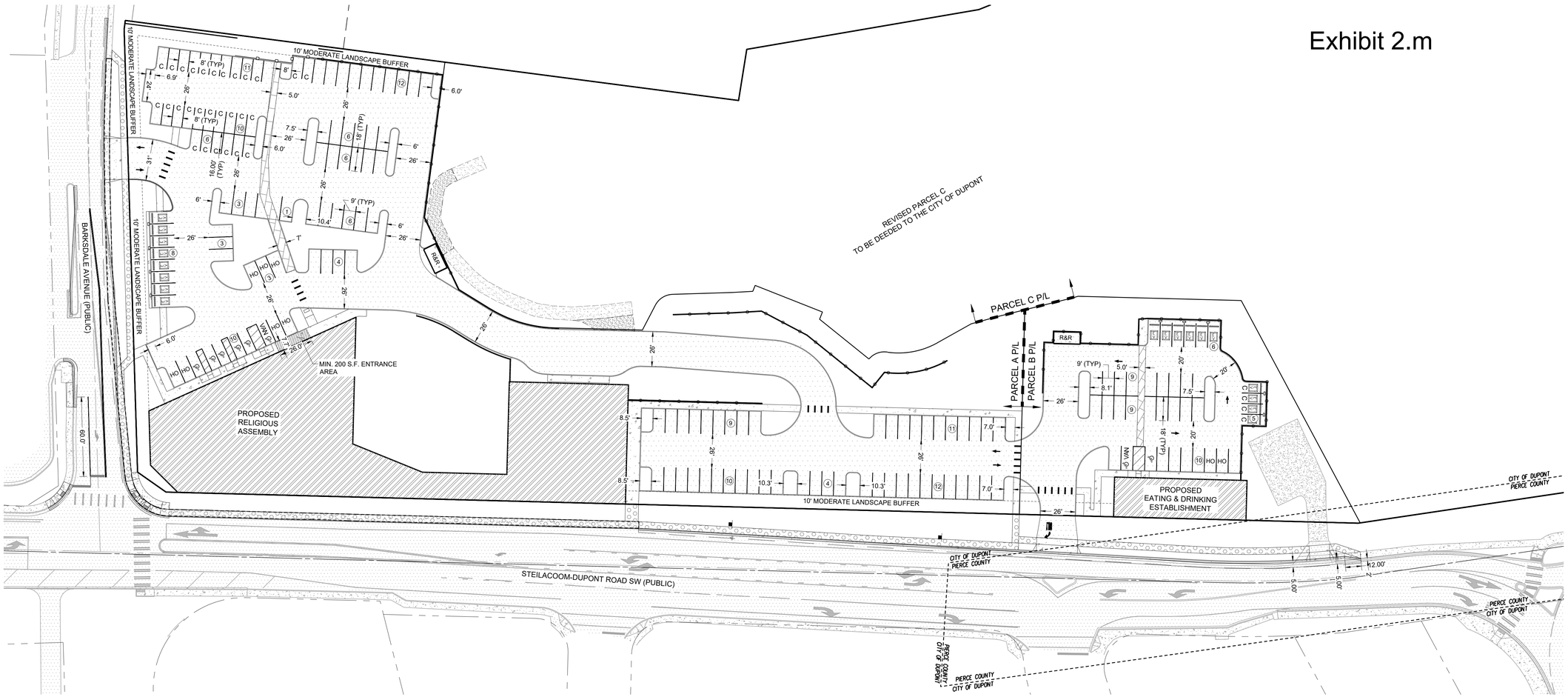
07/18/2025
STEVE THEODORE ERIKSEN
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER

Exhibit 2.m



PARKING STALLS PROVIDED:
PARCEL A
MAX OCCUPANCY = 350

STALLS ALLOWED FOR PLACES OF PUBLIC ASSEMBLY (PARCEL A)
(0.15 MIN. - 0.4 MAX PER PERSON AT MAX OCCUPANCY)
MINIMUM ALLOWED = 350 X 0.15 = 52.5 STALLS
MAXIMUM ALLOWED = 350 X 0.4 = 140 STALLS

STALLS FOR PARCEL A PROVIDED
90 STANDARD
28 COMPACT
5 STANDARD ADA PARKING STALLS
1 VAN ADA PARKING STALL
8 ELECTRIC VEHICLE STALLS
4 HIGH OCCUPANCY (HO) STALLS
136 TOTAL PARKING STALLS PROVIDED

PARCEL B
TOTAL SQUARE FOOTAGE OPEN TO THE PUBLIC = 3,000 SQUARE FEET

STALLS ALLOWED FOR EATING AND DRINKING ESTABLISHMENT (PARCEL B)
(8 MIN. - 16 MAX PER 1,000 SQUARE FEET OPEN TO THE PUBLIC)
MINIMUM ALLOWED = 3 X 8 = 24 STALLS
MAXIMUM ALLOWED = 3 X 16 = 48 STALLS

STALLS PARCEL B PROVIDED
26 STANDARD
1 STANDARD ADA PARKING STALLS
1 VAN ADA PARKING STALL
6 STANDARD ELECTRIC VEHICLE STALLS
5 COMPACT ELECTRIC VEHICLE STALLS
39 TOTAL PARKING STALLS PROVIDED

LEGEND:
HO HIGH OCCUPANCY PARKING STALL

BEFORE ANY CONSTRUCTION CONTACT:
CALL BEFORE YOU DIG @ 1-800-424-5555

© LEROY SURVEYORS & ENGINEERS 07/18/25

K:\Jobs\12695\AutoCAD\dwg\02_Engineering\12695 - Champions Centre - Parking Plan Exhibit.dwg LAST EDITED: 07/18/25 1:09PM BY: WGarrison

REVISION	DATE
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8	
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JOB NO: 12695
DATE: 07/18/2025
DESIGNED BY: WG
DRAWN BY: WG
CHECKED BY: SN
APPROVED BY: SN

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www.lseinc.com

Overall Parking Exhibit

Champions Centre
Parking Plan Exhibit
David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

DRAWING
P1
SHEET 01
OF 01

CHAMPIONS CENTRE
FIRE TRUCK TURNING MOVEMENT EXHIBIT

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF
SECTION 26, TOWNSHIP 19 N, RANGE4 E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE
40 0 20 40 80 160
1 INCH = 40 FEET

APPROVED FOR CONSTRUCTION

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07/18/2025
STEVE THEODORE ERIKSEN
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER

Exhibit 2.n

PARCEL NUMBERS:
0119362039, 0119362009, 0119362012 & 0119362043

PARCEL AREA:
927,027 S.F. (21.28 AC)

DATUM:
WASHINGTON SOUTH ZONE NAVD 88

TOPOGRAPHY:
2 FOOT CONTOURS. TOPOGRAPHIC INFORMATION FROM AERIAL MAPPING BY PUGET SOUND LIDAR CONSORTIUM AND VERIFIED BY LS&E

SITE ADDRESS:
XXX BARKSDALE AVE.
DUPONT, WA 98237

PROPERTY OWNER:
MUSTARD SEED LEGACY DEV. LLC
32706 MOUNTAIN HWY E
EATONVILLE, WA 98328

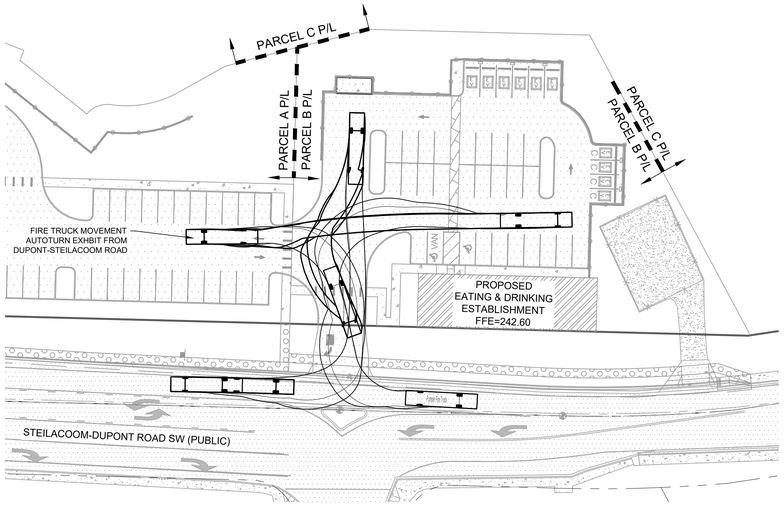
APPLICANT:
CHAMPIONS CENTRE
1819 E. 72ND ST.
TACOMA, WA 98404

ZONING:
COMM

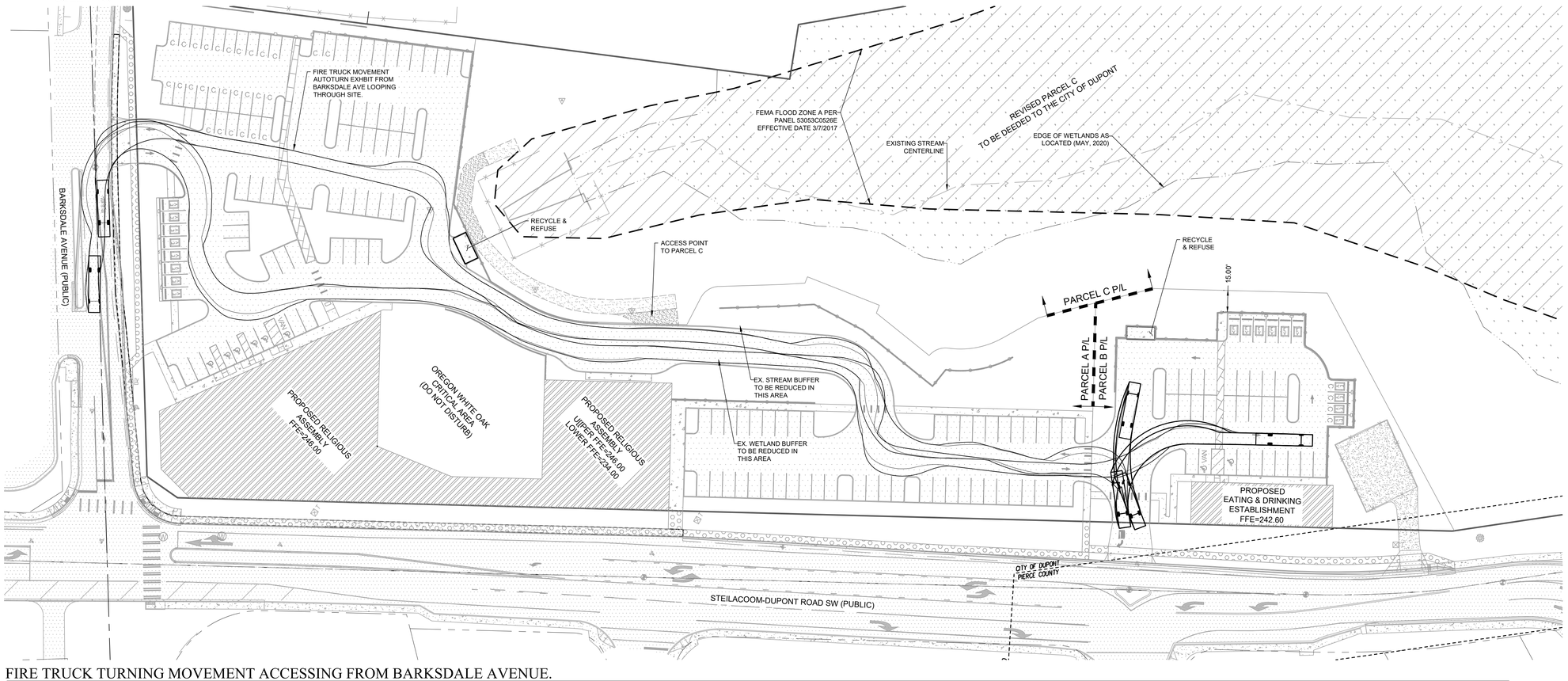
WETLAND & WETLAND BUFFER AREA:
WETLAND AREA = 624,000 S.F.
ORIGINAL 100' WETLAND BUFFER = 150,401 S.F.
REDUCED WETLAND BUFFER = 125,271 S.F.

STREAM BUFFER AREA:
100' STREAM BUFFER = 179,269 S.F.
REDUCED STREAM BUFFER = 171,589 S.F.

SURVEY DISCLAIMER:
THIS IS NOT A BOUNDARY SURVEY



FIRE TRUCK TURNING MOVEMENT ACCESSING FROM STEILACOOM-DUPONT ROAD SW
SCALE: 1" = 40'



FIRE TRUCK TURNING MOVEMENT ACCESSING FROM BARKSDALE AVENUE.
SCALE: 1" = 40'

BEFORE ANY CONSTRUCTION CONTACT:
CALL BEFORE YOU DIG @ 1-800-424-5555

© LEROY SURVEYORS & ENGINEERS 07/18/25

X:\Jobs\12895\AutoCAD\Dwg\Q_Engineering\12895 - Champions Centre - City Fire Turning Movements Plans.dwg LAST EDITED: 07/18/25 1:11PM BY: WGarrison

DATE:
REVISION
1 2 3 4 5 6 7 8 9 10

JOB NO: 12895
DATE: 07/18/2025
DESIGNED BY: WG
DRAWN BY: WG
CHECKED BY: SN
APPROVED BY: SN

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(253) 840-8808 Fax: (253) 840-4140
www.lseinc.com

Fire Truck AutoTurn Exhibit

Champions Centre
Fire Truck Turning Movement Exhibit

David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

DRAWING
AT1
SHEET 01
OF 01

CHAMPIONS CENTRE
ENTERING SIGHT DISTANCE PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE4 E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE
40 0 20 40 80 160
1 INCH = 40 FEET

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
City of DuPont

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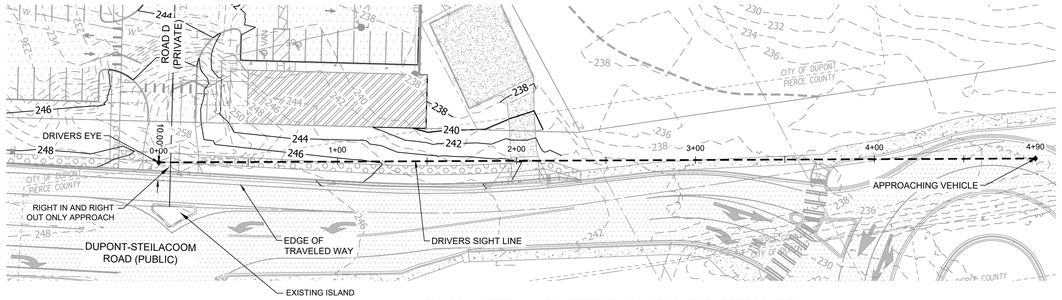
04/17/2025
STEVE THEODORE NELSON
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER

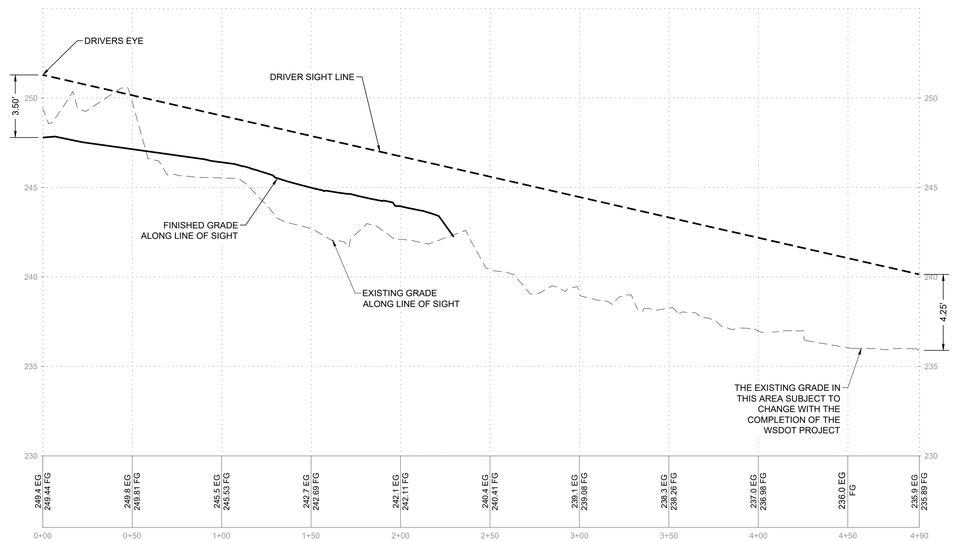
ESD DATA:
DUPONT-STEILACOOM ROAD (PUBLIC)
POSTED SPEED LIMIT: 35 MPH

ENTERING SIGHT DISTANCE (ESD): 490'

Exhibit 2.o



PLAN VIEW - ENTERING SIGHT DISTANCE
LOOKING NORTH ALONG DUPONT-STEILACOOM ROAD FROM ROAD D
HORIZONTAL SCALE: 1"=40'



PROFILE VIEW - ENTERING SIGHT DISTANCE
LOOKING NORTH ALONG DUPONT-STEILACOOM ROAD FROM ROAD D
HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=4'

PARCEL NUMBERS:
0119362039, 0119362009, 0119362012 & 0119362043

PARCEL AREA:
927,027 S.F. (21.28 AC)

SHEET INDEX:
1. ENTERING SIGHT DISTANCE ALONG DUPONT-STEILACOOM ROAD
2. ENTERING SIGHT DISTANCE ALONG BARKSDALE AVENUE

DATUM:
WASHINGTON SOUTH ZONE NAVD 88

TOPOGRAPHY:
2 FOOT CONTOURS. TOPOGRAPHIC INFORMATION FROM AERIAL MAPPING BY PUGET SOUND LIDAR CONSORTIUM AND VERIFIED BY LS&E

SITE ADDRESS:
XXX BARKSDALE AVE.
DUPONT, WA 98237

PROPERTY OWNER:
MUSTARD SEED LEGACY DEV. LLC
32706 MOUNTAIN HWY E
EATONVILLE, WA 98328

APPLICANT:
CHAMPIONS CENTRE
1819 E. 72ND ST.
TACOMA, WA 98404

ZONING:
COMM

SURVEY DISCLAIMER:
THIS IS NOT A BOUNDARY SURVEY

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JOB NO. 12865
DATE: 04/17/2025
DESIGNED BY: WG
DRAWN BY: WG
CHECKED BY: SN
APPROVED BY: SN

Entering Sight Distance - Along DuPont-Steilacoom Road

Champions Centre
Entering Sight Distance Plan
David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

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CHAMPIONS CENTRE
ENTERING SIGHT DISTANCE PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE4 E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE
40 0 20 40 80 160
1 INCH = 40 FEET

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
City of DuPont

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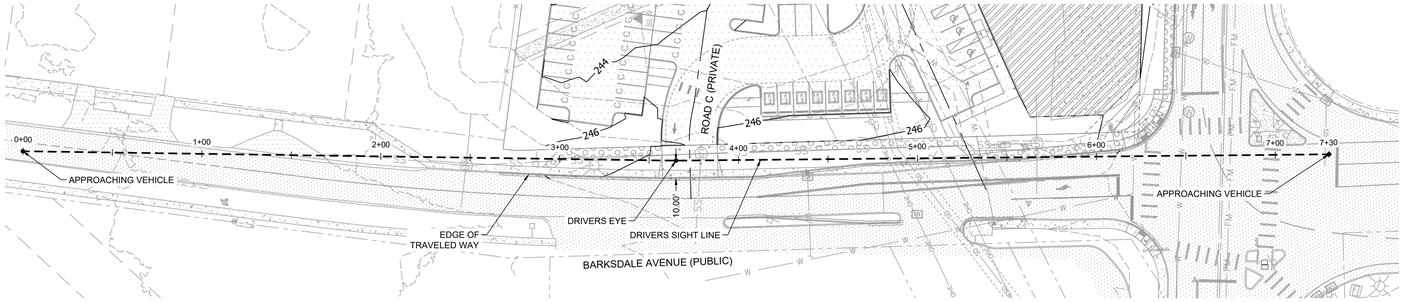
04/17/2025
STEVE THEODORE NELSON
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER

ESD DATA:
BARKSDALE AVENUE (PUBLIC)
POSTED SPEED LIMIT: 25 MPH

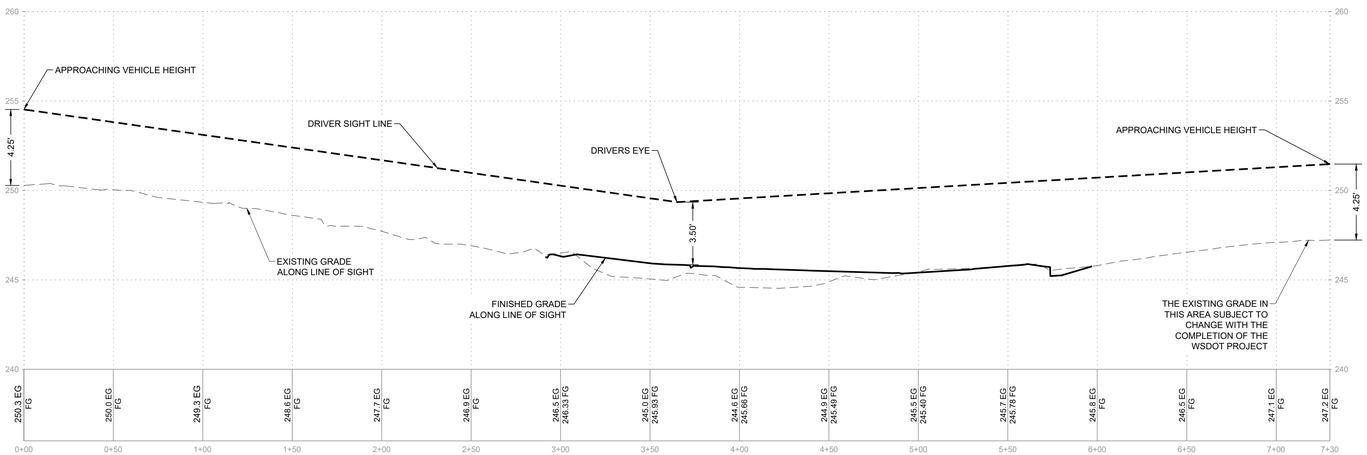
ENTERING SIGHT DISTANCE (ESD): 365'



PLAN VIEW - ENTERING SIGHT DISTANCE

LOOKING WEST AND EAST ALONG BARKSDALE AVENUE FROM ROAD C

HORIZONTAL SCALE: 1"=40'



PROFILE VIEW - ENTERING SIGHT DISTANCE

LOOKING WEST AND EAST ALONG BARKSDALE AVENUE FROM ROAD C

HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=4'

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REVISION
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JOB NO. 12865
DATE: 04/17/2025
DESIGNED BY: WG
DRAWN BY: WG
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Entering Sight Distance - Along Barksdale Avenue

Champions Centre
Entering Sight Distance Plan
David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

DRAWING
ESD-2
SHEET 02
OF 02

PARCEL NUMBERS:
0119362039, 0119362009, 0119362012 & 0119362043

PARCEL AREA:
927,027 S.F. (21.28 AC)

DATUM:
WASHINGTON SOUTH ZONE NAVD 88

TOPOGRAPHY:
2 FOOT CONTOURS. TOPOGRAPHIC INFORMATION FROM AERIAL MAPPING BY PUGET SOUND LIDAR CONSORTIUM AND VERIFIED BY LS&E

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DUPONT, WA 98237

PROPERTY OWNER:
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32706 MOUNTAIN HWY E
EATONVILLE, WA 98328

APPLICANT:
CHAMPIONS CENTRE
1819 E. 72ND ST.
TACOMA, WA 98404

ZONING:
COMM

SURVEY DISCLAIMER:
THIS IS NOT A BOUNDARY SURVEY

SSD DATA:
DUPONT-STEILACOOM ROAD (PUBLIC)
POSTED SPEED LIMIT: 35 MPH

STOPPING SIGHT DISTANCE (SSD): 250'

SSD DATA:
BARKSDALE AVENUE (PUBLIC)
POSTED SPEED LIMIT: 25 MPH

STOPPING SIGHT DISTANCE (SSD): 150'

CHAMPIONS CENTRE
STOPPING SIGHT DISTANCE PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE4 E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

Exhibit 2.p

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
City of DuPont

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04/16/2025
STEVE THEODORE ABRAHAMSON
STATE OF WASHINGTON
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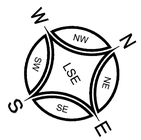
PROFESSIONAL ENGINEER



GRAPHIC SCALE
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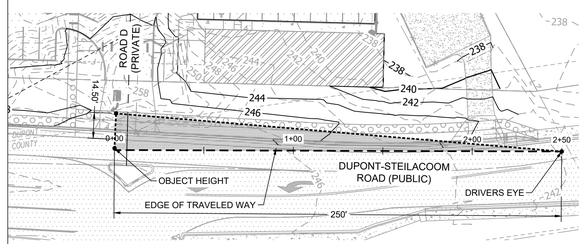
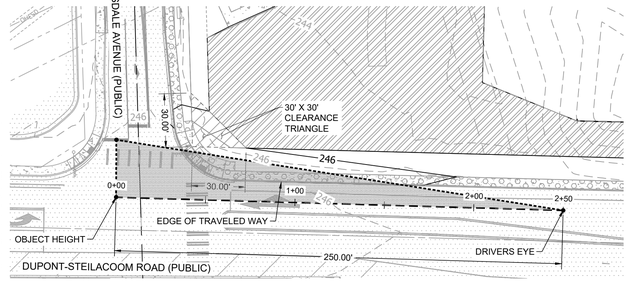
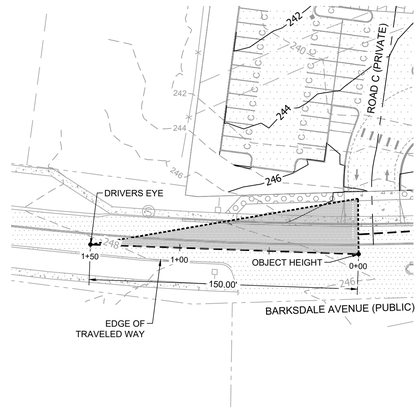
1 INCH = 40 FEET



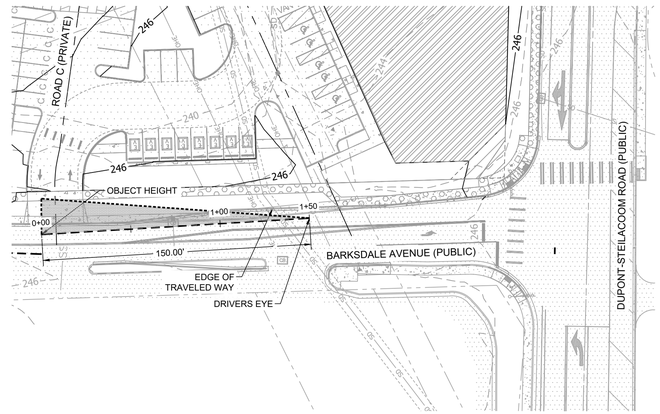
PLAN VIEW - STOPPING SIGHT DISTANCE
LOOKING NORTHEAST ALONG DUPONT-STEILACOOM ROAD FROM ROAD D
HORIZONTAL SCALE: 1"=40'



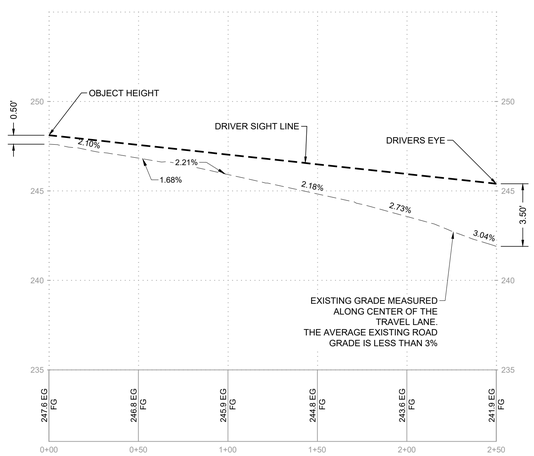
PLAN VIEW - STOPPING SIGHT DISTANCE
LOOKING NORTHEAST ALONG DUPONT-STEILACOOM ROAD FROM BARKSDALE AVE.
HORIZONTAL SCALE: 1"=40'



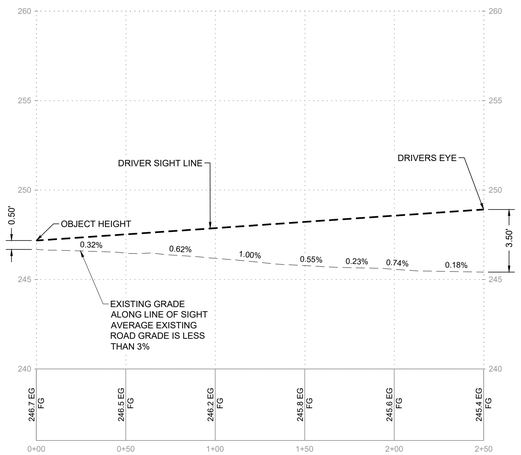
PLAN VIEW - STOPPING SIGHT DISTANCE
LOOKING WEST ALONG BARKSDALE AVENUE FROM ROAD C
HORIZONTAL SCALE: 1"=40'



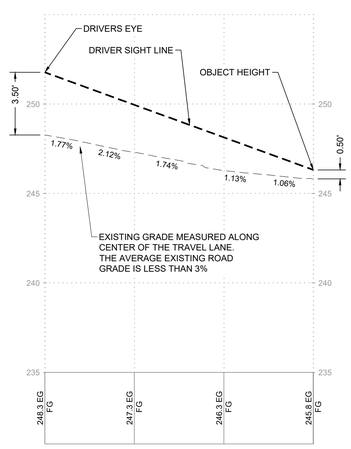
PLAN VIEW - STOPPING SIGHT DISTANCE
LOOKING EAST ALONG BARKSDALE AVENUE FROM ROAD C
HORIZONTAL SCALE: 1"=40'



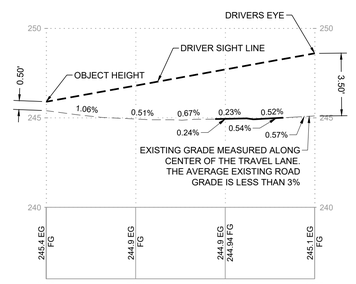
PROFILE VIEW - STOPPING SIGHT DISTANCE
LOOKING NORTHEAST ALONG DUPONT-STEILACOOM ROAD FROM ROAD D
HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=4'



PROFILE VIEW - STOPPING SIGHT DISTANCE
LOOKING NORTHEAST ALONG DUPONT-STEILACOOM ROAD FROM BARKSDALE AVE.
HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=4'



PROFILE VIEW - STOPPING SIGHT DISTANCE
LOOKING WEST ALONG BARKSDALE AVENUE FROM ROAD C
HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=4'



PROFILE VIEW - STOPPING SIGHT DISTANCE
LOOKING EAST ALONG BARKSDALE AVENUE FROM ROAD C
HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=4'

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JOB NO. 12865
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Stopping Sight Distance

Champions Centre
Stopping Sight Distance Plan
David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

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SSD-1
SHEET 01
OF 01

Approved 10-31-23

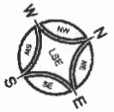
Exhibit 2.q

Received 12-20-2023

CHAMPIONS CENTRE
REFUSE & RECYCLE LOCATIONS SITE PLAN

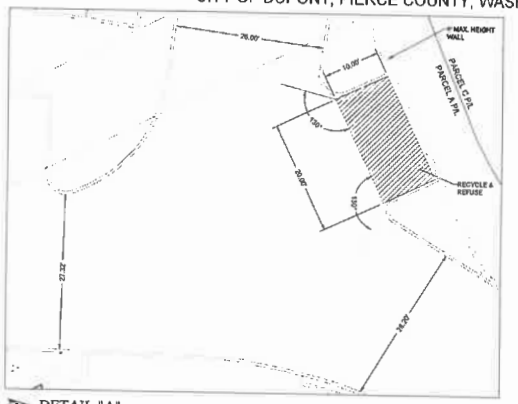
A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF
SECTION 26, TOWNSHIP 19 N, RANGE4x E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

VICINITY MAP
SCALE: 1" = 1000'

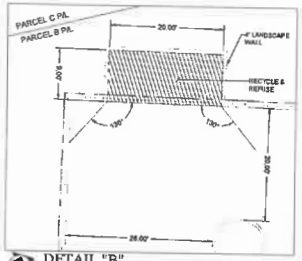


GRAPHIC SCALE

1 INCH = 40 FEET



DETAIL "A"
SCALE: 1" = 10'



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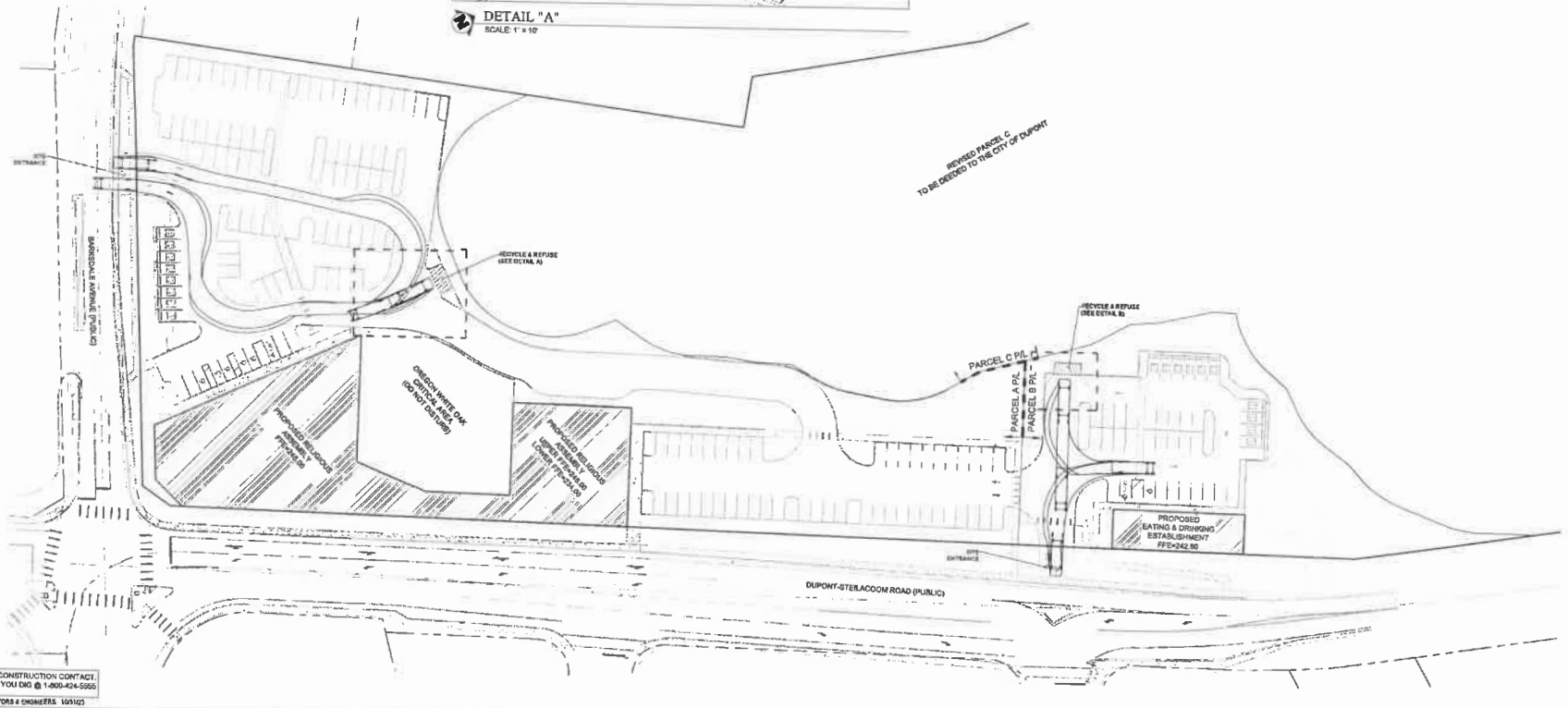

PARCEL NUMBERS:
0119362039, 0119362069, 0119362012 & 0119362043

PARCEL AREA:
827,027 S.F. (21.25 Ac)

DATUM:
WASHINGTON SOUTH ZONE NAVD 88

SITE ADDRESS:
XXX BARKSDALE AVE.
DUPONT, WA 98327

PROPERTY OWNER:
MUSTARD SEED LEGACY DEV, LLC
32706 MOUNTAIN HWY E
EATONVILLE, WA 98328

APPLICANT:
CHAMPIONS CENTRE
1819 E. 72ND ST.
TACOMA, WA 98404

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Overall Plan View

Champions Centre
Refuse & Recycle Locations Site Plan
David Rich, Mustard Seed Legacy Dev, LLC
XXX Barksdale Ave.
Du Pont, WA 98237
Phone: 253-61-4887

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SHEET 01
OF 01

Exhibit 2.r

Received 12-20-2023

CHAMPIONS CENTRE

Dupont, WA

TRAFFIC IMPACT ANALYSIS (TIA)
SEPTEMBER 1, 2023

HEATH&ASSOCIATES
Transportation Planning & Engineering

CHAMPIONS CENTRE
TRAFFIC IMPACT ANALYSIS

Prepared for:

David Rich
Mustard Seed Legacy Development, LLC

Prepared by:

Heath & Associates
PO Box 397
Puyallup, WA 98371
(253) 770 1401
Heathtraffic.com

License:

CHAMPIONS CENTRE
TRAFFIC IMPACT ANALYSIS

CONTENTS

1. Introduction 4
2. Project Description 4
3. Existing Conditions 7
4. Forecast Traffic Demand & Analysis 11
5. Conclusions & Mitigation 23

TABLES

1. Project Trip Generation 12
2. Forecast 2026 Weekday PM & Sunday Peak Hour Level of Service 19
3. Forecast 2026 Weekday PM & Sunday Peak Hour Queuing 21

FIGURES

1. Vicinity Map 5
2. Conceptual Site Plan 6
3. Existing Sunday Peak Hour Volumes 10
4. Weekday PM Peak Hour Trip Distribution & Assignment 14
5. Sunday Peak Hour Trip Distribution & Assignment 15
6. Forecast 2026 Weekday PM and Sunday Peak Hour Background Volumes 16
7. Forecast 2026 Weekday PM Peak Hour Volumes with Project 17
8. Forecast 2026 Sunday Peak Hour Volumes with Project 18
9. Forecast 2026 Weekday PM Peak Hour Volumes with Project Queues 21

CHAMPIONS CENTRE
TRAFFIC IMPACT ANALYSIS

1. INTRODUCTION

The main goals of this study focus on the assessment of existing roadway conditions and forecasts of newly generated project traffic. The first task includes the review of general roadway information on the adjacent street system and baseline vehicular volumes. Forecasts of future traffic and dispersion patterns on the street system are then determined using established trip generation and distribution techniques. As a final step, appropriate conclusions and mitigation measures are defined if needed.

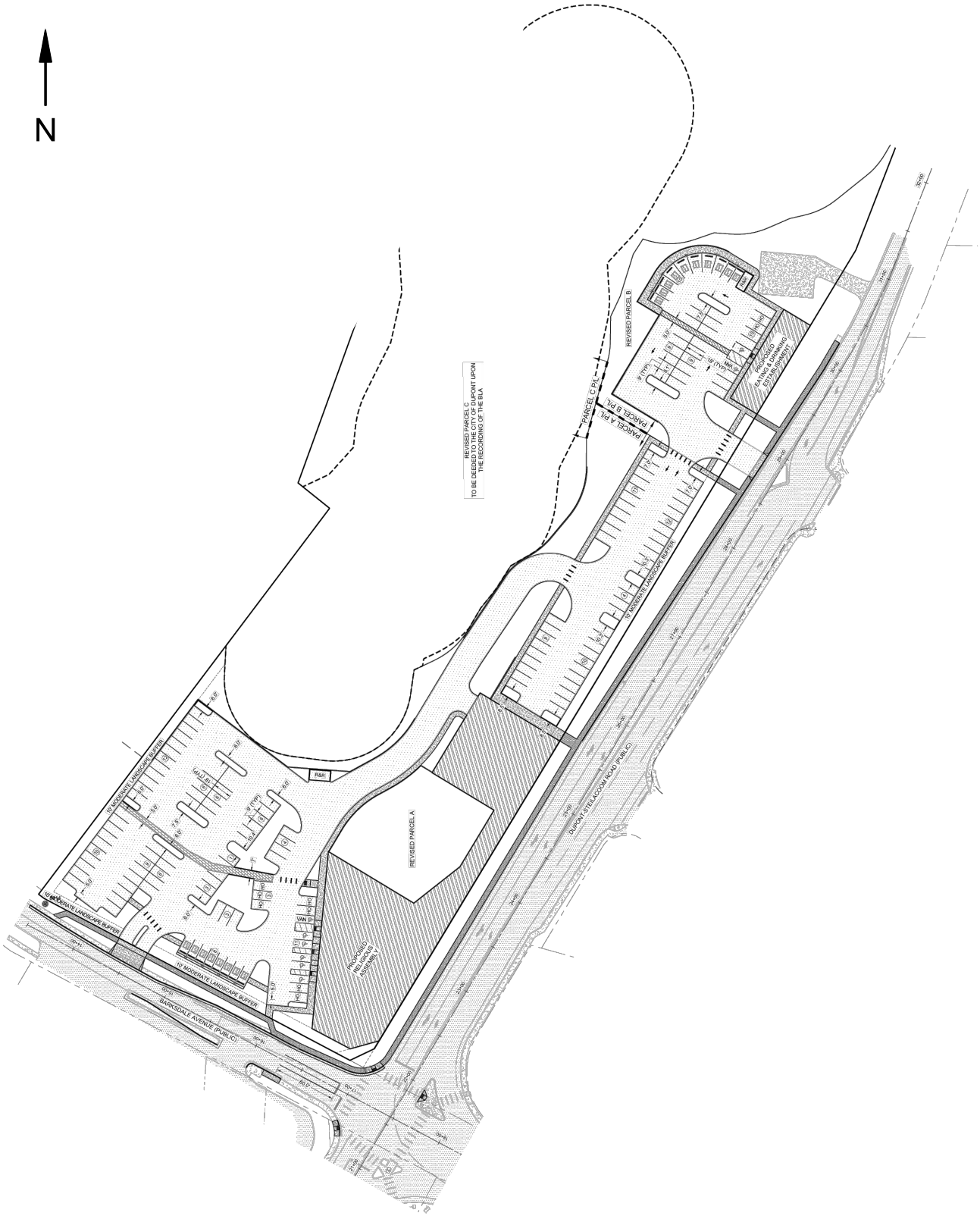
2. PROJECT DESCRIPTION

Champions Centre proposes for the construction of a 25,480 square foot religious assembly building (Parcel A) and a 3,000 square foot dining/commercial building (Parcel B) located within the city of Dupont. Presently, no tenants or users are known for the commercial space. Occupancy would be based on market demands at the time of construction. The subject site is situated on the north corner of Steilacoom-DuPont Road SW & Barksdale Avenue, encompassing a cumulative 21.42-acres within tax parcel #'s: 011936-2039; -2009; -2012; & -2043. Parcel boundaries will be adjusted (refer to the conceptual site plan) to Parcel A and Parcel B.

Access to the subject site is proposed via a single driveway on Barksdale Avenue and a single driveway on Dupont-Steilacoom Road and opposite Station Drive (North). Under present conditions, the Dupont-Steilacoom access would function as a right-in, right-out. However, a full movement access may be permitted upon completion of the I-5 Interchange Relocation project in which Exit 119 would relocate to the north prior to Pendleton Avenue—resulting in reduced volumes along the project's Dupont-Steilacoom Road frontage.

The development proposal includes up to 14 electric vehicle charging stations—10 of which will be located on Parcel B and open to the public. The remaining 4 will be located on Parcel A and used for the church. Figure 1 on the following page depicts a vicinity map with the subject site highlighted in blue. A conceptual site plan is provided in Figure 2.

Figure 1: Vicinity Map



HEATH&ASSOCIATES
Transportation Planning & Engineering

CHAMPIONS CENTRE

CONCEPTUAL SITE PLAN
FIGURE 2

3. EXISTING CONDITIONS

3.1 Existing Street System

The street network serving the proposed project consists of a variety of roadways. The major roadways serving the site are listed and described below.

Steilacoom Dupont Road SW: is a north-south, multi-lane Urban Minor Arterial bordering the subject site to the east. Additional turn-lanes are provided at major intersections. South of Station Drive (North), bike lanes are provided on either side of the roadway. Moreover, curb, gutter and sidewalk are provided on the east side of the roadway south of Station Drive (North) and along the west side of the roadway south of Station Drive (South). Elsewhere, shoulder composition varies from paved segments, rolled curb or grass/gravel. The posted speed limit is 35-mph.

Wilmington Drive: is an southwest-northeast, predominantly 2-lane Urban Minor Arterial located southwest of the subject site. Additional turn-lanes are provided at major intersections. Paved bike lanes ~4.5-feet in width, curb and gutter are available along either side of the roadway between Palisade Boulevard and *Barksdale Avenue*. The posted speed limit in the subject site vicinity is 25-mph.

Barksdale Avenue: is a northwest-southeast, two-lane roadway bordering the subject site to the southwest. Northwest of Wilmington Drive, the roadway is classified as an Urban Major Collector. Southeast of Wilmington Drive it is classified as an Urban Minor Arterial. For approximately 160-feet northwest of Wilmington Drive, curb and sidewalk are available. Northwest of this segment, rolled curb and detached sidewalk are typically provided along either side of the roadway. Southeast of Wilmington Drive, curb, gutter and sidewalk are available along the north side of the roadway. The posted speed limit is 25-mph.

3.2 Transit Service

A review of the Sound Transit service system indicates that Dupont Station is located approximately 1.0-mile walking-distance southwest of the proposed Champions Centre. This facility is served by Route 592 – Dupont to Seattle. Stops between Dupont and Seattle along the route include Lakewood Station and the SR 512 Park & Ride. No weekend service is provided.

Approximately 126 parking spaces are provided at Dupont Station, in addition to bicycle lockers and racks. Refer to Sound Transit's Routes and Schedules for further public transportation details.

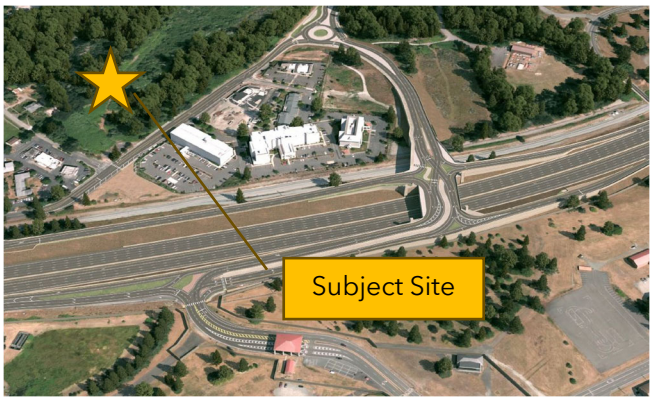
3.3 Roadway Improvements

A review of the City of Dupont's Six-Year Transportation Improvement Program (2024-2029) indicated that the following project is currently planned in the vicinity of Champions Centre development.

> *Barksdale Avenue Pavement Repair (Map ID # 6):* Install HMA pre-level, asphalt reinforcement grid and 2" HMA overlay on the roadway between Steilacoom-Dupont Road SW & Haskell Street. Construction is anticipated to occur in 2026. The total estimated cost of the project is $590,000.

Moreover, given the project's proximity to I-5, a review of the WSDOT Statewide Transportation Improvement Program (2023-2025) indicated that the following projects are currently planned in the subject site vicinity.

> *I-5 - Mounts Road to Steilacoom-DuPont Road - Corridor Improvements:* This project entails rebuilding the interchange of Steilacoom-DuPont Road (Exit 119) and adding HOV lanes to I-5. The project will help improve mobility and improve travel times during peak commute hours. The existing at-grade crossing of the railroad will be replaced with a grade-separated crossing. The re-configured interchange will tie-in to Steilacoom-DuPont Road just before Pendleton Avenue. The project is currently under construction and is scheduled to be completed by 2026. The total estimated cost of the project is $233,390,000. Project extents and a schematic of the newly proposed interchange are provided below.
>
> The proposed project will result in eliminating the southeast leg of Steilacoom-DuPont Rd SW & Barksdale Avenue. At this time, it is planned that the intersection will be modified to comprise all-way stop-control. It should also be noted that the project will modify future traffic volumes in the project vicinity given the I-5 access ramp northerly relocation. Further discussion of how this project will be accounted for under forecast analysis conditions will be provided in Section 4 of this report.



3.4 Existing Peak Hour Volumes

Per project scoping requirements, evaluation of the weekday PM and Sunday peak hour at the study intersection of Steilacoom Dupont Road SW & Barksdale Avenue. Given the ongoing *I-5 - Mounts Road to Steilacoom-DuPont Road - Corridor Improvement* project (herein referred to as the I-5 Interchange project), the city provided forecast count volumes that takes into consideration the I-5 Interchange project. The volumes represent forecast 2026 weekday PM peak hour conditions.

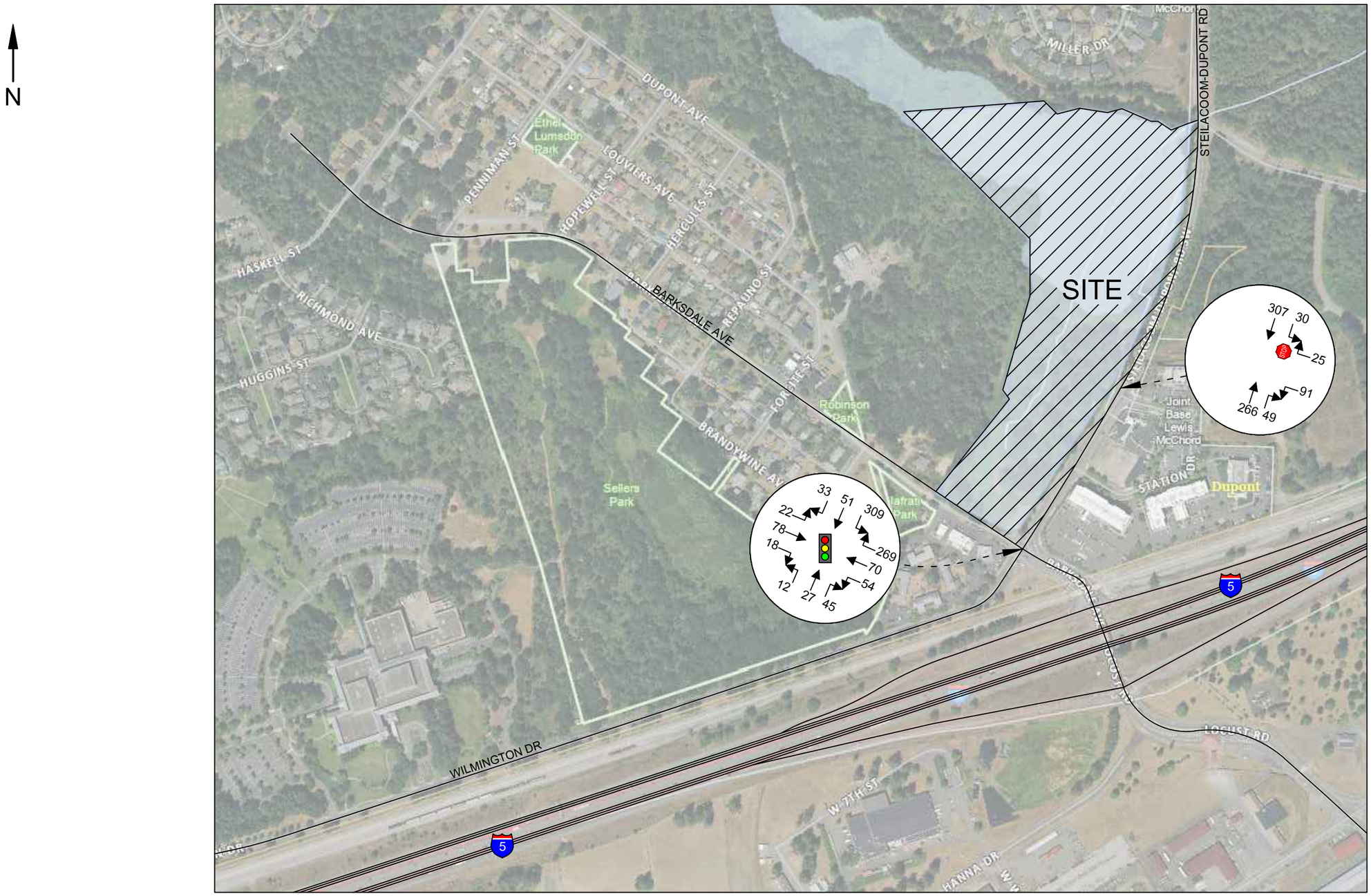
However, no Sunday peak hour data was available. As such, existing Sunday peak hour counts were collected by our firm in July of 2023. In addition to the study intersection of Steilacoom Dupont Road SW & Barksdale Avenue, data was gathered at Steilacoom Dupont Road SW & Station Drive (North) as a project access is proposed to extend westerly from the intersection. Counts were performed on a Sunday from 9:30 AM – 12:30 PM, which coincides with the proposed development's service times (peak trip generating period). The single hour exhibiting highest overall intersection volumes is then derived (peak hour) and is used for analysis the study intersection.

Figure 3 on the following page identifies existing Sunday peak hour volumes. Full count sheets have been attached in the appendix for reference. It should be noted that adjustments will be made to the existing Sunday counts to account for future conditions. Adjustment methodologies are discussed in later sections.

3.5 Non-Motorist Infrastructure

Non-motorist activity was observed at Steilacoom-DuPont Rd SW & Barksdale Avenue during Sunday data collection. During the Sunday peak hour, no pedestrians and one bicyclist was observed traveling through the study intersection. Marked crosswalks and pedestrian actuated crossings are currently available at the signal.

Sidewalk segments are provided along the Barksdale Avenue project frontage and along the Steilacoom-Dupont Road SW frontage for ~380-feet north of Barksdale Avenue. Moreover, bike lanes are available along Steilacoom-Dupont Road SW/Wilmington Drive south of Station Drive (North). Where currently missing, sidewalk will be constructed along the Steilacoom-Dupont Road SW and Barksdale Avenue project frontage upon full build-out. Moreover, sidewalk is proposed to be constructed internal to the subject site, providing connections to the roadways fronting the development.



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CHAMPIONS CENTRE
EXISTING SUNDAY PEAK HOUR VOLUMES
FIGURE 3

4. FORECAST TRAFFIC DEMAND & ANALYSIS

4.1 Site Characteristics

Religious Assembly Building
The church will mainly be used on Sundays, providing a single service at 10:15 AM. A second service may occur, predicated on demand, which would commence at 11:45 AM. The maximum seating capacity at the church is ~350 patrons.

It should be noted that miscellaneous activity throughout the week could be expected such as Youth Group on Thursdays starting at 6:30 PM, office workers throughout the week (3-5 staff two days a week), and other occasional gatherings. However, the predominate activity levels will occur for the Sunday service which is the proposed targeted evaluation period.

Dining/Commercial Building
Currently, there is no known tenant for the 3,000 square foot commercial building. The building, for analysis purposes, is anticipated to be a fast casual dining establishment.

4.2 Project Trip Generation

The magnitude of the anticipated vehicle trip generation for the proposed project was derived from the Institute of Transportation Engineers (ITE) publication, *Trip Generation Manual,* 11th Edition and a local trip generation study.

Religious Assembly Building
The utilized Land Use Code (LUC) for the church is *LUC 560 – Church.* Square footage was used as the input variable with ITE rates to determine trip ends.

Dining/Commercial Building
While there is no specific tenant identified for the 3,000 square feet of commercial area, a dining establishment with no drive-through is anticipated to occupy the space. As such, *LUC 930 – Fast Casual Restaurant* was determined to be the most applicable land use. Square footage was used as the input variable with ITE average rates for the weekday daily, AM and PM peak hours. For the Sunday trip generation, the Saturday Peak Hour Generator has been applied with ITE average rates to determine trip ends.

Electrical Vehicle Charging Stations
Given the relatively new use of EV charging, no data are available in the Trip Generation Manual. Therefore, trip estimates are based on a prior analysis conducted by Heath & Associates that evaluated three EV charging stall sites. The analysis, which solely surveyed weekday PM peak periods between 4:00-6:00, concluded a weighted

average peak hour trip rate of 0.93 trips per stall. The same rate (0.93 trips/stall) is proposed to be used for the Sunday peak hour. Details of the study locations and count sheets are available in the appendix. Only the 10-charging station on Parcel B (commercial site) are accounted for. The 4 EV stalls located adjacent the Church are anticipated to be accounted for under the general church trip rates.

Trip Generation Adjustments

Pass-by trips have been considered for this project, pass-by trips, or motorists already passing by the site who decide to make an intermediate stop before proceeding to their primary destination such as commercial/dining services. These trips are not considered as new trips but will impact the site's access points. ITE reports a 43% pass-by rate for LUC 932 High-Turnover Restaurant (similar use), which has been applied.

Table 1: Project Trip Generation

Use	Size	Trip Type	AWDT	AM Peak-Hour Trips			PM Peak-Hour Trips			Sunday Peak Hour Trips		
				In	Out	Total	In	Out	Total	In	Out	Total
Church (LUC 560)	25.4 8 ksf	Primary	194	5	3	**8**	5	7	**12**	127	137	**264**
F-C Restaurant (LUC 930)	3.0 ksf	Primary	166	1	1	**2**	12	10	**22**	31	25	**56**
		Pass-By	125	1	1	**2**	8	8	**16**	21	21	**42**
10 Charging Stations		Primary	--	--	--	**--**	5	4	**9**	5	4	**9**
Total Primary Trips			360	6	4	**10**	22	21	**43**	163	166	**329**
Total Pass-By Trips			125	1	1	**2**	8	8	**16**	21	21	**42**

As illustrated in Table 1, the proposed project is anticipated to generate approximately 43 primary (22 in / 21 out) and 16 pass-by (8 in / 8 out) weekday PM peak hour trips. Moreover, approximately 329 primary (163 in / 166 out) and 42 pass-by (21 in / 21 out) Sunday peak hour trips are anticipated to be generated by the development proposal. Refer to the appendix for a trip generation summary spreadsheet.

4.3 Distribution & Assignment

Trip distribution describes the anticipated travel routes for inbound and outbound project traffic during the peak hour study period. The majority of residential development within Dupont is situated primarily west of the subject site. The proposed church is anticipated to serve local residents, which is reflected in the outlying trip distribution percentages. Moreover, the future ~2026 closure of the I-5 Interchanges at Barksdale Avenue was accounted for in trip assignment. The project is to eliminate the southeast leg of Steilacoom-Dupont Road SW & Barksdale Avenue, creating an all-way stop-controlled intersection. Project-generated traffic traveling to/from I-5 North (~10%) and southeast of I-5 (~10%) were routed to/from the north. Project-generated traffic traveling to/from I-5 South (~10%) were routed to/from the southwest via Wilmington Drive and subsequently the Center Drive interchanges.

It should also be noted that two access scenarios were analyzed herein. Scenario 1 entails a right-in, right-out access on Steilacoom-Dupont Road SW while Scenario 2 evaluates a full-turning movement access. The I-5 Interchange project will reduce traffic volumes along the fronting section of Steilacoom-Dupont Road SW. Moreover, improvements will be made to Steilacoom-Dupont Road SW, resulting in an unknown cross-section. As such, the driveway may permit full access under forecast conditions. Both scenarios were therefore accounted for.

Primary and pass-by weekday PM peak hour trips generated by the project are expected to follow the general pattern as shown in Figure 4. Sunday peak hour trip assignment is illustrated in Figure 5. Both figures illustrate trip distribution and assignment under Scenario 1 (right-in, right-out Steilacoom-Dupont Road SW access) and Scenario 2 (full turning movement driveway on Steilacoom-Dupont Road SW).

4.4 Future Peak Hour Volumes

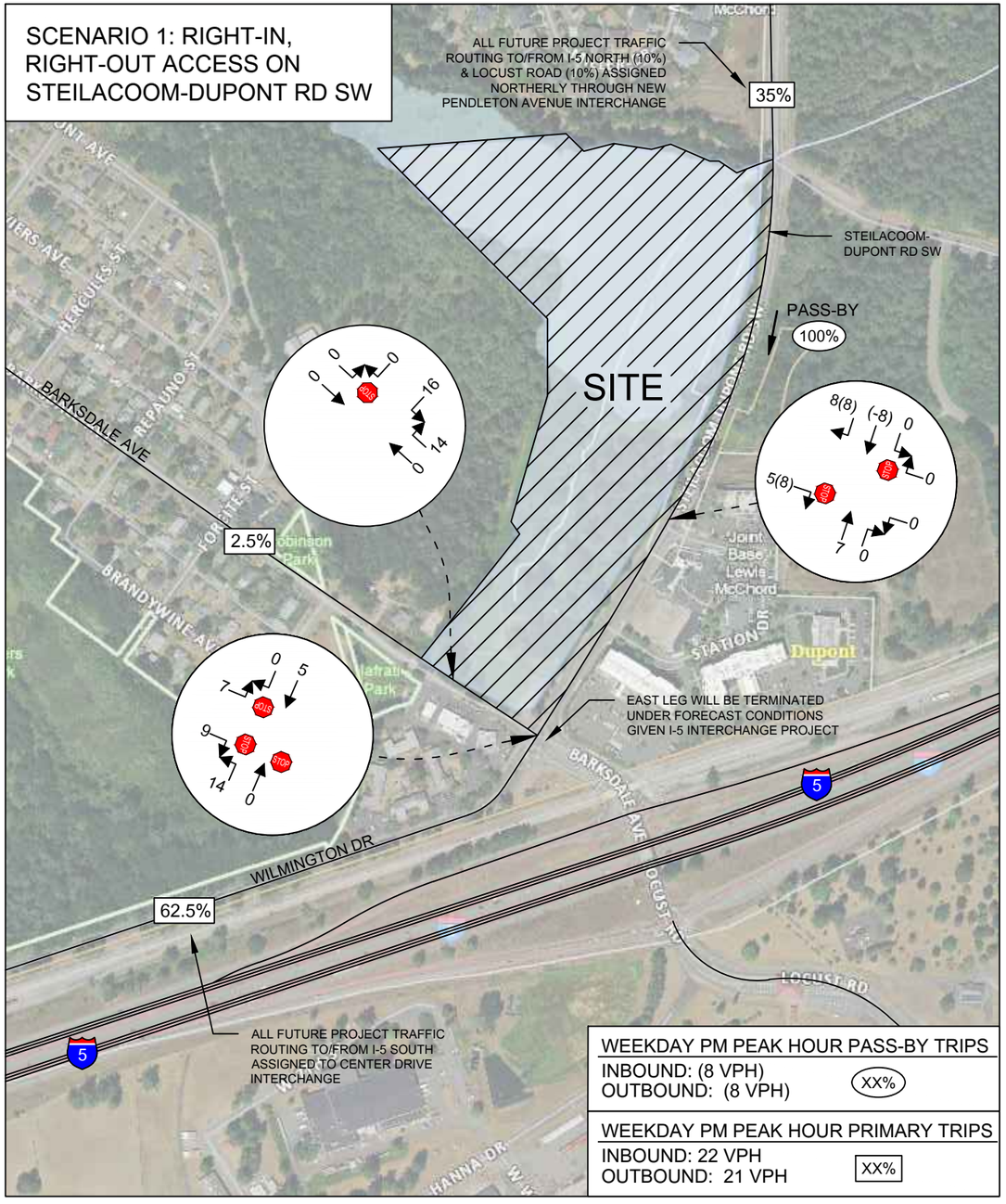
A three-year horizon of 2026 was used to analyze future conditions. Forecast 2026 weekday PM peak hour background volumes at Steilacoom-Dupont Road SW/Wilmington Drive & Barksdale Avenue were provided by the reviewing party and account for the I-5 Interchange relocation. Turning movements at Station Drive (North), which is situated opposite the proposed Steilacoom-Dupont Road SW access, were derived via ITE data. The ~35,500 square feet of shopping center (LUC 822 – Strip Retail Plaza) served by the driveway is anticipated to generate 202 weekday PM peak hour trips (101 in / 100 out). These trips were assigned to the driveway based on travel patterns observed at the intersection during existing Sunday peak hour counts.

In order to derive Sunday peak hour background volumes at Steilacoom-Dupont Road SW/Wilmington Drive & Barksdale Avenue, a 2.0 percent compound annual growth rate was applied to existing peak hour volumes. Moreover, the I-5 Interchange project was accounted for. The project is going to eliminate the current I-5 Interchanges on Barksdale Avenue and construct new interchanges northerly at Pendleton Avenue. As such, traffic volumes at the study intersection associated with the existing Barksdale Avenue I-5 interchanges were rerouted. Figure 6 illustrates how Sunday peak hour traffic volumes were rerouted. Additionally illustrated forecast 2026 background peak hour volumes (without Champions Centre). It should be noted that approximately 25% of traffic volumes at Steilacoom-Dupont Road SW & Station Drive (North) traveling to the intersection to/from the south were rerouted to the north given the I-5 Interchange project.

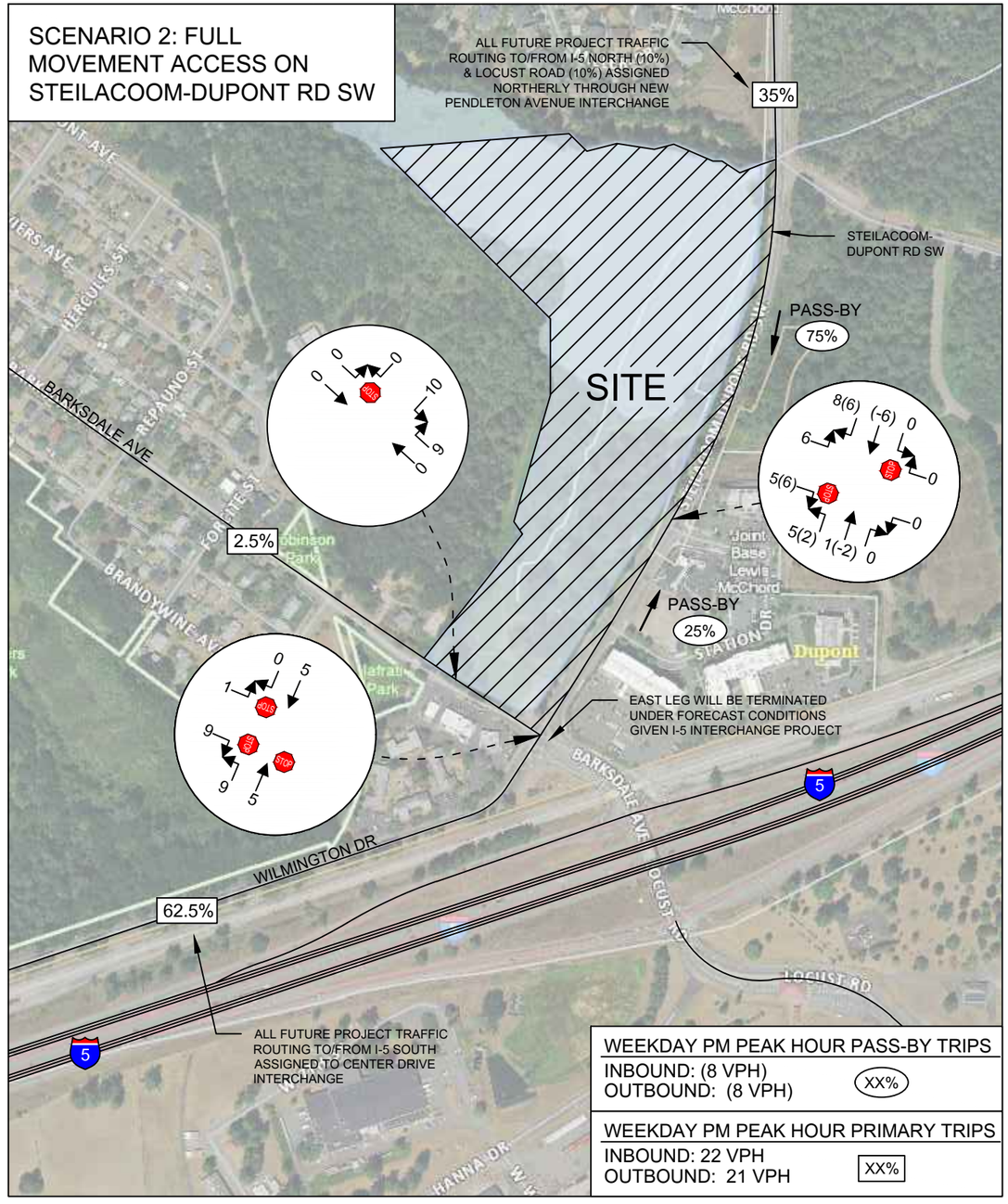
Lastly, weekday PM peak hour volumes with project-generated traffic are shown in Figure 7 while Sunday peak hour volumes are illustrated in Figure 8. Traffic volumes for both Scenarios 1 and 2 are depicted in Figures 7 and 8.

N

SCENARIO 1: RIGHT-IN, RIGHT-OUT ACCESS ON STEILACOOM-DUPONT RD SW



SCENARIO 2: FULL MOVEMENT ACCESS ON STEILACOOM-DUPONT RD SW



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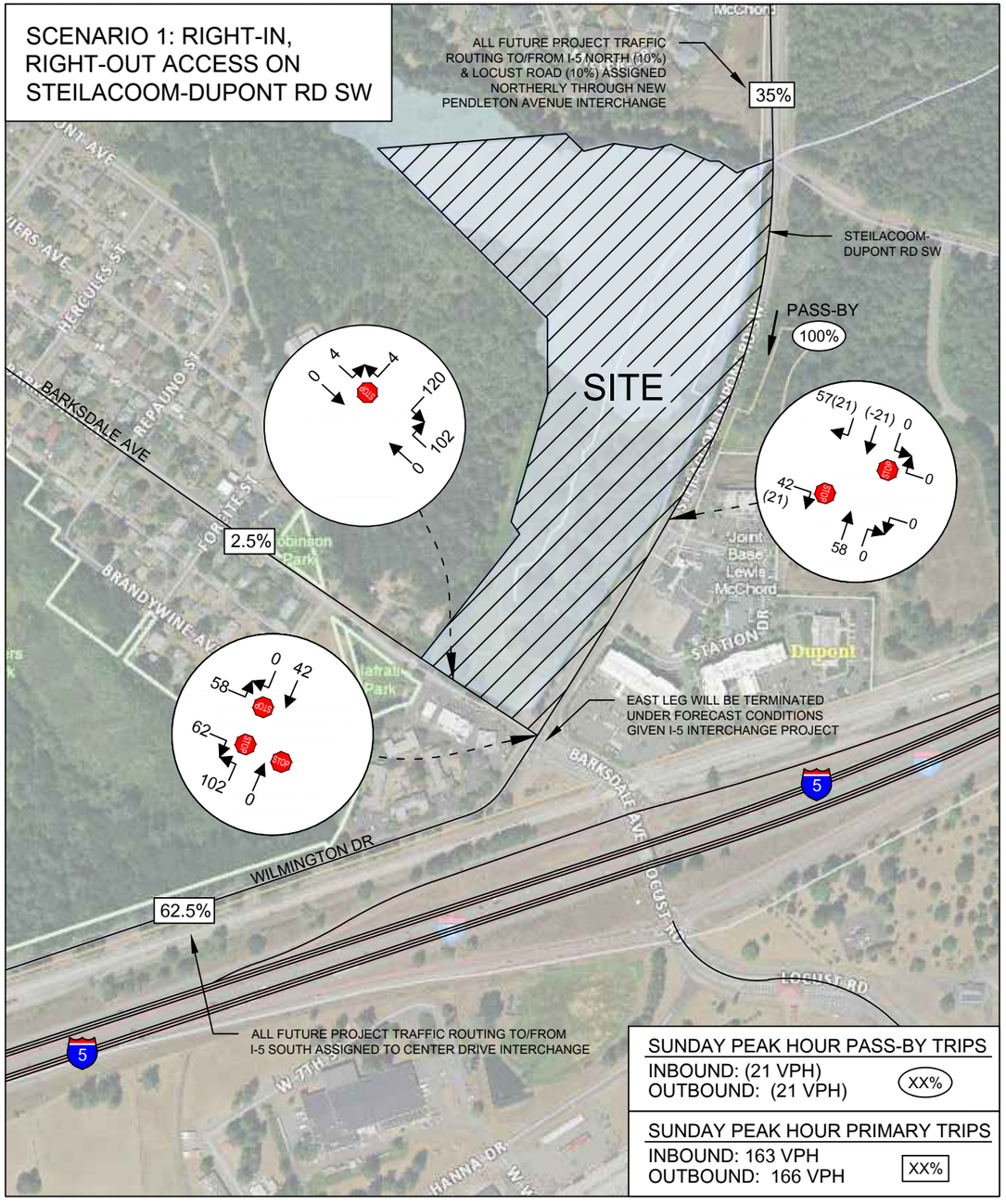
WEEKDAY PM PEAK HOUR TRIP DISTRIBUTION & ASSIGNMENT
FIGURE 4

N

SCENARIO 1: RIGHT-IN, RIGHT-OUT ACCESS ON STEILACOOM-DUPONT RD SW



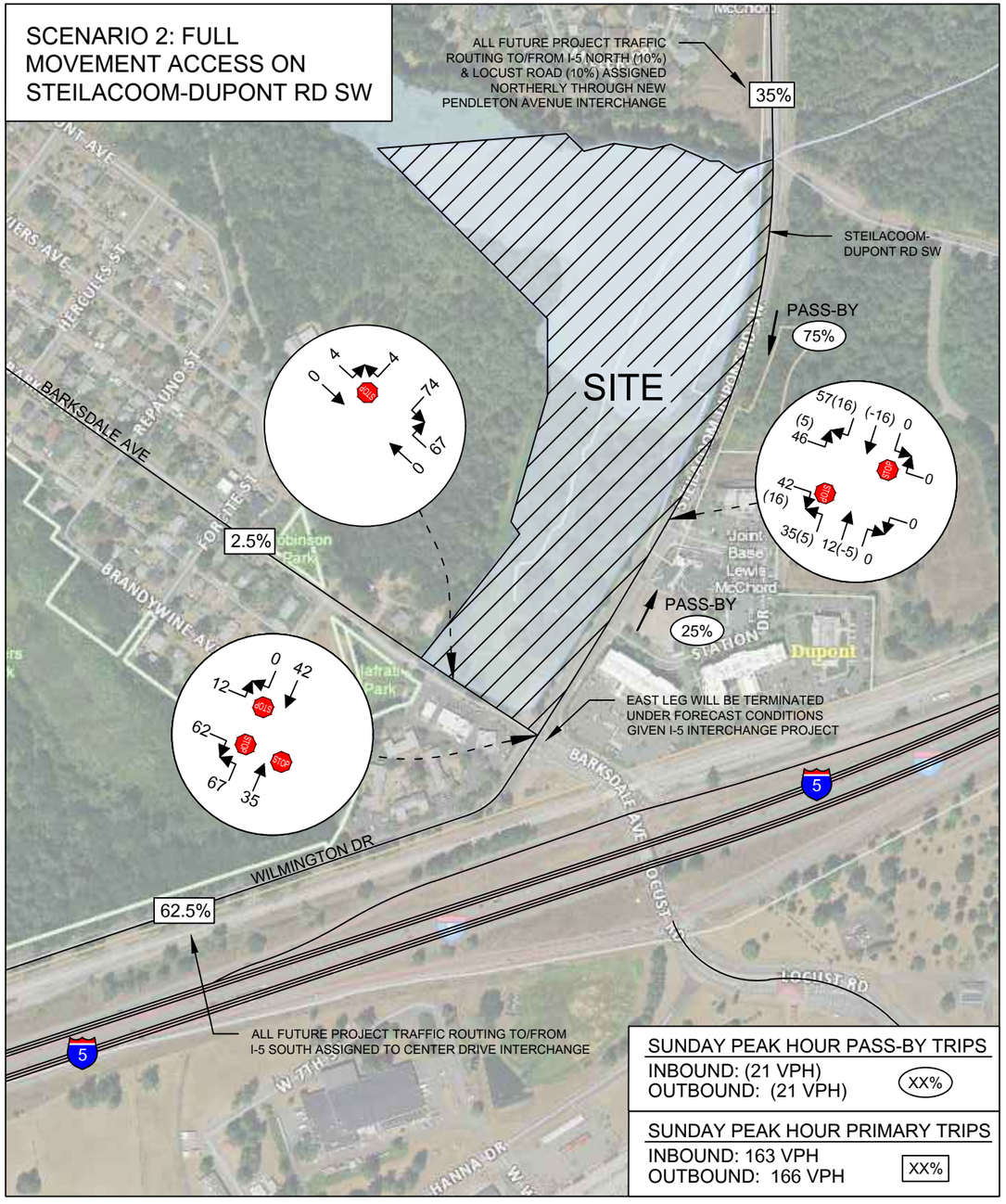
SUNDAY PEAK HOUR PASS-BY TRIPS

INBOUND: (21 VPH)
OUTBOUND: (21 VPH)
XX%

SUNDAY PEAK HOUR PRIMARY TRIPS

INBOUND: 163 VPH
OUTBOUND: 166 VPH
XX%

SCENARIO 2: FULL MOVEMENT ACCESS ON STEILACOOM-DUPONT RD SW



SUNDAY PEAK HOUR PASS-BY TRIPS

INBOUND: (21 VPH)
OUTBOUND: (21 VPH)
XX%

SUNDAY PEAK HOUR PRIMARY TRIPS

INBOUND: 163 VPH
OUTBOUND: 166 VPH
XX%

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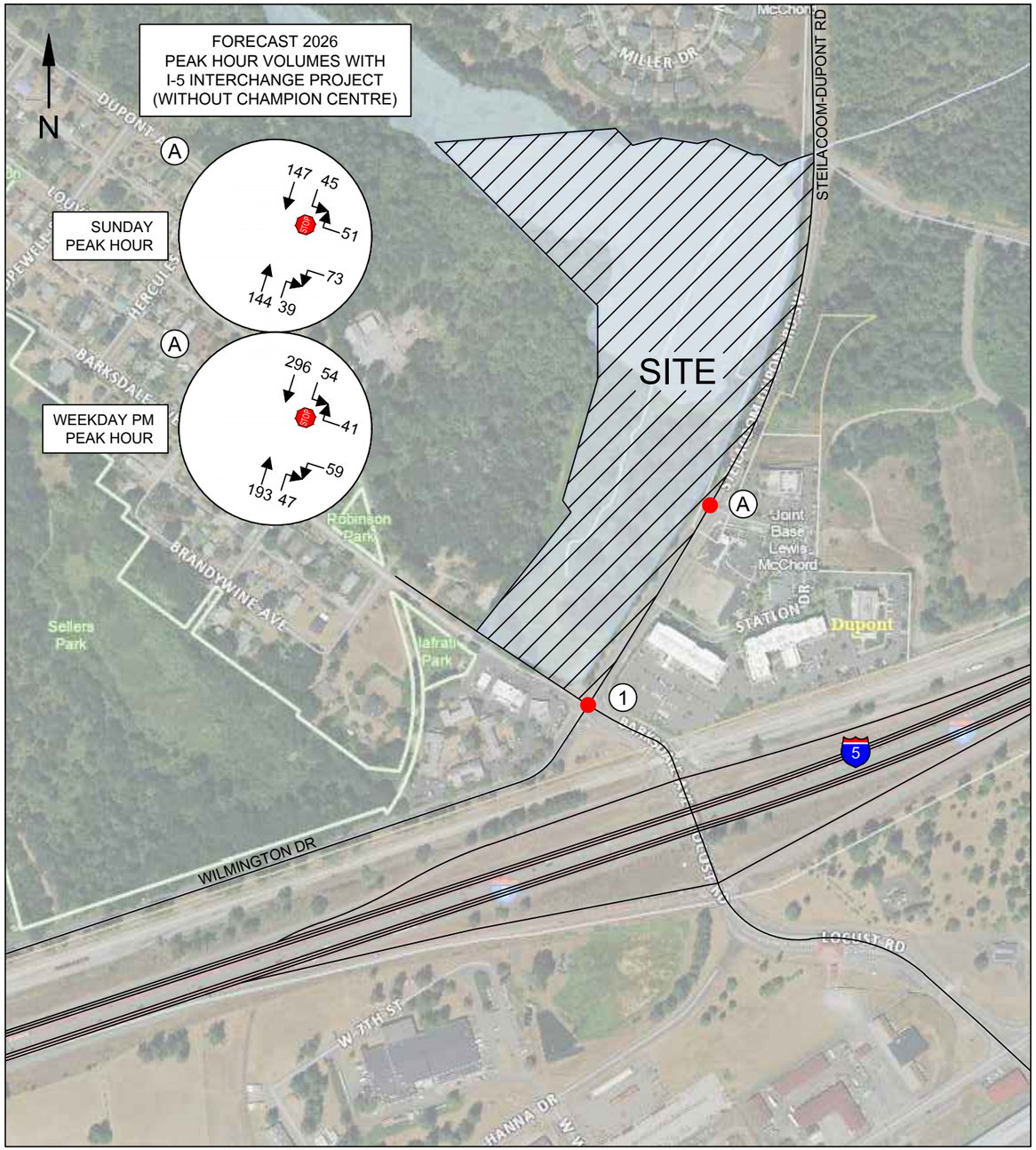
SUNDAY PEAK HOUR TRIP DISTRIBUTION & ASSIGNMENT
FIGURE 5



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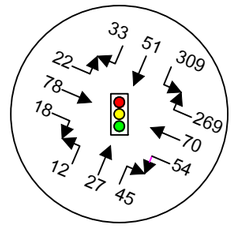
STEILACOOM-DUPONT RD/WILMINGTON DR & BARKSDALE AVE

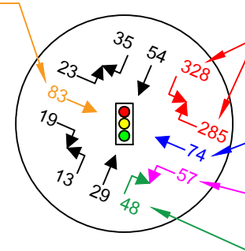
EXISTING SUNDAY PEAK HOUR VOLUMES



SUNDAY PEAK HOUR

EASTBOUND-THROUGH (83 VEHICLES) WILL BECOME EASTBOUND-LEFT MOVEMENTS

FORECAST 2026 SUNDAY PEAK HOUR VOLUMES WITH NO I-5 INTERCHANGE PROJECT



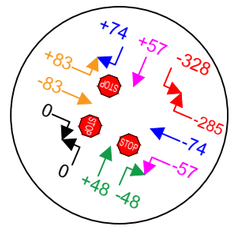
SOUTHBOUND-LEFT (328 VEHICLES) & WESTBOUND-RIGHT (285 VEHICLES) WILL NO LONGER BE TRAVELING THROUGH THE INTERSECTION

EASTBOUND-THROUGH (74 VEHICLES) WILL BECOME SOUTHBOUND-RIGHT MOVEMENTS

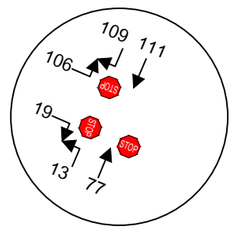
EASTBOUND-LEFT (57 VEHICLES) WILL BECOME SOUTHBOUND-THROUGH MOVEMENTS

NORTHBOUND-RIGHT (48 VEHICLES) WILL BECOME NORTHBOUND-THROUGH MOVEMENTS

FORECAST 2026 SUNDAY PEAK HOUR VOLUMES REROUTED AS A RESULT OF THE I-5 INTERCHANGE PROJECT

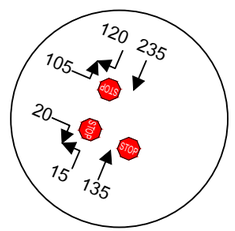


FORECAST 2026 SUNDAY PEAK HOUR VOLUMES WITH I-5 INTERCHANGE PROJECT (WITHOUT CHAMPION CENTRE)



1

WEEKDAY PM PEAK HOUR



FORECAST 2026 WEEKDAY PM PEAK HOUR VOLUMES WITH I-5 INTERCHANGE PROJECT (WITHOUT CHAMPION CENTRE)

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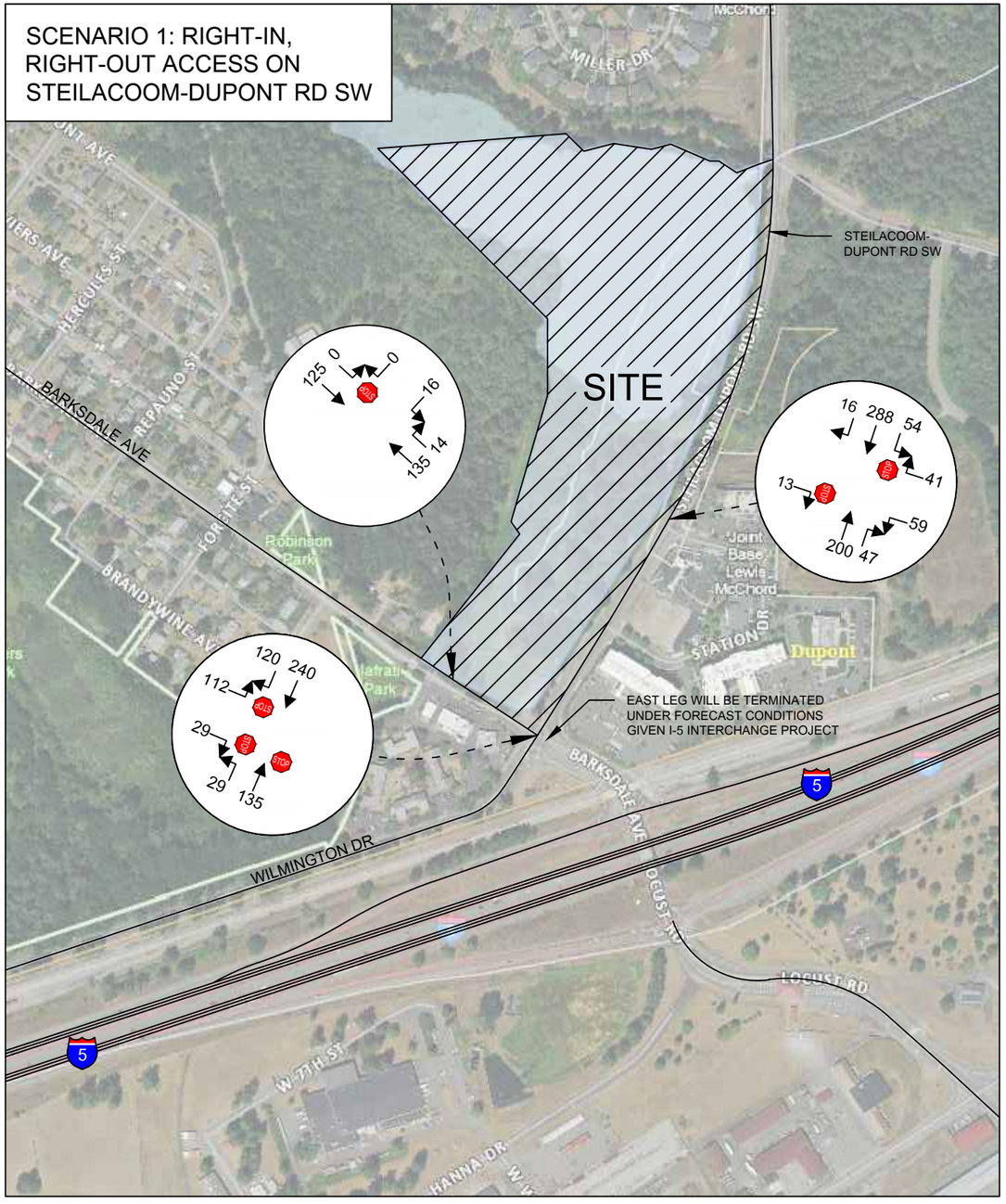
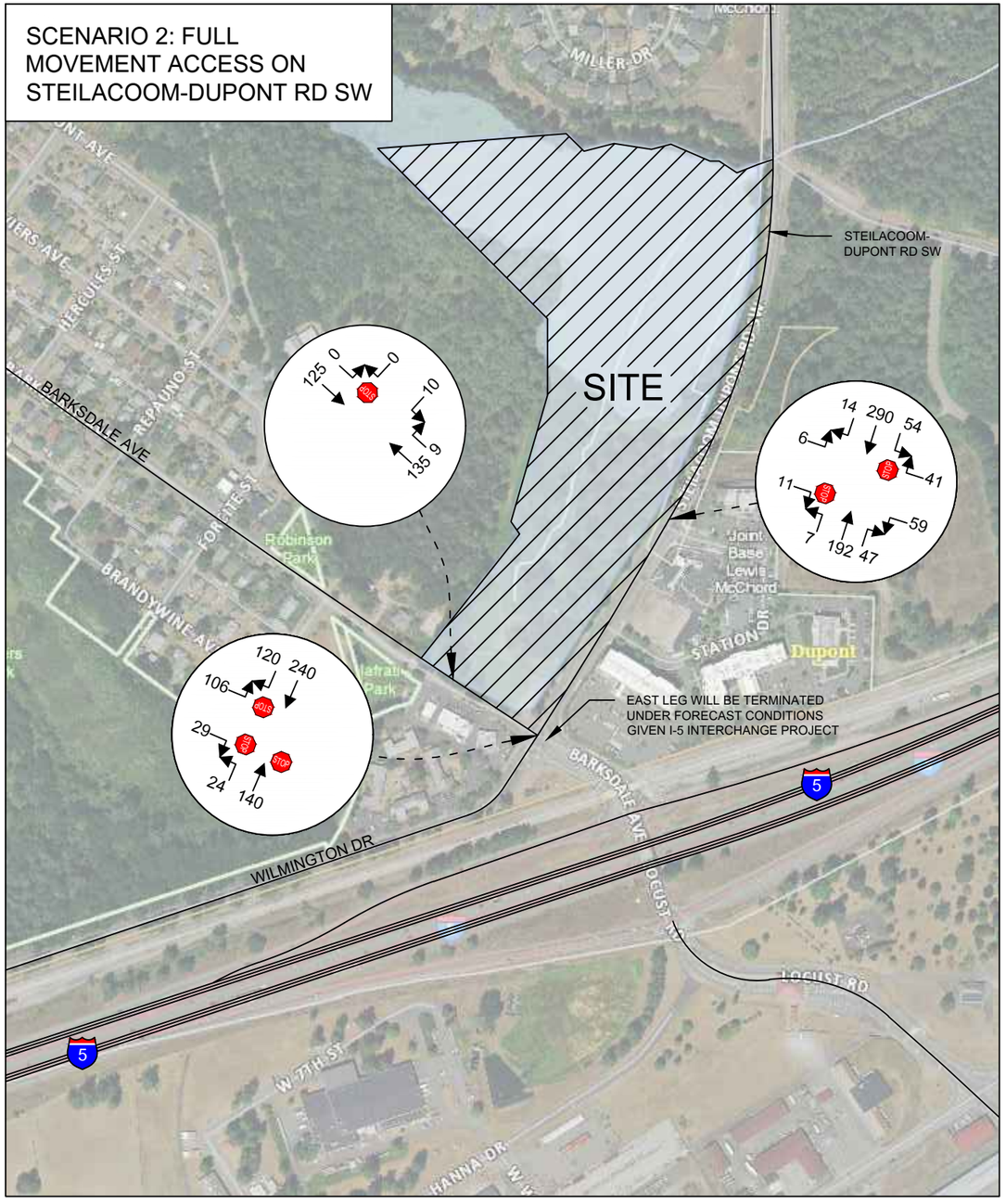
FORECAST 2026 WEEKDAY PM & SUNDAY PEAK HOUR BACKGROUND VOLUMES
& REROUTED SUNDAY PEAK HOUR VOLUMES DUE TO I-5 INTERCHANGE PROJECT
FIGURE 6

N

SCENARIO 1: RIGHT-IN, RIGHT-OUT ACCESS ON STEILACOOM-DUPONT RD SW



SCENARIO 2: FULL MOVEMENT ACCESS ON STEILACOOM-DUPONT RD SW



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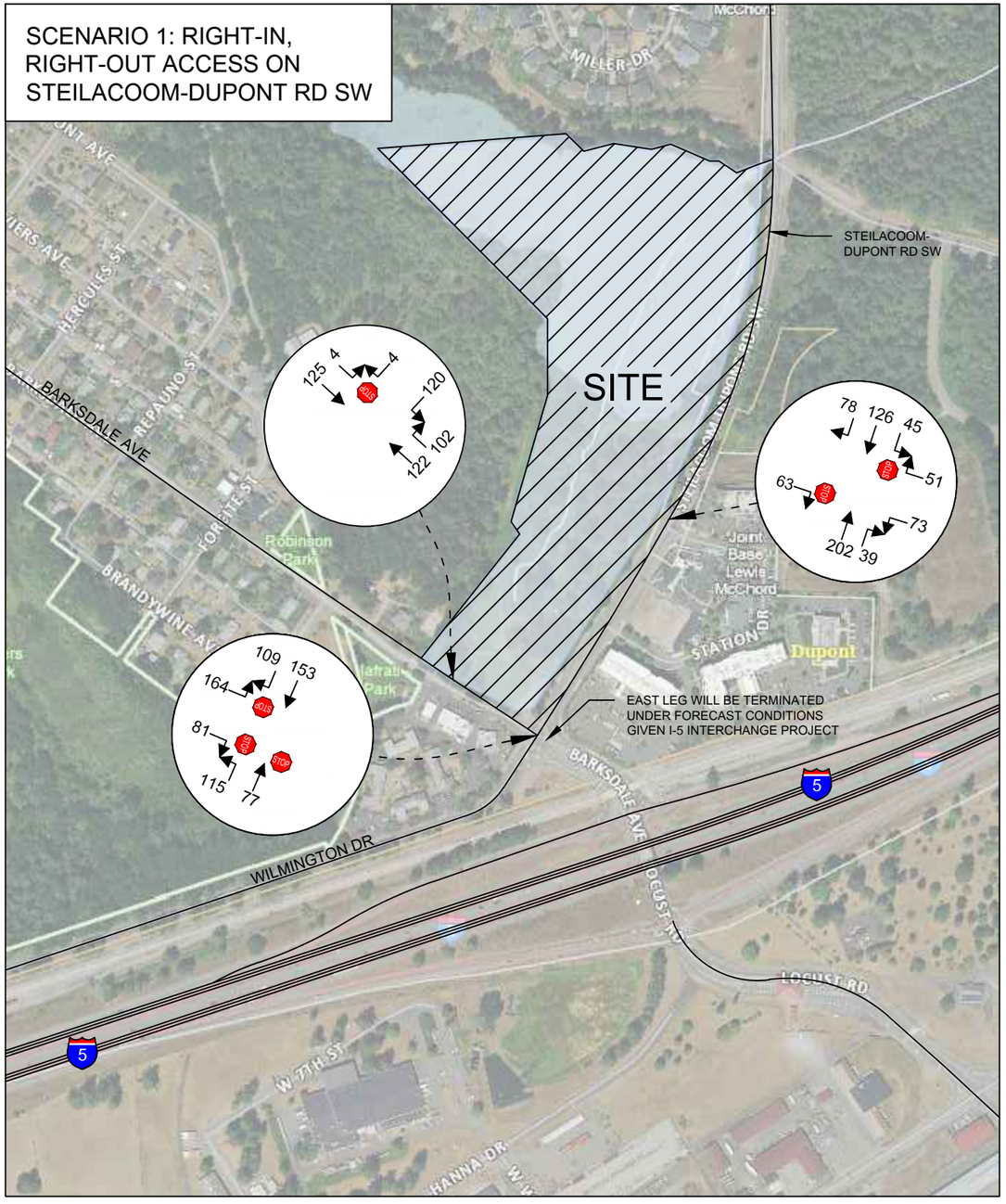
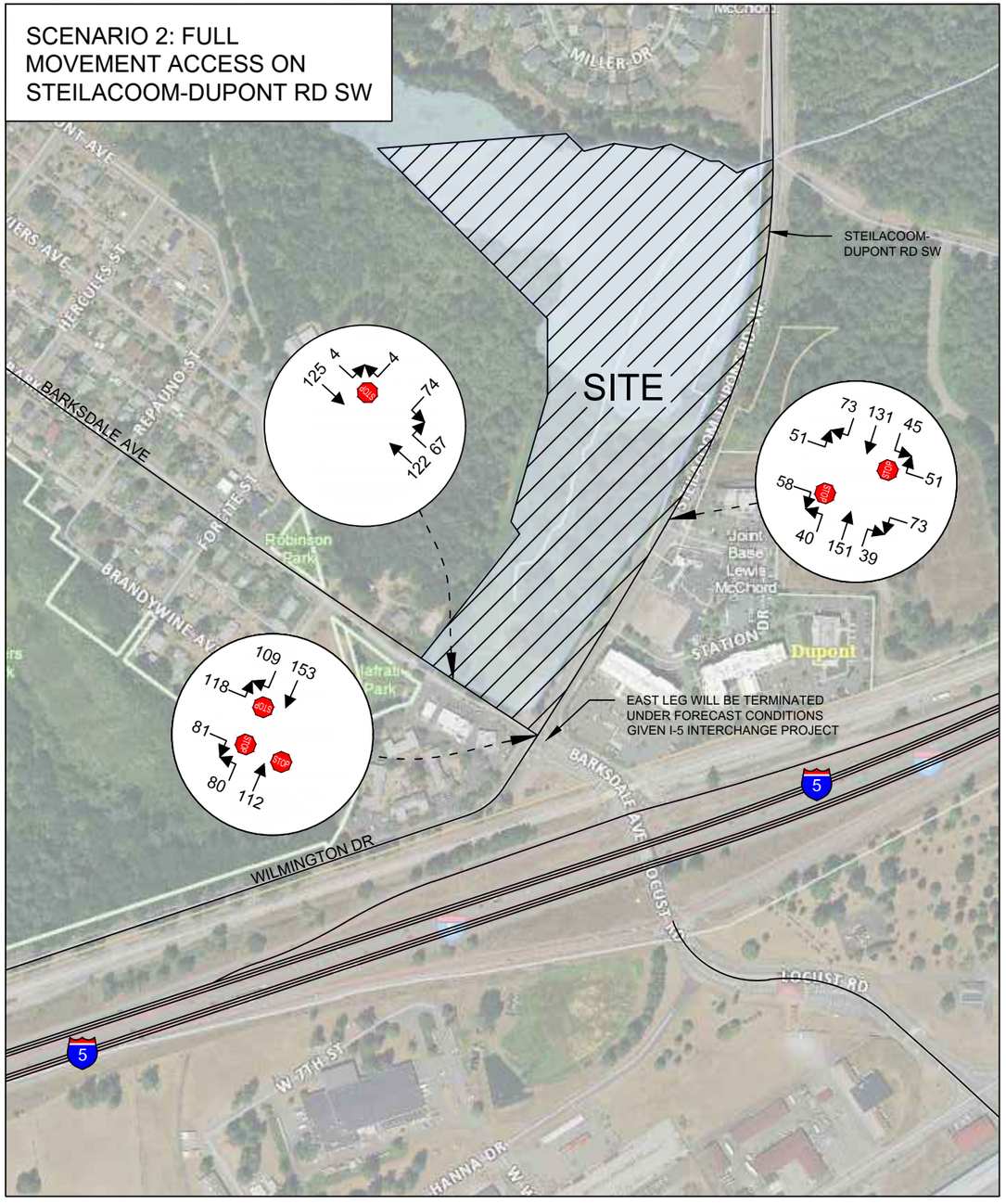
FORECAST 2026 WEEKDAY PM PEAK HOUR VOLUMES WITH PROJECT
FIGURE 7

N

SCENARIO 1: RIGHT-IN, RIGHT-OUT ACCESS ON STEILACOOM-DUPONT RD SW



SCENARIO 2: FULL MOVEMENT ACCESS ON STEILACOOM-DUPONT RD SW



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FORECAST 2026 SUNDAY PEAK HOUR VOLUMES WITH PROJECT
FIGURE 8

4.5 Future Level of Service

Level of service analyses were made of the future weekday PM and Sunday peak hour volumes without (background) and with project related trips added to the key study intersection and accesses. Intersection delays were determined through the use of the *Highway Capacity Manual* 7th Edition. Capacity analysis is used to determine level of service (LOS) which is an established measure of congestion for transportation facilities. The range[1] for intersection level of service is LOS A to LOS F with the former indicating the best operating conditions with low control delays and the latter indicating the worst conditions with heavy control delays. Detailed descriptions of intersection LOS are given in the 2016 Highway Capacity Manual. Level of service calculations were made through the use of the *Synchro 12* analysis program. As previously noted, the I-5 Interchange project is going to modify Steilacoom-Dupont Road SW & Barksdale Avenue to all-way stop-control (AWSC). For AWSC intersections, LOS is determined by the intersection's overall weighted average delay for each approaching leg. Side-street stop-controlled (TWSC) intersection LOS is determined by the approach with the highest delay.

Table 2 presents future weekday PM and Sunday peak hour LOS delays. Illustrated are delays for future background conditions (2026 without). Moreover, the two access scenarios are analyzed. Scenario 1 entails a right-in, right-out project driveway on Steilacoom-Dupont Road SW while Scenario 2 comprises a full movement access.

Table 2: Forecast 2026 Weekday PM & Sunday Peak Hour Level of Service

Delays Given in Seconds per Vehicle

				Weekday PM		Sunday Peak	
Intersection	**Control**	**Scenario**	**Movement**	**LOS**	**Delay**	**LOS**	**Delay**
Steilacoom-DuPont Rd SW & Barksdale Ave	AWSC	2026 Without Project	Overall	B	11.1	A	9.3
		2026 With: Scen.1	Overall	B	11.3	B	10.7
		2026 With: Scen. 2	Overall	B	11.2	B	10.2
Steilacoom-DuPont Rd SW & Station Drive (N)/Access	TWSC	2026 Without Project	WB	B	11.5	B	10.5
		2026 With: Scen.1 (Ri-Ro)	WB	B	12.1	B	11.4
		2026 With: Scen. 2 (Full)	EB	B	12.2	B	13.0
Access & Barksdale Ave	TWSC	2026 Without Project	-	-	-	-	-
		2026 With: Scen.1	SB	B	10.3	B	11.8
		2026 With: Scen. 2	SB	B	10.2	B	11.0

[1] *Signalized Intersections - Level of Service*

Level of Service	Control Delay per Vehicle (sec)
A	≤10
B	>10 and ≤20
C	>20 and ≤35
D	>35 and ≤55
E	>55 and ≤80
F	>80

Stop Controlled Intersections – Level of Service

Level of Service	Control Delay per Vehicle (sec)
A	≤10
B	>10 and ≤15
C	>15 and ≤25
D	>25 and ≤35
E	>35 and ≤50
F	>50

Highway Capacity Manual, 7th Edition

The City of Dupont currently has a LOS D threshold for peak hour traffic flow. However, LOS E conditions are permitted at Dupont-Steilacoom Road SW/ Wilmington Drive & Barksdale Avenue (under existing signalized control setting). As shown, forecast service levels with the all-way stop and relocated I-5 interchange as projected to operate with acceptable LOS B or better conditions under all scenarios.

The proposed accesses are similarly projected to operate with LOS B conditions under all scenarios. Overall, no intersection or capacity deficiencies are identified.

4.6 Project Access & Sight Distance

Two driveways are proposed to serve the subject site. One driveway is proposed to extend north from Barksdale Avenue and another driveway is proposed to extend west from Steilacoom-Dupont Road SW, opposite Station Drive (North). While the Steilacoom-Dupont Road SW access is currently depicted as right-in, right-out in the conceptual site plan, it was additionally evaluated under a full turning movement scenario. Available entering sight lines were therefore evaluated at both driveways.

In accordance with AASHTO standards, the 35-mph posted speed limits (45-mph design speed) on Steilacoom-Dupont Road SW would require approximately 530-feet[2] of entering sight lines. Initial review indicate sight lines can be achieved. Frontage improvements would further increase visibility by removing vegetation along the right-of-way. Looking south, sight lines are available to the roadway's intersection with Barksdale Avenue.

At the proposed Barksdale Avenue access, the 25-mph posted speed limit (30-mph design speed) would require approximately 335-feet of entering sight lines. Sight lines are available southeasterly to the roadway's intersection with Steilacoom-Dupont Road SW/Wilmington Drive. To the northwest, sight lines are available in excess of 350-feet. Overall, no sight distance deficiencies are identified at this time with the access proposal. Sight lines may need to be verified upon final site plan and approved access points, however.

[2] Given the additional center lane that must be crossed, an additional 0.50-seconds was added to the time gap (8.0-second total) for calculation inputs.

4.7 Queuing Analysis

The proposed Barksdale Avenue access is located approximately 165-feet northwest of Steilacoom-Dupont Road SW/Wilmington Drive. Moreover, the left-turn lane at the west leg of the intersection currently comprises a storage length of ~40-feet. The proposed development is anticipated to contribute additional traffic to the west leg of the intersection. As such, the adequacy of the eastbound left-turn storage on Barksdale Avenue was evaluated under forecast weekday PM and Sunday peak hour conditions. This evaluation was also performed to determine if any blockage to the proposed site access or existing nearby driveways may occur.

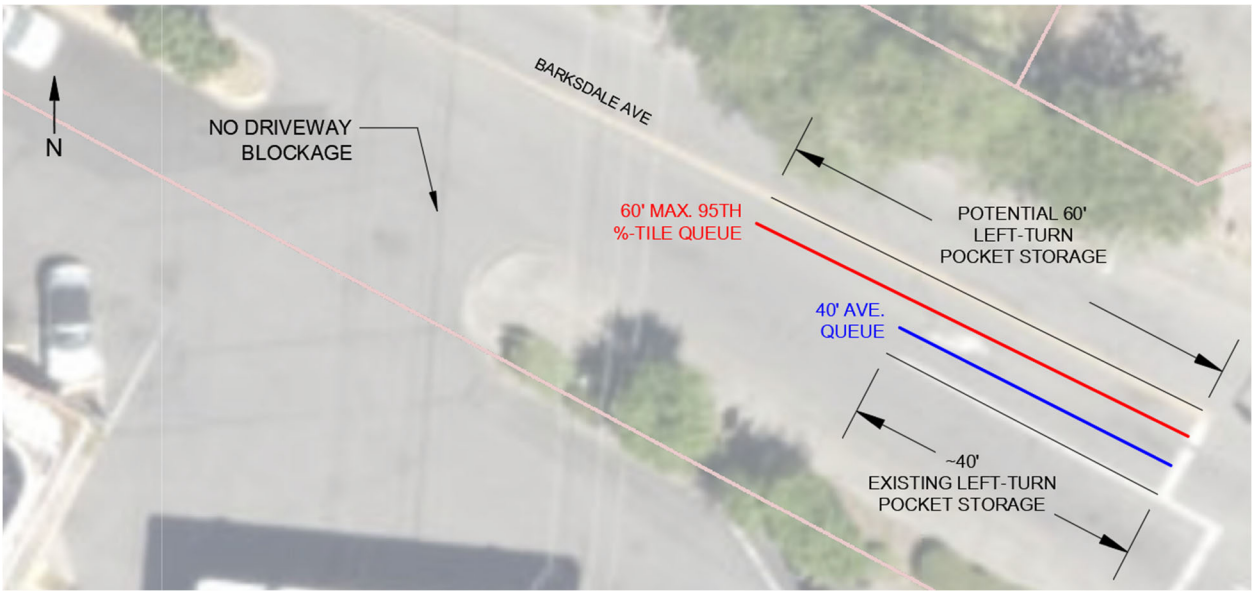
Eastbound left-turn lane queues were examined at Steilacoom-Dupont Road SW/Wilmington Drive & Barksdale Avenue using *SimTraffic* modeling software. A total of five, one-hour simulations were conducted under Scenario 1 as they present more conservative traffic volumes at the west leg of the intersection. Table 3 summarizes the average queues within the noted eastbound left-turn pocket.

Table 3: Forecast 2026 Weekday PM & Sunday Peak Hour Queuing

Intersection	Movement	Turn Pocket Storage	Scenario	Ave. Queue	95th Queue
Steilacoom-DuPont Rd SW & Barksdale Ave	EB L	~40′	Weekday PM Sunday Peak	**35′** **40′**	**55′** **60′**

Under forecast 2026 conditions with project traffic, an average queue of approximately 2 vehicles (35- to 40-feet) was estimated during the critical peak periods of study. The average queues are contained within the existing 40-foot turn pocket. A 95th percentile queue of approximately 3 vehicles (60-feet) was projected during the Sunday peak hour. Figure 9 below depicts forecast 2026 weekday PM peak hour queues at the eastbound left-turn pocket.

Figure 9: Forecast 2026 Sunday Peak Hour with Project Queues



The 95th percentile queues are estimated to exceed storage capacity by approximately 20-feet. However, the nearest driveway at 80-feet west of the intersection is not anticipated to be blocked during peak conditions.

Overall, it is recommended to restripe Barksdale Avenue west of Steilacoom-DuPont Road SW/Wilmington Drive to provide a minimum 60-foot left-turn pocket and up to 75-feet (as allowable within the existing cross-section and pavement width). By providing increased storage length of at least 60-feet, sufficient queuing capacity will be provided, and no driveway blockage is anticipated.

4.8 Left Turn Warrant Analysis

Turn lanes are a means of providing necessary storage space for left turning vehicles at intersections. Left turn warrants were analyzed at the proposed Barksdale Avenue driveway under both Scenario 1 and 2 conditions. Moreover, to further determine the potential adequacy of providing a full turning-movement access on Steilacoom-Dupont Road SW, a left-turn warrant analysis was conducted under Scenario 2 conditions.

For this impact study, procedures described by the WSDOT Design Manual Exhibit 1310-7a were used to ascertain storage requirements at both driveways. Based on the criteria set forth in the warrant calculations, a left turn lane *would not be warranted* under forecast 2026 weekday PM or Sunday peak hour conditions at the either of the proposed accesses under either Scenario 1 or 2 conditions. Turn lane exhibit sheets have been included in the appendix.

5. CONCLUSIONS & MITIGATION

Champions Centre proposes for the development of a 25,480 square foot religious assembly building, a 3,000 square foot dining/commercial building, and 14 EV charging stalls located within the city of Dupont. The subject site comprises a cumulative 21.42-acres within tax parcel #'s: 011936-2039; -2009; -2012; & -2043. Access is proposed via a single driveway to Barksdale Avenue and a single driveway to Steilacoom-Dupont Road SW opposite Station Drive (North). A conceptual site plan illustrating the overall configuration of the project and access proposal is provided in Figure 2.

Based on ITE and local trip generation data, the proposed development is anticipated to generate approximately 360 average weekday daily primary trips with 10 new weekday AM peak hour and 43 weekday PM primary trips. Moreover, approximately 329 Sunday peak hour primary trips are anticipated. A level of service (LOS) analysis was performed using a three-year horizon which included a background growth rate and accounts for traffic rerouting associated with the I-5 Interchange relocation project.

Forecast 2026 level of service (LOS) for the proposed access points, under both ingress/egress scenarios, are shown to operate with LOS B conditions, meeting City LOS D standards. Moreover, the reconfigured Steilacoom-Dupont Road SW/Wilmington Drive & Barksdale Avenue intersection to an all-way stop (due to I-5 Interchange relocation) is projected to operate with LOS A/B conditions. Volumes are estimated to significantly reduce through the intersection due to the new Interchange location. Overall, no capacity issues are identified.

Queues for the eastbound left-turn from Barksdale Avenue to Steilacoom-Dupont SW were examined under forecast conditions. Based on forecast conditions with project traffic and the modified intersection to all-way stop, max queues are estimated to approximately 60-feet. The current storage capacity of ~40-feet therefore should increase to a minimum of 60-feet and up to 75-feet—terminating just before a commercial driveway.

Based on the analysis above, the following mitigations and conclusions are identified:

1. All access points shall be designed in accordance with City standards and shall meet sight distance requirements.

2. The 3,000 square foot commercial building was evaluated under fast casual dining. Should the actual tenant occupancy change to a higher-generating use, additional evaluation may be required.

3. The existing eastbound left-turn pocket storage length along Barksdale Avenue to Steilacoom-Dupont shall extend to a minimum of 60-feet (existing ~40-feet) to accommodate future queuing demands. The queuing analysis takes into consideration the future all-way stop intersection configuration.

4. The project access onto Steilacoom-Dupont Road SW was evaluated under restricted (right-turns only) and unrestricted (full-movement) scenarios. Actual driveway configuration is subject to City review and any potential corridor improvements/modifications as a result of the WSDOT I-5 Interchange relocation project.

No other mitigation is identified at this time.

CHAMPIONS CENTRE
TRAFFIC IMPACT ANALYSIS

APPENDIX

SUNDAY PEAK
INTERSECTION COUNT SHEETS

Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5174a
Site Code : 00005174
Start Date : 7/23/2023
Page No : 1

Groups Printed- Passenger + - Heavy

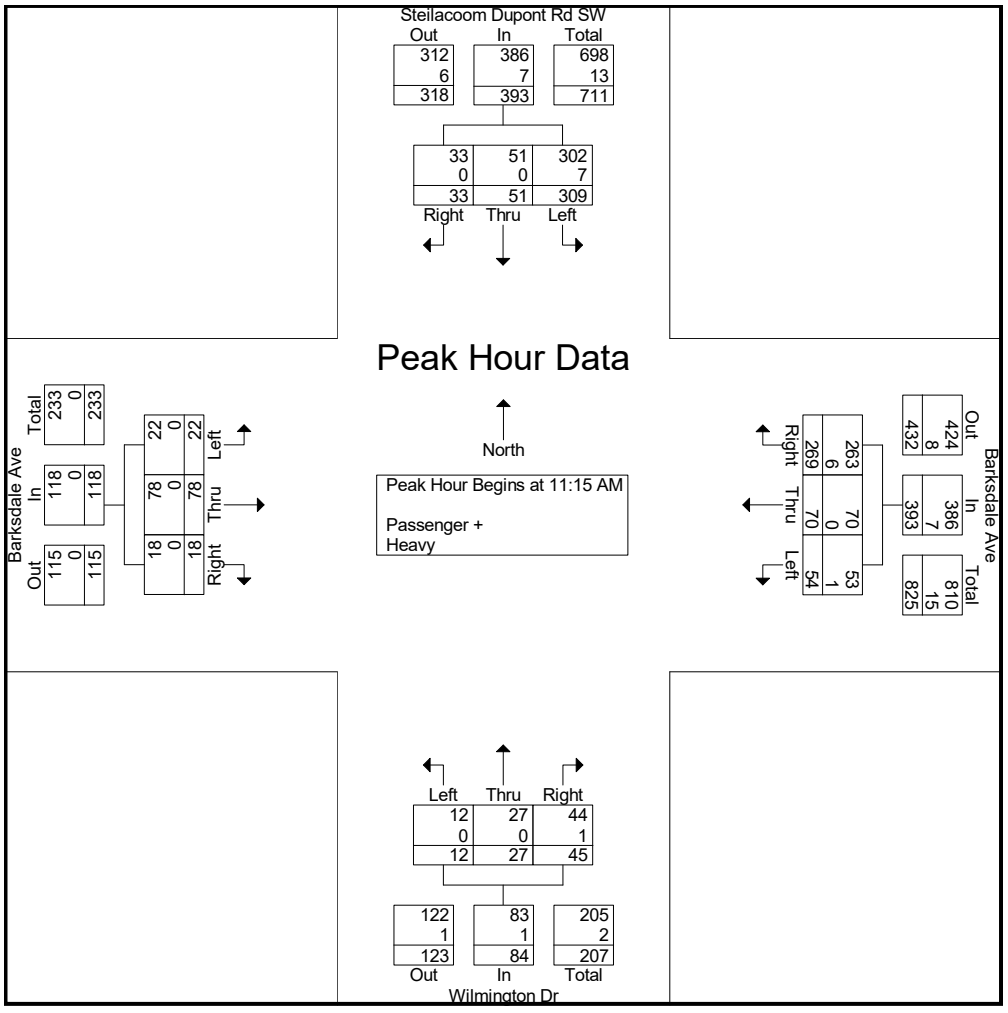
	Steilacoom Dupont Rd SW Southbound				Barksdale Ave Westbound				Wilmington Dr Northbound				Barksdale Ave Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
09:30 AM	8	6	65	79	60	8	10	78	15	7	2	24	3	11	2	16	197
09:45 AM	3	10	60	73	74	14	8	96	10	8	2	20	3	15	5	23	212
Total	11	16	125	152	134	22	18	174	25	15	4	44	6	26	7	39	409
10:00 AM	8	5	66	79	51	19	16	86	14	7	3	24	3	12	2	17	206
10:15 AM	10	11	69	90	54	16	13	83	14	4	7	25	3	19	7	29	227
10:30 AM	10	9	64	83	47	8	10	65	16	9	4	29	2	22	4	28	205
10:45 AM	4	5	67	76	53	9	7	69	17	6	5	28	3	16	2	21	194
Total	32	30	266	328	205	52	46	303	61	26	19	106	11	69	15	95	832
11:00 AM	4	11	80	95	70	15	11	96	17	10	3	30	4	15	8	27	248
11:15 AM	8	10	90	108	65	13	13	91	17	7	2	26	4	15	6	25	250
11:30 AM	5	15	82	102	65	10	8	83	10	3	1	14	2	15	3	20	219
11:45 AM	11	13	67	91	71	24	15	110	10	12	6	28	6	21	8	35	264
Total	28	49	319	396	271	62	47	380	54	32	12	98	16	66	25	107	981
12:00 PM	9	13	70	92	68	23	18	109	8	5	3	16	6	27	5	38	255
12:15 PM	11	7	70	88	67	12	17	96	13	3	2	18	5	19	5	29	231
Grand Total	91	115	850	1056	745	171	146	1062	161	81	40	282	44	207	57	308	2708
Apprch %	8.6	10.9	80.5		70.2	16.1	13.7		57.1	28.7	14.2		14.3	67.2	18.5		
Total %	3.4	4.2	31.4	39	27.5	6.3	5.4	39.2	5.9	3	1.5	10.4	1.6	7.6	2.1	11.4	
Passenger +	88	114	818	1020	726	171	144	1041	159	81	40	280	44	204	56	304	2645
% Passenger +	96.7	99.1	96.2	96.6	97.4	100	98.6	98	98.8	100	100	99.3	100	98.6	98.2	98.7	97.7
Heavy	3	1	32	36	19	0	2	21	2	0	0	2	0	3	1	4	63
% Heavy	3.3	0.9	3.8	3.4	2.6	0	1.4	2	1.2	0	0	0.7	0	1.4	1.8	1.3	2.3

Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5174a
Site Code : 00005174
Start Date : 7/23/2023
Page No : 2

	Steilacoom Dupont Rd SW Southbound				Barksdale Ave Westbound				Wilmington Dr Northbound				Barksdale Ave Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 09:30 AM to 12:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:15 AM																	
11:15 AM	8	10	**90**	**108**	65	13	13	91	**17**	7	2	26	4	15	6	25	250
11:30 AM	5	**15**	82	102	65	10	8	83	10	3	1	14	2	15	3	20	219
11:45 AM	**11**	13	67	91	**71**	**24**	15	**110**	10	**12**	**6**	**28**	**6**	21	**8**	35	**264**
12:00 PM	9	13	70	92	68	23	**18**	109	8	5	3	16	6	**27**	5	**38**	255
Total Volume	33	51	309	393	269	70	54	393	45	27	12	84	18	78	22	118	988
% App. Total	8.4	13	78.6		68.4	17.8	13.7		53.6	32.1	14.3		15.3	66.1	18.6		
PHF	.750	.850	.858	.910	.947	.729	.750	.893	.662	.563	.500	.750	.750	.722	.688	.776	.936
Passenger +	33	51	302	386	263	70	53	386	44	27	12	83	18	78	22	118	973
% Passenger +	100	100	97.7	98.2	97.8	100	98.1	98.2	97.8	100	100	98.8	100	100	100	100	98.5
Heavy	0	0	7	7	6	0	1	7	1	0	0	1	0	0	0	0	15
% Heavy	0	0	2.3	1.8	2.2	0	1.9	1.8	2.2	0	0	1.2	0	0	0	0	1.5



Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5174b
Site Code : 00005174
Start Date : 7/23/2023
Page No : 1

Groups Printed- Passenger + - Heavy

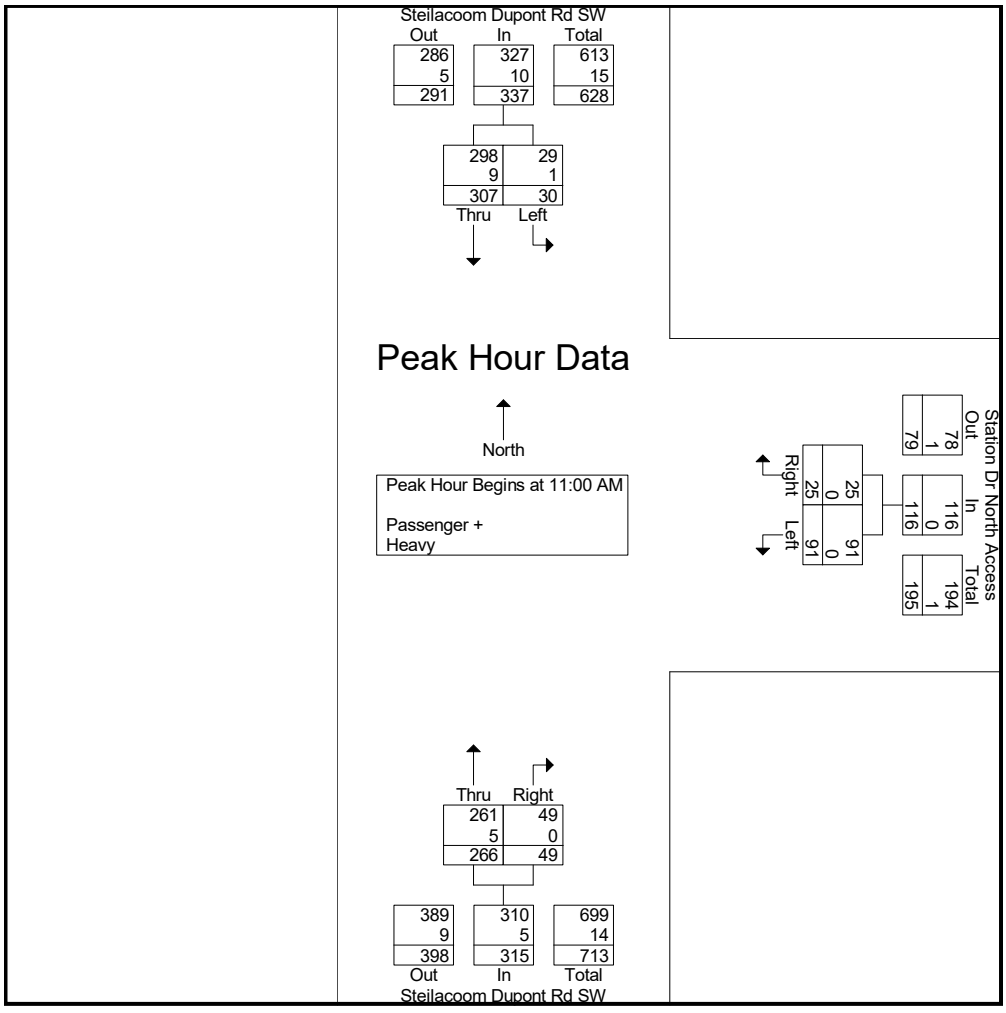
	Steilacoom Dupont Rd SW Southbound			Station Dr North Access Westbound			Steilacoom Dupont Rd SW Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
09:30 AM	52	7	59	3	20	23	11	63	74	156
09:45 AM	54	7	61	8	16	24	9	75	84	169
Total	106	14	120	11	36	47	20	138	158	325
10:00 AM	60	4	64	3	17	20	7	51	58	142
10:15 AM	64	0	64	4	22	26	21	53	74	164
10:30 AM	68	5	73	4	10	14	9	51	60	147
10:45 AM	53	6	59	3	18	21	13	59	72	152
Total	245	15	260	14	67	81	50	214	264	605
11:00 AM	71	4	75	8	25	33	16	68	84	192
11:15 AM	84	11	95	7	25	32	10	65	75	202
11:30 AM	79	10	89	4	13	17	9	58	67	173
11:45 AM	73	5	78	6	28	34	14	75	89	201
Total	307	30	337	25	91	116	49	266	315	768
12:00 PM	71	5	76	3	17	20	11	63	74	170
12:15 PM	78	6	84	4	17	21	11	61	72	177
Grand Total	807	70	877	57	228	285	141	742	883	2045
Apprch %	92	8		20	80		16	84		
Total %	39.5	3.4	42.9	2.8	11.1	13.9	6.9	36.3	43.2	
Passenger +	773	69	842	56	228	284	140	718	858	1984
% Passenger +	95.8	98.6	96	98.2	100	99.6	99.3	96.8	97.2	97
Heavy	34	1	35	1	0	1	1	24	25	61
% Heavy	4.2	1.4	4	1.8	0	0.4	0.7	3.2	2.8	3

Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5174b
Site Code : 00005174
Start Date : 7/23/2023
Page No : 2

	Steilacoom Dupont Rd SW Southbound			Station Dr North Access Westbound			Steilacoom Dupont Rd SW Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 09:30 AM to 12:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 11:00 AM										
11:00 AM	71	4	75	**8**	25	33	**16**	68	84	192
11:15 AM	**84**	**11**	**95**	7	25	32	10	65	75	**202**
11:30 AM	79	10	89	4	13	17	9	58	67	173
11:45 AM	73	5	78	6	**28**	**34**	14	**75**	**89**	201
Total Volume	307	30	337	25	91	116	49	266	315	768
% App. Total	91.1	8.9		21.6	78.4		15.6	84.4		
PHF	.914	.682	.887	.781	.813	.853	.766	.887	.885	.950
Passenger +	298	29	327	25	91	116	49	261	310	753
% Passenger +	97.1	96.7	97.0	100	100	100	100	98.1	98.4	98.0
Heavy	9	1	10	0	0	0	0	5	5	15
% Heavy	2.9	3.3	3.0	0	0	0	0	1.9	1.6	2.0



CHAMPIONS CENTRE
TRAFFIC IMPACT ANALYSIS

APPENDIX

FORECAST 2026 WEEKDAY PM PEAK HOUR
BACKGROUND TRAFFIC VOLUMES

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	105	20	15	135	235	120
Future Vol, veh/h	105	20	15	135	235	120
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	1	1	3	3
Mvmt Flow	109	21	16	141	245	125
Number of Lanes	1	0	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	1
HCM Control Delay	9.4	9.1	11
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	EBLn1	SBLn1
Vol Left, %	100%	0%	84%	0%
Vol Thru, %	0%	100%	0%	66%
Vol Right, %	0%	0%	16%	34%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	135	125	355
LT Vol	15	0	105	0
Through Vol	0	135	0	235
RT Vol	0	0	20	120
Lane Flow Rate	16	141	130	370
Geometry Grp	7	7	2	5
Degree of Util (X)	0.025	0.201	0.188	0.451
Departure Headway (Hd)	5.657	5.153	5.19	4.388
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	632	695	689	821
Service Time	3.398	2.894	3.24	2.421
HCM Lane V/C Ratio	0.025	0.203	0.189	0.451
HCM Control Delay	8.5	9.2	9.4	11
HCM Lane LOS	A	A	A	B
HCM 95th-tile Q	0.1	0.7	0.7	2.4

CHAMPIONS CENTRE
TRAFFIC IMPACT ANALYSIS

APPENDIX

ELECTRIC VEHICLE PARKING
TRIP GENERATION DATA

LOCAL TRIP GENERATION – EV CHARGING STATIONS:

Trip generation is typically derived using the Institute of Transportation Engineering Manual, *Trip Generation*. However, no applicable land use code in the 11th Edition manual was identified for electric vehicle charging stations. Therefore, a sample site trip generation analysis of several existing EV charging station sites was performed to provide a more accurate forecast. Three existing EV charging sites were sampled in terms of PM peak hour vehicular demands that were considered similar in nature and operation to that of the proposed. Specifications for the sample sites were obtained through Pierce County GIS. Below are the summaries of each sample site.

A. EVgo Charging Station
   Address: 1112 S M St, Tacoma, WA 98405
   Charging Station Capacity: 4 stalls
   Date Sampled: 11/22/2022 and 11/23/2022

B. Electrify America Charging Station
   Address: 1401 Galaxy Dr NE, Lacey, WA 98516
   Charging Station Capacity: 6 stalls
   Date Sampled: 12/6/2022 and 12/7/2022

C. Tesla Supercharger
   Address: 655 Sleater-Kinney Rd SE, Lacey, WA 98503
   Charging Station Capacity: 12 stalls
   Date Sampled: 12/6/2022 and 12/7/2022

Data collection at each sample site was gathered via physical field counts and consisted of tracking each inbound/outbound movement. Counts were performed for a two-hour period between 4:00-6:00 PM. The one-hour reflecting the highest observed total inbound and outbound movements was then used for calculations and is considered the "peak hour." A spreadsheet outlining volumes observed at each sample site has been attached on the following page. The spreadsheet illustrates the calculated inbound and outbound trip generation rates for the PM peak hour at each sample site. Rates are based on trips per EV charging stall.

Project File #: 4506
Project Name: Dos Lagos EV Study
Sample Parameters: 3 Locations , 2-Days each
Study Timeframe: 4:00 PM to 6:00 PM

EVgo Charging Station - 4 Stalls
Address: 1112 S M St, Tacoma, WA 98405
(Safeway Parking lot)

Day 1: 11/22/2022		Day 2: 11/23/2022	
4:07 In	**5:08 Out**	**5:10 In**	**5:21 Out**
5:15 In	**5:39 Out**		
2 in	2 Out	1 in	1 out

Peak Hour begins at 5:00 PM — Peak Hour begins at 5:00 PM
3 PM peak hour trips (1 In/2 Out) **2 PM peak hour trips (1 In/1 Out)**

Electrify America Charging Station - 6 Stalls
Address: 1401 Galaxy Dr NE, Lacey, WA 98516
(Walmart Parking Lot)

Day 1: 12/6/2022		Day 2: 12/7/2022	
4:25 In	**5:15 Out**	Pre-peak	**4:37 Out**
4:59 In	**5:14 Out**	**4:35 In**	**5:09 Out**
5:46 In	-	**4:42 In**	5:39 Out
		5:18 In	-
		5:29 In	-
3 in	2 out	4 In	3 Out

Peak Hour begins at 4:45 PM — Peak Hour begins at 4:30 PM
3 PM peak hour trips (1 In/2 Out) **6 PM peak hour trips (4 In/2 Out)**

Tesla Supercharger - 12 Stalls
Address: 655 SleaterKinney Rd SE, Lacey, WA 98503
(Shopping Center)

Day 1: 12/6/2022		Day 2: 12/7/2022	
Pre-Peak	4:01 Out	Pre-Peak	4:16 Out
Pre-Peak	4:05 Out	Pre-Peak	4:19 Out
Pre-Peak	4:07 Out	Pre-Peak	4:24 Out
Pre-Peak	**4:52 Out**	4:13 In	4:39 Out
4:30 In	**4:53 Out**	4:20 In	**5:24 Out**
4:48 In	**5:11 Out**	4:26 In	**5:09 Out**
4:49 in	**5:10 Out**	**5:02 In**	**5:27 Out**
5:09 In	5:56 Out	**5:05 In**	**5:28 Out**
5:16 In	5:46 Out	**5:18 In**	**5:29 Out**
5:21 In	5: 57 Out	**5:19 In**	**5:58 Out**
5:48 In	-	**5:22 In**	-
		5:30 in	**5:38 Out**
		5:33 in	-
		5:44 In	-
		5:48 In	-
		5:59 in	-
7 In	10 Out	13 In	11 Out

Peak Hour begins at 4:30 PM — Peak Hour begins at 5:00 PM
10 PM peak hour trips (6 In/4 Out) 17 PM peak hour trips (10 In/7 Out)

Evgo Charging Station Trip Rates (Site 1)						
Day	Peak Hour	Stall Count	Inbound Trips	Inbound Trip Rate	Outbound Trips	Outbound Trip Rate
Day 1	5:00-6:00 PM	4	1	0.25	2	0.5
Day 2	5:00-6:00 PM	4	1	0.25	1	0.25

Electrify America Charging Station Trip Rates (Site 2)						
Day	Peak Hour	Stall Count	Inbound Trips	Inbound Trip Rate	Outbound Trips	Outbound Trip Rate
Day 1	4:45-5:45 PM	6	1	0.17	2	0.33
Day 2	4:30-5:30 PM	6	4	0.67	2	0.33

Tesla Supercharger Trip Rates (Site 3)						
Day	Peak Hour	Stall Count	Inbound Trips	Inbound Trip Rate	Outbound Trips	Outbound Trip Rate
Day 1	4:30-5:30 PM	12	6	0.50	4	0.33
Day 2	5:00-6:00 PM	12	10	0.83	7	0.58

Average Trip Rates					
Site	**# of Stalls**	**Day**	**Inbound**	**Outbound**	**Total**
1	4	1	0.25	0.5	0.75
		2	0.25	0.25	0.50
2	6	1	0.17	0.33	0.50
		2	0.67	0.33	1.00
3	12	1	0.50	0.33	0.83
		2	0.83	0.58	1.41
		Average	**0.45**	**0.39**	**0.83**
		Weighted Average	**0.52**	**0.41**	**0.93**

Average Trip Rates Applied to Project		
Proposed # of charging stalls	Inbound Trips	Outbound Trips
10	**5.2**	**4.1**

CHAMPIONS CENTRE
TRAFFIC IMPACT ANALYSIS

APPENDIX

TRIP GENERATION SUMMARY

Heath & Associates Transportation Engineering
Project: Champion Centre
Jurisdiction: Dupont

Trip Generation Summary

Average Weekday Daily

Development	Land Use	LUC	Variable	Value	Rate	Distribution		Total Trips			Internal Capture		Pass-by Trips		Primary Trips		
						In	Out	In	Out	Total	%	Total	%	Total	In	Out	Total
	Church	#560	1000 sqft	25.48	7.6	50%	50%	96.8	96.8	193.6	0.0%	0.0	0%	0.0	96.8	96.8	193.6
Full Build-Out	Fast Casual Restaurant	#930	1000 sqft	3	97.14	50%	50%	145.7	145.7	291.4	0.0%	0.0	43%	125.3	83.1	83.1	166.1
	EV Charging Stations	N/A	Stall	10							0.0%	0.0	0%	0.0			
							Totals	**242.5**	**242.5**	**485.1**	**Totals**	**0.0**	**Totals**	**125.3**	**179.9**	**179.9**	**359.8**

Weekday AM Peak Hour

Development	Land Use	LUC	Variable	Value	Rate	Distribution		Total Trips			Internal Capture		Pass-by Trips		Primary Trips		
						In	Out	In	Out	Total	%	Total	%	Total	In	Out	Total
	Church	#560	1000 sqft	25.48	0.32	62%	38%	5.1	3.1	8.2	0.0%	0.0	0%	0.0	5.1	3.1	8.2
Full Build-Out	Fast Casual Restaurant	#930	1000 sqft	3	1.43	50%	50%	2.1	2.1	4.3	0.0%	0.0	43%	1.8	1.2	1.2	2.4
	EV Charging Stations	N/A	Stall	10							0.0%	0.0	0%	0.0			
							Totals	**7.2**	**5.2**	**12.4**	**Totals**	**0.0**	**Totals**	**1.8**	**6.3**	**4.3**	**10.6**

Weekday PM Peak Hour

Development	Land Use	LUC	Variable	Value	Rate	Distribution		Total Trips			Internal Capture		Pass-by Trips		Primary Trips		
						In	Out	In	Out	Total	%	Total	%	Total	In	Out	Total
	Church	#560	1000 sqft	25.48	0.49	44%	56%	5.5	7.0	12.5	0.0%	0.0	0%	0.0	5.0	6.7	12.0
Full Build-Out	Fast Casual Restaurant	#930	1000 sqft	3	12.55	55%	45%	20.7	16.9	37.7	0.0%	0.0	43%	16.2	11.8	9.7	21.5
	EV Charging Stations	N/A	Stall	10	0.93	56%	44%	5.2	4.1	9.3	0.0%	0.0	0%	0.0	5.2	4.1	9.3
							Totals	**31.4**	**28.0**	**59.4**	**Totals**	**0.0**	**Totals**	**16.2**	**22.0**	**20.5**	**42.8**

Sunday Peak Hour

Development	Land Use	LUC	Variable	Value	Rate	Distribution		Total Trips			Internal Capture		Pass-by Trips		Primary Trips		
						In	Out	In	Out	Total	%	Total	%	Total	In	Out	Total
	Church	#560	1000 sqft	25.48	10.36	48%	52%	126.7	137.3	264.0	0.0%	0.0	0%	0.0	126.7	137.3	264.0
Full Build-Out	Fast Casual Restaurant	#930	1000 sqft	3	32.64	55%	45%	53.9	44.1	97.9	0.0%	0.0	43%	42.1	30.7	25.1	55.8
	EV Charging Stations	N/A	Stall	10	0.93	56%	44%	5.2	4.1	9.3	0.0%	0.0	0%	0.0	5.2	4.1	9.3
							Totals	**185.8**	**185.4**	**371.2**	**Totals**	**0.0**	**Totals**	**42.1**	**162.6**	**166.5**	**329.1**

Sources:
Institute of Transportation Engineers, *Trip Generation Manual,* 11th Edition, (2021).
Pass-by rates were derived from the Institute of Transportation Engineers, 2021 Pass-By Tables for ITE Trip Gen Appendices (2021). No pass-by rate is available for LUC 930 - Fast Casual Restaurant. As such, rates for a similar land use, LUC 932 - High-Turnover (Sit-Down) Restaurant were applied to the proposed land use.
NCHRP 8-51 Internal Trip Capture Estimation Tool

CHAMPIONS CENTRE
TRAFFIC IMPACT ANALYSIS

APPENDIX

FORECAST 2026 PEAK HOUR LEVEL OF SERVICE
WITHOUT PROJECT

Intersection	
Intersection Delay, s/veh	11.1
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	105	20	15	135	235	120
Future Vol, veh/h	105	20	15	135	235	120
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	1	1	3	3
Mvmt Flow	109	21	16	141	245	125
Number of Lanes	1	1	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay, s/veh	10.1	9.2	12.2
HCM LOS	B	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	66%
Vol Right, %	0%	0%	0%	100%	34%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	135	105	20	355
LT Vol	15	0	105	0	0
Through Vol	0	135	0	0	235
RT Vol	0	0	0	20	120
Lane Flow Rate	16	141	109	21	370
Geometry Grp	7	7	7	7	4
Degree of Util (X)	0.025	0.204	0.191	0.029	0.487
Departure Headway (Hd)	5.738	5.234	6.282	5.072	4.74
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	623	683	569	701	758
Service Time	3.485	2.981	4.048	2.837	2.776
HCM Lane V/C Ratio	0.026	0.206	0.192	0.03	0.488
HCM Control Delay, s/veh	8.6	9.3	10.5	8	12.2
HCM Lane LOS	A	A	B	A	B
HCM 95th-tile Q	0.1	0.8	0.7	0.1	2.7

Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	59	41	193	47	54	296
Future Vol, veh/h	59	41	193	47	54	296
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	50	0	-	185	90	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	1	2	1	3	3
Mvmt Flow	62	43	203	49	57	312

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	628	203	0	0	253	0
Stage 1	203	-	-	-	-	-
Stage 2	425	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.13	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.227	-
Pot Cap-1 Maneuver	448	840	-	-	1307	-
Stage 1	833	-	-	-	-	-
Stage 2	661	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	429	840	-	-	1307	-
Mov Cap-2 Maneuver	515	-	-	-	-	-
Stage 1	833	-	-	-	-	-
Stage 2	633	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	11.54	0	1.22
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	515	840	1307	-
HCM Lane V/C Ratio	-	-	0.121	0.051	0.043	-
HCM Control Delay (s/veh)	-	-	12.9	9.5	7.9	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.2	0.1	-

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	106	19	13	77	111	109
Future Vol, veh/h	106	19	13	77	111	109
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	1	1	1	2	2	2
Mvmt Flow	113	20	14	82	118	116
Number of Lanes	1	1	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay, s/veh	9.4	8.5	9.5
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	50%
Vol Right, %	0%	0%	0%	100%	50%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	13	77	106	19	220
LT Vol	13	0	106	0	0
Through Vol	0	77	0	0	111
RT Vol	0	0	0	19	109
Lane Flow Rate	14	82	113	20	234
Geometry Grp	7	7	7	7	4
Degree of Util (X)	0.022	0.116	0.181	0.026	0.295
Departure Headway (Hd)	5.599	5.113	5.794	4.588	4.539
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	640	702	619	779	793
Service Time	3.323	2.837	3.529	2.322	2.558
HCM Lane V/C Ratio	0.022	0.117	0.183	0.026	0.295
HCM Control Delay, s/veh	8.4	8.5	9.8	7.4	9.5
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.1	0.4	0.7	0.1	1.2

Intersection	
Int Delay, s/veh	3.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	73	51	144	39	45	147
Future Vol, veh/h	73	51	144	39	45	147
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	50	0	-	185	90	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	1	2	1	3	3
Mvmt Flow	77	54	152	41	47	155

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	401	152	0	0	193	0
Stage 1	152	-	-	-	-	-
Stage 2	249	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.13	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.227	-
Pot Cap-1 Maneuver	607	897	-	-	1375	-
Stage 1	879	-	-	-	-	-
Stage 2	794	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	586	897	-	-	1375	-
Mov Cap-2 Maneuver	637	-	-	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	767	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	10.54	0	1.81
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	637	897	1375	-
HCM Lane V/C Ratio	-	-	0.121	0.06	0.034	-
HCM Control Delay (s/veh)	-	-	11.4	9.3	7.7	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.2	0.1	-

CHAMPIONS CENTRE
TRAFFIC IMPACT ANALYSIS

APPENDIX

FORECAST 2026 PEAK HOUR LEVEL OF SERVICE
WITH PROJECT: SCENARIO 1

Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	112	29	29	135	240	120
Future Vol, veh/h	112	29	29	135	240	120
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	1	1	3	3
Mvmt Flow	117	30	30	141	250	125
Number of Lanes	1	1	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay, s/veh	10.2	9.3	12.6
HCM LOS	B	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	67%
Vol Right, %	0%	0%	0%	100%	33%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	135	112	29	360
LT Vol	29	0	112	0	0
Through Vol	0	135	0	0	240
RT Vol	0	0	0	29	120
Lane Flow Rate	30	141	117	30	375
Geometry Grp	7	7	7	7	4
Degree of Util (X)	0.049	0.207	0.205	0.043	0.501
Departure Headway (Hd)	5.801	5.296	6.336	5.126	4.809
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	615	675	564	693	746
Service Time	3.554	3.05	4.112	2.9	2.85
HCM Lane V/C Ratio	0.049	0.209	0.207	0.043	0.503
HCM Control Delay, s/veh	8.9	9.4	10.8	8.1	12.6
HCM Lane LOS	A	A	B	A	B
HCM 95th-tile Q	0.2	0.8	0.8	0.1	2.8

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	13	59	0	41	0	200	47	54	288	16
Future Vol, veh/h	0	0	13	59	0	41	0	200	47	54	288	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	0	-	-	185	90	-	-
Veh in Median Storage, #	-	0	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	95	92	95	92	95	95	95	95	92
Heavy Vehicles, %	2	2	2	1	2	1	2	2	1	3	3	2
Mvmt Flow	0	0	14	62	0	43	0	211	49	57	303	17

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	312	627	-	211	-	0	0	260	0	0
Stage 1	-	-	-	211	-	-	-	-	-	-	-	-
Stage 2	-	-	-	417	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.22	7.11	-	6.21	-	-	-	4.13	-	-
Critical Hdwy Stg 1	-	-	-	6.11	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.11	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.318	3.509	-	3.309	-	-	-	2.227	-	-
Pot Cap-1 Maneuver	0	0	728	397	0	832	0	-	-	1299	-	-
Stage 1	0	0	-	794	0	-	0	-	-	-	-	-
Stage 2	0	0	-	615	0	-	0	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	728	372	-	832	-	-	-	1299	-	-
Mov Cap-2 Maneuver	-	-	-	466	-	-	-	-	-	-	-	-
Stage 1	-	-	-	794	-	-	-	-	-	-	-	-
Stage 2	-	-	-	577	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	10.04	12.13	0	1.19
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	-	-	728	466	832	1299	-	-
HCM Lane V/C Ratio	-	-	0.019	0.133	0.052	0.044	-	-
HCM Control Delay (s/veh)	-	-	10	13.9	9.6	7.9	-	-
HCM Lane LOS	-	-	B	B	A	A	-	-
HCM 95th %tile Q(veh)	-	-	0.1	0.5	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	125	135	14	16	0
Future Vol, veh/h	0	125	135	14	16	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	136	147	15	17	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	162	0	-	0	290	154
Stage 1	-	-	-	-	154	-
Stage 2	-	-	-	-	136	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1417	-	-	-	700	892
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	891	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1417	-	-	-	700	892
Mov Cap-2 Maneuver	-	-	-	-	700	-
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	891	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	10.27
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1417	-	-	-	700
HCM Lane V/C Ratio	-	-	-	-	0.025
HCM Control Delay (s/veh)	0	-	-	-	10.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	164	81	115	77	153	109
Future Vol, veh/h	164	81	115	77	153	109
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	1	1	1	2	2	2
Mvmt Flow	174	86	122	82	163	116
Number of Lanes	1	1	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay, s/veh	10.6	9.9	11.4
HCM LOS	B	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	58%
Vol Right, %	0%	0%	0%	100%	42%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	115	77	164	81	262
LT Vol	115	0	164	0	0
Through Vol	0	77	0	0	153
RT Vol	0	0	0	81	109
Lane Flow Rate	122	82	174	86	279
Geometry Grp	7	7	7	7	4
Degree of Util (X)	0.205	0.126	0.302	0.12	0.393
Departure Headway (Hd)	6.04	5.552	6.222	5.012	5.076
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	590	640	572	707	702
Service Time	3.824	3.336	4.011	2.801	3.147
HCM Lane V/C Ratio	0.207	0.128	0.304	0.122	0.397
HCM Control Delay, s/veh	10.4	9.1	11.7	8.5	11.4
HCM Lane LOS	B	A	B	A	B
HCM 95th-tile Q	0.8	0.4	1.3	0.4	1.9

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	63	73	0	51	0	202	39	45	126	78
Future Vol, veh/h	0	0	63	73	0	51	0	202	39	45	126	78
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	0	-	-	185	90	-	-
Veh in Median Storage, #	-	0	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	95	92	95	92	95	95	95	95	92
Heavy Vehicles, %	2	2	2	1	2	1	2	2	1	3	3	2
Mvmt Flow	0	0	68	77	0	54	0	213	41	47	133	85

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	175	440	-	213	-	0	0	254	0	0
Stage 1	-	-	-	213	-	-	-	-	-	-	-	-
Stage 2	-	-	-	227	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.22	7.11	-	6.21	-	-	-	4.13	-	-
Critical Hdwy Stg 1	-	-	-	6.11	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.11	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.318	3.509	-	3.309	-	-	-	2.227	-	-
Pot Cap-1 Maneuver	0	0	868	529	0	830	0	-	-	1306	-	-
Stage 1	0	0	-	792	0	-	0	-	-	-	-	-
Stage 2	0	0	-	778	0	-	0	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	868	470	-	830	-	-	-	1306	-	-
Mov Cap-2 Maneuver	-	-	-	548	-	-	-	-	-	-	-	-
Stage 1	-	-	-	792	-	-	-	-	-	-	-	-
Stage 2	-	-	-	690	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	9.5	11.4	0	1.41
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	-	-	868	548	830	1306	-	-
HCM Lane V/C Ratio	-	-	0.079	0.14	0.065	0.036	-	-
HCM Control Delay (s/veh)	-	-	9.5	12.6	9.6	7.9	-	-
HCM Lane LOS	-	-	A	B	A	A	-	-
HCM 95th %tile Q(veh)	-	-	0.3	0.5	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	125	122	102	120	4
Future Vol, veh/h	4	125	122	102	120	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	136	133	111	130	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	243	0	-	0	333	188
Stage 1	-	-	-	-	188	-
Stage 2	-	-	-	-	145	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1323	-	-	-	662	854
Stage 1	-	-	-	-	844	-
Stage 2	-	-	-	-	883	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1323	-	-	-	660	854
Mov Cap-2 Maneuver	-	-	-	-	660	-
Stage 1	-	-	-	-	841	-
Stage 2	-	-	-	-	883	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.24	0	11.79
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	56	-	-	-	665
HCM Lane V/C Ratio	0.003	-	-	-	0.203
HCM Control Delay (s/veh)	7.7	0	-	-	11.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.8

CHAMPIONS CENTRE
TRAFFIC IMPACT ANALYSIS

APPENDIX

FORECAST 2026 PEAK HOUR LEVEL OF SERVICE
WITH PROJECT: SCENARIO 2

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	106	29	24	140	240	120
Future Vol, veh/h	106	29	24	140	240	120
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	1	1	3	3
Mvmt Flow	110	30	25	146	250	125
Number of Lanes	1	1	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay, s/veh	10.1	9.4	12.5
HCM LOS	B	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	67%
Vol Right, %	0%	0%	0%	100%	33%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	140	106	29	360
LT Vol	24	0	106	0	0
Through Vol	0	140	0	0	240
RT Vol	0	0	0	29	120
Lane Flow Rate	25	146	110	30	375
Geometry Grp	7	7	7	7	4
Degree of Util (X)	0.04	0.214	0.194	0.043	0.499
Departure Headway (Hd)	5.775	5.271	6.333	5.122	4.786
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	618	678	563	693	750
Service Time	3.528	3.024	4.106	2.895	2.828
HCM Lane V/C Ratio	0.04	0.215	0.195	0.043	0.5
HCM Control Delay, s/veh	8.8	9.5	10.6	8.1	12.5
HCM Lane LOS	A	A	B	A	B
HCM 95th-tile Q	0.1	0.8	0.7	0.1	2.8

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	0	11	59	0	41	7	192	47	54	290	14
Future Vol, veh/h	6	0	11	59	0	41	7	192	47	54	290	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	0	-	-	185	90	-	-
Veh in Median Storage, #	-	0	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	95	92	95	92	95	95	95	95	92
Heavy Vehicles, %	2	2	2	1	2	1	2	2	1	3	3	2
Mvmt Flow	7	0	12	62	0	43	8	202	49	57	305	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	644	693	313	636	-	202	320	0	0	252	0	0
Stage 1	427	427	-	217	-	-	-	-	-	-	-	-
Stage 2	217	267	-	419	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.11	-	6.21	4.12	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.11	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.11	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.509	-	3.309	2.218	-	-	2.227	-	-
Pot Cap-1 Maneuver	386	367	727	392	0	841	1239	-	-	1308	-	-
Stage 1	606	586	-	787	0	-	-	-	-	-	-	-
Stage 2	785	688	-	614	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	348	348	727	366	-	841	1239	-	-	1308	-	-
Mov Cap-2 Maneuver	348	348	-	459	-	-	-	-	-	-	-	-
Stage 1	580	560	-	782	-	-	-	-	-	-	-	-
Stage 2	739	683	-	577	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	12.11	12.2	0.23	1.19
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1239	-	-	525	459	841	1308	-	-
HCM Lane V/C Ratio	0.006	-	-	0.035	0.135	0.051	0.043	-	-
HCM Control Delay (s/veh)	7.9	-	-	12.1	14.1	9.5	7.9	-	-
HCM Lane LOS	A	-	-	B	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.5	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	125	135	9	10	0
Future Vol, veh/h	0	125	135	9	10	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	136	147	10	11	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	157	0	-	0	288	152
Stage 1	-	-	-	-	152	-
Stage 2	-	-	-	-	136	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1423	-	-	-	703	895
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	891	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1423	-	-	-	703	895
Mov Cap-2 Maneuver	-	-	-	-	703	-
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	891	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1423	-	-	-	703
HCM Lane V/C Ratio	-	-	-	-	0.015
HCM Control Delay (s/veh)	0	-	-	-	10.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	118	81	80	112	153	109
Future Vol, veh/h	118	81	80	112	153	109
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	1	1	1	2	2	2
Mvmt Flow	126	86	85	119	163	116
Number of Lanes	1	1	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay, s/veh	9.8	9.4	11
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	58%
Vol Right, %	0%	0%	0%	100%	42%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	80	112	118	81	262
LT Vol	80	0	118	0	0
Through Vol	0	112	0	0	153
RT Vol	0	0	0	81	109
Lane Flow Rate	85	119	126	86	279
Geometry Grp	7	7	7	7	4
Degree of Util (X)	0.139	0.178	0.216	0.119	0.381
Departure Headway (Hd)	5.873	5.386	6.195	4.985	4.919
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	608	662	576	713	727
Service Time	3.636	3.148	3.968	2.758	2.974
HCM Lane V/C Ratio	0.14	0.18	0.219	0.121	0.384
HCM Control Delay, s/veh	9.6	9.3	10.7	8.4	11
HCM Lane LOS	A	A	B	A	B
HCM 95th-tile Q	0.5	0.6	0.8	0.4	1.8

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	0	58	73	0	51	40	151	39	45	131	73
Future Vol, veh/h	51	0	58	73	0	51	40	151	39	45	131	73
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	0	-	-	185	90	-	-
Veh in Median Storage, #	-	0	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	95	92	95	92	95	95	95	95	92
Heavy Vehicles, %	2	2	2	1	2	1	2	2	1	3	3	2
Mvmt Flow	55	0	63	77	0	54	43	159	41	47	138	79

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	518	559	178	479	-	159	217	0	0	200	0	0
Stage 1	272	272	-	246	-	-	-	-	-	-	-	-
Stage 2	246	287	-	233	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.11	-	6.21	4.12	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.11	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.11	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.509	-	3.309	2.218	-	-	2.227	-	-
Pot Cap-1 Maneuver	468	437	865	499	0	889	1352	-	-	1366	-	-
Stage 1	734	684	-	760	0	-	-	-	-	-	-	-
Stage 2	758	674	-	773	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	409	407	865	430	-	889	1352	-	-	1366	-	-
Mov Cap-2 Maneuver	409	407	-	508	-	-	-	-	-	-	-	-
Stage 1	708	661	-	732	-	-	-	-	-	-	-	-
Stage 2	686	650	-	691	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	12.99	11.68	1.38	1.38
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	387	-	-	569	508	889	1366	-	-
HCM Lane V/C Ratio	0.032	-	-	0.208	0.151	0.06	0.035	-	-
HCM Control Delay (s/veh)	7.8	0	-	13	13.3	9.3	7.7	-	-
HCM Lane LOS	A	A	-	B	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.8	0.5	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	125	122	67	74	4
Future Vol, veh/h	4	125	122	67	74	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	136	133	73	80	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	205	0	-	0	314	169
Stage 1	-	-	-	-	169	-
Stage 2	-	-	-	-	145	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1366	-	-	-	679	875
Stage 1	-	-	-	-	861	-
Stage 2	-	-	-	-	883	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1366	-	-	-	677	875
Mov Cap-2 Maneuver	-	-	-	-	677	-
Stage 1	-	-	-	-	858	-
Stage 2	-	-	-	-	883	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.24	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	56	-	-	-	685
HCM Lane V/C Ratio	0.003	-	-	-	0.124
HCM Control Delay (s/veh)	7.6	0	-	-	11
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

CHAMPIONS CENTRE
TRAFFIC IMPACT ANALYSIS

APPENDIX

FORECAST 2026 PEAK HOUR QUEUING
WITH PROJECT

Intersection: 1: Wilmington Dr/Steilacoom-Dupont Rd SW & Barksdale Ave

Movement	EB	EB	NB	NB	SB
Directions Served	L	R	L	T	TR
Maximum Queue (ft)	58	68	45	73	111
Average Queue (ft)	35	22	20	41	60
95th Queue (ft)	55	52	45	64	89
Link Distance (ft)		387		217	638
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	40		65		
Storage Blk Time (%)	5	1	0	1	
Queuing Penalty (veh)	2	1	0	0	

Intersection: 1: Wilmington Dr/Steilacoom-Dupont Rd SW & Barksdale Ave

Movement	EB	EB	NB	NB	SB
Directions Served	L	R	L	T	TR
Maximum Queue (ft)	66	70	69	66	137
Average Queue (ft)	39	33	35	34	63
95th Queue (ft)	58	52	55	56	107
Link Distance (ft)		423		217	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	40		65		
Storage Blk Time (%)	8	4	0	0	
Queuing Penalty (veh)	7	6	0	0	

CHAMPIONS CENTRE
TRAFFIC IMPACT ANALYSIS

APPENDIX

LEFT TURN LANE WARRANTS

Exhibit 1310-7 Left-Turn Storage Guidelines: Two-Lane, Unsignalized

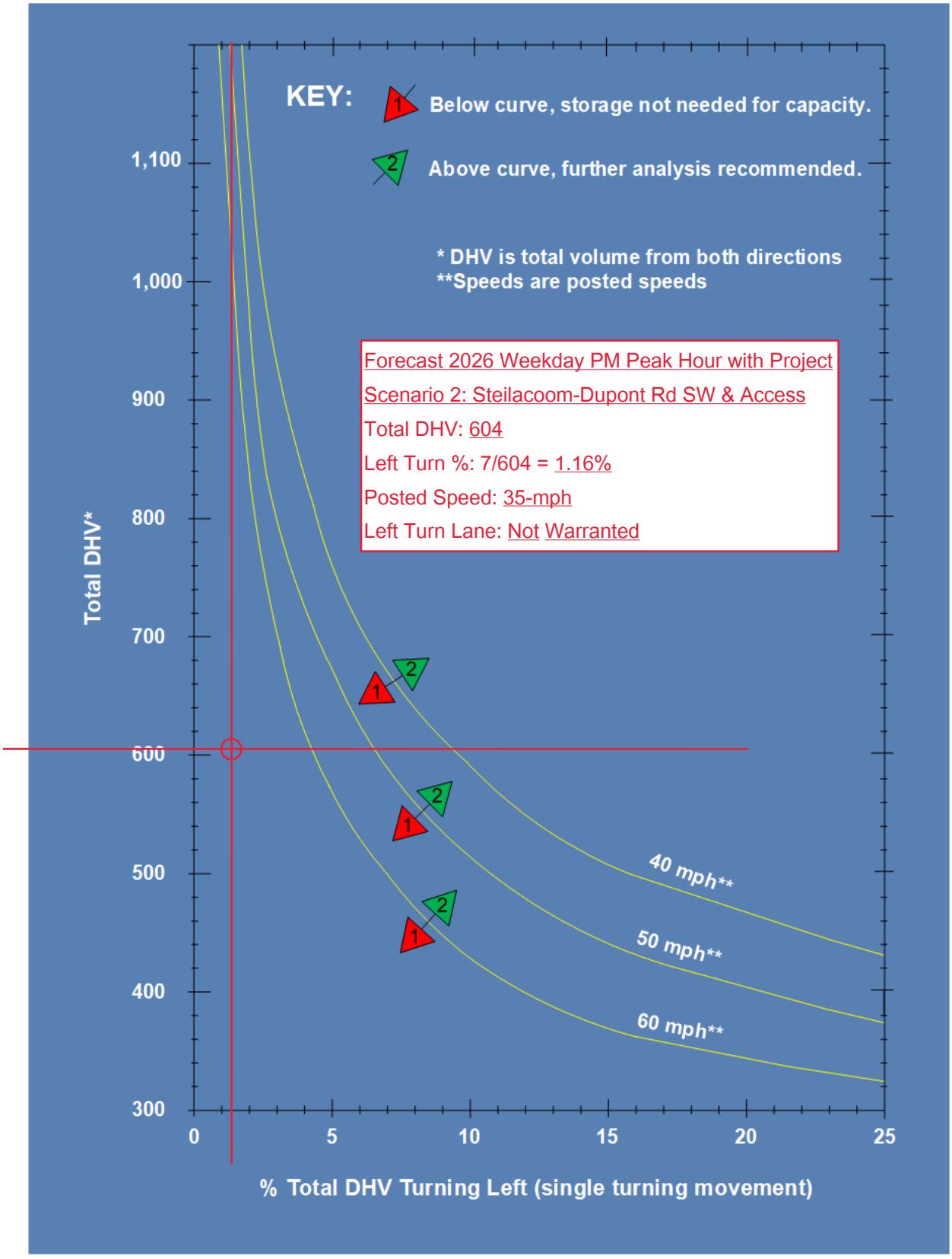


Exhibit 1310-7 Left-Turn Storage Guidelines: Two-Lane, Unsignalized

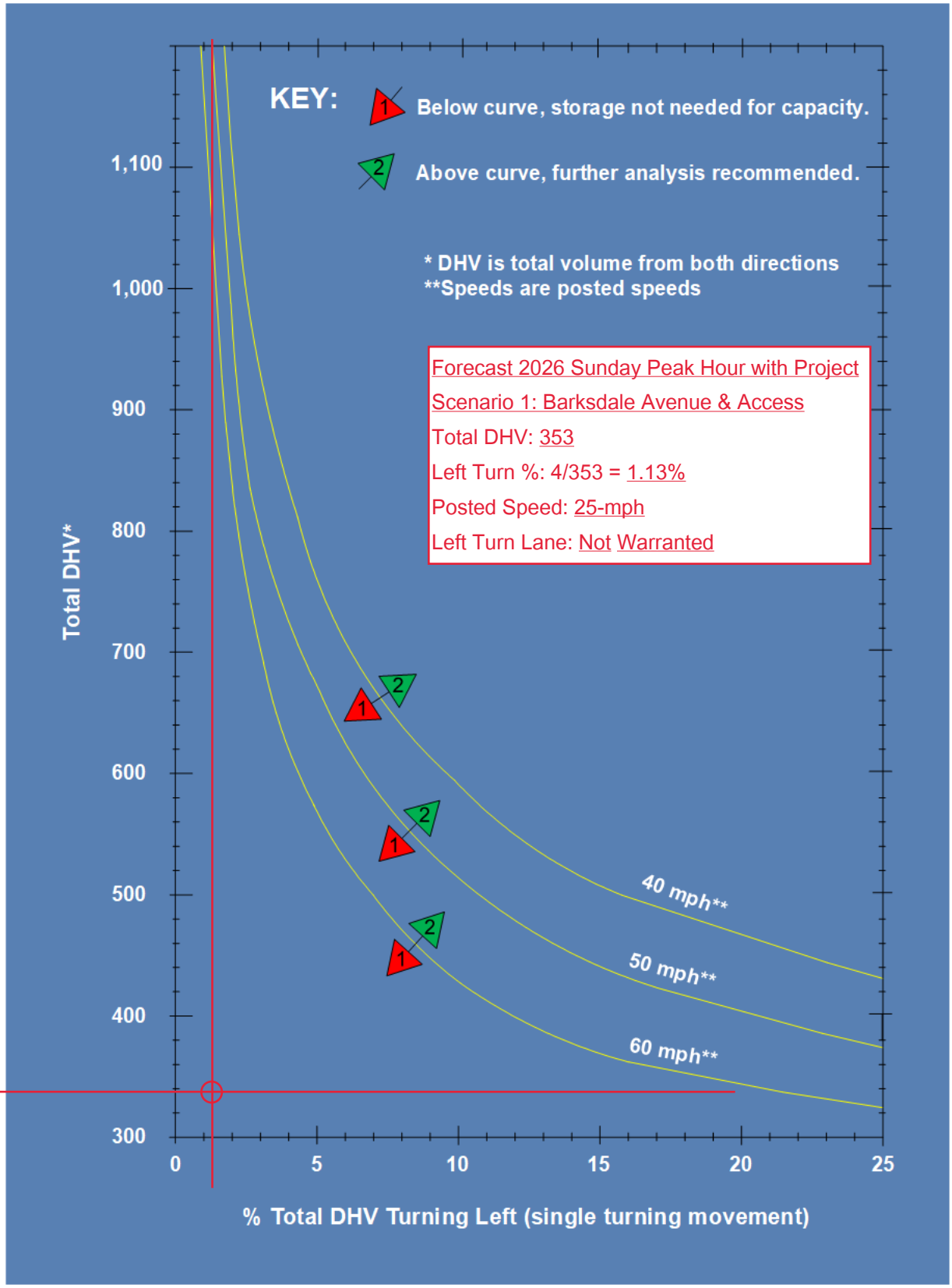


Exhibit 1310-7 Left-Turn Storage Guidelines: Two-Lane, Unsignalized

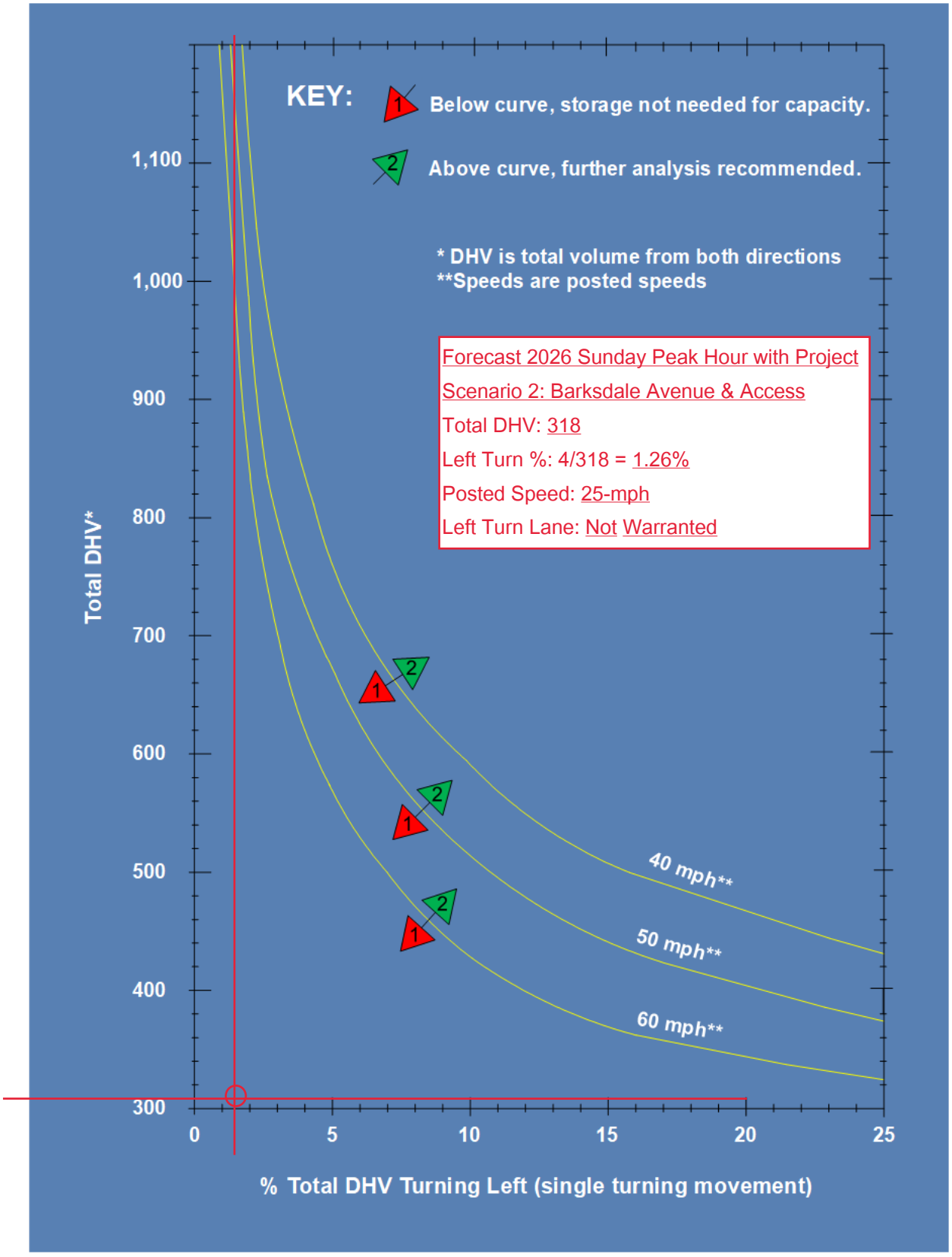
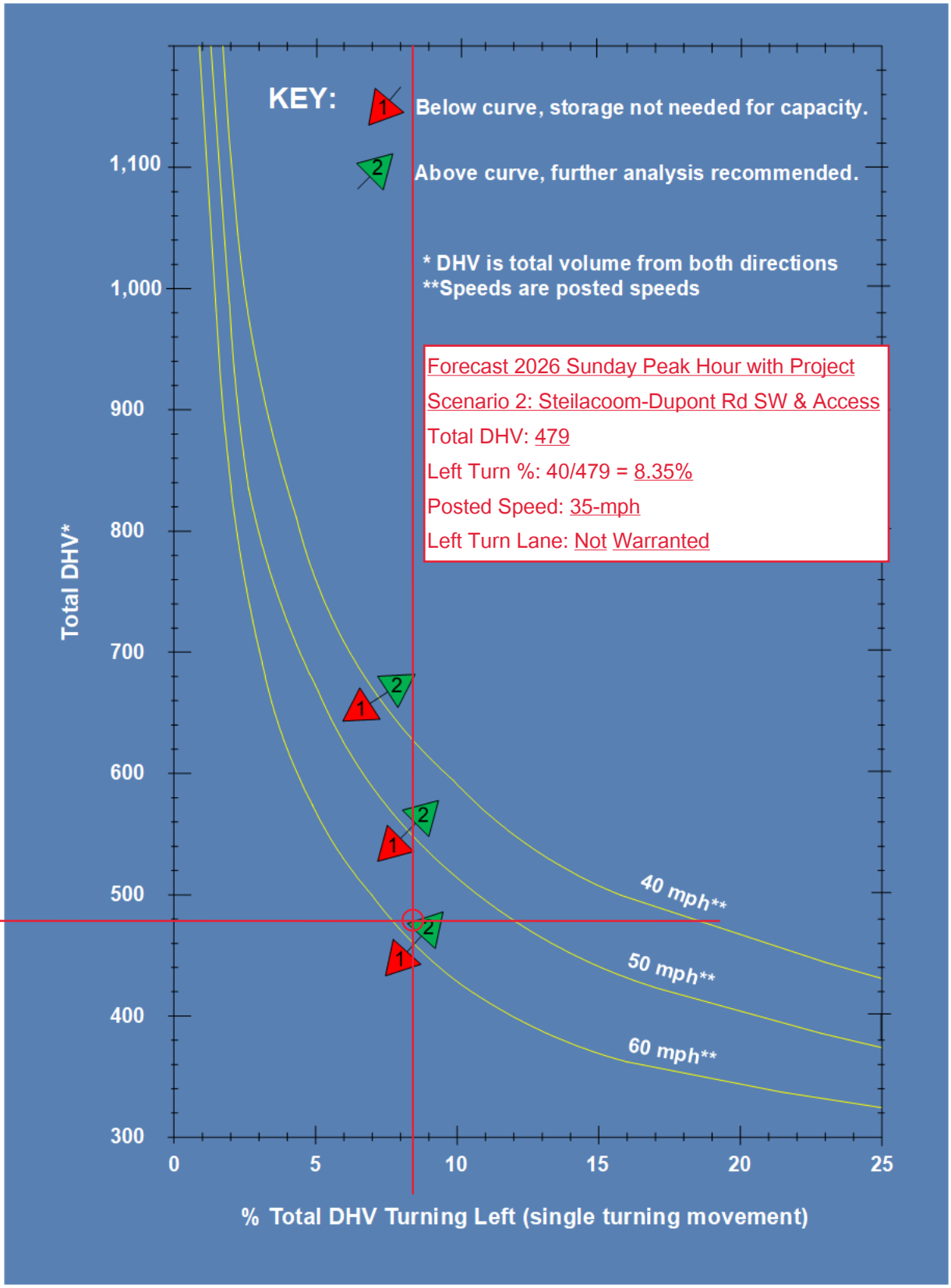


Exhibit 1310-7 Left-Turn Storage Guidelines: Two-Lane, Unsignalized



Received 12-20-2023

Exhibit 2.s

CITY OF DuPONT
1700 Civic Drive, DuPont, WA 98327
Phone: (253) 912-5381, Fax: (253) 964-1455
www.dupontwa.gov

Water Availability Form

Part A
To Be Completed By Applicant

Project Address: XXX Barksdale Ave, DuPont, WA 98327 Application Number: _____

Subdivision/Project Name: Champions Centre Site Development Parcel: 0119362039, 011936200

Proposed Water Usage: 2,365 GPD (Commercial) Residential # of Units: 0

Customer Type (circle one) Rural Residential Residential Multi-family **Commercial** Industrial

I, the undersigned, or my appointed representative have requested the following purveyor to certify willingness and ability to provide the indicated service. I have read and understand the information provided by the water purveyor on this Certificate, and acknowledge that the proposed project may require improvements to the water system which would incur my financial obligation. Prior to final approval for water service, operational responsibility, and financial obligation may be required.

Print Name Dave Yadon Signature _____

Address 1819 E. 72nd St. City Tacoma State WA Zip 98404

Part B
To be completed by Water Purveyor

Water system to provide service: **CITY OF DUPONT** State ID# **20500P**

The proposed development is / is not within our approved service area (circle one).

This water utility will / will not be providing service (circle one).

Approved number of connections: **Unspecified**

Number of current/existing users: **3,129** (1) Existing Storage: **4,000,000 gallons**

Water service will be provided by:

_____ Direct connection to approved, existing water main

_____ Extension of existing water main(s)

_____ New water system in accordance with WAC 246-290

_____ _____
Water Purveyor Signature Date

(1) Per City of DuPont, as of October 1, 2014.

Revised: 10/1/2014

Received 12-20-2023

Exhibit 2.t

PLANNING & PUBLIC WORKS

9850 64th Street West
University Place, Washington 98467-1078

PierceCountyWa.gov/PPW

Jen Tetatzin, PE, PMP - Director

December 7, 2023

David Rich
Mustard Seed Legacy Development
32706 Mountain Highway East
Eatonville, WA 98328
mserich1@msn.com
(Email Transmittal Only)

Subject: **Site Specific Sewer Information for Champions Centre**
Application Number: SWDR #1023643
Application Expiration Date: 10/23/2024
Site Address: XXX Barksdale Ave and XXX Steilacoom
Parcel Number(s): 0119362043, 0119362012, 0119362009, and 0119362039

Dear David Rich:

Our office has researched the site-specific sewer information regarding the subject request and has the following comments.

Pierce County Planning and Public Works will not provide a commitment, or guarantee, of sewer availability for the subject proposal until payment of connection charges has been received by the Sewer Division. This letter shall be used for informational purposes only in support of a Land Use Application and shall not be misconstrued by the proponent or reviewing agency as a commitment on behalf of the Sewer Division.

This letter does not convey any vested rights or any exclusive privileges. It does not authorize any construction. It does not eliminate the need to comply with any County, State, Federal or local standards or regulations or the need to obtain all necessary permits. This letter is not a waiver of any departmental requirements. The information presented in this letter is general in nature and is based on estimates; therefore, it should not be relied upon as completely accurate.

Submittals for new applications and resubmittals for existing applications must be made online at http://piercecountywa.org/pals.

The payment of permit fees and connection charges can also be made at the same website. For payment of permit fees by mail or in person, use the following address: Pierce County Development Center (Annex), 2401 South 35th Street, Room 2, Tacoma, WA 98409.

Sewer Division Standard Plans and Forms, including handouts, bulletins, and applications, and checklists, can be downloaded in PDF format from the following webpage: www.piercecountywa.org/sewer.

REQUIREMENT TO CONNECT

1. The subject property is located within the Pierce County Sewer Service area and is within the Comprehensive Urban Growth Area (CUGA).
2. The subject property is within 300 feet of an existing accessible sanitary sewer which has sufficient capacity to accommodate the proposed development on the subject property.

CONNECTION POINT

1. Comments on the proposed connections points can be found in the enclosed documents.
2. Record drawings are enclosed.

CONNECTION CHARGES

1. Based on the information provided, outlined below is the total estimated sanitary sewer connection charge.

   Basin: DuPont

Basin Area Charge: 10.75 RE X $1,916.00/RE	=$20,597.00
Treatment Plant Capacity Charge: 10.75 RE X $4,047.00/RE	=$43,505.25
Total Estimated Connection Charge:	=$64,102.25

2. The connection charges for commercial uses in incorporated areas or King County must be paid in full prior to issuance of sewer service permits and prior to approval of associated building permits.
3. Please note that the Capacity Charges, Basin Area Charges and future monthly Sewer Service fees for all commercial buildings are calculated based on actual water flows when available. Therefore, we strongly recommend that the owner have a separate meter installed and a separate account initiated with the local water purveyor for irrigation water and any other water supply that will not be entering the sanitary sewer system. If a separate water meter and account is not feasible, the owner may enter into a Sub-metering Agreement with the County. Connection Charge requirements will not be recalculated based on sub-metered usage until the sub-meter has been installed according to approved plans, the Sub-metering Agreement approved by the County, and at least 12 months of sub-metered water readings submitted to our office for review. For further details regarding the Water Sub-metering Plan Review Application (A17) see Bulletin B21, Water Sub-metering Program.
4. The total estimated connection charge will be recalculated at the time the owner purchases it based on the rates in effect at that time. On February 1 of each year, unless otherwise determined by ordinance of the Council, in accordance with Pierce County Ordinance 2019-28s, “the rates for the area charge and the treatment plant capacity charge shall be adjusted annually by the same amount as the percentage change in the Consumer Price Index for All

Urban Consumers (CPI-U) for Seattle-Tacoma-Bremerton Metropolitan Statistical Area for the Preceding 12-month period.”.

5. Once paid, connection charges are credited against the parcel and are only refundable to the person(s) or entity that is the owner of record at the time of refund.

Note that the fees and connection charges shown in this letter are subject to change without prior notification.

If you have any questions regarding the above, please contact me at (253) 798-3082 or taran.bedi@piercecountywa.gov.

Sincerely,

Hartaran S. Bedi

Hartaran Bedi
Civil Engineer 3

:

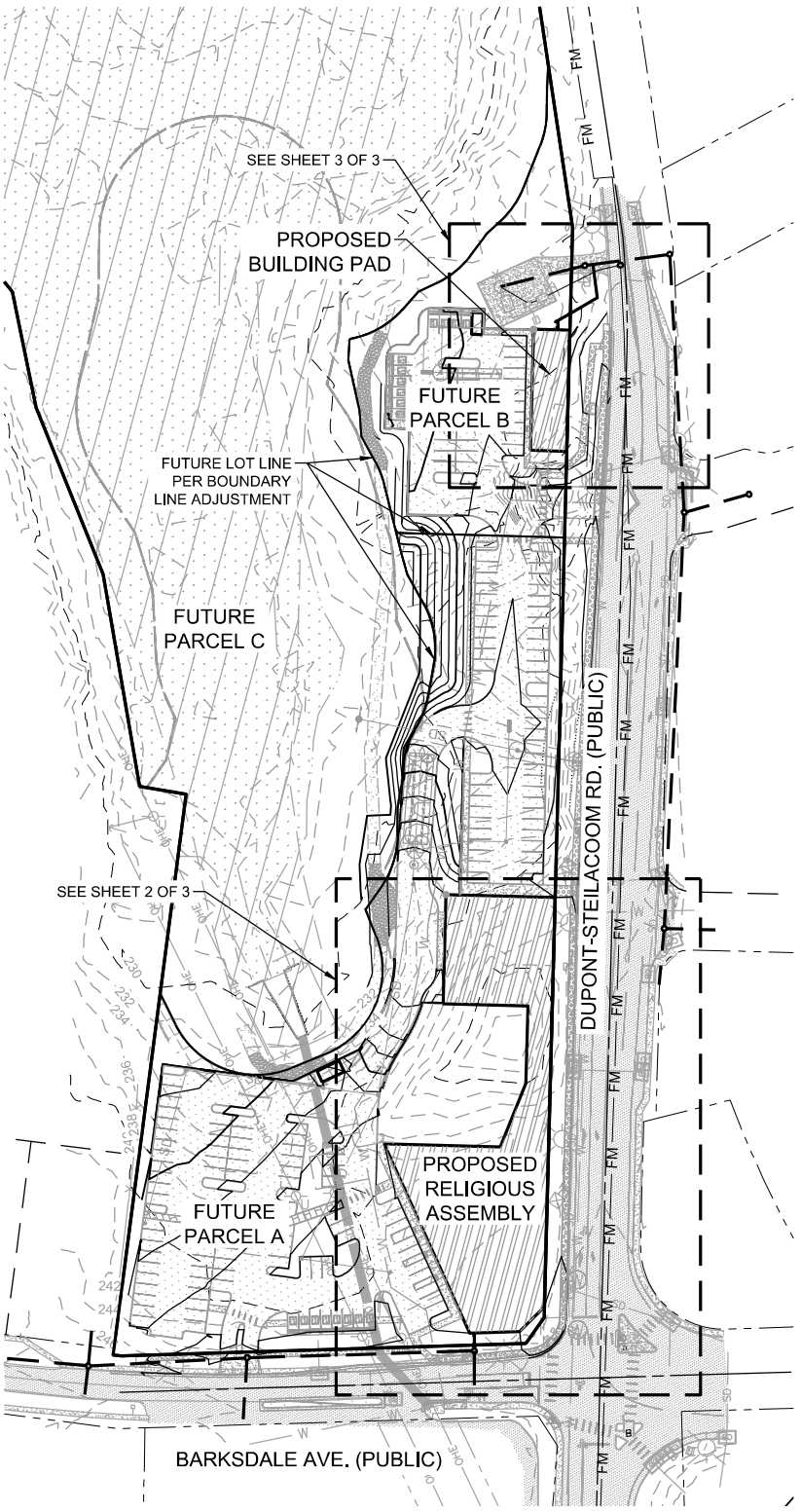
Enclosures: Copies of this letter and the record drawings are posted on-line at:
https://pals.piercecountywa.gov/palsonline/#/permitSearch/permit/departmentStatus?applPermitId=1023643

ec: City of Dupont: banderson@dupontwa.gov

XXX BARKSDALE AVE.
SEWER SITE PLAN

SWSR
VERTICAL DATUM NAVD 88

CONTACT INFO
DAVE YADON: (253) 606-9041



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GIS MAPPING

JOB NO:	12895
DATE:	10/10/2023
DESIGNED BY:	WG
DRAWN BY:	WG
CHECKED BY:	SN
APPROVED BY:	SN

CONTACT: STEVE T. NELSON, PE

GRAPHIC SCALE
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1 INCH = 100 FEET

SHEET 1 OF 3

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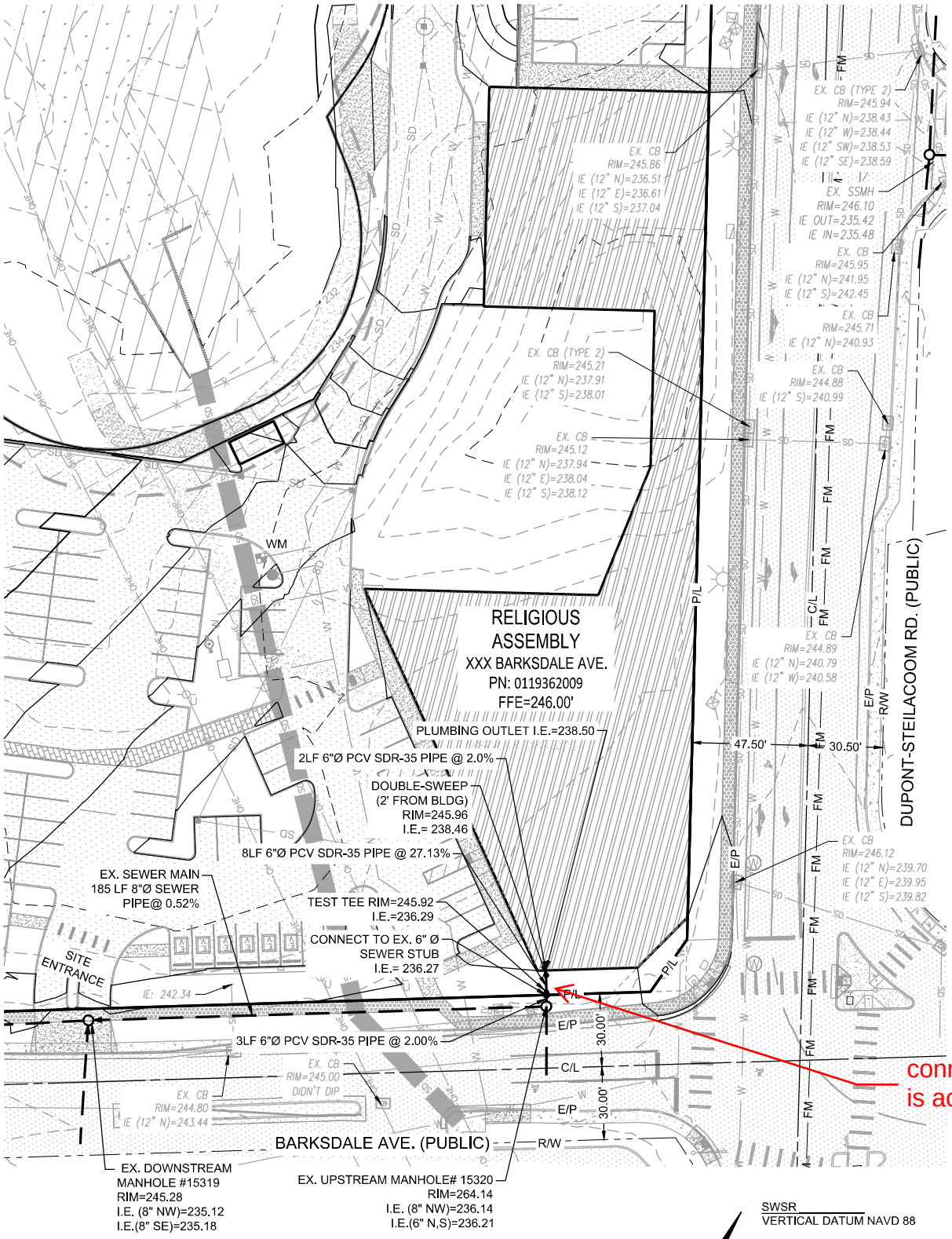
XXX BARKSDALE AVE.
SEWER SITE PLAN



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VERTICAL DATUM NAVD 88

CONTACT INFO
DAVE YADON: (253) 606-9041

GRAPHIC SCALE
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1 INCH = 40 FEET

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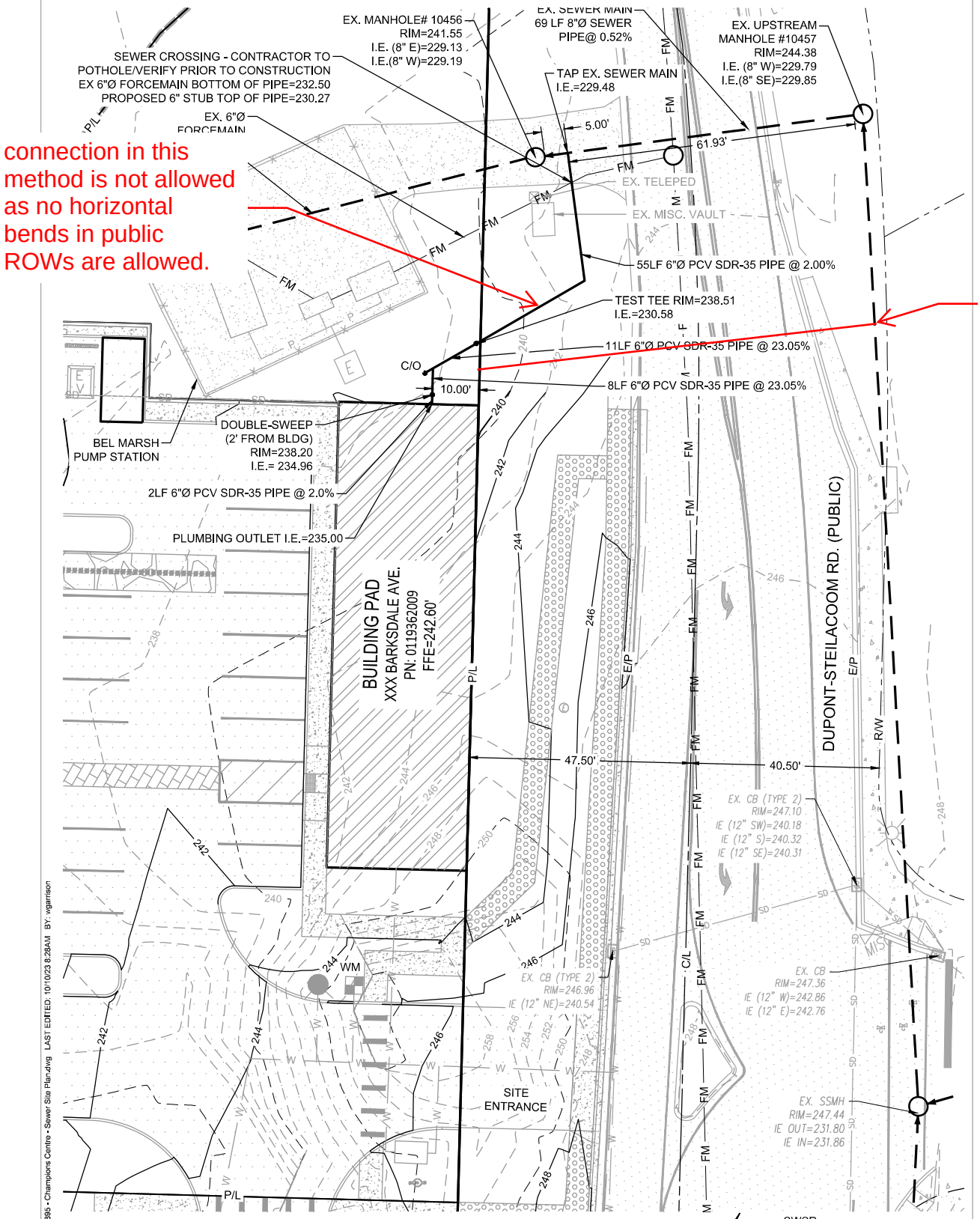
XXX BARKSDALE AVE.
SEWER SITE PLAN



connection in this method is not allowed as no horizontal bends in public ROWs are allowed.

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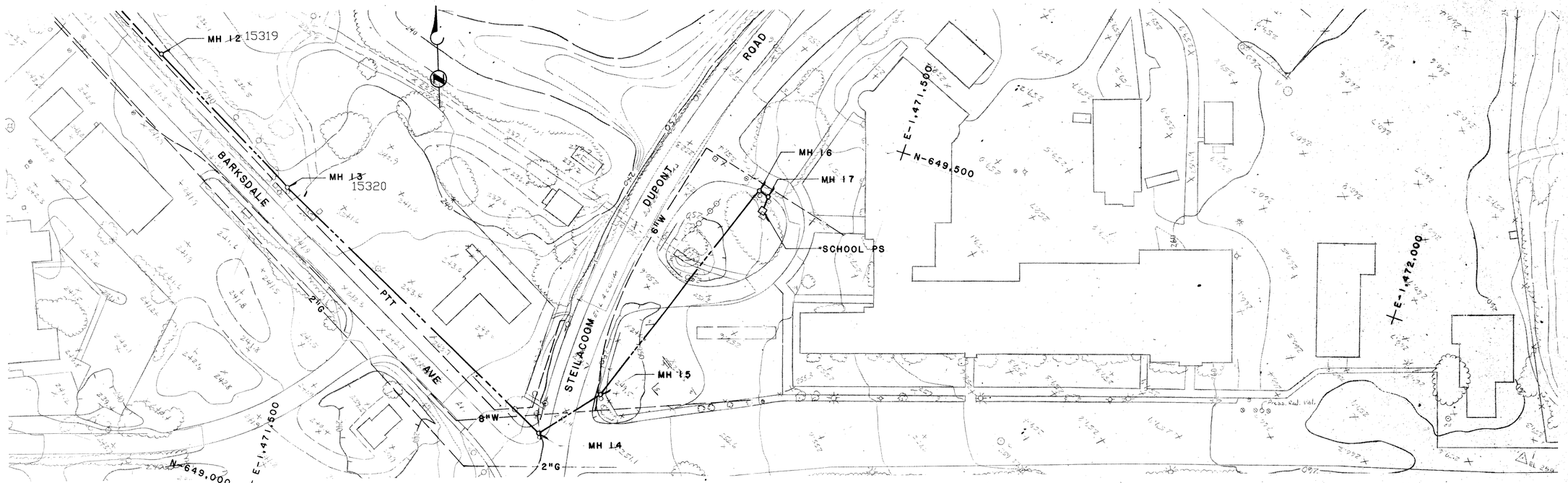
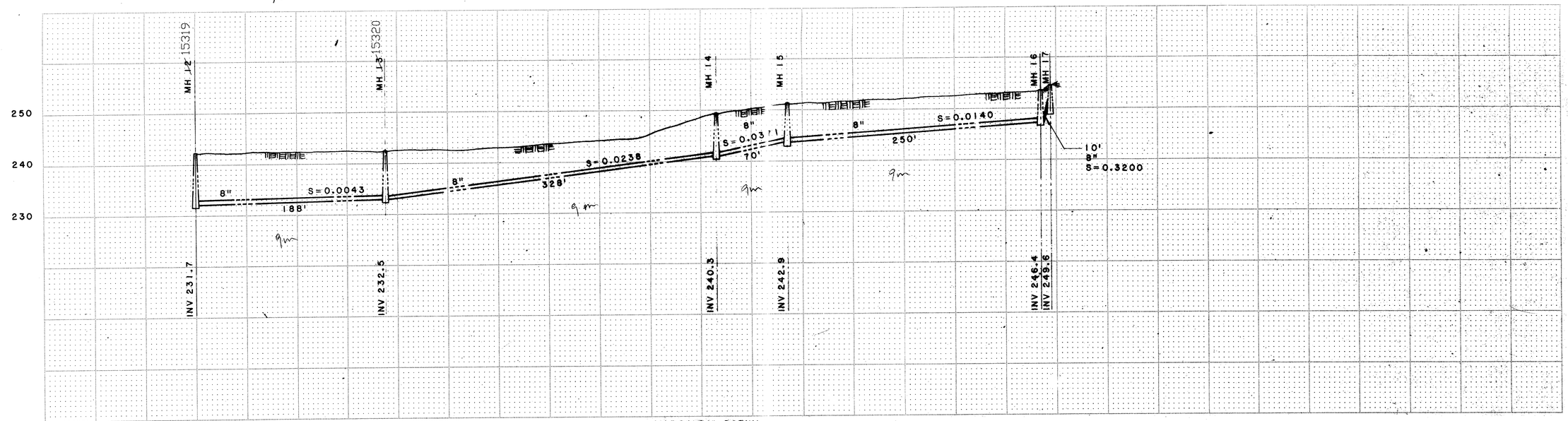
ZONE	REVISION	DESCRIPTION	BY	APP	DATE





HORIZONTAL DATUM
WASHINGTON STATE COORDINATE SYSTEM, SOUTH ZONE

VERTICAL DATUM
MEAN SEA LEVEL, USC & GS

SCALE: HORIZ 1"=50'
VERT 1"=10'

BROWN AND CALDWELL CONSULTING ENGINEERS	DESIGNED LKM DRAWN MCC CHECKED RMH	SUBMITTED ____ DATE ____ APPROVED ____ DATE ____ APPROVED ____ DATE ____	FILE 2285 DATE AUG'85	CITY OF DUPONT WATER AND SEWER SYSTEMS RECONSTRUCTION PROJECT	EXISTING SEWER SYSTEM PLAN AND PROFILE

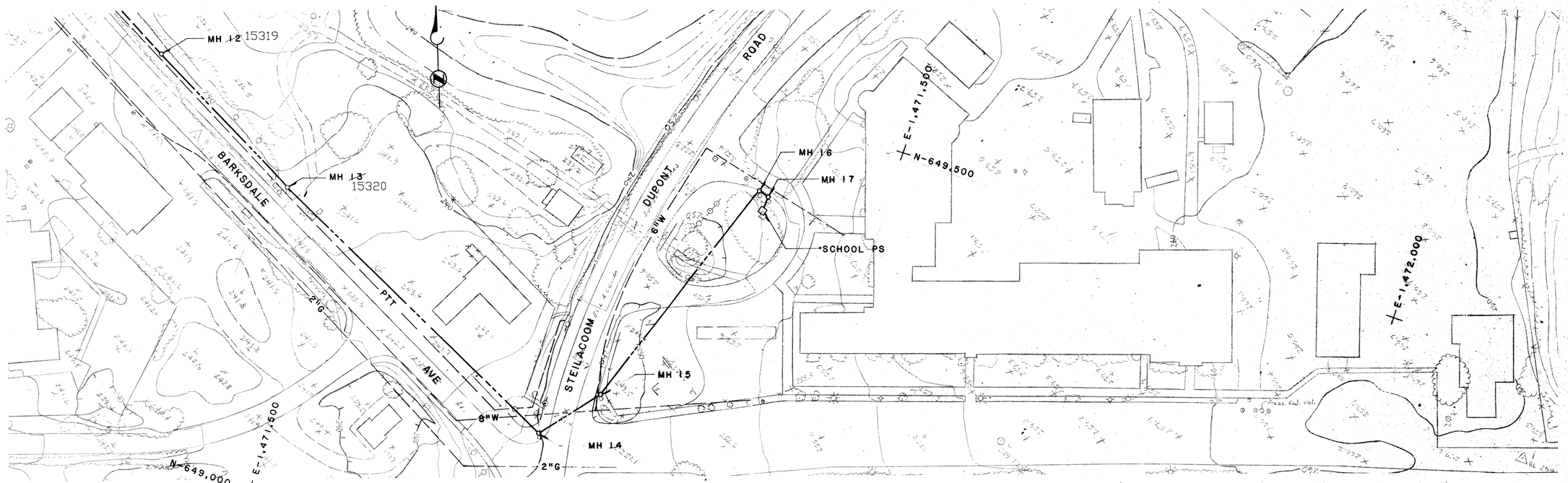
THIS LINE IS 1 INCH WHEN DRAWING IS FULL SIZE. IF NOT 1 INCH, SCALE ACCORDINGLY.

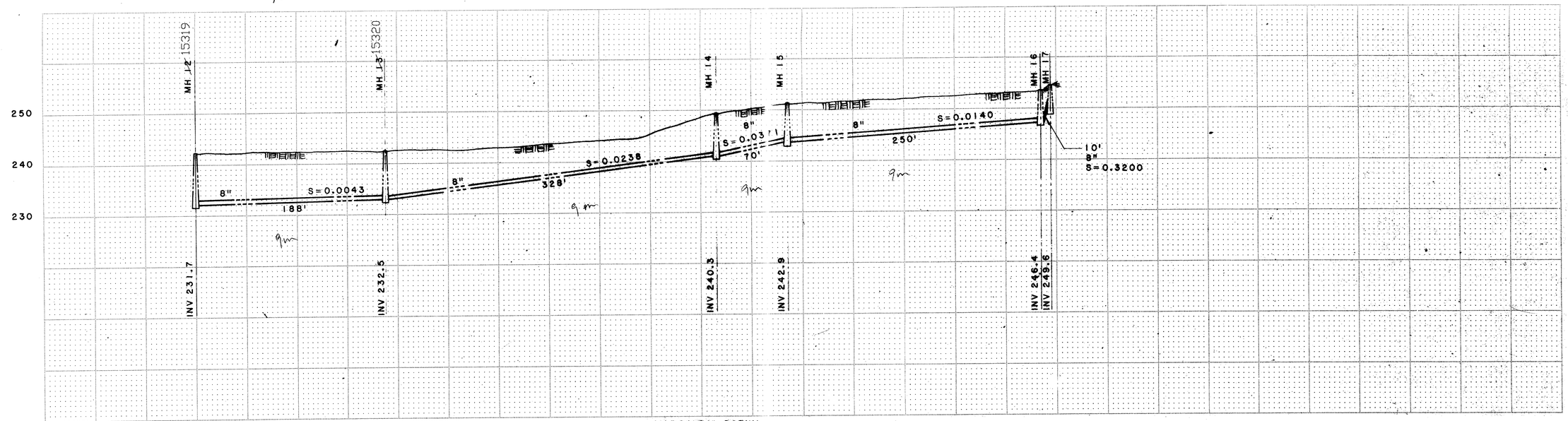
DRAWING NUMBER
SHEET 13 OF ____

TELEDYNE POST N32630

DUPNTO-002

ZONE	REVISION	DESCRIPTION	BY	APP	DATE





HORIZONTAL DATUM
WASHINGTON STATE COORDINATE SYSTEM, SOUTH ZONE

VERTICAL DATUM
MEAN SEA LEVEL, USC & GS

SCALE: HORIZ 1"=50'
VERT 1"=10'

BROWN AND CALDWELL CONSULTING ENGINEERS	DESIGNED LKM DRAWN MCC CHECKED RMH	SUBMITTED ____ DATE ____ APPROVED ____ DATE ____ APPROVED ____ DATE ____	FILE 2285 DATE AUG'85	CITY OF DUPONT WATER AND SEWER SYSTEMS RECONSTRUCTION PROJECT	EXISTING SEWER SYSTEM PLAN AND PROFILE

THIS LINE IS 1 INCH WHEN DRAWING IS FULL SIZE. IF NOT 1 INCH, SCALE ACCORDINGLY.

DRAWING NUMBER
SHEET 13 OF ____

TELEDYNE POST N32630

DUPNTO-002

Received 12-20-2023

Exhibit 3.a

LEROY SURVEYORS & ENGINEERS, INC.
Surveying • Engineering • Geology • Septic Design • GPS • GIS Mapping

December 20, 2023

Ms. Barb Kincaid
Director of Community Development
City of DuPont
1700 Civic Drive, DuPont WA 98327

RE:

Applicant:	Champions Centre, a not-for profit Washington corporation
Property Location:	Four tax parcels located at DuPont Steilacoom Road and Barksdale Avenue 0019362039, -2009, -2012, and -2043
Subject Matter:	Request for Tree Modification Permit

Dear Ms. Kincaid:

On behalf of Champions Centre, a Washington not-for-profit corporation, and as its authorized representative, I am requesting, pursuant to DMC 25.10.050 for approval for a Tree Modification, that will approve the Tree Retention Plan and Buffer Mitigation Plan submitted by the Applicant along with this request.

Champions Centre has multiple locations and it has found that the ideal size for its worship service main meeting room is for between 300 to 350 adults, with extra rooms for youth activities. It has found this to be a perfect size as it is large enough to develop a sense of community within the congregation, but small enough to minimize traffic impact upon the community in which it is built. If the congregation grows too big for everyone to meet in the smaller size meeting room, then the pastors of the Church will hold multiple services to accommodate the growth. The senior Pastor of Champions Centre believed that whenever possible a church building should be located in the community that it intends to serve, and that DuPont was a location that Champion Centre felt called to serve. Champions Centre decided to initially rent a space in a multitenant facility until such time as it could find a location inside the City of DuPont upon which to build a church.

The Champions Centre Dupont congregation is currently meeting in a leased multitenant building located within the City Limits. In a relatively short period of time the DuPont congregation has grown exponentially, and current Sunday worship services are averaging 350 adults, along with their small children. The DuPont church has already gone to multiple Sunday services in order to accommodate all of the attendees. Given the speed at which the DuPont congregation has grown, the local church has opted for an assembly room that will seat 350 people for the worship service, as well as space for youth activities.

Thanks to the efforts of two Champions Centre Tacoma Campus church members, Dave and Terry Rich, the Champions Center now has the opportunity to build a church within the City of Dupont. Dave and Terry Rich are the sole members of Legacy Land Development, LLC, the owner of the Property for which these applications are being submitted. Legacy Land Development LLC and Champions Centre have entered into a purchase and sale agreement for

the Champions Centre, which will close once the Champions Centre has obtained the necessary land use approvals to apply for a building permit.

The Property consists of 4 legal lots of record. However, part of this submittal package includes a Boundary Line Adjustment Lot Line Elimination Application. Upon approval there will only be three lots: 1) Lot A, approximately 139,369 square feet upon which the Church and parking will be constructed; 2) Lot B, approximately 39, 928 square feet upon which a small 3,000 square foot retail pad will be located with which the accessory use EV parking will be provided that will be open to the public; and 3) Lot C, approximately 747,729 square feet, upon which the wetland and associated buffer is located and which will be conveyed to the City at the time Lot A and B are developed.

The Church has spent a great deal of time working with the Property Owner and the development team, trying to come up with a church building design that respects the land, while still achieving the Church's objective for a religious assembly building that will fulfill its mission in DuPont. The final building design, for which Site Development Approval is requested, has been created to wrap around the natural knoll upon which a grove of Oak trees is located. Although the existing grove contains Oak trees that have been heavily impacted by invasive species, the Church intends to enhance the knoll by removing all of the invasive species and planting more healthy oak trees and native undergrowth vegetation, and thus honoring the natural lay of the land. Unfortunately, given the physical constraints due to the topography and the location of existing easements, the only location for which a building that will accommodate the religious objectives of the Church, it will result in the removal of 3 Landmark oak trees. However, the Church, in order to mitigate this impact, is not only enhancing the wetland buffer, but also intends to plant 75 White Oak trees so that after development there will be a much healthier and numerically more significant stand of oak trees on the Property than exists today.

Exhibit 3(b) is the Arborists Report in which the arborists sets forth, in his professional opinion, , how the project proposal meets the requirements of the Tree Retention Code (Chapter 25.210 DMC). The Landscape Plan (Exhibit 2c) shows, amongst other things, the location of the 75 White Oak trees (a/ka/ Garry Oaks), that will be planted to mitigate the impacts of removing the three white oaks that must be removed in order for the church facility to be built, while preserving the Knoll upon which a grove of White Oaks are located. Exhibit 3(k) shows the trees that will remain and that will be removed. Exhibit 3(i) is a memorandum of legal authorities from Dille Law PLLC that provides additional legal support to the Applicant's request to be allowed to remove the three White Oaks in order to build the Church building.

Thank you for taking the time to review our materials, and if further information is needed, please feel free to contact me at 253-973-5857.

Respectfully submitted

Wendy Garrison
Applicant's Representative

Wendy Garrison

Digitally signed by Wendy Garrison
DN: cn=Wendy Garrison, o, ou, email=wgarrison@lseinc.com, c=US
Date: 2023.12.20 08:16:01 -08'00'

Received 12-20-2023

Exhibit 3.b

Grette Associates LLC
ENVIRONMENTAL CONSULTANTS

TECHNICAL MEMORANDUM

To: Barb Kincaid, AICP
City of DuPont Director of Public Services
Department of Community Development
1700 Civic Drive
DuPont, WA 98327

Date: December 4, 2023

From: Grette Associates, LLC
2709 Jahn Ave NW, Suite H-5
Gig Harbor, WA 98335

Re: Champions Center Development (PLNG2023-002): Critical Areas Submittal Narrative

Mustard Seed Legacy Development LLC ("Mustard Seed") is proposing the construction of an approximately 22,850 SF Religious Assembly building with interconnected parking lots, coordinated landscaping and lighting, and a 3,000 SF accessory retail building within the City of DuPont. Also included in the proposal are accessory uses for electric vehicle charging facilities that would be open to the general public. The proposed development would occur on four existing lots (proposed to be reconfigured into three lots) located at the corner of DuPont-Steilacoom Road and Barksdale Avenue within the City of DuPont. The parcel numbers for the existing lots are 0119362039, -2009, -2012, and -2043.

Portions of the existing site contain wetland and stream habitat along with their required buffers. The north and west portions of the site contain Bell Marsh, a large wetland complex. In the south end of the wetland, a large stormwater outfall empties into the wetland from a stormwater pond south of I-5 on Joint Base Lewis-McChord. This outfall forms the headwaters of a stream that flows through the wetland, exiting the wetland in the northeast corner and eventually emptying into Sequalitchew Creek. The existing wetland and stream along with their buffers are discussed in the Critical Areas Report prepared for the project by Grette Associates (2019).

Mustard Seed is applying for a Critical Areas permit for the project. The purpose of this technical memorandum is to document the project's compliance with the City of DuPont's Critical Area permit submittal requirements. Specifically, this technical memorandum details how the project satisfies the permit review criteria found in DuPont Municipal Code (DMC) 25.105.080(4)(a).

DMC 25.105.080 Critical area permit submittal requirements

(4) Permit Review Criteria

(i) Mustard Seed and their design team have gone to considerable lengths to design the project such that impacts to critical areas and buffers regulated by the City of DuPont are avoided and minimized. Earlier concepts included impacts to wetlands, streams, and a significant oak stand on the property. Significant changes to the design have resulted in the minimization of environmental impacts, including no direct impacts to wetlands or

streams, and minimal impacts to wetland and stream buffers and the preservation of most of the oak trees on the property. To offset the remaining impacts to buffers on the site, Mustard Seed proposes to enhance the remaining wetland and stream buffers, including removal of invasive and non-native vegetation and planting of native tree and shrub species. See the Buffer Enhancement Plan and Habitat Management Plan submitted with this application

(ii) The proposed project does not pose any threat to public health, safety, or welfare on or off the site. The project has been designed in accordance with all applicable planning and engineering requirements imposed by the City of DuPont for the safety and welfare of the public.

(iii) The proposed project is consistent with the general purposes of this chapter and the public interest. Development of the project, including responses to site constraints such as the wetland, stream, oak stand, and their respective buffers, will comply with all applicable provisions of Chapter 25.105 of the DMC. As such, the project will result in the protection and enhancement of the wetland, stream, remaining oak trees, and buffer habitat on the site, in furtherance of the general purposes of DMC Chapter 25.105 and of the public interest.

(iv) The project proposes to reduce portions of the standard wetland buffer and stream buffer on the site to accommodate the extents of the project. As such, a Buffer Enhancement Plan (wetland buffer reduction) and a Habitat Management Plan (stream buffer reduction) have been prepared in accordance with DMC 25.105.050. These plans describe enhancement and monitoring actions meant to mitigate any adverse impacts to the wetland and stream critical areas on the site.

(v) The Buffer Enhancement Plan and Habitat Management Plan are consistent with the best available science for protecting the functions and values of the wetland, stream, and buffer habitat within the property. Both plans provide for the enhancement of buffer areas through the removal of invasive vegetation and planting of native species, which is intended to improve wildlife habitat, provide screening from human activities, and provide improved runoff filtration. Both plans also provide for long-term monitoring to ensure success of the enhancement and functioning of the buffer areas.

(vi) The proposed project is consistent with other applicable regulations and standards. As the project was redesigned to avoid direct impacts to wetlands or streams, no environmental permits or authorizations are required from State or Federal agencies, such as the WA State Department of Ecology or the U.S. Army Corps of Engineers. Furthermore, the project team has been in close communication with the City of DuPont throughout the design process to ensure all applicable City environmental regulations and standards are met by the proposal.

Exhibit 3.c

Greenforest Incorporated

Consulting Arborist

You contacted me and contracted my services as a consulting arborist. My assignment is to inspect, inventory and assess the regulated trees at the above referenced site. You provided me a topographic survey prepared by Leroy Surveyors & Engineers dated 8/17/2022. I visited the site 8/15/2022 and 6/22/2023 and visually inspected the trees, which are the subject of this report.

SUMMARY OF TREES

Landmark Trees	*22*
Landmark-Size Hazard Trees	*6*
Specimen Trees	*49*
Specimen-Size Hazard Trees	*7*
TOTAL ONSITE TREES	*84*
Offsite Trees (ROW and Abutting parcel)	*25*

This revised report addresses comments and recommendations fro Sound Urban Forester, LLC report dated 3/11/2024. See added text and table on page _____

THE PROPOSED DEVELOPMENT AND SITE IMPROVEMENTS

The overall site currently includes 4 parcels comprising just over 21 acres. A proposed boundary line adjustment will reduce the parcels 4 into 3: parcels A, B & C.

Parcel A (3.20 acre) will be a commercial lot to include the construction of approximately 26,000 square foot religious assembly that will have a maximum congregation capacity of 350 people. The architectural footprint for this Religious Assembly is very unique to allow for the existing grove of Landmark Oregon white oak trees that sit on an existing knoll to be protected and remain on-site. This parcel will include a total of 135 parking stalls.

Parcel B (0.92 acres) is also a commercial lot to include the construction of approximately 3,000 square foot eating and drinking establishment. The maximum capacity is unknown at this time, but will include a 38 parking stalls.

Parcel C (17.17 acres) is an existing wetland, wetland buffer, stream, stream buffer and Fema Flood Zone A. This parcel will be deeded to the City of DuPont upon the recording of the boundary line adjustment.

TREE NUMBERING SYSTEM

Each tree onsite is marked with a 1" x 3.5" aluminum tag indicating tree number. Offsite trees are not tagged. The numbering systems in this report, and on associated project drawings are, generally: onsite trees 1-77; wetland buffer and offsite trees 101-138; street trees 8000 – 8014. (Trees 119 and 120 were initially inventoried with onsite trees, but are within the street right-of-way and are street trees.)

TREES OF NON-SIGNIFICANCE

Trees not shown on the sheets (and/or appear to be out of sequence) are either too small or are a non-regulated species. They are removed from the sheets and the attached inventory to reduce clutter, and they include the following tree numbers:

Trees of Non-Significance				
26	44	57	107	114
29	48	72	110	115
32	55	74	112	116
43	56	101	113	133

TREE INSPECTION

I visually inspected each tree from the ground. I performed a Level 1 risk assessment.[1] This is the standard assessment for populations of trees near specified targets, conducted in order to identify obvious defects or specified conditions such as a pre-development inventory. This is a limited visual assessment focuses on identifying trees with imminent and/or probable likelihood of failure, and/or other visible conditions that will affect tree retention.

I recorded tree species and size (DBH). I estimated the average dripline of each tree. I rated the condition of each tree, both health and structure. A tree's structure is distinct from its health. This inspection identifies what is visible with both.

High-risk trees can appear healthy in that they can have a dense, green canopy. This may occur when there is sufficient sapwood or adventitious roots present to maintain tree health, but inadequate strength for structural support.

Conversely, trees in poor health may or may not be structurally stable. For example, tree decline due to root disease is likely to cause the tree to be structurally unstable, while decline due to drought or insect attack may not.

One way that tree health and structure are linked is that healthy trees are more capable of compensating for structural defects. A healthy tree can develop adaptive growth that adds strength to parts weakened by decay, cracks, and wounds.

This report identifies unhealthy trees based on existing health conditions and tree structure, and specifies which trees are most suitable for preservation.[2]

No invasive procedures were performed on any trees. The results of this inspection are based on what was visible at the time of the inspection.

[1] Companion publication to the ANSI A300 Part 9: Tree Shrub and Other woody Plant Management – Standard Practices, Tree Risk Assessment. 2011. ISA.
[2] Companion publication to the ANSI A300 Part 5: Tree Shrub and Other woody Plant Maintenance – Standard Practices, Managing Trees During Construction. 2008. ISA.

The attached inventory summarizes my inspection results and provides the following information for each tree:

Retain Tree? indicates if tree is proposed for retention.

Tree Category: Landmark, Specimen, Street or Hazard, as defined by municipal code.

Tree number as shown on tag in the field (for onsite trees), and on attached exhibit.

DBH stem diameter in inches measured 4.5 feet from the ground.

Tree Species common name.

Dripline measured branch extension into the subject parcel as measured from an existing fence for offsite trees.

Healthy? Well formed? Safe? in addition to species and DBH, these criteria define a landmark tree (or conversely, define a hazard tree). Trees in poor heath are identified under the 'Health' column. Many of the oak trees that are stressed, or exhibiting only *fair* health, appear healthy enough to retain, but the lack of a non-healthy indication does not imply a tree in good to excellent condition.

Comments on Condition visible at time of inspection, which includes:

Asymmetric canopy - the tree has an asymmetric canopy from space and light competition from adjacent trees.

Branch dieback - mature branches in canopy are dying/dead.

Bow in trunk - a trunk lean characterized by the top of the tree leaning over (common with edge trees).

Canker - disease cankers are established on trunk/branches.

Crack - separation of wood fibers and predisposed to failure.

Dead - tree is dead.

Deadwood - large and/or multiple dead branches throughout canopy.

Decay - process of wood degradation by microorganisms resulting in weak and defective structure.

Diseased - foliage and trunk/stems are diseased.

Dogleg in trunk - trunk with a bow or defective bend (90°) in trunk often half way of further up the trunk.

Double leader - the tree has multiple stem attachments, which may require maintenance or monitoring over time.

Foliar disease - foliage is diseased with manageable fungus.

Grove trees - tree should be retained only as a grove tree, not stand-alone.

Gummosis - oozing resin, indicating stress/decline.

Heart rot - fungal infection with interior of tree decayed.

Included bark - an inclusion of bark at the attachment of multiple leaders that prevents a wood-to-wood attachment.

Insect Injury - active insect injury affecting tree health.

Ivy - dense ivy prevents a thorough inspection, and other defects may be present.

Ganoderma –a wood-decaying fungi inside the tree eating the wood.

LCR - live crown ratio: the ratio of crown length to total tree height. Stand-alone trees with a LCR of 30 and lower are at increased risk of failure.

Lean - angle of the trunk from vertical.

Multiple leaders - the tree has multiple stem attachments, which may lead to tree failure and require maintenance or monitoring over time.

Poor structure - tree's structure is deformed and defective/unsightly.

Previous failure - tree trunk previously broken and defective.

Response wood - new wood produced in response to loads that indicate uneven loading from wind or end-weight.

Slender - tree lacks adequate trunk taper to stand lone (poor height/trunk diameter ratio).

Stem Canker - disease canker on trunk/branches.

Sweep in trunk - characterized by a leaning lower trunk and a more upright top.

Thinning foliage - low foliage density may indicate stress, or early infection/declining health.

Self-corrected lean - self-corrected leans and sweeps are characterized by a leaning lower trunk and a top that is more upright.

Stumpsprout- tree previously cut at grade with multiple stems and potentially weak attachments.

Suppressed - tree crowded by larger adjacent trees, with defective structure and/or low vigor. Retain tree only as a grove tree, not stand-alone.

Sweep - tree leans away from adjacent trees. Characterized by a leaning lower trunk and a top that is more upright.

Taper - change in diameter over the length of trunks, branches and roots.

Topped – the tree is previously topped and has poor structure and/or stem decay.

Tree leans - trunk has significant lean from vertical.

Trunk decay - wood decay is visible in the trunk.

Wound/decay base of trunk - open wound with visible decay in trunk.

DEFINITIONS

DMC 25.10.190.115 S definitions.

"**Specimen tree**" means an existing *healthy tree which poses no safety hazard* due to potential collapse and is of the following species and minimum diameter measured at breast height; provided, that the measure of multi-trunk trees shall be the sum of the diameters:

- Douglas fir, western red cedar, western hemlock, or big leaf maple: 15 inches;
- Oregon white oak, Pacific yew, or madrone: 12 inches;
- Historic fruit trees: no size limit.

DMC 25.10.040.070 D definitions.

"**Drip line**" means the imaginary line around a tree aligning with the outer edge of the tree's canopy.

DMC 25.10.120.005 L definitions.

"**Landmark tree**" *means an existing healthy, well-formed tree which poses no safety hazard due to potential collapse* and that is of the following species, trunk type, and minimum diameter measured at breast height:

	Species	
Trunk-type	Oregon white oak, Pacific yew, or Pacific madrone	Douglas-fir, Western red-cedar, Western hemlock, or Bigleaf maple
Single-trunk	24 inches	30 inches
Multi-trunk (sum of diameters)	30 inches	45 inches

[*Above italics are mine*.]

DMC 25.10.190.160 S definitions.

"**Street tree**" means a tree planted or retained in a public right-of-way or parking strip.

LANDMARK TREES

Twenty-two (22) trees meet the definition of landmark tree. The following two tables separate them by oaks (top table) and non-oak species (lower table). (Tree 119 is a landmark-size oak and stands in the street right-of-way. This tree will be retained, and is not included in the retention calculation because of its designation as a *street tree*.)

LANDMARK OAK TREES				
Location	Tree No.	DBH	Species	Proposed Action
	3	30"	Oregon oak	**Retain**
	6	25"	Oregon oak	**Retain**
	9	28"	Oregon oak	**Retain**
	16	25"	Oregon oak	Remove
	20	24"	Oregon oak	Remove
	21	30"	Oregon oak	Remove
	127	14,16,18"	Oregon oak	**Retain**
Total Oaks = 7		Retained Oaks = 4		Percent Retained = 57%

LANDMARK NON- OAK TREES				
Location	Tree No.	DBH	Species	Proposed Action
	24	54"	Douglas-fir	Remove
	27	54"	Douglas-fir	**Retain**
100' WB	30	34"	Douglas-fir	Remove
	31	31"	Douglas-fir	Remove
	60	32"	Douglas-fir	Remove
	62	35"	Douglas-fir	Remove
	69	34"	Douglas-fir	**Retain**
	70	35"	Douglas-fir	**Retain**
75' WB	103	31"	Douglas-fir	**Retain**
75' WB	105	38"	Douglas-fir	**Retain**
75' WB	106	43"	Douglas-fir	**Retain**
75' WB	108	38"	Douglas-fir	**Retain**
75' WB	109	36"	Douglas-fir	**Retain**
75' WB	117	32"	Bigleaf maple	**Retain**
75' WB	118	30"	Bigleaf maple	**Retain**
Total Non-Oaks = 15		Retained Non-Oaks = 10		Percent Retained = 66%

HAZARD TREES OF LANDMARK SIZE

Based on the above definitions, vis-à-vis healthy, well-formed and safe trees, the following table identifies six (6) landmark-size trees that do not exhibit these attributes, and are established here as *hazard trees*.

These trees are excluded from retention calculations. All are proposed for removal. See attachment 4 for photo illustrations of existing conditions.

Table of Six (6) Hazard Landmark-Size Trees

Tree No.	DBH	Species	Comments on Condition
2	13,20,24"	Bigleaf maple	Multiple leaders along trunk axis, previous leader failure and open wound with decay, included bark with response wood present
22	56"	Douglas-fir	Recent failure of the top of the tree, trunk decay visit at failure, 7.5" sound wood at base observed after extracting a wood core, scaffold branch failure in upper canopy at previous topping wound, dead hanging branch in upper canopy
63	32"	Douglas-fir	Resin oozing on lower portion of trunk, 6" sound wood from removed core, then discolored wood further in trunk, very thin foliage, some branch dieback, and suspect root rot infection.
66	33"	Douglas-fir	Previous rootplate failure and with an obvious sweep in the trunk, low LCR, thin branches throughout canopy
67	(11) 9-26"	Bigleaf maple	Multiple leaders at single attachment near grade (tree was likely cut to grade decades ago), bark inclusions present at most attachments, previous failure of structural branches, *Ganoderma* fungus fruiting bodies on lower trunk.
77	24"	Oregon oak	Dense ivy covering trunk, trunk leans, asymmetric structure, deadwood throughout canopy, thin branches, low LCR.

An additional eight (8) hazard trees of specimen size are indicated separately in the inventory table of attachment 5. (No photographs are provided for these trees.)

TREE RETENTION

> *Tree retention shall constitute an integral design goal in all public and private site design processes. Retention is particularly desired for trees that are especially large, well-formed, historic, grouped, close to a sensitive area, visually prominent, part of a recognizable landmark, or valuable as wildlife habitat.* (DMC25.120.030 Tree retention**)**

Very few of the existing trees stand alone, and most in close proximity with other trees of similar species and/or age. This is particularly evident with the largest stand of native oak trees just north of Dupont-Steilacoom Road. This group includes 21 trees, and all save two (2) are oak.

Overall, these oaks are in fair to poor condition, and for two (2) primary reasons: neglect (resulting in competition from invasive bramble and vines), and poor structure (from close proximity to each other resulting in competition for light and space).

The image right, and also on the following page, show the disarray of this grove of oak trees. Invasive bramble and vine has dominated both the understory of the forest floor, and also the upper canopy of several trees.

The invasive bramble has out competed native understory shrubs within the stand, and also competes with the oaks for available rainwater.

Several tree trunks are covered in dense ivy, some recently cut and killed, and some still living. The dense ivy competes for light and space, resulting in skinny trees (a high height/diameter ratio, or H/D) and tall trees with few or no low branches (low live crown ratio (LCR)). The result is stressed and poorly formed trees. These conditions of slenderness and low LCR affect tree health and stability as evidenced by an oak recently pulled to the ground by the dense ivy.

Removal of the ivy is insufficient to cause the trees to grow new low branches on their trunks, reversing the H/D and LCR conditions, partly because of species characteristics, and particularly because of their existing close proximity to each other.

The native Oregon oak typically thrives in a 'hands-off' environment, and rarely requires intervention by people for optimal growth (and in many cases, neglecting them, or the lack of 'over care' is the best option). In this case, neglect over the decades has resulted in the establishment of the invasive vegetation that has negatively impacted both the health and structure of these trees.

This neglect has impacted the trees' ability to meet criteria that define a landmark tree: *healthy, well-formed tree which poses no safety hazard due to potential collapse.*

REQUIRED TREE RETENTION
The purpose of City's tree retention code is as follows (DMC 25.120.010 Purpose):

(1) The purpose of this chapter is to:
(a) Protect natural habitats, air quality, and ground water recharge,
(b) Improve the appearance of the community,
(c) Provide shade and wind protection,
(d) Reduce stormwater discharge, and
(e) Conserve water supplies.
(2) This chapter is intended to help achieve these purposes by:
(a) Retaining trees, without reducing developmental densities from those indicated in the comprehensive plan.

This project is fortunate to contain the stand of mature native Oregon oaks in full view from both arterial streets that abut the site. This project is aligned with the purpose of the code, and is committed to preserving to the extent possible this existing stand of oaks, and to assure their continued legacy as an asset of the community and the proposed development.

The stated purpose of the retention code is for protection and preservation of environmental benefits and amenities. They are listed below (from the above code) as are the ways in which this project achieves/preserves them.

(a) Protect natural habitats	Foremost is the protection of the existing stand of native Oregon oak trees. Although currently there is minimal native understory around these trees, this will be augmented during landscaping with native vegetation that supports native oak groves, as well as the planting of additional oak saplings. Revised parcel C is 17.17 acres of critical area and associated buffer, all of which will be protected as natural habitat.
(b) Improve the appearance of the community.	The site is currently vacant and neglected for years. Invasive ivy and blackberry infest the area of the primary oak grove. Landscaping will remove the invasive plants, and the construction of the proposed improvements and landscaping will be a vast enhancement in the area's appearance, and a contribution to the vitality of the commercial district. In anticipation of maintaining and preserving the landmark oak grove as a legacy on this site, the project's owner has already 96

	white oak trees growing in a private nursery, all to be planted throughout this site. These oak trees will augment the exiting grove of mature oak trees, assuring continued canopy for decades. Others will be planted throughout the project where soil and site conditions favor the growth of this species.
(c) Provide shade and wind protection.	In addition to the legacy oak grove, several large and mature trees within the wetland buffer are retained, and will maintain existing shade and wind protection.

Items (d) and (e), reduction of stormwater discharge and conservation of water supplies, along with the stated intent of the code (2) (tree retention and developmental density) will be addressed by others in a separately submitted tree retention modification request.

TREE RETENTION MODIFICATION

DMC allows for a modification of the City's tree retention regulations as follows:

> *Anyone with an ownership interest in land may request a modification from the provisions of this chapter based on special circumstances pertaining to that land or the trees on it.* (25.120.050 Modifications)

A formal request for tree retention modification will be submitted by others for this project.

ATTACHMENTS:

1. Assumptions and Limiting Conditions
2. Certification of Performance
3. Significant Tree Inventory
4. Photographs of Hazard Landmark-Size Trees
5. Tree Retention Plan

ATTACHMENT NO. 1 - Assumptions & Limiting Conditions

1) A field examination of the site was made 8/15/2022 and 6/22/2023. My observations and conclusions are as of that date.

2) Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant/arborist can neither guarantee nor be responsible for the accuracy of information provided by others.

3) Unless stated other wise: 1) information contained in this report covers only those trees that were examined and reflects the condition of those trees at the time of inspection; and 2) the inspection is limited to visual examination of the subject trees without dissection, excavation, probing, or coring. There is no warranty or guarantee, expressed or implied that problems or deficiencies of the subject tree may not arise in the future.

4) All trees possess the risk of failure. Trees can fail at any time, with or without obvious defects, and with or without applied stress. A complete evaluation of the potential for this (a) tree to fail requires excavation and examination of the base of the subject tree. Permission of the current property owner must be obtained before this work can be undertaken and the hazard evaluation completed.

5) Loss or alteration of any part of this report invalidates the entire report.

6) Unless required by law otherwise, neither all nor any part of this report, nor copy thereof, shall be conveyed by anyone, including the client, to the public through advertising, public relations, news, sales, or other media without the prior expressed written or verbal consent of the consultant/appraiser, particularly as to value, conclusions, identity of the consultant/appraiser, or any reference to any professional society or institute or to any initialed designation conferred upon the consultant/appraiser as stated in his qualifications.

7) The consultant does not assume any liability for the subject tree and does not represent the transfer of such for any risks associated with the tree from the landowner to the consultant. **Risk management is solely the responsibility of the landowner**.

ATTACHMENT NO. 2 - CERTIFICATION OF PERFORMANCE

I, Favero Greenforest, certify that:

- I have personally inspected the trees and the property referred to in this report and have stated my findings accurately.
- I have no current or prospective interest in the vegetation or the property that is the subject of this report and have no personal interest or bias with respect to the parties involved.
- The analysis, opinion, and conclusions stated herein are my own and are based on current scientific procedures and facts.
- My analysis, opinion, and conclusions were developed and this report has been prepared according to commonly accepted arboricultural practices.
- No one provided significant professional assistance to me, except as indicated within the report.
- My compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client of any other party nor upon the results of the assessment, the attainment of stipulated results, or the occurrence of any subsequent events.

I further certify that I am a member in good standing of International Society of Arboriculture (ISA), and the ISA PNW Chapter, I am an ISA Certified Arborist (#PN-0143A) and am Tree Risk Assessment Qualified and am a Registered Consulting Arborist® (#379) with American Society of Consulting Arborists. I have worked as an independent consulting arborist since 1989.

Signed:

GREENFOREST, Inc.
By Favero Greenforest, M. S.

Favero Greenforest

Digitally signed by Favero Greenforest
Date: 2025.01.29 10:49:27 -08'00'

Date: September 6, 2023

ATTACHMENT NO. 3 – Significant Tree Inventory Table

Retain Tree?	Location	Category	Tree No.	DBH	Species	Dripline (R')	Healthy?	Well formed?	Safe?	Comments on Condition
N	Onsite	Specimen	1	18"	Douglas-fir	17'		N	Only in grove	Thin canopy, sweep in trunk
N	Onsite	**Hazard**	2	13,20,24"	Bigleaf maple	32'		N	N	Multiple leaders attached to trunk, previous leader failure, included bark with response wood, trunk decay
Y	Onsite	Landmark	3	30"	Oregon oak	25'				
Y	Onsite	Specimen	4	18"	Oregon oak	28'		N	Only in grove	Asymmetric canopy, tree leans S
Y	Onsite	Specimen	5	23"	Oregon oak	30'		N	Only in grove	Slight asymmetry
Y	Onsite	Landmark	6	25"	Oregon oak	35'		N	Only in grove	Slight asymmetry
Y	Onsite	Specimen	7	14"	Oregon oak	20'		N	Only in grove	Bend in trunk, tree leans
Y	Onsite	Specimen	8	12"	Oregon oak	16'		N	Only in grove	Leaning trunk
Y	Onsite	Landmark	9	28"	Oregon oak	23'				Dead ivy covers trunk
Y	Onsite	Specimen	10	14"	Oregon oak	18'				
N	Onsite	**Hazard**	11	13"	Oregon oak	25'	N	N	N	Dense ivy covers trunk/canopy, 90 degree lean, slender trunk, LCR, thin foliage
Y	Onsite	Specimen	12	13"	Oregon oak	18'		N	Only in grove	Ivy
Y	Onsite	Specimen	13	18"	Oregon oak	20'		N	Only in grove	Ivy
Y	Onsite	Specimen	14	16"	Oregon oak	25'		N	Only in grove	Ivy
Y	Onsite	Specimen	15	20"	Oregon oak	23'				
N	Onsite	Landmark	16	25"	Oregon oak	25'				
Y	Onsite	Specimen	17	12"	Oregon oak	16'		N	Only in grove	
Y	Onsite	Specimen	18	20"	Oregon oak	22'		N	Only in grove	Slight asymmetry

Retain Tree?	Location	Category	Tree No.	DBH	Species	Dripline (R')	Healthy?	Well formed?	Safe?	Comments on Condition
Y	Onsite	Specimen	19	17"	Oregon oak	25'		N	Only in grove	Slight asymmetry
N	Onsite	Landmark	20	24"	Oregon oak	25'				
N	Onsite	Landmark	21	30"	Oregon oak	25'				Dense ivy covering trunk
N	Onsite	**Hazard**	22	56"	Douglas-fir	35'	N	N	N	Recent top failure, trunk decay, 7.5" sound wood at base, scaffold branch failure, dead hanging branch in upper canopy
N	Onsite	Specimen	23	17"	Bigleaf maple	25'		N		Double leader, trunk sweeps toward street
N	Onsite	Landmark	24	54"	Douglas-fir	32'				Sweep, deadwood
N	Onsite	**Hazard**	25	26,26"	Oregon ash	16'	N	N	N	Double leader, trunk decay, lean
Y	Onsite	Landmark	27	54"	Douglas-fir	35'				Deadwood, hanger
N	100' WB	Landmark	30	34"	Douglas-fir	35'				
N	Onsite	Landmark	31	31"	Douglas-fir	30'				
N	Onsite	**Hazard**	33	17"	Douglas-fir	25'	N	N	N	Sweep/dogleg in trunks, previous rootplate failure, LCR, thin foliage
N	Onsite	**Hazard**	34	17"	Douglas-fir	25'	N	N	N	
N	Onsite	**Hazard**	35	17"	Douglas-fir	25'	N	N	N	
N	Onsite	Specimen	36	25"	Douglas-fir	20'		N	Only in grove	Deadwood, bow in trunk, asymmetric
N	Onsite	Specimen	37	19"	Douglas-fir	18'		N	Only in grove	Asymmetric
N	Onsite	Specimen	38	21"	Douglas-fir	18'		N	Only in grove	Asymmetric
N	Onsite	Specimen	39	18"	Douglas-fir	16'		N		Asymmetric
N	Onsite	**Hazard**	40	12"	Douglas-fir	12'	N	N	N	Suppressed canopy, thin foliage, asymmetric, slender
N	Onsite	**Hazard**	41	13"	Douglas-fir	14'	N	N	N	Suppressed canopy, thin foliage, asymmetric, slender

Retain Tree?	Location	Category	Tree No.	DBH	Species	Dripline (R')	Healthy?	Well formed?	Safe?	Comments on Condition
N	Onsite	Specimen	42	23"	Douglas-fir	30'				Deadwood
N	Onsite	Specimen	45	14,14"	Bigleaf maple	25'				Double leader
N	Onsite	Specimen	46	22"	Bigleaf maple	35'		N		Sweep, asymmetric canopy
N	Onsite	Specimen	47	20"	Douglas-fir	25'				
N	Onsite	Specimen	49	22"	Douglas-fir	20'				Dense ivy on trunk
N	Onsite	Specimen	50	19"	Douglas-fir	20'				Dense ivy on trunk
N	Onsite	Specimen	51	24"	Douglas-fir	20'				Dense ivy on trunk
N	Onsite	Specimen	52	27"	Douglas-fir	20'				Dense ivy on trunk
N	Onsite	Specimen	53	17"	Douglas-fir	20'		N		Asymmetric, thin branches
N	Onsite	Specimen	54	26"	Douglas-fir	25'				Ivy, thin branches
N	Onsite	Specimen	58	18"	Douglas-fir	18'				
N	Onsite	Specimen	59	26"	Douglas-fir	25'				
N	Onsite	Landmark	60	32"	Douglas-fir	30'		N	Only in grove	Asymmetric
N	Onsite	Specimen	61	29"	Douglas-fir	30'		N	Only in grove	Asymmetric
N	Onsite	Landmark	62	32"	Douglas-fir	30'				
N	Onsite	**Hazard**	63	35"	Douglas-fir	30'	N	N	N	Resin oozing on trunk, 6" sound wood, then discolored wood, thin foliage, some branch dieback, suspect root rot infection.
N	Onsite	Specimen	64	27"	Douglas-fir	25'				
N	Onsite	Specimen	65	25"	Douglas-fir	25'				
N	Onsite	**Hazard**	66	33"	Douglas-fir	35'	N	N	N	Previous rootplate failure, sweep, LCR, thin branches

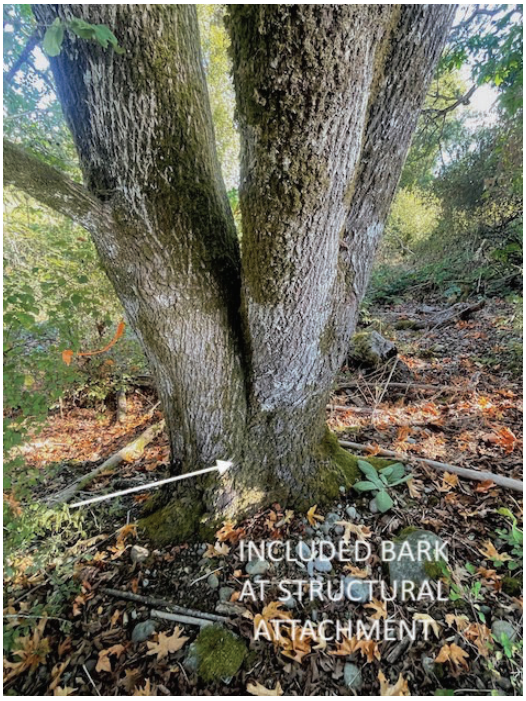
Retain Tree?	Location	Category	Tree No.	DBH	Species	Dripline (R')	Healthy?	Well formed?	Safe?	Comments on Condition
N	Onsite	**Hazard**	67	(11) 9-26"	Bigleaf maple	45'	N	N	N	Multiple leaders, bark inclusions, previous failure, Ganoderma fruiting bodies
Y	Onsite	Specimen	68	29"	Douglas-fir	20'		N		Asymmetric
Y	Onsite	Landmark	69	34"	Douglas-fir	25'		N		Asymmetric
Y	Onsite	Landmark	70	35"	Douglas-fir	30'				
Y	75' WB	Specimen	71	22"	Douglas-fir	20'				
N	Onsite	Specimen	73	22"	Douglas-fir	18'				
Y	Offsite	Street Tree	75	13"	Douglas-fir	16'				
Y	Offsite	Street Tree	76	17"	Douglas-fir	18'				
N	Onsite	**Hazard**	77	24"	Oregon oak	45'	N	N	N	Dense ivy, lean, asymmetric, deadwood, thin branches, low LCR
Y	100' WB	Specimen	102	28"	Douglas-fir	25'		N		Asymmetric
Y	75' WB	Landmark	103	31"	Douglas-fir	25'				
Y	75' WB	Specimen	104	28"	Douglas-fir	25'		N		Asymmetric
Y	75' WB	Landmark	105	38"	Douglas-fir	40'				
Y	75' WB	Landmark	106	43"	Douglas-fir	35'		N		Dogleg in trunk
Y	75' WB	Landmark	108	38"	Douglas-fir	30'		N		Dogleg
Y	75' WB	Landmark	109	36"	Douglas-fir	35'		N		Dogleg, multiple leaders
Y	75' WB	Specimen	111	26"	Douglas-fir	20'		N		Asymmetric
Y	75' WB	Landmark	117	32"	Bigleaf maple	45'		N		Asymmetric
Y	75' WB	Landmark	118	30"	Bigleaf maple	35'		N		Asymmetric
Y	Offsite	Street Tree	119	32"	Oregon oak	22'				Sidewalk obstruction for rootcrown
Y	Offsite	Street Tree	120	23"	Oregon oak	11'				Sidewalk obstruction for rootcrown

Retain Tree?	Location	Category	Tree No.	DBH	Species	Dripline (R')	Healthy?	Well formed?	Safe?	Comments on Condition
N	Onsite	Specimen	121	28"	Douglas-fir	22'				
N	Onsite	Specimen	122	15"	Douglas-fir	15'				Trunk wound
N	Onsite	Specimen	123	20"	Douglas-fir	16'		N		Asymmetric
N	Onsite	Specimen	124	16"	Douglas-fir	20'		N		Asymmetric
N	Onsite	Specimen	125	23"	Douglas-fir	20'		N		Asymmetric
N	Onsite	Specimen	126	18"	Oregon oak	26'				
Y	Onsite	Landmark	127	14,16,18"	Oregon oak	17'				Multiple leaders
N	Onsite	Specimen	128	18"	Oregon oak	20'				Trunk wound
Y	Onsite	Specimen	129	13"	Oregon oak	16'		N		Double leaders
Y	Offsite	Offsite	130	18"	Oregon oak	25'				
Y	Offsite	Offsite	131	32"	Oregon oak	34'				
N	Onsite	Specimen	132	19"	Oregon oak	30'				
Y	Offsite	Offsite	134	20"	Oregon oak	28'				
Y	100' WB	Specimen	135	21"	Oregon oak	30'		N		Lean
Y	Offsite	Offsite	136	(5) 20-36"	Bigleaf maple	55'		N		Multiple leaders
Y	Offsite	Offsite	137	17"	Oregon oak	20'		N		Lean, asymmetric
Y	Offsite	Offsite	138	24"	Oregon oak	25'				
Y	Offsite	Street Tree	8000	17	Autumnalis flowering cherry	16'	N			Branch dieback from brown fungus infection
Y	Offsite	Street Tree	8001	15	Autumnalis flowering cherry	16'	N			Branch dieback from brown fungus infection
Y	Offsite	Street Tree	8002	17	Autumnalis flowering cherry	16'	N			Branch dieback from brown fungus infection

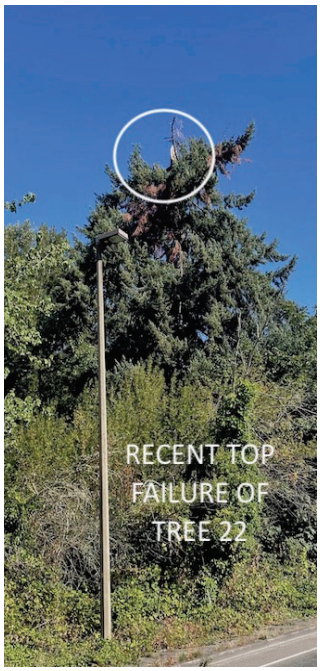
Retain Tree?	Location	Category	Tree No.	DBH	Species	Dripline (R')	Healthy?	Well formed?	Safe?	Comments on Condition
Y	Offsite	Street Tree	8003	17	Autumnalis flowering cherry	16'	N			Branch dieback from brown fungus infection
Y	Offsite	Street Tree	8004	12	Autumnalis flowering cherry	16'	N			Branch dieback from brown fungus infection
Y	Offsite	Street Tree	8005	13	Autumnalis flowering cherry	16'	N			Branch dieback from brown fungus infection
Y	Offsite	Street Tree	8006	18	Kwanzan flowering cherry	20		N		Asymmetric, grows over street
Y	Offsite	Street Tree	8007	13	Kwanzan flowering cherry	14		N		Asymmetric, suppressed canopy
Y	Offsite	Street Tree	8008	15	Kwanzan flowering cherry	14		N		Asymmetric, suppressed canopy
Y	Offsite	Street Tree	8009	19	Kwanzan flowering cherry	14		N		Asymmetric, suppressed canopy
N	Offsite	Street Tree	8010	22	Kwanzan flowering cherry	16		N		Asymmetric, grows over street
Y	Offsite	Street Tree	8011	24	Kwanzan flowering cherry	20		N		Asymmetric, grows over street
N	Offsite	Street Tree	8012	15	Kwanzan flowering cherry	10	N	N	N	Dead
Y	Offsite	Street Tree	8013	20	Kwanzan flowering cherry	18		N		Asymmetric, grows over street
Y	Offsite	Street Tree	8014	18	Oregon ash	22				Multiple trunk injuries (from vehicles)

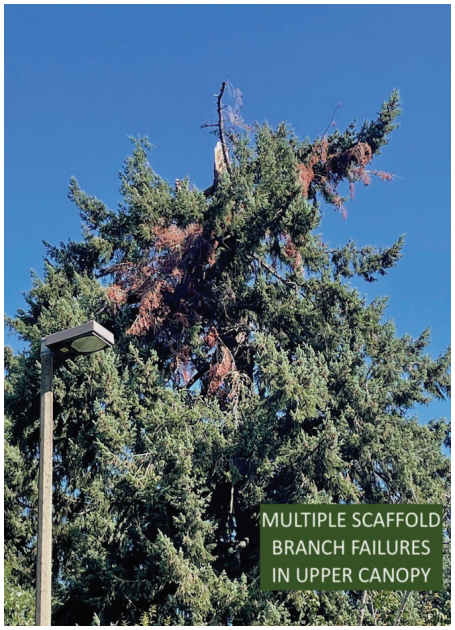
ATTACHMENT NO. 4 – Photographs of Landmark-Size Hazard Trees

Tree No.	DBH	Species	Comments on Condition
2	13,20,24"	Bigleaf maple	Multiple leaders along trunk axis, previous leader failure and open wound with decay, included bark with response wood present



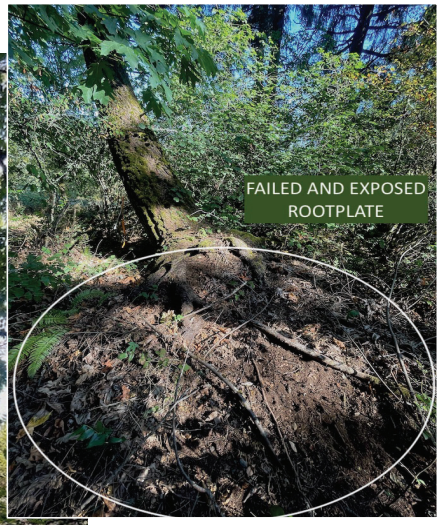
Tree No.	DBH	Species	Comments on Condition
22	56"	Douglas-fir	Recent failure of the top of the tree, trunk decay visit at failure, 7.5" sound wood at base observed after extracting a wood core (75% of radius is decayed wood), scaffold branch failure in upper canopy at previous topping wound, dead hanging branch in upper canopy



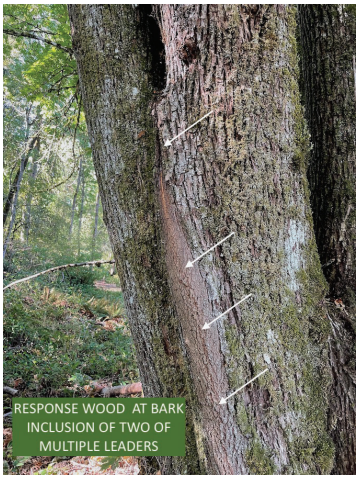


Tree No.	DBH	Species	Comments on Condition
63	32"	Douglas-fir	Resin oozing on lower portion of trunk, 6" sound wood from removed core (66% of radius is decayed wood), then discolored wood further in trunk, very thin foliage, some branch dieback, and suspect root rot infection.

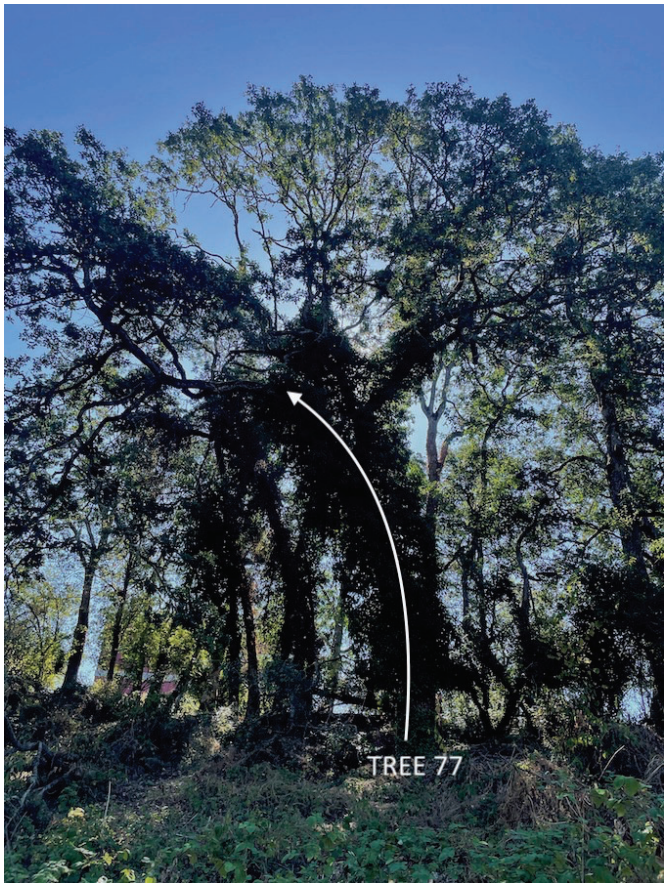
Tree No.	DBH	Species	Comments on Condition
66	33"	Douglas-fir	Previous rootplate failure and with an obvious sweep in the trunk, low LCR, thin branches throughout canopy



Tree No.	DBH	Species	Comments on Condition
67	(11) 9-26"	Bigleaf maple	Multiple leaders at single attachment near grade (tree was likely cut to grade decades ago), bark inclusions present at most attachments, previous failure of structural branches, *Ganoderma* fungus fruiting bodies on lower trunk.



Tree No.	DBH	Species	Comments on Condition
77	24"	Oregon oak	Dense ivy covering trunk, trunk leans and with bow, asymmetric structure, deadwood throughout canopy, thin branches, low LCR.



CHAMPIONS CENTRE
TREE RETENTION PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE4x E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE
40 0 20 40 80 160
1 INCH = 40 FEET

APPLICANT:
CHAMPIONS CENTRE
CONTACT: DAVID YADON, CORPORATE SECRETARY
PHONE: 253-606-9041
1819 E. 72ND ST.
TACOMA, WA 98404

APPROVED FOR CONSTRUCTION
BY: _____ DATE: _____
City of DuPont

These drawings are approved for construction for a period of 12 months from the date shown hereon. The city reserves the right to make revisions, additional, deletions, or modifications should construction be delayed beyond this time limitation. The city, by approving these drawings, assumes no liability in regards to their accuracy or omissions.

PARCEL NUMBERS:
0119362039, 0119362020, 0119362012 & 0119362043

PARCEL AREA:
927,027 S.F. (21.28 Ac)

SURVEY DISCLAIMER:
THIS IS NOT A BOUNDARY SURVEY

PROPERTY OWNER:
MUSTARD SEED LEGACY DEV. LLC
32706 MOUNTAIN HWY E.
EATONVILLE, WA 98328

RETAIN	CAT.	TREE #	DBH (IN)	SPECIES	DRIPLINE
N	Specimen	1	18"	Douglas-fir	17'
N	**Hazard**	2	11,20,24"	Bigleaf maple	37'
Y	Landmark	3	30"	Oregon oak	25'
Y	Specimen	4	18"	Oregon oak	28'
Y	Specimen	5	23"	Oregon oak	30'
Y	Landmark	6	25"	Oregon oak	35'
Y	Specimen	7	14"	Oregon oak	20'
Y	Specimen	8	12"	Oregon oak	16'
Y	Landmark	9	28"	Oregon oak	23'
Y	Specimen	10	14"	Oregon oak	18'
N	**Hazard**	11	13"	Oregon oak	25'
Y	Specimen	12	13"	Oregon oak	18'
Y	Specimen	13	18"	Oregon oak	20'
Y	Specimen	14	16"	Oregon oak	25'
Y	Specimen	15	20"	Oregon oak	23'
N	Landmark	16	25"	Oregon oak	25'
Y	Specimen	17	12"	Oregon oak	16'
Y	Specimen	18	20"	Oregon oak	22'
Y	Specimen	19	17"	Oregon oak	25'
N	Landmark	20	24"	Oregon oak	25'
N	Landmark	21	30"	Oregon oak	25'
N	**Hazard**	22	16"	Douglas-fir	35'
N	Specimen	23	17"	Bigleaf maple	25'
N	Landmark	24	54"	Douglas-fir	32'
N	**Hazard**	25	26, 34"	Oregon oak	16'
Y	Landmark	27	54"	Douglas-fir	30'
Y	N/A	28	16"	Oregon oak	20'
N	Landmark	30	34"	Douglas-fir	35'
N	Landmark	31	31"	Douglas-fir	35'
N	**Hazard**	33	17"	Douglas-fir	25'
N	Specimen	34	17"	Douglas-fir	25'
N	Specimen	35	27"	Douglas-fir	25'
N	Specimen	36	25"	Douglas-fir	20'
N	Specimen	37	19"	Douglas-fir	18'
N	Specimen	38	21"	Douglas-fir	16'
N	Specimen	39	18"	Douglas-fir	16'
N	**Hazard**	40	12"	Douglas-fir	12'
N	**Hazard**	41	13"	Douglas-fir	14'
N	Specimen	42	23"	Douglas-fir	30'
N	Specimen	45	14,14"	Bigleaf maple	25'
N	Specimen	46	12"	Bigleaf maple	35'
N	Specimen	47	20"	Douglas-fir	25'
N	Specimen	48	22"	Douglas-fir	20'
N	Specimen	50	19"	Douglas-fir	20'
N	Specimen	51	24"	Douglas-fir	30'
N	Specimen	52	27"	Douglas-fir	20'
N	Specimen	53	17"	Douglas-fir	30'
N	Specimen	54	26"	Douglas-fir	25'
N	Specimen	58	18"	Douglas-fir	16'
N	Specimen	59	26"	Douglas-fir	25'
N	Landmark	60	32"	Douglas-fir	30'
N	Specimen	61	24"	Douglas-fir	30'
N	Specimen	62	32"	Douglas-fir	30'
N	Landmark	63	30"	Douglas-fir	30'
N	Specimen	64	27"	Douglas-fir	25'
N	Specimen	65	31"	Douglas-fir	35'
N	**Hazard**	66	19"	Douglas-fir	35'
N	**Hazard**	67	(2) 19-36"	Bigleaf maple	30'
N	Specimen	68	29"	Douglas-fir	30'
Y	Landmark	69	34"	Douglas-fir	30'
Y	Landmark	70	35"	Douglas-fir	30'
Y	Specimen	71	23"	Douglas-fir	30'
N	Specimen	73	22"	Douglas-fir	18'
Y	Street Tree	74	14"	Douglas-fir	10'
Y	Specimen	76	17"	Douglas-fir	18'
Y	**Hazard**	77	24"	Oregon oak	45'
Y	Specimen	102	28"	Douglas-fir	25'
Y	Landmark	103	31"	Douglas-fir	25'
Y	Specimen	104	28"	Douglas-fir	25'
Y	Landmark	105	38"	Douglas-fir	40'
Y	Landmark	106	43"	Douglas-fir	35'
Y	Landmark	108	38"	Douglas-fir	30'
Y	Landmark	109	36"	Douglas-fir	35'
Y	Specimen	111	26"	Douglas-fir	30'
Y	Landmark	117	32"	Bigleaf maple	45'
Y	Landmark	118	30"	Bigleaf maple	35'
Y	Street Tree	119	32"	Oregon oak	22'
Y	Street Tree	120	23"	Douglas-fir	11'
N	Specimen	121	28"	Douglas-fir	22'
N	Specimen	122	15"	Douglas-fir	15'
N	Specimen	123	20"	Douglas-fir	16'
N	Specimen	124	16"	Douglas-fir	20'
N	Specimen	125	22"	Douglas-fir	20'
N	Specimen	126	18"	Oregon oak	26'
N	Landmark	127	14,16,16"	Oregon oak	17'
N	Specimen	128	18"	Oregon oak	30'
Y	Specimen	129	19"	Oregon oak	16'
Y	Specimen	130	18"	Oregon oak	25'
Y	Landmark	131	32"	Oregon oak	34'
N	Specimen	132	19"	Oregon oak	30'
Y	Specimen	134	20"	Oregon oak	28'
Y	Specimen	135	21"	Oregon oak	30'
Y	Landmark	136	(5) 20-36"	Bigleaf maple	55'
Y	Specimen	137	17"	Oregon oak	20'
Y	Landmark	138	24"	Oregon oak	25'
Y	Street Tree	8000	17	Autumnalis flowering cherr	10'
Y	Street Tree	8001	15	Autumnalis flowering cherr	10'
Y	Street Tree	8002	17	Autumnalis flowering cherr	10'
Y	Street Tree	8003	17	Autumnalis flowering cherr	10'
Y	Street Tree	8004	12	Autumnalis flowering cherr	10'
Y	Street Tree	8005	13	Autumnalis flowering cherr	10'
Y	Street Tree	8006	18	Kwanzan flowering cherry	20
Y	Street Tree	8007	13	Kwanzan flowering cherry	14
Y	Street Tree	8008	15	Kwanzan flowering cherry	14
Y	Street Tree	8009	19	Kwanzan flowering cherry	14
N	Street Tree	8010	22	Kwanzan flowering cherry	16
Y	Street Tree	8011	24	Kwanzan flowering cherry	20
N	**Hazard**	8012	15	Kwanzan flowering cherry	10
Y	Street Tree	8013	20	Kwanzan flowering cherry	18
Y	Street Tree	8014	18	Oregon ash	22

LEGEND

- DECIDUOUS TREES TO REMAIN
- LANDMARK DECIDUOUS TREES TO REMAIN
- CONIFER TREES TO REMAIN
- LANDMARK CONIFER TREES TO REMAIN
- OREGON WHITE OAK TO REMAIN
- LANDMARK OREGON WHITE OAK TO REMAIN
- DECIDUOUS TREES TO BE REMOVED
- LANDMARK DECIDUOUS TREES TO BE REMOVED
- CONIFER TREES TO BE REMOVED
- LANDMARK CONIFER TREES TO BE REMOVED
- OREGON WHITE OAK TO BE REMOVED
- LANDMARK OREGON WHITE OAK TO BE REMOVED
- HAZARD TREES TO BE REMOVED
- KWANZAN FLOWERING CHERRY TO REMAIN
- KWANZAN FLOWERING CHERRY TO BE REMOVED

TREE RETENTION CALCULATIONS

(PER DMC 25.120.030)

3 TREES PER ACRE REQUIRED FOR RETENTION
179,281 SF. PROPERTY / 43,560 SF. = 4.12 X 3 PER ACRE = 12 TREES PER ACRE REQUIRED TO BE RETAINED

TOTAL LANDMARK TREES ON SITE: 22
TOTAL SPECIMEN TREES ON SITE: 49

TOTAL TREES ON SITE: 84
TOTAL TREES IN ROW AND OFF SITE: 25
TOTAL TREES ON SITE, IN ROW, AND OFF SITE: 109

(ALL LANDMARK OAKS SHALL BE RETAINED, SEE TYPE III TREE MODIFICATION REPORT PER DMC 25.120.050)
7 LANDMARK OAK TREES ON SITE
TOTAL LANDMARK OAK TREES TO REMAIN: 4
TOTAL LANDMARK OAK TREES TO BE REMOVED: 3
57% LANDMARK OAK TREES TO BE RETAINED

(HALF OF LANDMARK NON-OAK TREES SHALL BE RETAINED, PER DMC 25.120.030.2)
15 LANDMARK NON-OAK TREES X 50% = 8 TREES REQUIRED TO BE RETAINED
TOTAL LANDMARK NON-OAK TREES TO REMAIN: 9
TOTAL LANDMARK NON-OAK TREES TO BE REMOVED: 6
60% LANDMARK NON-OAK TREES TO BE RETAINED

49 SPECIMEN TREES ON SITE
TOTAL SPECIMEN TREES (INCLUDING OAK TREES) TO REMAIN: 19
TOTAL SPECIMEN TREES (INCLUDING OAK TREES) TO BE REMOVED: 30
61% SPECIMEN TREES TO BE RETAINED

25 TREES IN THE ROW AND OFF SITE
TOTAL TREES IN THE ROW TO BE RETAINED: 13
TOTAL TREES OFF SITE TO BE RETAINED: 0
TOTAL TREES IN THE ROW TO BE REMOVED: 6
52% TREES TO BE RETAINED

TOTAL LANDMARK AND SPECIMEN HAZARD TREES TO BE REMOVED: 13

TOTAL TREES TO BE RETAINED ON SITE: 32 / 84 = 38% OR (8 TREES PER ACRE)
TOTAL TREES TO BE REMOVED ON SITE: 52 / 84 OR 62%

1 LIMITS OF DISTURBANCE DETAIL (L.O.D.)
PER ARBORIST REPORT PREPARED BY GREENFOREST INC.
SCALE: N.T.S.

BEFORE ANY CONSTRUCTION CONTACT:
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Tree Retention Plan

Champions Centre
Tree Retention Plan
David Yadon, Champions Centre
XXX Blanchard Ave.
Bellingham, WA 98227
Phone: 253-606-9041
dave@cc-church

DRAWING
T1
SHEET 01
OF 01

Exhibit 3.d

CHAMPIONS CENTRE
TREE RETENTION PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE4x E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE
40 0 20 40 80 160
1 INCH = 40 FEET

APPLICANT:
CHAMPIONS CENTRE
CONTACT: DAVID YADON, CORPORATE SECRETARY
PHONE: 253-606-9041
1819 E. 72ND ST.
TACOMA, WA 98404

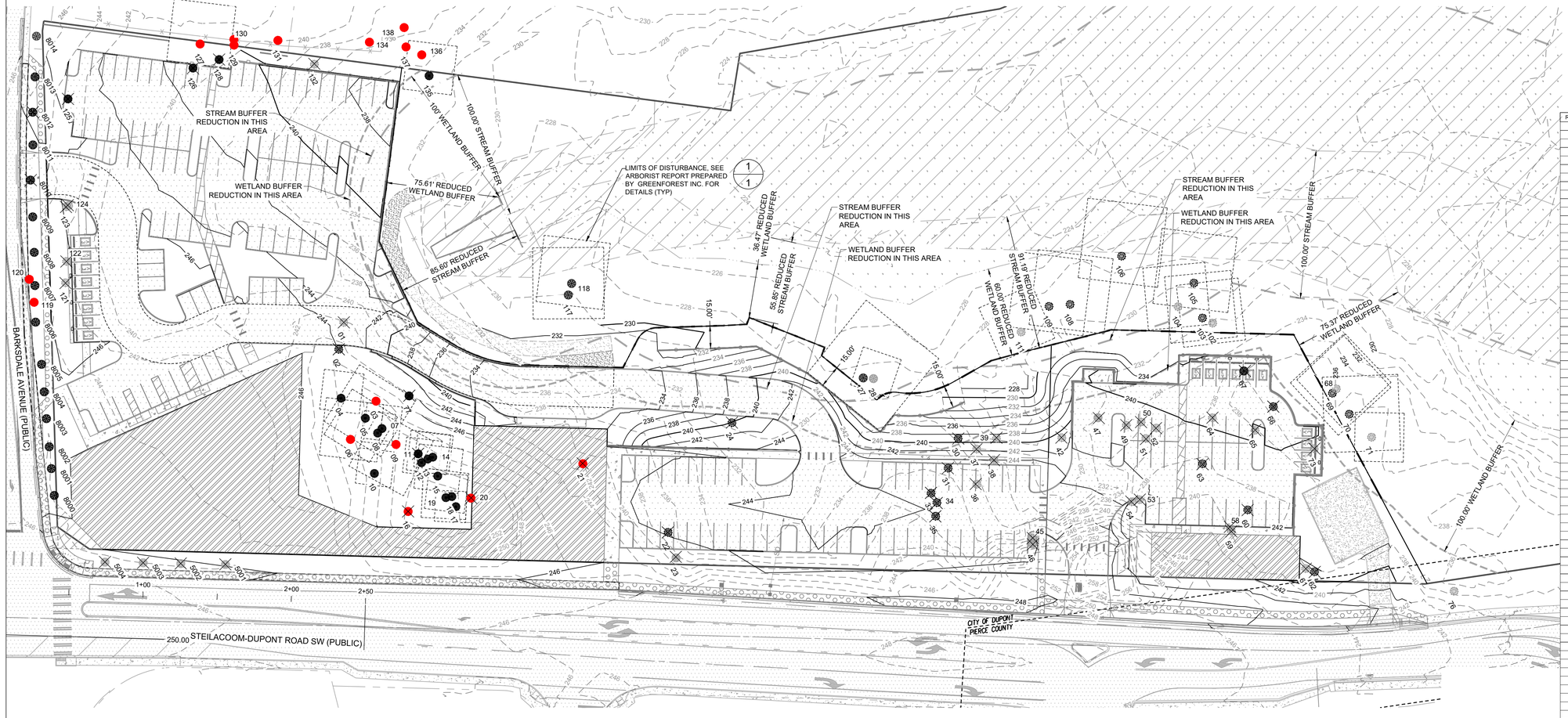
APPROVED FOR CONSTRUCTION
BY: _____ DATE: _____
City of DuPont
These drawings are approved for construction for a period of 12 months from the date shown hereon. The city reserves the right to make revisions, additional, deletions, or modifications should construction be delayed beyond this time limitation. The city, by approving these drawings, assumes no liability in regards to their accuracy or omissions.

PARCEL NUMBERS:
0119362039, 0119362009, 0119362012 & 0119362043

PARCEL AREA:
927,027 S.F. (21.28 AC)

SURVEY DISCLAIMER:
THIS IS NOT A BOUNDARY SURVEY

PROPERTY OWNER:
MUSTARD SEED LEGACY DEV. LLC
32706 MOUNTAIN HWY E
EATONVILLE, WA 98328



RETAIN	CAT.	TREE #	DBH (IN)	SPECIES	DRIPLINE
N	Specimen	1	18"	Douglas-fir	17'
N	**Hazard**	2	13,20,24"	Bigleaf maple	32'
Y	Landmark	3	30"	Oregon oak	25'
Y	Specimen	4	18"	Oregon oak	28'
Y	Specimen	5	23"	Oregon oak	30'
Y	Landmark	6	25"	Oregon oak	35'
Y	Specimen	7	14"	Oregon oak	20'
Y	Specimen	8	12"	Oregon oak	16'
Y	Landmark	9	28"	Oregon oak	23'
Y	Specimen	10	14"	Oregon oak	18'
N	**Hazard**	11	13"	Oregon oak	25'
Y	Specimen	12	13"	Oregon oak	18'
Y	Specimen	13	18"	Oregon oak	20'
Y	Specimen	14	16"	Oregon oak	25'
Y	Specimen	15	20"	Oregon oak	23'
N	Landmark	16	25"	Oregon oak	25'
Y	Specimen	17	12"	Oregon oak	16'
Y	Specimen	18	20"	Oregon oak	22'
Y	Specimen	19	17"	Oregon oak	25'
N	Landmark	20	24"	Oregon oak	25'
N	Landmark	21	30"	Oregon oak	25'
N	**Hazard**	22	56"	Douglas-fir	35'
N	Specimen	23	17"	Bigleaf maple	25'
N	Landmark	24	54"	Douglas-fir	32'
N	**Hazard**	25	26, 26"	Oregon ash	16'
Y	Landmark	27	54"	Douglas-fir	35'
N/S	Specimen	28	15"	Oregon ash	20'
N	Landmark	30	34"	Douglas-fir	35'
N	Landmark	31	31"	Douglas-fir	30'
N	**Hazard**	33	17"	Douglas-fir	25'
N	Specimen	34	17"	Douglas-fir	25'
N	Specimen	35	17"	Douglas-fir	25'
N	Specimen	36	25"	Douglas-fir	20'
N	Specimen	37	19"	Douglas-fir	18'
N	Specimen	38	21"	Douglas-fir	18'
N	Specimen	39	18"	Douglas-fir	16'
N	**Hazard**	40	12"	Douglas-fir	12'
N	**Hazard**	41	13"	Douglas-fir	14'
N	Specimen	42	23"	Douglas-fir	30'
N	Specimen	45	14,14"	Bigleaf maple	25'
N	Specimen	46	22"	Bigleaf maple	35'
N	Specimen	47	20"	Douglas-fir	25'
N	Specimen	49	22"	Douglas-fir	20'
N	Specimen	50	19"	Douglas-fir	20'
N	Specimen	51	24"	Douglas-fir	20'
N	Specimen	52	27"	Douglas-fir	20'
N	Specimen	53	17"	Douglas-fir	20'
N	Specimen	54	26"	Douglas-fir	25'
N	Specimen	58	18"	Douglas-fir	18'
N	Specimen	59	26"	Douglas-fir	25'
N	Landmark	60	32"	Douglas-fir	30'
N	Specimen	61	29"	Douglas-fir	30'
N	Specimen	62	32"	Douglas-fir	30'
N	Landmark	63	35"	Douglas-fir	30'
N	Specimen	64	27"	Douglas-fir	25'
N	Specimen	65	25"	Douglas-fir	25'
N	**Hazard**	66	33"	Douglas-fir	35'
N	**Hazard**	67	(11) 9-26"	Bigleaf maple	45'
Y	Specimen	68	29"	Douglas-fir	20'
Y	Landmark	69	34"	Douglas-fir	25'
Y	Landmark	70	35"	Douglas-fir	30'
Y	Specimen	71	22"	Douglas-fir	20'
N	Specimen	73	22"	Douglas-fir	18'
Y	Street Tree	75	13"	Douglas-fir	16'
Y	Specimen	76	17"	Douglas-fir	18'
Y	**Hazard**	77	24"	Oregon oak	45'
Y	Specimen	102	28"	Douglas-fir	25'
Y	Landmark	103	31"	Douglas-fir	25'
Y	Specimen	104	28"	Douglas-fir	25'
Y	Landmark	105	38"	Douglas-fir	40'
Y	Landmark	106	43"	Douglas-fir	35'
Y	Landmark	108	38"	Douglas-fir	30'
Y	Landmark	109	36"	Douglas-fir	35'
Y	Specimen	111	26"	Douglas-fir	20'
Y	Landmark	117	32"	Bigleaf maple	45'
Y	Landmark	118	30"	Bigleaf maple	35'
Y	Street Tree	119	32"	Oregon oak	22'
Y	Street Tree	120	23"	Oregon oak	11'
N	Specimen	121	28"	Douglas-fir	22'
N	Specimen	122	15"	Douglas-fir	15'
N	Specimen	123	20"	Douglas-fir	16'
N	Specimen	124	16"	Douglas-fir	20'
N	Specimen	125	23"	Douglas-fir	20'
N	Specimen	126	18"	Oregon oak	26'
Y	Landmark	127	14,16,18"	Oregon oak	17'
N	Specimen	128	18"	Oregon oak	20'
Y	Specimen	129	13"	Oregon oak	16'
Y	Specimen	130	18"	Oregon oak	25'
Y	Landmark	131	32"	Oregon oak	34'
N	Specimen	132	19"	Oregon oak	30'
Y	Specimen	134	20"	Oregon oak	28'
Y	Specimen	135	21"	Oregon oak	30'
Y	Landmark	136	(5) 20-36"	Bigleaf maple	55'
Y	Specimen	137	17"	Oregon oak	20'
Y	Landmark	138	24"	Oregon oak	25'
Y	Street Tree	8000	17	Autumnalis flowering cherry	16'
Y	Street Tree	8001	15	Autumnalis flowering cherry	16'
Y	Street Tree	8002	17	Autumnalis flowering cherry	16'
Y	Street Tree	8003	17	Autumnalis flowering cherry	16'
Y	Street Tree	8004	12	Autumnalis flowering cherry	16'
Y	Street Tree	8005	13	Autumnalis flowering cherry	16'
Y	Street Tree	8006	18	Kwanzan flowering cherry	20
Y	Street Tree	8007	13	Kwanzan flowering cherry	14
Y	Street Tree	8008	15	Kwanzan flowering cherry	14
Y	Street Tree	8009	19	Kwanzan flowering cherry	14
N	Street Tree	8010	22	Kwanzan flowering cherry	16
Y	Street Tree	8011	24	Kwanzan flowering cherry	20
N	**Hazard**	8012	15	Kwanzan flowering cherry	10
Y	Street Tree	8013	20	Kwanzan flowering cherry	18
Y	Street Tree	8014	18	Oregon ash	22

LEGEND

- DECIDUOUS TREES TO REMAIN
- LANDMARK DECIDUOUS TREES TO REMAIN
- CONIFER TREES TO REMAIN
- LANDMARK CONIFER TREES TO REMAIN
- OREGON WHITE OAK TO REMAIN
- LANDMARK OREGON WHITE OAK TO REMAIN
- DECIDUOUS TREES TO BE REMOVED
- LANDMARK DECIDUOUS TREES TO BE REMOVED
- CONIFER TREES TO BE REMOVED
- LANDMARK CONIFER TREES TO BE REMOVED
- OREGON WHITE OAK TO BE REMOVED
- LANDMARK OREGON WHITE OAK TO BE REMOVED
- HAZARD TREES TO BE REMOVED
- KWANZAN FLOWERING CHERRY TO REMAIN
- KWANZAN FLOWERING CHERRY TO BE REMOVED

TREE RETENTION CALCULATIONS
(PER DMC 25.120.030)

3 TREES PER ACRE REQUIRED FOR RETENTION
179,281 SF. PROPERTY / 43,560 SF. = 4.12 X 3 PER ACRE = 12 TREES PER ACRE REQUIRED TO BE RETAINED

TOTAL LANDMARK TREES ON SITE: 22
TOTAL SPECIMEN TREES ON SITE: 49

TOTAL TREES ON SITE: 84
TOTAL TREES IN ROW AND OFF SITE: 25
TOTAL TREES ON SITE, IN ROW, AND OFF SITE: 109

(ALL LANDMARK OAKS SHALL BE RETAINED, SEE TYPE III TREE MODIFICATION REPORT PER DMC 25.120.050)
7 LANDMARK OAK TREES ON SITE
TOTAL LANDMARK OAK TREES TO REMAIN: 4
TOTAL LANDMARK OAK TREES TO BE REMOVED: 3
57% LANDMARK OAK TREES TO BE RETAINED

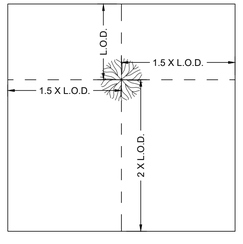
(HALF OF LANDMARK NON-OAK TREES SHALL BE RETAINED, PER DMC 25.120.030.2)
15 LANDMARK NON-OAK TREES X 50% = 8 TREES REQUIRED TO BE RETAINED
TOTAL LANDMARK NON-OAK TREES TO REMAIN: 9
TOTAL LANDMARK NON-OAK TREES TO BE REMOVED: 6
60% LANDMARK NON-OAK TREES TO BE RETAINED

49 SPECIMEN TREES ON SITE
TOTAL SPECIMEN TREES (INCLUDING OAK TREES) TO REMAIN: 19
TOTAL SPECIMEN TREES (INCLUDING OAK TREES) TO BE REMOVED: 30
60% SPECIMEN TREES TO BE RETAINED

25 TREES IN THE ROW AND OFF SITE
TOTAL TREES IN THE ROW TO BE RETAINED: 13
TOTAL TREES OFF SITE TO BE RETAINED: 6
TOTAL TREES IN THE ROW TO BE REMOVED: 6
52% TREES TO BE RETAINED

TOTAL LANDMARK AND SPECIMEN HAZARD TREES TO BE REMOVED: 13

TOTAL TREES TO BE RETAINED ON SITE: 32 / 84 = 38% OR (8 TREES PER ACRE)
TOTAL TREES TO BE REMOVED ON SITE: 52 / 84 OR 62%



1 LIMITS OF DISTURBANCE DETAIL (L.O.D.)
PER ARBORIST REPORT PREPARED BY GREENFOREST INC.
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07/18/2025
KYLE E. FOX
STATE OF WASHINGTON
12944
REGISTERED
PROFESSIONAL LAND SURVEYOR

DATE
REVISION
1 2 3 4 5 6 7 8 9 10

JOB NO: 12955
DATE: 07/18/2025
DESIGNED BY: WG
DRAWN BY: WG
CHECKED BY: LF
APPROVED BY: LF

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Tree Retention Plan

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Tree Retention Plan
David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

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T1
SHEET 01
OF 01

Received 12-11-2024

Exhibit 3.e

MUSTARD SEED LEGACY DEVELOPMENT, LLC

CRITICAL AREAS REPORT

FARALLON CONSULTING | Grette Associates ENVIRONMENTAL CONSULTANTS

MUSTARD SEED LEGACY DEVELOPMENT, LLC

CRITICAL AREAS REPORT

PREPARED FOR:

MUSTARD SEED LEGACY DEVELOPMENT, LLC
VSI LAW GROUP PLLC
225 TACOMA AVE. S
TACOMA, WA 98402

PREPARED BY:

GRETTE ASSOCIATES, A DIVISION OF FARALLON CONSULTING, LLC
2709 JAHN AVENUE NW, SUITE H-5
GIG HARBOR, WASHINGTON 98335
(253) 573-9300

JULY 2019

CHAD WALLIN, PWS
WETLAND SCIENTIST

DATE

REVISED MAY 2024

TABLE OF CONTENTS

1 INTRODUCTION 3
2 FEATURE SUMMARY 3
3 BACKGROUND 4
3.1 Existing Conditions 4
3.2 Local Critical Areas Inventory 5
3.3 National Wetlands Inventory 5
3.4 Sensitive Wildlife and Plants 5
3.5 State Water Classification System 5
3.6 Soil Information 5
4 METHODS 6
4.1 Hydrophytic Vegetation 6
4.2 Wetland Hydrology 7
4.3 Hydric Soils 7
5 RESULTS 7
5.1 Wetland A – Bell Marsh 7
5.1.1 Vegetation 7
5.1.2 Hydrology 8
5.1.3 Hydric Soils 8
5.1.4 Wetland Categorization 8
5.2 Fish and Wildlife Conservation Areas 8
5.2.1 Stream PS-1 9
5.3 Regulatory Considerations 9
5.4 Disclaimer 10
6 BIOLOGIST QUALIFICATIONS 10
6.1 Chad Wallin 10
7 REFERENCES 11

LIST OF FIGURES

Figure 1. Vicinity map 3
Figure 2. Stormwater Outfall and Channelization 9

LIST OF TABLES

Table 1. Wetland delineation summary 4
Table 2. Natural water feature identification summary 4
Table 3. Definitions for USFWS plant indicator status 7
Table 4. Wetland rating and categorization summary 8

LIST OF APPENDICES

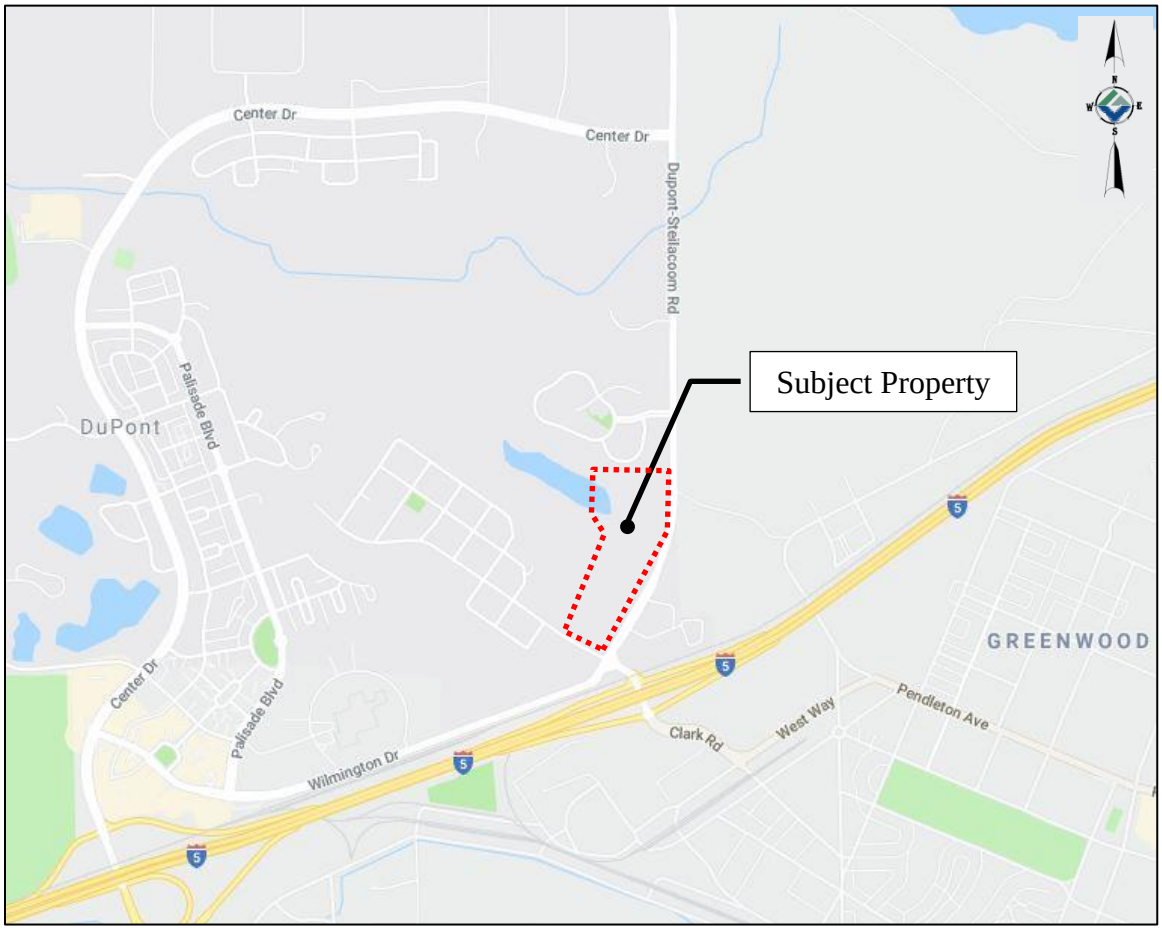
Appendix A. Wetland Delineation Map
Appendix B. Wetland Summaries
Appendix C. Wetland Datasheets
Appendix D: Wetland Rating Form
Appendix E: Queried Database Figures

1 INTRODUCTION

Grette Associates is under contract with Mustard Seed Legacy Development to prepare a critical areas report that summarizes the critical areas reconnaissance performed at the property located at the corner of Barksdale Ave. and DuPont-Steilacoom Rd SW (Pierce County parcels 0119362043, 0119362039, 0119362009 and 0119362012) within the City of DuPont (Figure 1).

The purpose of this report is to document all wetlands and streams that are located within 200 feet of the subject property and has been prepared in conformance with the critical area report requirements defined in Chapter 25.105 of the DuPont Municipal Code (DMC).

Figure 1. Vicinity map



2 FEATURE SUMMARY

Grette Associates visited the subject property on April 30, 2019 to conduct an assessment to identify any wetlands or streams within 200 feet of the subject property.

Grette Associates collected wetland delineation data and delineated one wetland feature (Wetland A - Bell Marsh; Appendix A) that contained all three wetland criteria defined in the U.S. Army Corps of Engineers (USACE) *Federal Wetland Delineation Manual* (1987), and the USACE's *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (2010). Wetland A

was rated according to DMC 25.105.050 and the Washington State Department of Ecology's (Ecology) *Washington State Wetland Rating System for Western WA – 2014 Update* (Hruby 2014). A wetland delineation summary, field datasheets and wetland rating form are presented in Appendices B, C and D, respectively. Copies of the queried database figures reviewed for this report are presented in Appendix E. Photographs of the site are presented in Appendix F. A summary of the delineated wetland is provided in Table 1.

In addition to the wetland delineation, one natural water feature (PS-1) was identified within 200 feet of the subject property (Appendix A). An ordinary high water mark (OHWM) determination was not completed given its location within Wetland A. This stream flows into the southern portion of Wetland A where a large stormwater pipe discharges. A summary of the stream is provided below in Table 2.

Table 1. Wetland delineation summary

Feature	Size (Approximate)	Cowardin Class[1]	Hydrology Modifier	HGM Class	Wetland Category	Buffer Width[2]
A/Bell Marsh	20 acres	PAB/EM/SS/FO	Permanently Flooded and Seasonally Flooded	Depressional	II	100 ft.

[1] Classification based on Cowardin et al. (1979).
[2] Buffers are based on DMC 25.105.050.

Table 2. Natural water feature identification summary

Feature	Water Type[1]	Buffer[2]
PS-1	F	100 ft.

[1] Natural water features were rated according to DMC 25.105.030 and WAC 222-16-030.
[2] Buffers are based on DMC 25.105.050

3 BACKGROUND

3.1 Existing Conditions

The subject property is undeveloped and largely dominated by Bell Marsh (Appendix A). Non-wetland areas are limited to the south and southeast portions of the subject property along DuPont-Steilacoom Road and Barksdale Ave, which consist predominately of a native forested area over a dense blackberry thicket (*Rubus armeniacus*) understory. Native trees present to the southeast include big leaf maple (*Acer macrophyllum*), Douglas fir (*Pseudotsuga menziesii*), black cottonwood (*Populus balsamifera*), and Oregon white oak (*Quercus garryana*). Where blackberry is not dominant, the understory consists of a mix of native and invasive species including English ivy (*Hedera helix*), tall Oregon grape (*Mahonia aquifolium*), osoberry (*Oemleria cerasiformis*), and red-osier dogwood (*Cornus sericea*). The aquatic bed portions of the site consist of a variety of invasive and native aquatic vegetation.

The marsh receives a significant input of stormwater from a large stormwater outfall in the south end of the site (Appendix F). This outfall originates from Joint Base Lewis-McChord (JBLM) to the south, and passes under I-5 to discharge on the subject property. The outfall drains a large stormwater detention pond on JBLM property. The outlet on the subject property consists of a large concrete pad with concrete wingwalls, surrounded by a chain link fence. Stormwater discharging from this outfall has created a channel (Stream PS-1) within Wetland A leading to the north toward the outlet of the marsh beneath DuPont-Steilacoom Road near Pendleton Ave.

3.2 Local Critical Areas Inventory

Bell Marsh is identified as a wetland feature on the City of DuPont's Comprehensive Plan Map. A portion of the marsh/wetland is also identified as 100-year floodplain on the City's FEMA 100-year floodplain map from 1983, as well as on Pierce County's PublicGIS system as regulated floodplain (Floodzone A – Special Flood Hazard Area) (Appendix E).

3.3 National Wetlands Inventory

The U.S. Fish and Wildlife Service's National Wetlands Inventory (NWI) was queried to determine if previously-identified wetlands are present within 200 feet of the subject property (USFWS 2019). According to the NWI Interactive Online Mapper, there is one wetland (Wetland A) that corresponds to the location of Bell Marsh and two streams mapped within 200 feet of the subject property by the NWI (Appendix E). The wetland identified by the NWI is divided into a palustrine emergent wetland to the west and a scrub-shrub wetland to the east.

3.4 Sensitive Wildlife and Plants

The Washington Department of Fish and Wildlife's (WDFW) Priority Habitats and Species (PHS) database on-line mapper was queried to determine if state or federally listed fish or wildlife species occur near the subject property (WDFW 2019a). In addition to the features identified by NWI, the PHS database identifies the subject property to contain potential habitat for big brown bat (*Eptesicus fuscus*), little brown bat (*Myotis lucifugus*), Yuma myotis (*Myotis yumanensis*), and resident coastal cutthroat trout (*Oncorhynchus clarki*).

Additionally, WDFW's SalmonScape on-line mapper was queried to determine if listed SalmonScape species are identified by WDFW to occur within the subject property (WDFW 2019b). According to SalmonScape, with the exception of resident coastal cutthroat trout there are no SalmonScape species mapped in this tributary system of Sequalitchew Creek.

The Washington Department of Natural Resources' (WDNR) WA Wetlands of High Conservation Value Map Viewer was reviewed to determine if the subject property occurs in a location reported to contain high quality natural heritage wetlands or occurrences of wetlands with high conservation value. According to the WDNR mapper, there are no records of rare plants or high-quality native ecosystems occurring on or within 200 feet of the subject property (Appendix E).

3.5 State Water Classification System

The Washington Department of Natural Resources' (WDNR) Forest Practice Application Mapping Tool on-line mapper was queried to identify the water typing of any streams mapped by WDNR (WDNR 2019). According to WDNR, the onsite stream (PS-1) is mapped as a non-fish habitat (Type N) stream while Wetland A is mapped as a fish habitat feature (Type F) due to the wetland's outlet having a connection to a Type F stream (Appendix E).

3.6 Soil Information

According to the Natural Resources Conservation Service's (NRCS) Web Soil Survey (NRCS 2019), the soils within the subject property consist of DuPont muck, Spanaway gravelly sandy loam, and Everett-Spanaway-Spana complex (0-30 percent slopes). Dupont

muck is listed as a hydric soil while the other two mapped soil units are not listed as hydric (NRCS 2019) (Appendix E).

4 METHODS

The subject property was traversed and data were collected to confirm wetland boundaries. The identified wetland was delineated according to the procedures described in the USACE's *Federal Wetland Delineation Manual* (1987), and the USACE's *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (2010). Paired data plots and soil test pits were excavated to evaluate wetland and upland conditions. Guidance from the USACE's *Regional Supplement* was used to evaluate the data at each data point.

The boundary of the wetland was established based on changes in vegetation, field indicators of hydric soils, water levels at or below 12 inches, topographic changes, and best professional judgment. Data plots were established in and adjacent to the wetland. The location of the wetland boundary was defined by placement of florescent orange flagging tape. The location of each data plot was defined by the placement of pink flagging tape. The wetland boundary flagging was labeled alpha-numerically (i.e. A-2), where the letter designates the wetland and the number designates the specific flag angle point.

Plants were determined to be more or less associated with wetlands based on their wetland indicator (FAC) status. The percent dominance for each plant strata was determined using the 50-20 Rule, which is the recommended method for selecting dominant species from a plant community in instances where quantitative data are available (USACE 2010). In utilizing this rule, dominants are the most abundant species that individually or collectively accounts for more than 50 percent of the total coverage of vegetation in the stratum plus any other species that, by itself accounts for at least 20 percent of the total.

4.1 Hydrophytic Vegetation

The U.S. Fish and Wildlife Service (USFWS) and the NWI have established a rating system that has been applied to commonly occurring plant species on the basis of their frequency of occurrence in wetlands (Table 3). Species indicator status expresses the range in which plants may occur in wetlands and non-wetlands (uplands). Under this system, vegetation is considered hydrophytic when there is an indicator status of facultative (FAC), facultative wetland (FACW) or obligate wetland (OBL) (Table 3). The hydrophytic vegetation criterion for wetland determination is met when ***more than*** 50 percent of the dominant species in the plant community are FAC or wetter. The Corps' *National Wetland Plant List* (Lichvar 2016) was used to determine vegetation indicator status.

Table 3. Definitions for USFWS plant indicator status

Plant Indicator Status Category	Indicator Status Abbreviation	Definition (Estimated Probability of Occurrence)
Obligate Upland	UPL	Occur rarely (<1 percent) in wetlands, and almost always (>99 percent) in uplands
Facultative Upland	FACU	Occur sometimes (1 percent to <33 percent) in wetlands, but occur more often (>67 percent to 99 percent) in uplands
Facultative	FAC	Similar likelihood (33 percent to 67 percent) of occurring in both wetlands and uplands
Facultative Wetland	FACW	Occur usually in wetlands (>67 percent to 99 percent), but also occur in uplands (1 percent to 33 percent)
Obligate Wetland	OBL	Occur almost always (>99 percent) in wetlands, but rarely occur in uplands (<1 percent)
Not Listed	NL	Not listed due to insufficient information to determine status

4.2 Wetland Hydrology

Evidence of permanent or periodic inundation (water marks, drift lines, drainage patterns), or soil saturation to the surface for 14 consecutive days or more during the growing season meets the hydrology criterion. Oxidized root channels in the top 12 inches and hydrogen sulfide are primary indicators and water-stained leaves and geomorphic position are secondary indicators of wetland hydrology.

4.3 Hydric Soils

Soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper soil horizons are considered hydric soils. Field indicators include histosols, the presence of a histic epipedon, a sulfidic odor, low soil chroma, and gleying. Soil conditions were compared to the Field Indicators of Hydric Soils detailed in the Corps' *Regional Supplement*.

5 RESULTS

5.1 Wetland A – Bell Marsh

Bell Marsh is a Palustrine Aquatic-Bed/Emergent/Scrub-Shrub/Forested wetland that is approximately 20 acres in size (Appendix A). Hydrogeomorphically, Bell Marsh is classified as a depressional wetland. The marsh is located west of DuPont-Steilacoom Road. A culvert beneath DuPont-Steilacoom Road near Pendleton Ave provides a hydrologic connection to MacKay Marsh to the northeast and the remainder of the Sequalitchew Creek headwaters.

5.1.1 Vegetation

Vegetation within Bell Marsh is largely dominated by black cottonwood (*Populus balsamifera*) and willows (*Salix sp.*) with an understory largely dominated by reed canarygrass (*Phalaris arundinacea*). Red-osier dogwood and small-fruited bulrush (*Scirpus microcarpus*) are also present in wetter areas of the marsh. In general, the understory vegetation is limited to the southern extent of the wetland and along its margins. Aquatic bed vegetation (such as *Potamogeton* sp.) is present throughout much of the permanently-flooded areas of the marsh.

5.1.2 Hydrology

Hydrologic support for Bell Marsh is primarily provided by high groundwater and stormwater from the perennial stream (PS-1) that flows into the southern portion of the wetland. This stream channel appears to have been formed by the discharge of stormwater from a large culvert that conveys the stormwater from a detention pond located on JBLM property south of I-5.

In addition, Bell Marsh contains a highly constricted permanently flowing outlet that is located in the northeast portion of the wetland near the intersection of DuPont-Steilacoom Road and Pendleton Ave. This outlet is mapped as a total fish blockage according to WDFW (WDFW 2019b) which prevents fish from accessing Bell Marsh from downstream sources.

5.1.3 Hydric Soils

Soils observed within Bell Marsh generally consisted of an upper layer (0-18 inches) of a very dark brown (10YR2/2) mucky material. While no carbon testing was completed, based on the observed soil textures (greasy and lack of fiber content) the soils observed appeared to meet the *Histosol* hydric soil indicator (USACE 2010). Additionally, the soils throughout most of the wetland have been mapped as DuPont Muck by the NRCS (Appendix E). This series, rated as hydric by the NRCS, consists of very poorly drained soils formed in organic deposits. Based on the NRCS description of the DuPont Series, this soil is classified as an organic soil.

5.1.4 Wetland Categorization

To determine the categorization of Bell Marsh based on function, the wetland classification guidelines in Ecology's wetland rating system (Hruby 2014) were used. Based on this guidance, the wetland was given a score for each of three functions: Water Quality, Hydrology, and Habitat (Table 4).

Table 4. Wetland rating and categorization summary

Feature	Cowardin Class	HGM Class	Water Quality	Hydrology	Habitat	Total	Category
Wetland A/Bell Marsh	PAB/EM/SS/FO	Depressional	7	8	7	22	II

Please see Appendix D for copies of the wetland rating forms used to determine the function scores and resulting wetland categorization. Per DMC 25.015.050, Category II wetlands are subject to a 100-foot buffer.

5.2 Fish and Wildlife Conservation Areas

Per DMC 25.105.030, Fish and Wildlife Habitat Conservation Areas (FWHCAs) are typically those areas that support regulated fish and wildlife species or the habitats that play a critical role in sustaining said species. This section is intended to document all FWHCAs that were identified within 200 feet of the subject property and to satisfy the critical area report requirements defined in Chapter 25.105. Please note that a habitat management plan (HMP) will be prepared under a separate cover to address the development standards defined in DMC 25.105.050(2).

5.2.1 Stream PS-1

Stream PS-1 is a perennial surface water feature that appears to originate at the outlet of a large stormwater outfall located at the southern end of Bell Marsh. This stormwater outfall conveys stormwater from JBLM and other offsite areas (Stantec 2018). As a result, discharge from this stormwater outfall has scoured a channel from the outlet across Bell Marsh to approximately the central portion of the wetland (Figure 2 and Appendix A).

Figure 2. Stormwater Outfall and Channelization

The photograph on the left captures the stormwater outfall that discharges into Bell Marsh. The photograph on the right captures the channelization that has occurred over time as a result of stormwater volume and velocity.

Based on the physical hydrologic connection to the Type F stream at the outlet of Bell Marsh, Stream PS-1 as well as Bell Marsh are classified as a Type F stream/feature. Mapped distribution of salmonids within PS-1, Bell Marsh, and the stream associated with the outlet of Bell Marsh is limited to resident coastal cutthroat trout (WDFW 2019a and 2019b). Furthermore, PS-1 and Bell Marsh are part of a mosaic wetland and stream complex that forms the headwaters of Sequalitchew Creek, which is only mapped (presumed and/or documented) as providing habitat for coho salmon (*Oncorhynchus kisutch*) and resident coastal cutthroat trout (WDFW 2019b). No state or federally listed salmonid species are mapped within the Sequalitchew Creek system.

Per DMC 25.105.050, all streams within the City of DuPont are subject to a 100-foot buffer.

5.3 Regulatory Considerations

Wetlands are regulated by agencies at the local, state, and federal levels. At the local level, wetlands and their associated buffers in City of Dupont are regulated under City's critical areas ordinance (Chapter 25.105 of the DMC).

At the state level, wetlands are regulated by the Washington Department of Ecology through the State Clean Water Act (Section 401). The requirement for a Water Quality Certification from Ecology for wetland impacts is triggered by an applicant's applying for a federal Clean Water Act Section 404 permit from the Corps. Ecology may also issue an Administrative Order, allowing them wetland regulatory authority without a federal nexus.

At the federal level, impacts (specifically dredging or filling) to wetlands are regulated by the Environmental Protection Agency through the US Army Corps of Engineers. The USACE administers the federal Clean Water Act (Section 404) for projects involving

dredging or filling in Waters of the US (lakes, streams, marine waters, and most non-isolated wetlands).

While it is the regulatory agencies that make the final determination regarding jurisdictional status, project proponents can infer jurisdiction using the guidance provided by each agency or local government. This inference can be used to design a project based on the anticipated regulatory constraints within the project area. However, it is the project proponent's responsibility to contact each potential regulating agency and confirm their regulatory status and requirements.

5.4 Disclaimer

The findings and conclusions documented in this report have been prepared for specific application to this proposed project site. 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. Because of such changes, our observations and conclusions applicable to this site may need to be revised wholly or in part.

Wetland boundaries are based on conditions present at the time of the site visit and considered preliminary until the flagged wetland and/or drainage boundaries are validated by the appropriate jurisdictional agencies. Validation of the boundaries by the regulating agencies provide a certification, typically in writing, that the wetland boundaries verified are the boundaries that will be regulated by the agencies until a specific date or until the regulations are modified. Only the regulating agencies can provide this certification.

Since wetlands are dynamic communities affected by both natural and human activities, changes in wetland boundaries may be expected. Because of such changes, our observations and conclusions applicable to this site may need to be revised wholly or in part.

6 BIOLOGIST QUALIFICATIONS

6.1 Chad Wallin

Chad Wallin is a Biologist and Professional Wetland Scientist with extensive training in wetland science and ecology restoration. Chad also has professional experience in stream and fish restoration, marine monitoring, mitigation monitoring, and fish and wildlife assessments.

Chad has earned a Bachelor's of Arts degree in Environmental Studies from the University of Washington along with certificates in ecology restoration and wetland science.

For a list of representative projects, please contact him at Grette Associates.

7 REFERENCES

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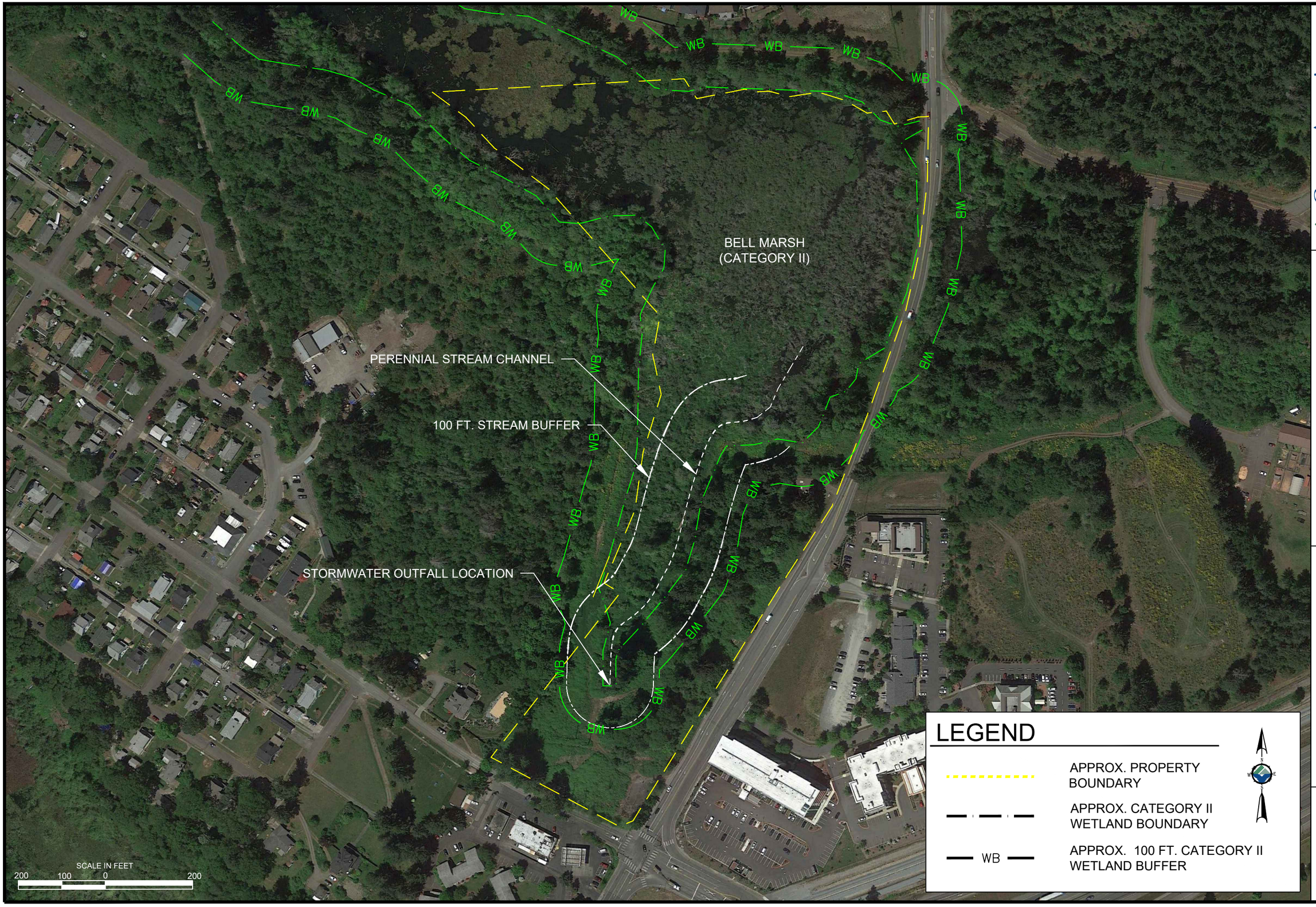
MUSTARD SEED LEGACY DEVELOPMENT, LLC

CRITICAL AREAS REPORT

APPENDIX A: WETLAND DELINEATION MAP



LEGEND

- APPROX. PROPERTY BOUNDARY
- APPROX. CATEGORY II WETLAND BOUNDARY
- WB — APPROX. 100 FT. CATEGORY II WETLAND BUFFER

Grette Associates LLC
ENVIRONMENTAL CONSULTANTS
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TACOMA, WA 98403
(253) 573-9300
gretteassociates.com

CLIENT: MSLD, LLC.

PROJECT #:	3033.001
DESIGNED BY:	CW
CHECKED BY:	SM
DATE:	07/06/23
DATE:	07/06/23

MUSTARD SEED LEGACY DEVELOPMENT, LLC
BARKSDALE AVE. AND STEILACOOM-DUPONT RD. SW

SITE ADDRESS: Dupont, WA

DRAWING SCALE: See Scale Bar

DELINEATION MAP

SHEET 1 OF 1

MUSTARD SEED LEGACY DEVELOPMENT, LLC

CRITICAL AREAS REPORT

APPENDIX B: WETLAND SUMMARY

WETLAND A/BELL MARSH SUMMARY		
Approximate Size (Acres):	18	
Cowardin Classification[1]:	PAB/EM/SS	
HGM Classification[2]:	Depressional	
Wetland Category[3]:	II	
Wetland Buffer Width[4]:	100 ft.	
Sample Plot Total[5]:	5	
Hydrophytic Vegetation Present?	Yes	
Hydric Soil Indicators Present?	Yes	
Wetland Hydrology Present?	Yes	

Summary of Findings	
Dominant Vegetation:	Vegetation within Bell Marsh is largely dominated by black cottonwood and willows with an understory largely dominated by reed canarygrass.
Soil Profile:	Soils observed within Bell Marsh generally consisted of an upper layer (0-18 inches) of very dark brown (10YR2/2) mucky material. While no carbon testing was completed, based on the observed soil textures (greasy and lack of fiber content), the soils observed met the *Histosol* hydric soil indicator (USACE 2010).
Primary Hydrological Support:	Hydrologic support for Wetland A is primarily provided by groundwater and stormwater flow from the adjacent stream/stormwater outlet.

Wetland Data Plot:	**Upland Data Plot:**

Notes:
[1] Classification based on Cowardin et al. (1979).
[2] HGM classification based on Brinson, M.M. (1993).
[3] Wetland rating was determined based on the guidelines defined in the local municipal code.
[4] Wetland buffer was determined based on the local municipal code.
[5] Sample plot total includes the collective amount of wetland and upland samples plots examined to define the wetland boundary.

MUSTARD SEED LEGACY DEVELOPMENT, LLC

CRITICAL AREAS REPORT

APPENDIX C: WETLAND DATASHEETS

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Mustard Seed City/County: Dupont / Pierce Sampling Date: 5/8/19

Applicant/Owner: State: WA Sampling Point: 4/30/19

Investigator(s): JP Section, Township, Range: 36, 19N, 01E

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): concave Slope (%):

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: Everett-Spanaway-Spana NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?** Yes X No
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10 m)	Absolute % Cover	Dominant Species?	Indicator Status
1. Cottonwood	30	Y	FAC
2.			
3.			
4.			
	30 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5 m)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 2 m)			
1. Phalaris arundinacea	90	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- X 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: SP 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 2/2	100					organic	Very soft, mucky in areas

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

H_2S odor present in pit.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 2

Water Table Present? Yes X No ___ Depth (inches): 5

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 1

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Nearby ponding

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Mustard seed City/County: Dupont / Pierce Sampling Date: 4/36

Applicant/Owner: " State: WA Sampling Point: SP2

Investigator(s): TP Section, Township, Range: 36, 19 N, 01E

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): concave Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Everett - Spanaway - Spana NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10 m)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 5 m)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 2 m)			
1. Phalaris arundinacea	100	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	= Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- X 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: SP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 2/2	100					greasy organic	H2S odor

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

H2S odor in pit. very dark organic soil.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes X No _____ Depth (inches): 10

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 5

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Saturation visible, water table high enough for H_2O indicator.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Mustard seed City/County: Dupont / Pierce Sampling Date: 4/30/19

Applicant/Owner: " State: WA Sampling Point: SP 3

Investigator(s): TP Section, Township, Range: 36, 19N, 01E

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Everett - Spanaway - Spana NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10 m)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 5 m)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 2 m)			
1. Phalaris arundinacea	95	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	= Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: SP3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 3/3						Sandy loam	Gravelly fill mixed in

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Hardpan

Depth (inches): 14 in

Hydric Soil Present? Yes ____ No X

Remarks:

Gravelly fill throughout. Hardpan at 14 in.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Mustard seed City/County: Dupont / Pierce Sampling Date: 4/30

Applicant/Owner: " State: WA Sampling Point: SP4

Investigator(s): TP Section, Township, Range: 36, 19N, 01E

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): Concave Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Everett - Spanaway - Spana NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10 m)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 5 m)			
1. Salix hookeriana	20	Y	FACW
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: _____)			
1. RUSP	25	Y	~~FAC~~
2. Jewel weed? Impatiens spp.	35	Y	FACW
3. Phalaris arundinacea	45	Y	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	= Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: SP4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Strong sulfide odor within 6 inches of diggin's. very wet unconsolidated area.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 1

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Pit Next to standing water.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Mustard Seed City/County: Dupont / Pierce Sampling Date: 4/30

Applicant/Owner: P State: WA Sampling Point: SP5

Investigator(s): TP Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Concave Slope (%):

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: Everett - Spanaway - Spana NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10 m)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 5 m)			
1. Scotch broom	30	Y	N/A
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 2 m)			
1. Orchard grass / Dactylis glomerata	45	Y	FACU
2. Rubus	20	Y	FAC
3. Galium aparine	10	Y	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	= Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: SPS

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 4/3	100					Gravelly Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Hardpan

Depth (inches): 9 inches

Hydric Soil Present? Yes _____ No X

Remarks:

Fill throughout (gravel)
Old road for power access (RGE)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

MUSTARD SEED LEGACY DEVELOPMENT, LLC

CRITICAL AREAS REPORT

APPENDIX D: WETLAND RATING FORM

Wetland name or number A

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland A/Bell Marsh Date of site visit: 4/30/19

Rated by Scott Maharry Trained by Ecology? Yes ☑ No ☐ Date of training 2014

HGM Class Used for Rating Depressional Unit has multiple HGM classes? ☐ Y ☑ N

NOTE: **Form is not complete without the figures requested.** *(figures can be combined)*

Source of base aerial photo/map Google Earth

OVERALL WETLAND CATEGORY II (based on functions ☑ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

☐ **Category I** - Total score = 23 – 27

☑ **Category II** - Total score = 20 - 22

☐ **Category III** - Total score = 16 - 19

☐ **Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	Circle the	*appropriate*	*ratings*	
Site Potential	H ☑ M ☐ L ☐	H ☐ M ☑ L ☐	H ☐ M ☑ L ☐	
Landscape Potential	H ☐ M ☑ L ☐	H ☑ M ☐ L ☐	H ☐ M ☐ L ☑	
Value	H ☐ M ☑ L ☐	H ☑ M ☐ L ☐	H ☑ M ☐ L ☐	TOTAL
Score Based on Ratings	7	8	7	22

Score for each function based on three ratings *(order of ratings is not important)*

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	I ☐ II ☐
Wetland with high conservation value	I ☐
Bog	I ☐
Mature Forest	I ☐
Old Growth Forest	I ☐
Coastal Lagoon	I ☐ II ☐
Interdunal	I ☐ II ☐ III ☐ IV ☐
None of the above	☑

Wetland name or number A

Maps and figures required to answer questions correctly (Western Washington).

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	2
Location of outlet (*can be added to map of hydroperiods)*	D 1.1, D1.4	2
Boundary of 150 ft buffer *(can be added to another figure)*	D 2.2, D 5.2	3
Polygon of area 1km from wetland edge - Including polygons for accessible habitat and undisturbed habitat	H 2.1, H2.2	4
Screen capture of map of 303d listed waters in basin (from Ecology web site)	D 3.1, D 3.2	5
Screen capture of list of TMDL's for WRIA in which unit is found (from web)	D 3.3	6

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of 150 ft buffer *(can be added to another figure)*	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream *(can be added to another figure)*	R 4.1	
Polygon of area 1km from wetland edge -Including polygons for accessible habitat and undisturbed habitat	H 2.1, H2.2	
Screen capture of map of 303d listed waters in basin (from Ecology web site)	R 3.1	
Screen capture of list of TMDL's for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake-fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of 150 ft buffer *(can be added to another figure)*	L 2.2	
Polygon of area 1km from wetland edge (Including polygons for accessible habitat and undisturbed habitat)	H 2.1, H2.2	
Screen capture of map of 303d listed waters in basin (from Ecology web site)	L 3.1	
Screen capture of list of TMDL's for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of **dense** trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of **dense, rigid** trees, shrubs, and herbaceous plants (*can be added to figure above)*	S 4.1	
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	
Polygon of area 1km from wetland edge (Including polygons for accessible habitat and undisturbed habitat)	H 2.1, H2.2	
Screen capture of map of 303d listed waters in basin (from Ecology web site)	S 3.1, S 3.2	
Screen capture of list of TMDL's for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number A

HGM Classification of Wetlands in Western Washington

For questions 1-7 the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

☑ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

☐ **YES – Freshwater Tidal Fringe** ☐ **NO – Saltwater Tidal Fringe (Estuarine)**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

☑ NO – go to 3 ☐ **YES** – The wetland class is **Flats**

*If your wetland can be classified as a "Flats" wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?

☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 acres (8 ha) in size;

☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)?

☑ NO – go to 4 ☐ **YES –** The wetland class is **Lake-fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?

☐ The wetland is on a slope (*slope can be very gradual*),

☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.

☐ The water leaves the wetland **without being impounded**?

☑ NO - go to 5 ☐ **YES –** The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?

☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river

☐ The overbank flooding occurs at least once every two years.

Wetland name or number A

☑ NO - go to 6 ☐ **YES** – The wetland class is **Riverine**

NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 7 ☑ **YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

☐ NO – go to 8 ☐ **YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM Classes Within the Wetland Unit Being Rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake-fringe	Depressional
Riverine + Lake-fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

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Wetland name or number A

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality.

D 1.0 Does the wetland unit have the potential to improve water quality?	
D 1.1 Characteristics of surface water flows out of the wetland: Unit is a depression or "flat depression" (QUESTION 7 on key) with no surface water leaving it (no outlet) points =3 ☐ Unit has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 ☑ Unit has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 ☐ Unit is a "flat" depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1 ☐	2
D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic *(use NRCS definitions)* mapped as Dupont Muck YES: points = 4 NO: points = 0	4
D 1.3 Characteristics of persistent plants (emergent, shrub, and/or forest Cowardin class) Unit has persistent, ungrazed, plants ≥ 95% of area ☐ points = 5 Unit has persistent, ungrazed, plants ≥ 1/2 of area ☑ points = 3 Unit has persistent, ungrazed plants ≥ 1/10 of area ☐ points = 1 Unit has persistent, ungrazed plants <1/10 of area ☐ points = 0	3
D 1.4 Characteristics of seasonal ponding or inundation *This is the area of the wetland unit that is ponded for at least 2 months. See description in manual.* Area seasonally ponded is > ½ total area of wetland ☑ points = 4 Area seasonally ponded is > ¼ total area of wetland ☐ points = 2 Area seasonally ponded is < ¼ total area of wetland ☐ points = 0	4
Total for D 1 Add the points in the boxes above	13

Rating of Site Potential If score is: **12 – 16 = H** ☑ **6 - 11 = M** ☐ **0 - 5 = L** ☐ *Record the rating on the first page*

D 2.0 Does the landscape have the potential to support the water quality function at the site?	
D 2.1 Does the Wetland unit receive stormwater discharges? Yes = 1 No = 0	1
D 2.2 Is > 10% of the buffer within 150 ft of wetland unit in land uses that generate pollutants Yes = 1 No = 0	1
D 2.3 Are there septic systems within 250 ft of the wetland unit? Yes = 1 No = 0	0
D 2.4 Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 – D 2.3? Source_____ Yes = 1 No = 0	0
Total for D 2 Add the points in the boxes above	2

Rating of Landscape Potential If score is: **3 or 4 = H** ☐ **1 or 2 = M** ☑ **0 = L** ☐ *Record the rating on the first page*

D 3.0 Is the water quality improvement provided by the site valuable to society?	
D 3.1 Does the unit discharge directly (i.e.. within 1 mile) to a stream, river, or lake that is on the 303d list? Yes = 1 No = 0	0
D 3.2 Is the unit in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0	1
D 3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality? (*answer YES if there is a TMDL for the basin in which unit is found*) Yes = 2 No = 0	0
Total for D 3 Add the points in the boxes above	1

Rating of Value If score is: **2-4 = H** ☐ **1 = M** ☑ **0 = L** ☐ *Record the rating on the first page*

Wetland name or number A

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation.

D 4. 0 Does the wetland unit have the potential to reduce flooding and erosion?

D 4.1 Characteristics of surface water flows out of the wetland:		2
Unit is a depression or "flat depression" with no surface water leaving it (no outlet)	☐ points =4	
Unit has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet	☑ points = 2	
Unit is a "flat" depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.	☐ points = 1	
Unit has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	☐ points = 0	
D 4.2 Depth of storage during wet periods *Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or if dry, the deepest part.*		3
Marks of ponding are 3 ft or more above the surface or bottom of outlet	☐ points = 7	
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet	☐ points = 5	
Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet	☑ points = 3	
The wetland is a "headwater" wetland"	☐ points = 3	
Unit is flat but has small depressions on the surface that trap water	☐ points = 1	
Marks of ponding less than 0.5 ft (6 inches)	☐ points = 0	
D 4.3 Contribution of unit to storage in the watershed *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.*		3
The area of the basin is less than 10 times the area of the unit	☐ points = 5	
The area of the basin is 10 to 100 times the area of the unit ~~19.8 times~~ 18.9 times	☑ points = 3	
The area of the basin is more than 100 times the area of the unit	☐ points = 0	
Entire unit is in the FLATS class	☐ points = 5	
Total for D 4	Add the points in the boxes above	8

Rating of Site Potential If score is: ☐ **12 – 16 = H** ☑ **6 - 11 = M** ☐ **0 - 5 = L** *Record the rating on the first page*

D 5.0 Does the landscape have the potential to support hydrologic functions at the site?

D 5.1 Does the unit receive any stormwater discharges?	Yes = 1 No = 0	1
D5.2 Is >10% of the land use within 150 ft of the wetland in a land use that generates runoff?	Yes = 1 No = 0	1
D 5.3 Is more than 25% of the contributing basin of the wetland unit covered with intensive human land uses (residential at >1 residence/acre, urban, commercial, agriculture, etc.)?	Yes = 1 No = 0	1
Total for D 5	Add the points in the boxes above	3

Rating of Landscape Potential If score is: **3 = H** ☑ **1,2 = M** ☐ **0 = L** ☐ *Record the rating on the first page*

D 6.0 Are the hydrologic functions provided by the site valuable to society?

D 6.1 The unit is in a landscape that has flooding problems. *Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.*		2
• The wetland captures surface water that would otherwise flow downgradient into areas where flooding has damaged human or natural resources (e.g., salmon redds),		
○ Damage occurs in sub-basin that is immediately down-gradient of unit.	☑ points = 2	
○ Damage occurs in a sub-basin further down-gradient.	☐ points = 1	
• Flooding from groundwater is an issue in the sub-basin.	☐ points = 1	
• The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. *Explain why* _____	☐ points = 0	
• There are no problems with flooding downstream of the unit.	☐ points = 0	
D 6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	Yes = 2 No = 0	0
Total for D 6	Add the points in the boxes above	2

Rating of Value If score is: **2 -4 = H** ☑ **1 = M** ☐ **0 = L** ☐ *Record the rating on the first page*

Wetland name or number _____ A

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that site functions to provide important habitat.

H 1. Does the wetland unit have the potential to provide habitat for many species?

H 1.1 Structure of plant community – *indicators are Cowardin classes and layers in forest*. Check the Cowardin plant classes in unit – *Polygons for each class must total ¼ acre, or more than 10% of the unit if it is smaller than 2.5 acres*. *Add the number of structures checked*

☑	Aquatic bed	4 structures or more	points = 4
☑	Emergent plants	3 structures	points = 2
☑	Scrub-shrub (areas where shrubs have > 30% cover)	2 structures	points = 1
☐	Forested (areas where trees have > 30% cover)	1 structure	points = 0

If the unit has a forested class check if:

☐ The forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon

2

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ acre to count (*see text for descriptions of hydroperiods*).

☑	Permanently flooded or inundated	4 or more types present	points = 3
☑	Seasonally flooded or inundated	3 types present	points = 2
☐	Occasionally flooded or inundated	2 types present	points = 1
☐	Saturated only	1 type present	points = 0
☑	Permanently flowing stream or river in, or adjacent to, the wetland		
☐	Seasonally flowing stream in, or adjacent to, the wetland		
☐	**Lake-fringe wetland = 2 points**		
☐	**Freshwater tidal wetland = 2 points**		

2

H 1.3. Richness of Plant Species

Count the number of plant species in the wetland unit that cover at least 10 ft^2.

Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. ***Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle***

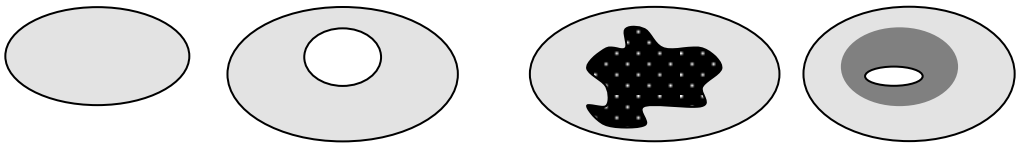
If you counted:		
	> 19 species	points = 2
	5 - 19 species	points = 1
	< 5 species	points = 0

1

H 1.4. Interspersion of habitats

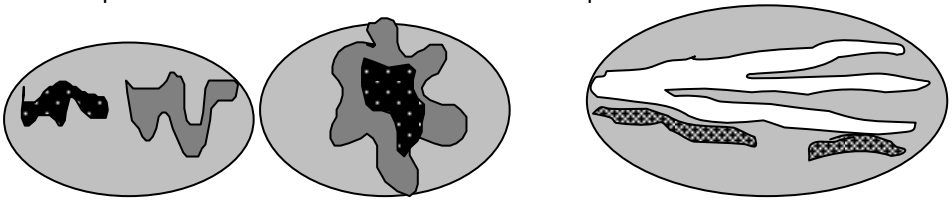
Decide from the diagrams below whether interspersion between Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.

NOTE: If you have four or more classes or three plants classes and open water the rating is always "high."



None = 0 points **Low** = 1 point **Moderate** = 2 points

All three diagrams in this row are **HIGH = 3points**



3

Wetland name or number _____ A

H 1.5. Special Habitat Features: Check the habitat features that are present in the wetland. *The number of checks is the number of points* ☑ Large, downed, woody debris within the unit (>4 inches diameter and 6 ft long). ☑ Standing snags (diameter at the bottom > 4 inches) within the unit ☐ Undercut banks are present for at least 6.6 ft (2m) **and/or** overhanging plants extends at least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft (10m) ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present *(cut shrubs or trees that have not yet weathered where wood is exposed)* ☑ At least ¼ acre of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated.*(structures for egg-laying by amphibians)* ☐ Invasive plants cover less than 25% of the wetland area in every stratum of plants (*see H 1.1 for list of strata*)	3
H 1. TOTAL Score - potential for providing habitat	11

Rating of Site Potential: If score is **15 - 18 = H** ☐ **7 – 14 = M** ☑ **0 – 6 = L** ☐ *Record the rating on the first page*

H 2.0 Does the landscape have the potential to support habitat at the site?	
H 2.1 Accessible habitat (include *only habitat that directly abuts wetland unit*). *Calculate:* % undisturbed habitat **+** [(% moderate and low intensity land uses)/2] **=** 18.8 If total accessible habitat is: > 1/3 (33.3%) of 1 km circle *(~100 hectares or 250 acres)* points = 3 20 - 33% of 1 km circle points = 2 10 - 19% of 1 km circle points = 1 <10% of 1 km circle points = 0	1
H 2.2 Undisturbed habitat in 1 km circle around unit. Undisturbed habitat > 50% of circle points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of circle points = 0	1
H 2.3 Land use intensity in 1 km circle. If: > 50% of circle is high intensity land use points = (- 2) < =50% of circle is high intensity points = 0	-2
Total for H 2 Add the points in the boxes above	0

Rating of Landscape Potential If score is**: 4- 6 = H** ☐ **1-3 = M** ☐ **< 1 = L** ☑ *Record the rating on the first page*

H 3.0 Is the Habitat provided by the site valuable to society?	
H3.1Does the site provides habitat for species valued in laws, regulations or policies? *(choose only the highest score)* Site meets ANY of the following criteria: points = 2 • It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) • It is a "priority area" for an individual WDFW species • It is a Wetland With a High Conservation Value as determined by the Department of Natural Resources • It has 3 or more priority habitats within 100m (see next page) • It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100m (see next page) points = 1 Site does not meet any of the criteria above points = 0	2

Rating of Value If score is **2 = H** ☑ **1 = M** ☐ **0 = L** ☐ *Record the rating on the first page*

Wetland name or number _____ A

WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf)

Count how many of the following priority habitats are within 330 ft (100m) of the wetland unit? *NOTE: This question is independent of the land use between the wetland unit and the priority habitat.*

☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acre).

☑ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report p. 152*).

☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

☐ **Old-growth/Mature forests:** (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. **(**Mature forests) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.

☐ **Oregon white Oak:** Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

☑ **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

☐ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

☑ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

☐ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page).*

☐ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

☐ **Cliffs:** Greater than 7.6 m (25 ft) high and occurring below 5000 ft.

☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

☑ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland name or number _____ A

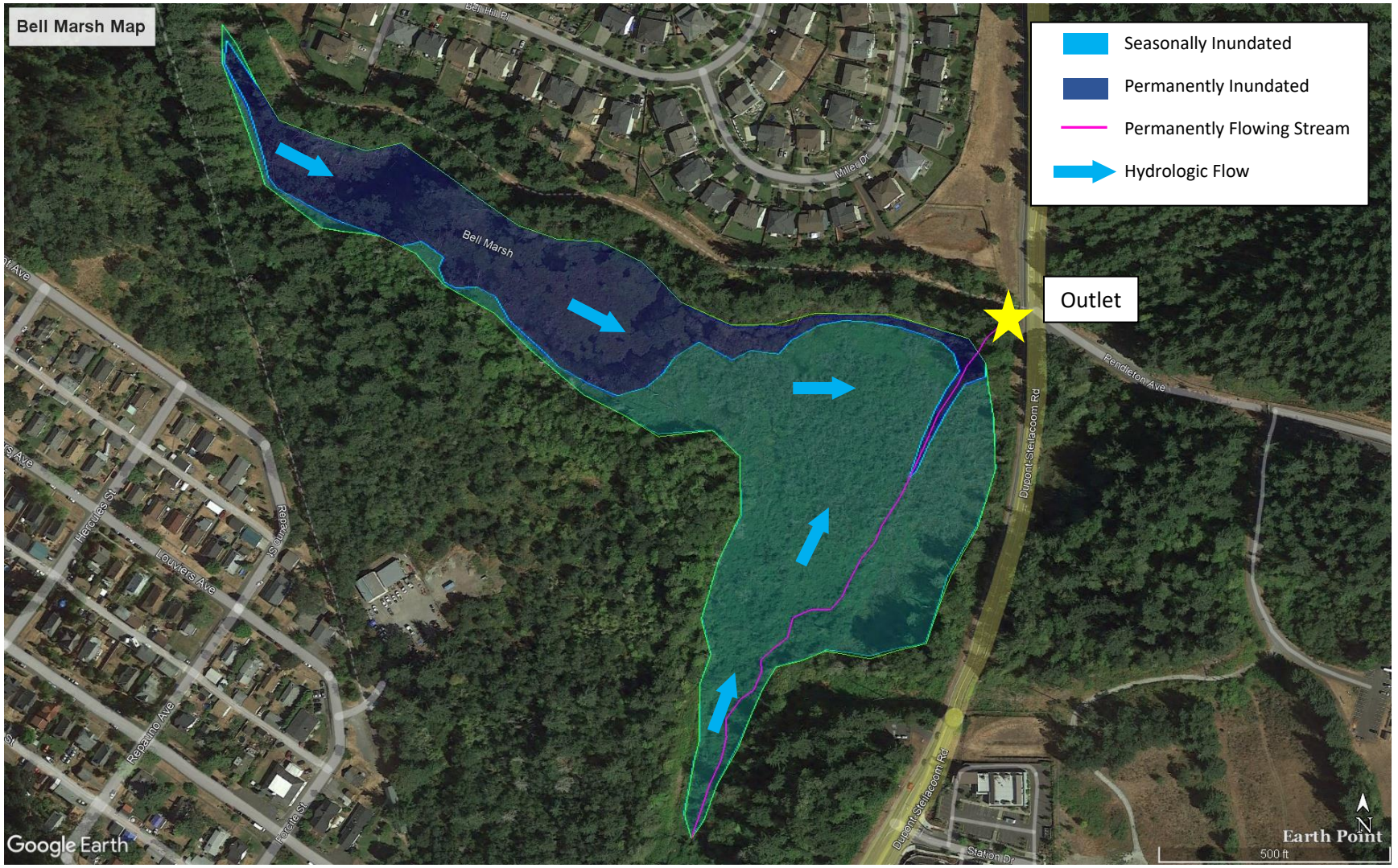
CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.*	**Category**
SC 1.0 Estuarine wetlands Does the wetland unit meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt. **YES = Go to SC 1.1** **NO *not an estuarine wetland***	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? **YES = Category I** **NO go to SC 1.2**	**Cat. I**
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? **YES = Category I** **NO = Category II** — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are *Spartina*, see page 25) — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	**Cat. I** **Cat. II**
SC 2.0 Wetlands with High Conservation Value (WHCV) SC 2.1 Has the Department of Natural Resources updated their web site to include the list of Wetlands with High Conservation Value? **YES - Go to SC 2.2** **NO – Go to SC 2.3** SC 2.2 Is the wetland unit you are rating listed on the DNR database as having a High Conservation Value? **YES = Category I** **NO = not a WHCV** SC 2.3 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf **YES – contact WNHP/DNR and go to SC 2.4** **NO = not a WHCV** SC 2.4 Has DNR identified the wetland within the S/T/R as a wetland with High Conservation value and is listed on their web site? **YES = Category I** **NO = not an WHCV**	**Cat. I**
SC 3.0 Bogs Does the wetland unit (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions.*** SC 3.1 Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? YES - go to Question SC 3.3 NO - go to Question SC 3.2 SC 3.2 Does an area within the wetland unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? YES - go to Question SC 3.3 **NO - Is not a bog** SC 3.3 Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? **YES – Is a Category I BOG** NO - go to Question SC 3.4 NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species are present in Table 4, the wetland is a bog. SC 3.4 Is an area with peats or mucks forested (> 30% cover) with Sitka Spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy. **YES – Is a Category I BOG** **NO - Is not a bog**	**Cat. I**

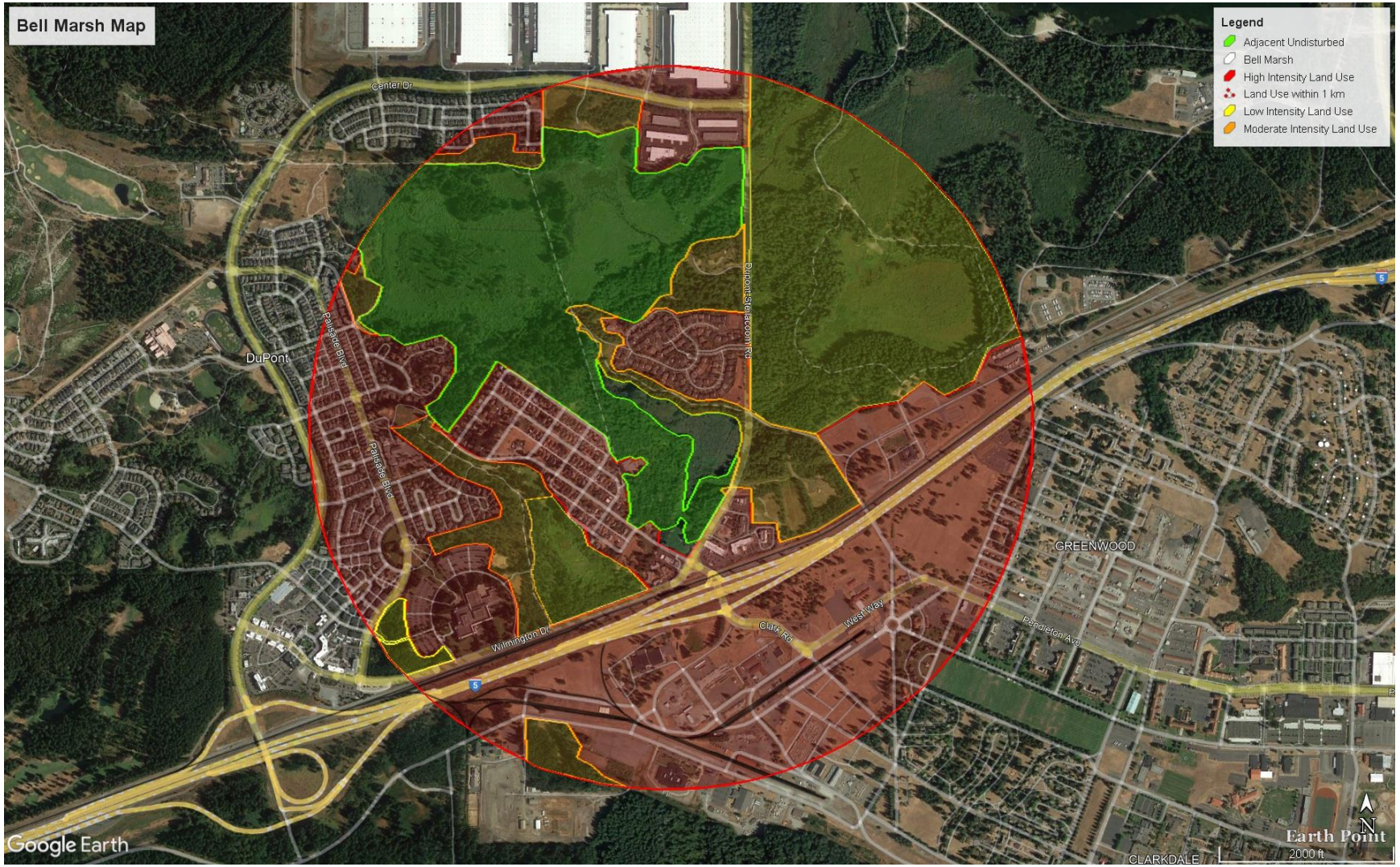
Wetland name or number _____ A

SC 4.0 Forested Wetlands Does the wetland unit have at least 1 contiguous acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? *If you answer yes you will still need to rate the wetland based on its functions.* — **Old-growth forests**: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. — **Mature forests**: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 inches (53cm). **YES = Category I** **NO - not a forested wetland for this section**	**Cat. I**
SC 5.0 Wetlands in Coastal Lagoons Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)* **YES = Go to SC 5.1** **NO- not a wetland in a coastal lagoon** SC 5.1 Does the wetland meets all of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 99). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland is larger than 1/10 acre (4350 square feet) **YES = Category I** **NO = Category II**	**Cat. I** **Cat. II**
SC 6.0 Interdunal Wetlands Is the wetland unit west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? **YES - go to SC 6.1** **NO - not an interdunal wetland for rating** ***If you answer yes you will still need to rate the wetland based on its habitat functions.*** In practical terms that means the following geographic areas: • Long Beach Peninsula- lands west of SR 103 • Grayland-Westport- lands west of SR 105 • Ocean Shores-Copalis- lands west of SR 115 and SR 109 **SC 6.1** Is the wetland one acre or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? **YES = Category I** **NO – go to SC 6.2** **SC 6.2** Is the wetland one acre or larger, or is it in a mosaic of wetlands that is once acre or larger? **YES = Category II** **NO – go to SC 6.3** **SC 6.3** Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre? **YES = Category III** **NO – Category IV**	**Cat I** **Cat. II** **Cat. III** **Cat. IV**
Category of wetland based on Special Characteristics If you answered NO for all types enter "Not Applicable" on Summary Form	N/A

Bell Marsh Map
Aquatic Bed
Emergent
Scrub-Shrub
Bell Marsh
Bell Hill Pl
Miller Dr
Dupont-Stellacoom Rd
Pendleton Ave
Mercer St
Lowers Ave
Repasky Ave
Fourth St
Station Dr
Google Earth
Earth Point
500 ft


Bell Marsh Map
Seasonally Inundated
Permanently Inundated
Permanently Flowing Stream
Hydrologic Flow
Outlet
Bell Marsh
Bell Hill Pl
Miller Dr
Pendleton Ave
Dupont-Stellacoom Rd
Hercules St
Louvers Ave
Repauno Ave
Rogers St
Station Dr
Google Earth
Earth Point
N
500 ft

Bell Marsh Map
Legend
150-ft Land Use
Bell Marsh
Bell Hill St
Miller Dr
Bell Marsh
Dupont Ave
Louviers Ave
Hercules St
Repauno Ave
Repauno Ave
Pondale St
Brandywine Ave
Barksdale Ave
Dupont-Stellacoom Rd
Pendleton Ave
Pendleton Ave
Google Earth
Earth Point
700 ft


Bell Marsh Map
Legend
Adjacent Undisturbed
Bell Marsh
High Intensity Land Use
Land Use within 1 km
Low Intensity Land Use
Moderate Intensity Land Use
Center Dr
DuPont
Parkside Blvd
DuPont Stelacomm Rd
Wilmington Dr
Clark Rd
West Way
Pendleton Ave
GREENWOOD
CLARKDALE
Google Earth
Earth Point
2000 ft
N

DuPont Bell Marsh
Contributing Basin
Legend
Bell Marsh
Contributing Watershed
Stellacoom Dupont Rd SW
Dupont Ave
Haskell St
Louviers Ave
Hercules St
Barksdale Ave
Repauno St
Forcite St
Huggins St
McDonald Ave
Palisade Blvd
Wilmington Dr
Pendleton Ave
West Way
Locust Rd
Kaufman Ave
Liggett Ave
Utah Ave
N 2nd St
9th Division Rd
N 4th St
Colorado Ave
Clark Rd
Lewis Dr
Bitar Ave
Hanna Dr
W Washington St
Stryker Ave
Everett St
Elm Rd
Perimeter Rd
Railroad Ave
Mann Ave
S 6th St
Google Earth
Image © 2024 Airbus
Earth Point
2000 ft
N

DEPARTMENT OF ECOLOGY State of Washington

Pierce County

Water quality improvement projects

Select the waterbody or pollutant name to find more information about the specific project.

Waterbody Name(s)	Pollutant(s)	Status	Project Lead(s)
Clarks and Meeker Creeks	Dissolved Oxygen Sediment Fecal Coliform	EPA approved and Has an implementation plan	Donovan Gray 360-407-6407
Clover Creek	Dissolved Oxygen Fecal Coliform Temperature	Under development	Donovan Gray 360-407-6407
Commencement Bay	Dioxin	EPA approved	Donovan Gray 360-407-6407
Puyallup River Watershed	Fecal Coliform	EPA approved and Has implementation plan	Donovan Gray 360-407-6407
Puyallup River Watershed	Multi-parameter Ammonia-N BOD (5-day)	EPA approved	Donovan Gray 360-407-6407
Puyallup River: Upper White River	Sediment Temperature	EPA approved	Donovan Gray 360-407-6407
Puyallup River: Puyallup River Watershed> Lower White River	pH	Under development	Donovan Gray 360-407-6407
South Prairie Creek	Fecal Coliform Temperature	EPA approved and Has an implementation plan	Donovan Gray 360-407-6407
Wapato Lake	Total Phosphorus	EPA approved	Donovan Gray 360-407-6407

To request ADA accommodation, call Ecology at 360-407-7668, 711 (relay service), or 877-833-6341 (TTY). More about our accessibility services.

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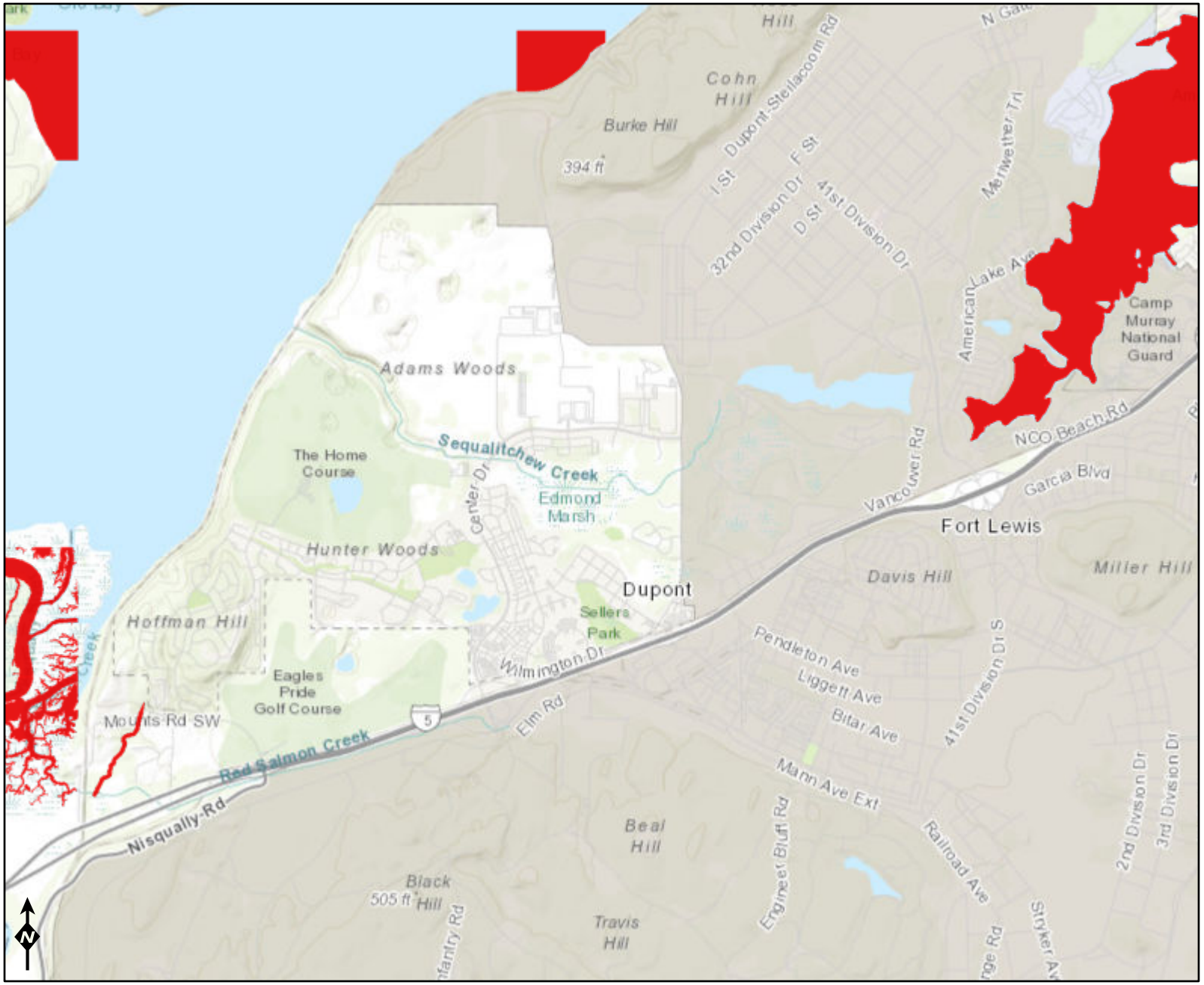
November 30, 2023

Bell Marsh 303(d) Map



Assessed Water/Sediment

Water
- Category 5 - 303d
- Category 4C
- Category 4B
- Category 4A
- Category 2
- Category 1

Sediment
- Category 5 - 303d
- Category 4C
- Category 4B
- Category 4A
- Category 2
- Category 1

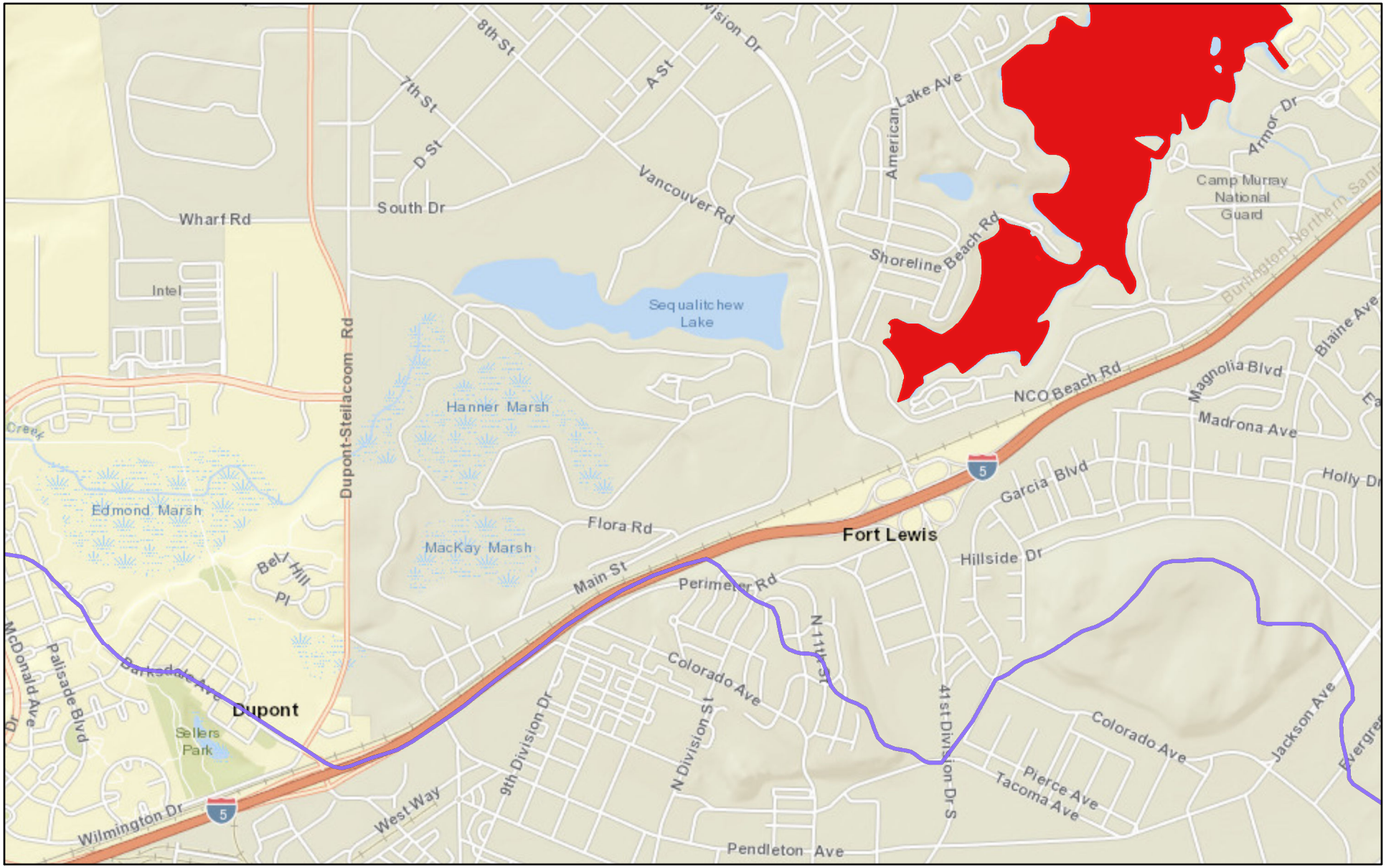
Miles
0 0.5 1 2

Esri, NASA, NGA, USGS, FEMA
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri

MUSTARD SEED LEGACY DEVELOPMENT, LLC

CRITICAL AREAS REPORT

APPENDIX E: QUERIED DATABASE FIGURES



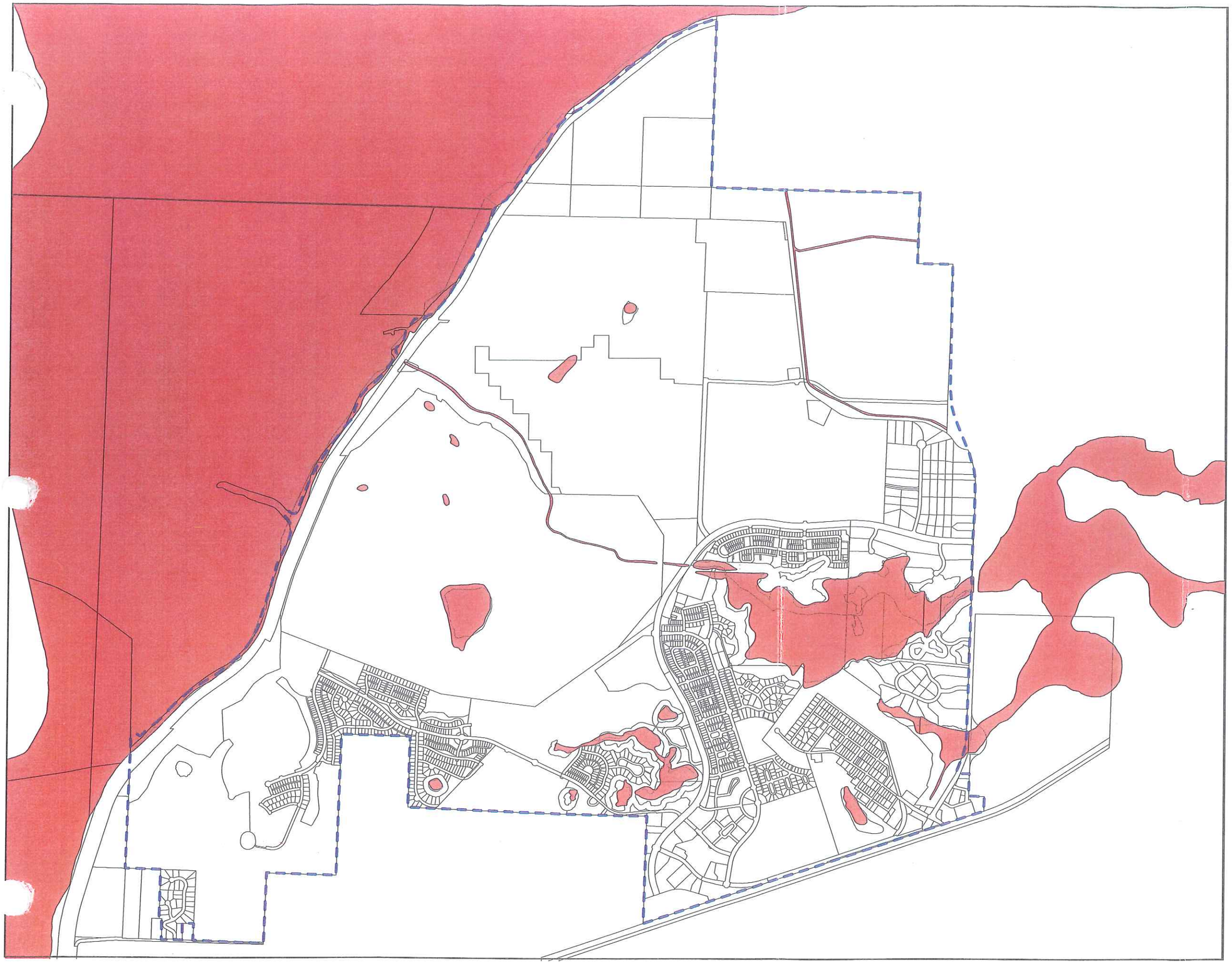
May 2, 2019

1:36,112

0 0.2 0.4 0.8 mi

0 0.33 0.65 1.3 km

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand),



1800 0 1800 Feet

CITY LIMITS (UGA)

FLOOD PLAIN:

100 YEAR

CITY OF DUPONT

WATER COMPREHENSIVE PLAN

FIGURE 1-4

FEMA 100 YEARS FLOOD PLAIN MAP

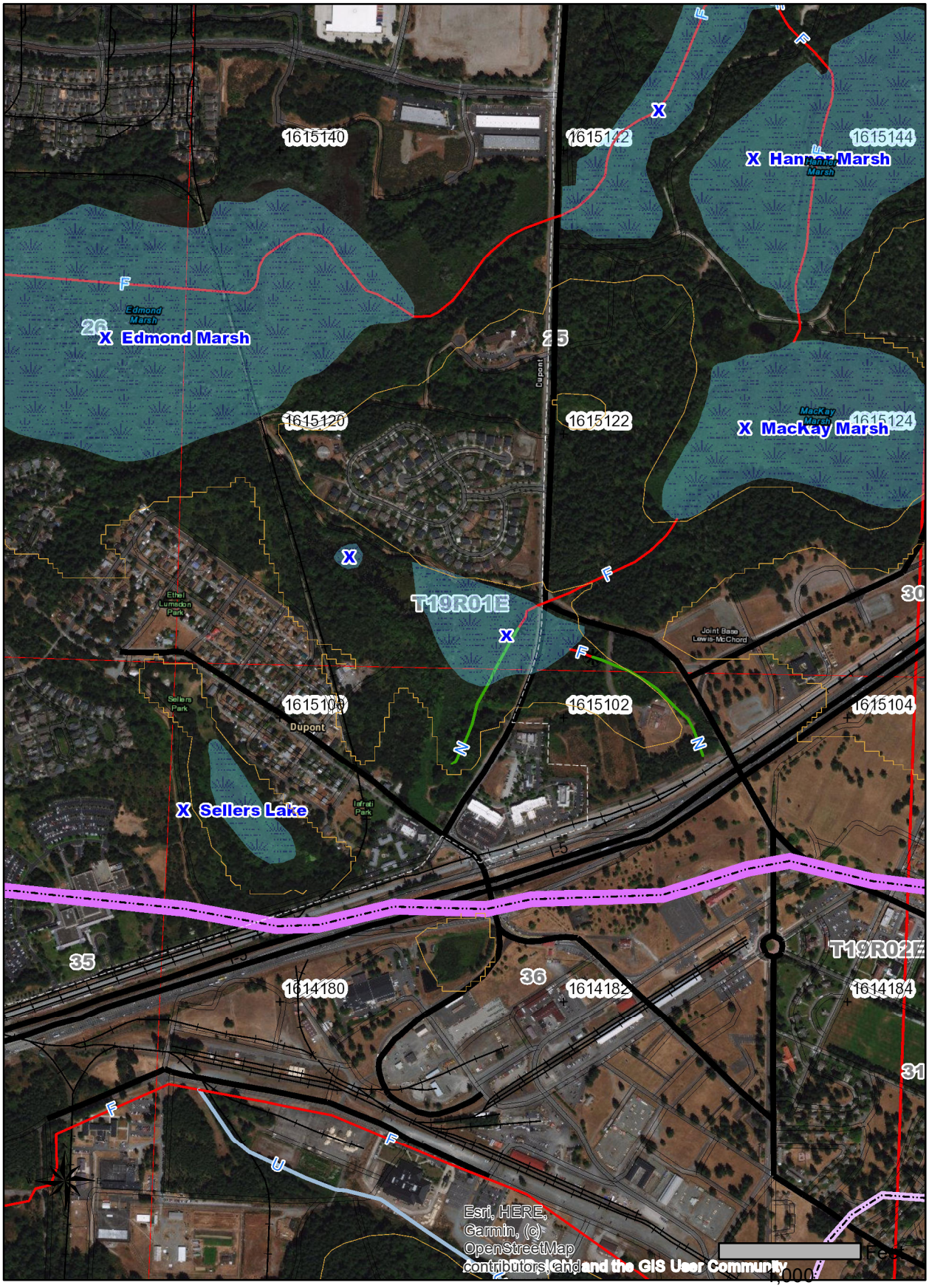
Gray & Osborne, Inc.

CONSULTING ENGINEERS, INC.

Forest Practice Activity Map

S26 T19.0N R01.0E, S36 T19.0N R01.0E, S35 T19.0N R01.0E
S25 T19.0N R01.0E

Application #: _____



Date: 5/2/2019 Time: 1:31:42 PM

NAD 83 Scale: 1:12,000

Contour Interval: 40 Feet

U.S. Fish and Wildlife Service
National Wetlands Inventory

Wetlands

May 2, 2019

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE
PRIORITY HABITATS AND SPECIES REPORT

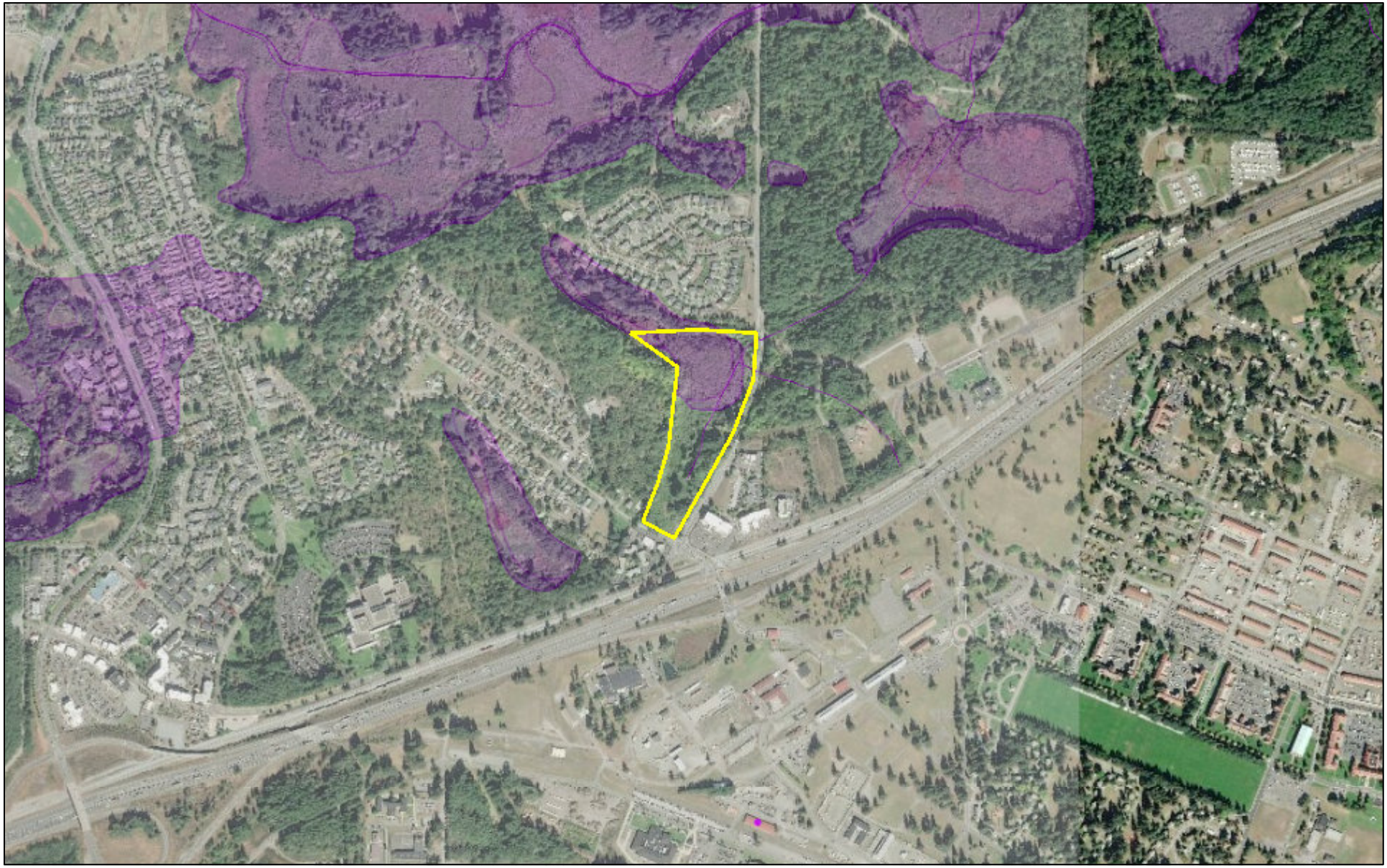
SOURCE DATASET: PHSPlusPublic Query ID: P190710105308
REPORT DATE: 07/10/2019 10.53

Common Name / Scientific Name / Notes	Site Name / Source Dataset / Source Record / Source Date	Priority Area / Occurrence Type / More Information (URL) / Mgmt Recommendations	Accuracy	Federal Status / State Status / PHS Listing Status	Sensitive Data / Resolution	Source Entity / Geometry Type
Big brown bat Eptesicus fuscus	WS_OccurPoint 114876 April 30, 1992	Breeding Area Biotic detection http://wdfw.wa.gov/publications/pub.php?	Map 1:24,000 <= 40	N/A N/A PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points
Big brown bat Eptesicus fuscus	WS_OccurPoint 147563 July 18, 2018	Breeding Area Biotic detection http://wdfw.wa.gov/publications/pub.php?	GPS	N/A N/A PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points
Big brown bat Eptesicus fuscus	WS_OccurPoint 114875 June 01, 2010	Breeding Area Biotic detection http://wdfw.wa.gov/publications/pub.php?	GPS	N/A N/A PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points
Freshwater Emergent	N/A NWIWetlands	Aquatic Habitat Aquatic habitat http://www.ecy.wa.	NA	N/A N/A PHS Listed	N AS MAPPED	US Fish and Wildlife Service Polygons
Freshwater Forested/Shrub	N/A NWIWetlands	Aquatic Habitat Aquatic habitat http://www.ecy.wa.	NA	N/A N/A PHS Listed	N AS MAPPED	US Fish and Wildlife Service Polygons
Freshwater Forested/Shrub	N/A NWIWetlands	Aquatic Habitat Aquatic habitat http://www.ecy.wa.	NA	N/A N/A PHS Listed	N AS MAPPED	US Fish and Wildlife Service Polygons
Little Brown Bat Myotis lucifugus	WS_OccurPoint 131068 August 12, 2012	Breeding Area Biotic detection http://wdfw.wa.gov/publications/pub.php?	GPS	N/A N/A PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points

Common Name / Scientific Name / Notes	Site Name / Source Dataset / Source Record / Source Date	Priority Area / Occurrence Type / More Information (URL) / Mgmt Recommendations	Accuracy	Federal Status / State Status / PHS Listing Status	Sensitive Data / Resolution	Source Entity / Geometry Type
Resident Coastal Cutthroat Oncorhynchus clarki	SWIFD 49801	Occurrence/Migration Occurrence/migration http://wdfw.wa.gov/wlm/diversty/soc/soc.htm http://wdfw.wa.gov/publications/pub.php?	NA	N/A N/A PHS LISTED	N AS MAPPED	Lines
Resident Coastal Cutthroat Oncorhynchus clarki	SWIFD 49930	Occurrence/Migration Occurrence/migration http://wdfw.wa.gov/wlm/diversty/soc/soc.htm http://wdfw.wa.gov/publications/pub.php?	NA	N/A N/A PHS LISTED	N AS MAPPED	Lines
Waterfowl Concentrations	PIERCE COUNTY - NON PHSREGION 902564	Regular Concentration Regular concentration http://wdfw.wa.gov/publications/pub.php?	1/4 mile (Quarter	N/A N/A PHS LISTED	N AS MAPPED	WA Dept. of Fish and Wildlife Polygons
Wetlands	SEQUALICHEW CREEK PHSREGION 902594	Aquatic Habitat N/A http://www.ecy.wa.	1/4 mile (Quarter	N/A N/A PHS LISTED	N AS MAPPED	WA Dept. of Fish and Wildlife Polygons
Yuma myotis Myotis yumanensis	WS_OccurPoint 131069 August 12, 2012	Breeding Area Biotic detection http://wdfw.wa.gov/publications/pub.php?	GPS	N/A N/A PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points

DISCLAIMER. This report includes information that the Washington Department of Fish and Wildlife (WDFW) maintains in a central computer database. It is not an attempt to provide you with an official agency response as to the impacts of your project on fish and wildlife. This information only documents the location of fish and wildlife resources to the best of our knowledge. It is not a complete inventory and it is important to note that fish and wildlife resources may occur in areas not currently known to WDFW biologists, or in areas for which comprehensive surveys have not been conducted. Site specific surveys are frequently necesssary to rule out the presence of priority resources. Locations of fish and wildlife resources are subject to vraition caused by disturbance, changes in season and weather, and other factors. WDFW does not recommend using reports more than six months old.

WDFW Test Map



July 10, 2019

PHS Report Clip Area

PT

LN

POLY

AS MAPPED

SECTION

QTR-TWP

TOWNSHIP

1:19,842

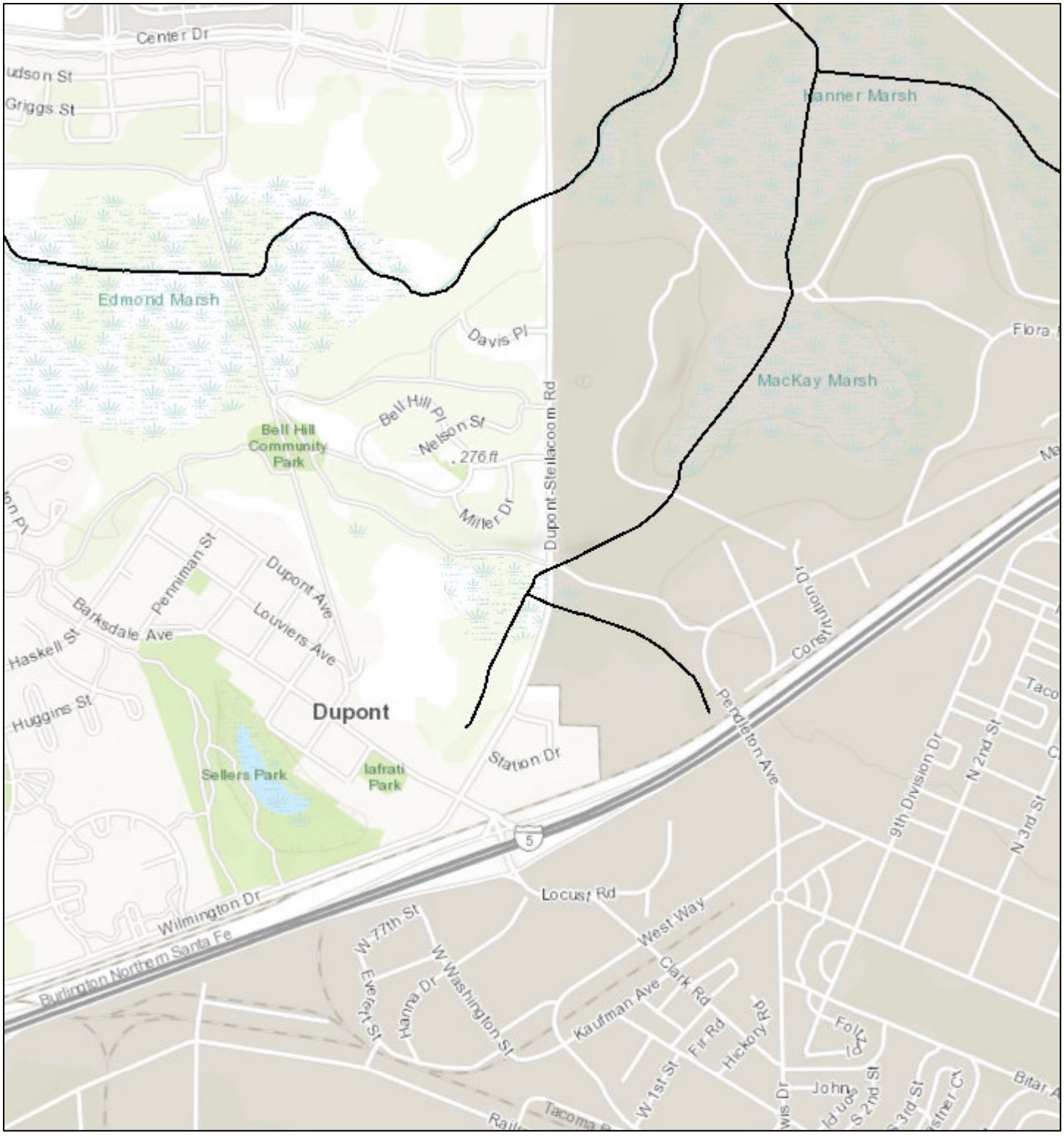
0 0.15 0.3 0.6 mi

0 0.275 0.55 1.1 km

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

PublicGIS

Disclaimer: Map features are approximate and have not been surveyed. Additional features not yet mapped may be present.
Pierce County assumes no liability for variations ascertained by formal survey. 5/2/2019



May 2, 2019

1:18,056

All SalmonScape Species

0 0.15 0.3 0.6 mi

0 0.25 0.5 1 km

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
WDFW

Map Scale: 1:3,020 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 40 80 160 240

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Pierce County Area, Washington
Survey Area Data: Version 14, Sep 10, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 1, 2016—Sep 27, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
12A	Dupont muck	8.2	42.0%
41A	Spanaway gravelly sandy loam	1.5	7.4%
3112	Everett-Spanaway-Spana complex, 0 to 30 percent slopes	9.9	50.5%
Totals for Area of Interest		**19.6**	**100.0%**

WA Wetlands of High Conservation Value

7/23/2019, 10:42:14 AM

Counties

1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan,

Washington Natural Heritage Program

Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, NGA, USGS | U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Washington Natural Heritage Program http://www.dnr.wa.gov/natural-heritage-

MUSTARD SEED LEGACY DEVELOPMENT, LLC

CRITICAL AREAS REPORT

APPENDIX F: SITE PHOTOGRAPHS

Photograph 1. Bell Marsh Wetland looking east toward project site

Photograph 2. Bell Marsh looking north along west side of the wetland

Photograph 3. Looking east from wetland toward project site

Photograph 4. Stream channel just downstream from concrete culvert apron (note chain link fence to left)

Figure 5. Stream channel within wetland looking downstream, project site to right

Figure 6. Wetland edge looking south, project site to left

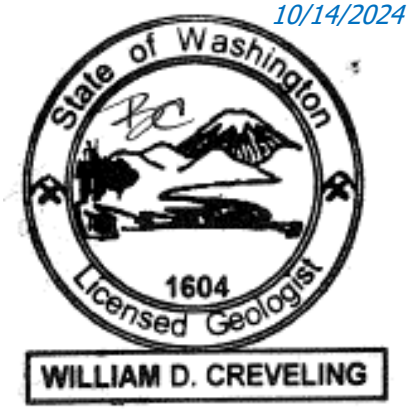
Received 12-11-2024

Exhibit 3.f

LEROY SURVEYORS & ENGINEERS, INC.
Surveying • Engineering • Geology • Septic Design • GPS • GIS Mapping

Project Name Champion Centre Geotechnical Soil Observation Report		**Job #** 12895	**Inspection Report** #1
Address / Parcel No. XXX Steilacoom Dupont RD SW / 0119362043		**Date** August 24, 2023 *Revised 10/14/2024*	**Page** 1 of 12
City / County Dupont / Pierce	**Permit #**	**Arrival Time:** 1:00 pm (5/18/2023) 12:30 pm, (8/11/2023)	
Client Mustard Seed Legacy Development, LLC (c/o David Rich)	**Project Manager** Damon DeRosa, P.E.		
Contractor James Moynan Excavating	**Project Geologist** Bill Creveling, L.G.		
Weather n/a			
Type of Work Performed Perform soil observations via soil pit excavation to determine characteristics applicable for foundation support, drainage, and constructability of the proposed development. Review 'Critical Slope' characteristics per Chapter 25.105.030.345			
Equipment Used Tracked Mini-Excavator			

10/14/2024



Project Description

A Licensed Geologist visited the above site on two occasions to oversee the excavation of 12 test pits to characterize subsurface conditions for the feasibility of a new development plan for the property. The development plan includes a proposed eating and drinking establishment on the north portion of the site development plan, and a religious assembly building on the south portion of the plan. The development will require the typical grading for building pad and parking lot design, and on-site stormwater control. Through our site observations and published sources study, the purpose of this report is to summarize the site characteristics and make appropriate recommendations for project development. This report will also address the 'Critical Slope' review comments from the City of Dupont Review Letter dated June 2, 2023.

Revision

The purpose of this revised report is to add additional information specifically related to the Gray & Osborne review comments dated February 22, 2024. Specifically, we will provide additional discussion supporting the sampling locations relative to the consistency of the surficial geology / soil deposits. To allow for ease of review, the only changes in this report to the original are in blue italics.

Gray and Osborne February 22, 2024, Review Comment

> 58. Per the DOE Manual, a minimum of two test pits are required per infiltration trench location. Figure 2 of the Geotechnical Soil Report shows 1 test pit at Infiltration Trench #1 and none at Infiltration Trench #2. Additional test pits should be provided or the Geologist provides supplemental documentation that determines the conditions are relatively uniform and the borings/test pits omitted will not influence the design or successful operation of the BMP.

Information Sources

Soil identification and mapping for this report is supported by information from the Natural Resource Conservation Service (the NRCS), and in-situ test pits excavated for our confirmation of subsurface conditions. Geologic information for this assessment is supported by information from the Washington Department of Natural Resources (DNR) Geologic Map of the Tacoma 1:100,000 Scale Quadrangle, Washington. Our understanding of site geology is supported by the review of geologic mapping, published topographic and relief map layers from the Pierce County Geographical Information System (GIS), and site observations.

We reviewed Table 1806.2 "Presumptive Load Bearing Values" of the 2018 International Building Code; we contracted Construction Testing Laboratories for Particle Size Distribution Analysis; and evaluated published geologic and terrain mapping.

Site Description

This group of properties (the Site) comprise approximately 21 acres, albeit the proposed development will occur on the south and southeast portion of the site comprising approximately 4.75 acres. The site is undeveloped. It is partially wooded and includes well-developed understory vegetation typical for the region. It is bounded on the Southeast side and the Southwest side by Steilacoom Dupont Road Southwest and Barksdale Avenue respectively. Gentle to moderate slopes descend westward into the site from Steilacoom Dupont Road and dip slightly northward from Barksdale Avenue.

Soil

According to the NRCS, the site is situated over three soil environments. However, most of the proposed development area is situated on the Spanaway gravelly sandy loam, while a small portion may extend over a transition to the Everett-Spanaway-Spana Complex. *This deposit proved to be consistent throughout the site, as would be expected by the expansive outwash plain environment on which the site is situated.* Figure 1 illustrates the site position in the soil mapping.

Figure 1: Site Position within NRCS Soil Environments (Excerpt)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
12A	Dupont muck	1.5	2.7%
41A	Spanaway gravelly sandy loam	30.8	55.0%
3112	Everett-Spanaway-Spana complex, 0 to 30 percent slopes	17.6	31.5%
Subtotals for Soil Survey Area		**49.9**	**89.1%**
Totals for Area of Interest		**56.0**	**100.0%**

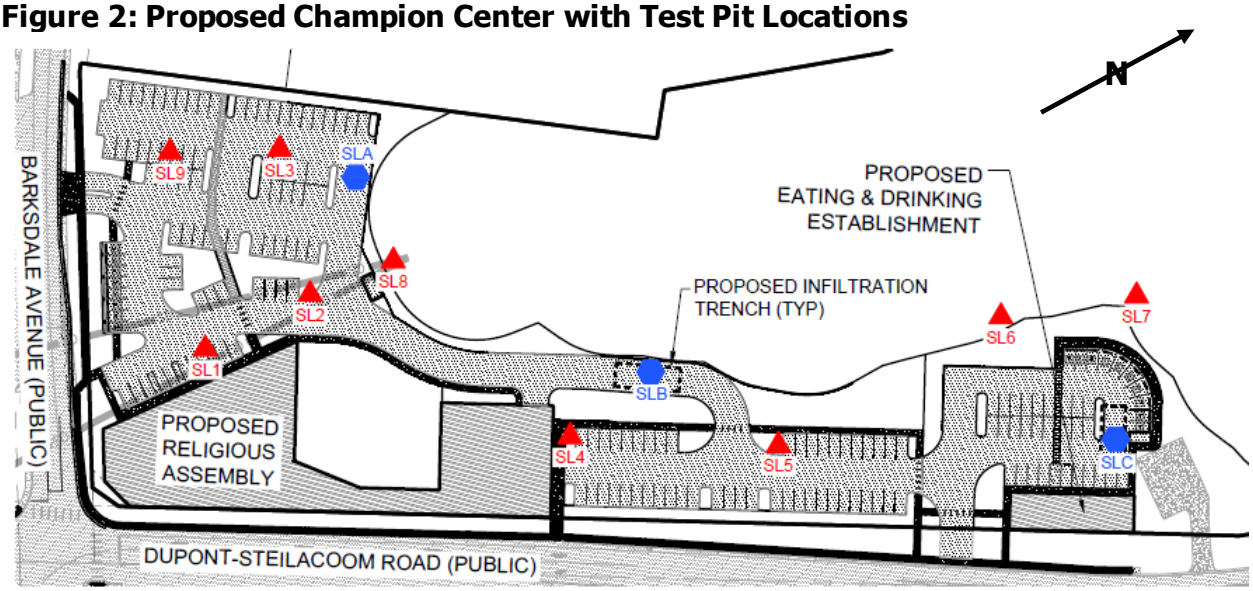
This near level to undulating Spanaway gravelly sandy loam is excessively drained. It formed in glacial outwash mixed in the upper part with volcanic ash on the very extensive plain from Lakewood to Roy. The elevation ranges from 100 to 500 feet. The annual precipitation in the region is 35 to 45 inches, and the mean annual air temperature is 51 degrees F. The frost-free season is about 170 days. Slopes range from 0 to 6 percent with the exception of anomalous Kame and Kettle features (See 'Geology' section for details).

Per the NRCS, a typical profile includes a surface layer of black gravelly sandy loam approximately 14 inches thick (but varies). The subsoil, to a depth of 18 inches, is dark grayish brown very gravelly sandy loam.

The substratum, to a depth of more at least *60 inches to several tens of feet, is light brownish gray very gravelly sand. Permeability is extremely rapid. Surface runoff is slow to non-existent, and there is little erosion hazard. Based on our test pits we can confirm the NRCS soil mapping on the site. We confirmed the site development area to be situated wholly or mostly on the Spanaway gravelly sandy loam. Figure 2 illustrates the site test pit locations on the site development plans.

*Note: the NRCS limits their analysis to the upper 60 inches of the subsurface environment even though actual depths may well exceed 60 inches (as they do in this case).

Figure 2: Proposed Champion Center with Test Pit Locations



In-Situ Soil Descriptions

▲ SOIL LOGS:
BILL CREVELING, LS&E MAY 18, 2021

SL-1
0" - 80" ALTERNATING DARK BROWN/LIGHT BROWN VERY GRAVELLY FINE-COARSE SAND (FILL)

SL-2
0" - 60" BROWN/DARK BROWN VERY GRAVELLY FINE-MED SAND W/SILT, ORGANICS (FILL)
60" - 96" BROWN VERY GRAVELLY FINE-MED SAND

SL-3
0" - 48" DARK BROWN/BLACK VERY GRAVELLY LOAM (NATIVE)
48" - 96" BROWN EXTREMELY GRAVELLY FINE-COARSE SAND W/COBBLES (NATIVE)

SL-4
0"- 18" DARK BROWN/BLACK VERY GRAVELLY LOAM (NATIVE)
18" - 96" BROWN EXTREMELY GRAVELLY FINE-COARSE SAND W/COBBLES (NATIVE)

SL-5
0" - 18" BROWN VERY GRAVELLY LOAMY SAND
18" - 80" TAN/GRAY EXTREMELY GRAVELLY FINE-COARSE SAND, ROOTS TO 80"
80"+ WATER

SL-6
0" - 10" DARK BROWN SANDY LOAM, ORGANICS
10" - 48" BROWN GRAVELLY FINE-MED SAND, ROOTED
48" - 72" GRAY GRAVELLY MED-COARSE SAND, COBBLES

SL-7
0" - 18" DARK BROWN LOAMY SAND, ROOTED, ORGANICS
18" - 70" BROWN EXTREMELY GRAVELLY FINE-COARSE SAND, COBBLES & BOULDERS

SL-8
0" - 18" BROWN VERY GRAVELLY LOAMY FINE SAND, COMPACT (FILL)
18" - 48" DARK BROWN VERY GRAVELLY LOAM (NATIVE)
48" - 80" BROWN EXTREMELY GRAVELLY FINE-COARSE SAND W/OCCASIONAL BOULDERS

SOIL LOGS:
BILL CREVELING, LS&E AUGUST 11, 2023

SL-A
0" - 36" DARK BROWN / BLACK SILT W/ FN SAND GRAVEL, ORGANIC
36" - 120" TAN GRAVEL W/ SAND

SL-B
0" - 24" DARK BROWN / BLACK SILT W/ FN SAND GRAVEL, ORGANIC
24" - 120" TAN GRAVEL W/ SAND

SL-C
0" - 54" BROWN FN-MED SAND WITH SILT, GRAVEL
54" - 120" TAN MED. SAND & GRAVEL

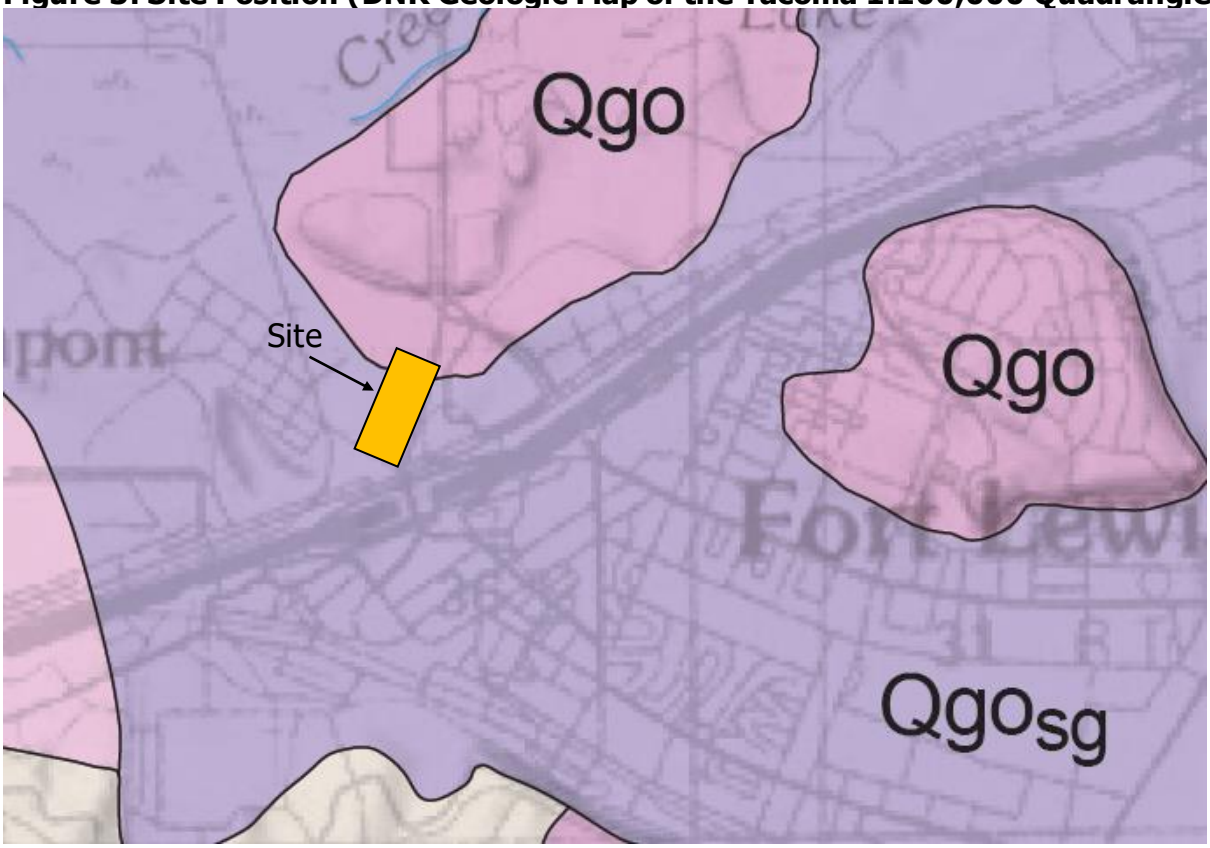
As soil logs A, B, and C illustrate, the outwash deposit is consistent in terms of depth and coarseness over a large area or entirety of the site. The deposit itself is responsible for the consistent terrain throughout the site.

Geology

According to the Geologic Map of the Tacoma 1:100,000-scale Quadrangle, Washington, in Figure 3 below; this site is located on a coarse glacial outwash deposit emplaced during a period of glacial lake outburst flooding during the end of the Fraser glaciation period. A large regional body of water trapped between glacial ice in the lowlands, and the Cascade foothills to the east was released suddenly through ice failure. This catastrophic event produced a large-scale erosion event which eroded and removed the previously emplaced glacial stratigraphy throughout the Spanaway and Lakewood area and replaced the original material in the basin with an excessively coarse outwash referred to as the Steilacoom gravel (Qgo_{sg}).

Ice blocks were transported and deposited in the terrain during this outburst flooding. Kettle formations, found throughout the broad Steilacoom Gravel deposit, were created by these large ice blocks that were left behind by the retreating glacier. Sediment was deposited around the ice blocks, leaving kettle lakes when the ice melted. This event also deposited mounds of outwash against ice blocks present on the surface, that (following melting); left 'Kame' features (isolated mounds of gravel outwash). Spanaway Lake, Gravelly Lake, and nearby Old Fort Lake are well-known examples of kettles. The mounds and knob features in the area represent these outwash gravel kames. Figure 3 illustrates the site's position in the local geology.

Figure 3: Site Position (DNR Geologic Map of the Tacoma 1:100,000 Quadrangle)



J. Eric Schuster, Ashley A. Cabibbo, Joseph Schilter, and Ian J. Hubert (October 2015)

Qgosg **Recessional outwash, Steilacoom Gravel**—Pebbles with boulders; local crossbedding; kettles and other ice-contact depressions.

Throughout our experience in the Puget Sound region performing in-situ soil evaluation while comparing our findings with corresponding NRCS – Soil, and DNR or USGS - Geologic mapping, this case this case illustrates the greater accuracy of the much more current DNR geologic map (October 2015). The DNR map's depiction of the Steilacoom gravel matches the extent of our in-situ field findings better than the much older (1970's) NRCS Survey. While they both acknowledge the Spanaway soil (NRCS equivalent of glacial outburst outwash – the DNR's Steilacoom Gravel), the DNR Geologic map more accurately represents the expanse of the deposit in this area.

Our sampling points exhibited the consistency of the outwash deposit over large areas. We are confident that the expanse of this flood deposit is well established with the 11 test pits excavated throughout the site. An additional test pit in close proximity to any other test pit would exhibit the same conditions. The number and locations of sampling points are definitive in our opinion for the stormwater design.

Critical Slope Assessment

Per the City of Dupont's June 2, 2023, review letter, the following discussion and exhibit information will address Comment No. 3 on page 7, regarding the requirement to assess the slope (the small 'knob' feature) with slopes of approximately 22 percent. The applicable regulatory section is in the Dupont Municipal Code (DMC) Chapter 25.105.030.345.

The Code defines as steep slope when all three of the following criteria are met:

(a) Slopes Steeper than 15%

(b) Hillsides intersecting geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock; and

(c) Springs or groundwater seepage

As discussed in the 'Geology' section above, the localized 'knobs' or 'mounds' are Kame features. The kames are composed of the coarse recessional flood outwash that was trapped at the time between glacial ice sheet remnants. These ice sheet blocks came to rest during the flooding on the surface where outwash became deposited against them. Upon melting, the outwash gained the appearance they have today as a mounded feature.

These deposits do not have inclined geologic contacts with permeable sediment overlying impermeable sediment, nor are any springs present per our observations (nor would they be possible in this geology). The 15% slope angle and its similar call out in other jurisdictions is only intended to warrant further analysis. In no case is such a shallow slope angle unstable. The typical angle of repose (the maximum angle an unconsolidated aggregate remains stable) for clean, well sorted, semi-rounded sand is 60 to 70 percent. The aggregate on this site has a steeper angle of repose given the poor sorting and minor sub-rounding form of the aggregate. The slope is globally stable in our opinion.

Findings/Recommendations

Foundation Bearing Capacity – The site is situated on loose gravel and sand, which is ideal for projects requiring moderate to significant bearing capacity, and limited space for drainage. However, due to the coarse nature of the aggregate, excavations may calve or settle laterally at approximately 2:1 (Vertical: Horizontal). Therefore, excavations should be laid back at 1 to 1 during construction. The 2018 International Building Code (IBC) Chapter 18 provides expected capacities for *Vertical Bearing Capacity, Lateral Bearing Pressure, and Lateral Coefficient of Friction* based on material classification. Please see Figure 3 below for an illustration of expected bearing capacity per the IBC.

Figure 3 – 2018 International Building Code (IBC) Excerpt

TABLE 1806.2
PRESUMPTIVE LOAD-BEARING VALUES

CLASS OF MATERIALS	VERTICAL FOUNDATION PRESSURE (psf)	LATERAL BEARING PRESSURE (psf/ft below natural grade)	LATERAL SLIDING RESISTANCE	
			Coefficient of friction[a]	Cohesion (psf)[b]
1. Crystalline bedrock	12,000	1,200	0.70	—
2. Sedimentary and foliated rock	4,000	400	0.35	—
3. Sandy gravel and gravel (GW and GP)	3,000	200	0.35	—
4. Sand, silty sand, clayey sand, silty gravel and clayey gravel (SW, SP, SM, SC, GM and GC)	2,000	150	0.25	—
5. Clay, sandy clay, silty clay, clayey silt, silt and sandy silt (CL, ML, MH and CH)	1,500	100	—	130

Foundation Drainage – As discussed in the 'Soil' and 'Geology' sections, the site is situated on an excessively permeable outwash deposit with depths of ten or more feet based on our test pit observations and the characteristics of the Steilacoom gravel. There are no perching strata or water bearing formations present. Therefore, conventional footing drain systems should be considered in the typical manner for the building facility, albeit they may never encounter ground water.

Runoff Control – The subsurface soil characteristics are ideal for subsurface infiltration. The coarse outwash depth was verified to be at least nine to ten feet in depth but may continue to greater depths when considering the terrain and landform. Soils are excessively coarse and rapidly draining, such that infiltration testing is difficult to impossible. Attempts to presoak or even hold a static ponding level are not possible in this formation based on our experience on multiple occasions. Whether attempting a falling head test using a 6-inch pipe on neighboring sites with similar soil; the infiltration was too rapid to even establish ponding in the pipe. Therefore, we opted for a more conservative design rate sizing method by collecting soil samples from the approximate basal zone of the proposed trenches and delivered to Construction Testing Laboratory for analysis (copies attached).

Results: In this case, the test confirms that these very gravelly to extremely gravelly outwash soils are ideal for infiltration. The table below summarizes the sieve results for each sample along with the necessary correction factors to determine an appropriate design infiltration rate.

Table 1 – Grain Size Analysis with Correction Factors for Infiltration Rate

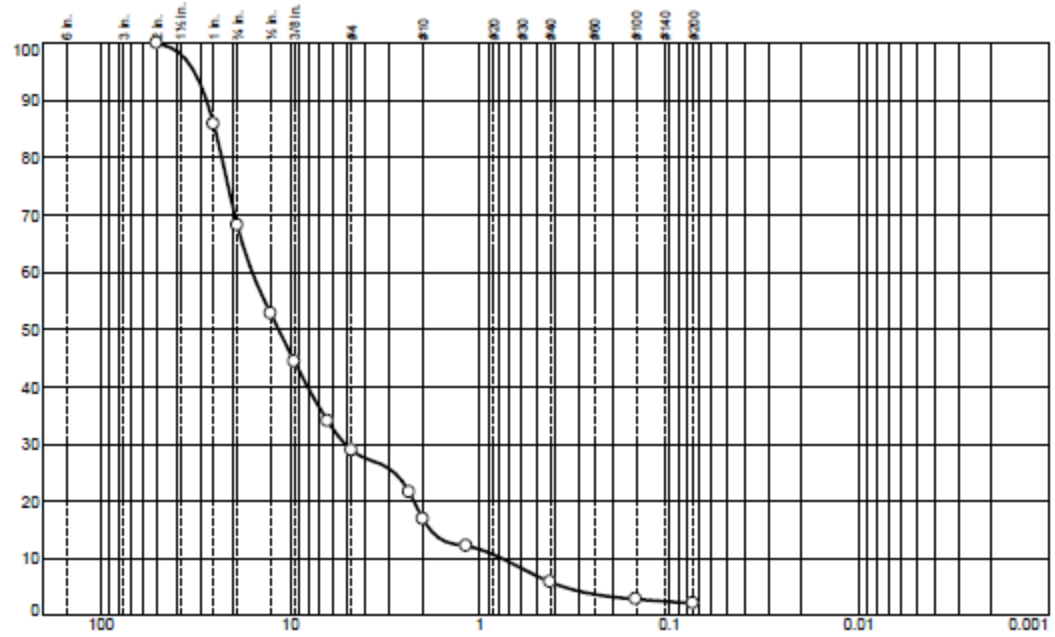
SOIL SAMPLE	D10	D60	D90	fines	1.90D10	0.015D60	0.013D90	2.08fines	log10 (Ksat)	Ksat (cm/s)	Ksat (in/hr)
SLA	0.00076	0.016	0.028	0.002	0.001444	0.00024	0.000364	0.00416	-1.57284	0.026739914	37.89909017
SLB	0.0098	0.015	0.029	0.001	0.01862	0.000225	0.000377	0.00208	-1.55361	0.027950398	39.61473765
SLC	0.0047	0.019	0.038	0.001	0.00893	0.000285	0.000494	0.00208	-1.56336	0.027330086	38.73555511

Infiltration Rate for Design - Given the substantial depth and excessive permeability of these coarse outwash soils, subsurface infiltration is ideal for stormwater control. The lowest-case recommended design rate for the three samples is 37.9 inches per hour per lab results and correction factors. We recommend using 30 inches per hour for design.

Liquefaction
The subsurface soil characteristics are such that liquefaction is not a risk. The soil is highly permeable, and free of groundwater to substantial depths. Therefore, saturated conditions are not likely to exist. Liquefaction is not expected.

See Attached Soil Test Results
Below this Page

Particle Size Distribution Report ASTM C117, C136



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	32	39	12	11	4	2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100		
1"	86		
3/4"	68		
1/2"	53		
3/8"	44		
1/4"	34		
#4	29		
#8	22		
#10	17		
#16	12		
#40	6		
#100	3		
#200	2.2		

* (no specification provided)

Material Description

Brown Gravel with Sand
Sampled from SL A at 9'

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 27.6653 D_{85}= 24.9885 D_{60}= 15.9151
D_{50}= 11.5485 D_{30}= 5.1518 D_{15}= 1.8281
D_{10}= 0.7642 C_u= 20.82 C_c= 2.18

Classification

USCS= GW AASHTO=

Remarks

Report: #01

Sampled by: Client

Source of Sample: Existing
Sample Number: 23-1184

Date: 08-11-23

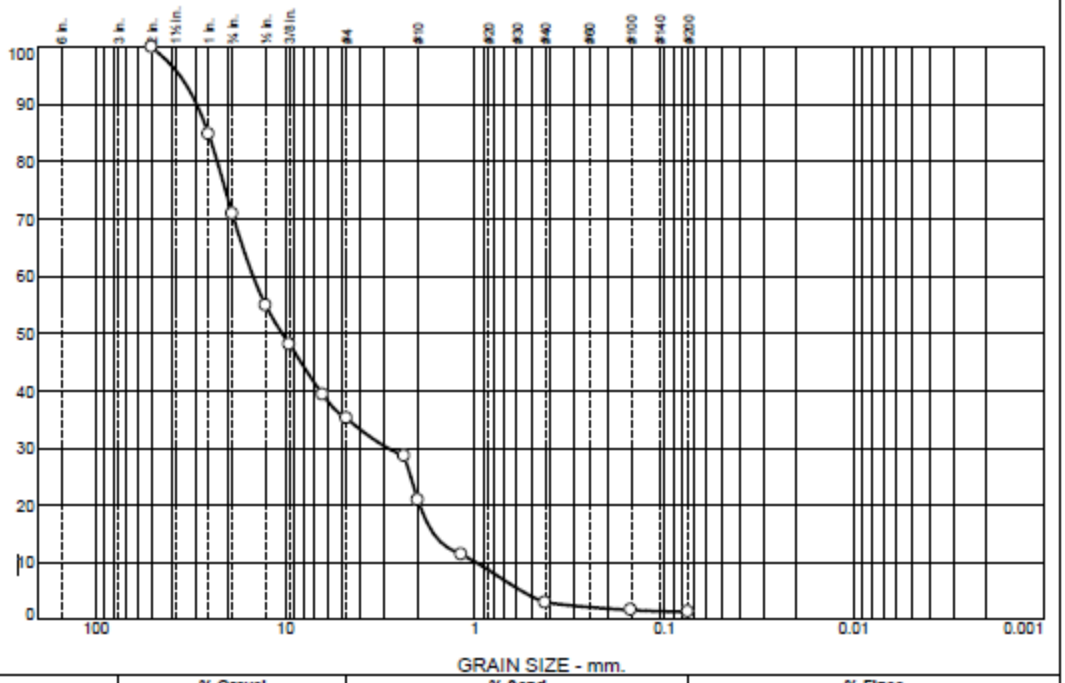
Construction Testing Laboratories
400 Valley Ave. NE, Suite #102
Puyallup WA, 98372 Tel. (253) 383-8778

Client: Mustard Seed Legacy Development, LLC
Project: Champion Centre
Project No: 10414 **Figure**

Report shall not be reproduced except in full without the written approval of the Laboratory. Report pertains only to the material tested.

Tested By: R Rowden **Checked By:** C Pedersen

Particle Size Distribution Report ASTM C117, C136



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	29	36	14	18	2	1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100		
1"	85		
3/4"	71		
1/2"	55		
3/8"	48		
1/4"	39		
#4	35		
#8	29		
#10	21		
#16	11		
#40	3		
#100	2		
#200	1.4		

* (no specification provided)

Material Description

Brown Gravel and Sand
Sampled from SL B at 10'

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 29.3348 D_{85}= 25.5221 D_{60}= 14.8099
D_{50}= 10.3997 D_{30}= 2.8775 D_{15}= 1.6507
D_{10}= 0.9841 C_u= 15.05 C_c= 0.57

Classification

USCS= GP AASHTO=

Remarks

Report: #02

Sampled by: Client

Source of Sample: Existing
Sample Number: 23-1185

Date: 08-11-23

Construction Testing Laboratories
400 Valley Ave. NE, Suite #102
Puyallup WA, 98372 Tel. (253) 383-8778

Client: Mustard Seed Legacy Development, LLC
Project: Champion Centre
Project No: 10414 **Figure**

Tested By: R Rowden **Checked By:** C Pedersen

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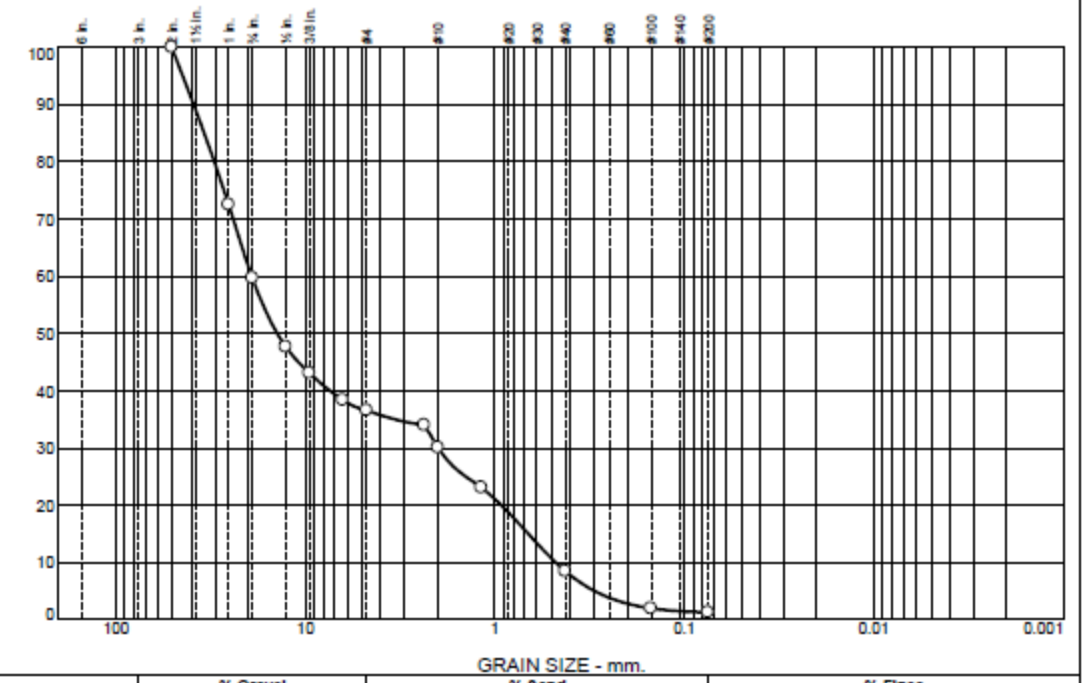
Particle Size Distribution Report ASTM C117, C136



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	40	23	7	22	7	1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100		
1"	72		
3/4"	60		
1/2"	48		
3/8"	43		
1/4"	38		
#4	37		
#8	34		
#10	30		
#16	23		
#40	8		
#100	2		
#200	1.3		

* (no specification provided)

Material Description

Brown Gravel with Sand
Sampled from SG C at 10'

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 38.8807 D_{85}= 34.1865 D_{60}= 19.1923
D_{50}= 14.0747 D_{30}= 1.9911 D_{15}= 0.6658
D_{10}= 0.4770 C_u= 40.23 C_c= 0.43

Classification

USCS= GP AASHTO=

Remarks

Report: #03

Sampled by: Client

Source of Sample: Existing
Sample Number: 23-1186

Date: 08-11-23

Construction Testing Laboratories
400 Valley Ave. NE, Suite #102
Puyallup WA, 98372 Tel. (253) 383-8778

Client: Mustard Seed Legacy Development, LLC
Project: Champion Centre
Project No: 10414 **Figure**

Tested By: R Rowden **Checked By:** C Pedersen

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Received 12-20-2023

Exhibit 3.g

CULTURAL RESOURCES REPORT COVER SHEET

Project Number: 2023-07-04503

Author: Garth L. Baldwin and Alex L. Berry

Title of Report: Cultural Resources Assessment of the Champions Centre (Parcels 0119362009, 0119362039 and 0119362043), Dupont, Pierce County, Washington

Date of Report: August 15, 2023

County: Pierce Section: 36 Township: 19 N Range: 1 E

Quad: Nisqually/ Fort Lewis (2020) Acres: ~ 3

PDF of report submitted (REQUIRED) ☒ Yes

Historic Property Inventory Forms to be Approved Online? ☐ Yes ☒ No

Archaeological Site(s)/Isolate(s) Found or Amended? ☐ Yes ☒ No

TCP(s) found? ☐ Yes ☒ No

Replace a draft? ☐ Yes ☒ No

Satisfy a DAHP Archaeological Excavation Permit requirement? ☐ Yes # ☒ No

Were Human Remains Found? ☐ Yes DAHP Case # ☒ No

DAHP Archaeological Site #:

_____
_____
_____
_____
_____

- Submission of PDFs is required.
- Please be sure that any PDF submitted to DAHP has its cover sheet, figures, graphics, appendices, attachments, correspondence, etc., compiled into one single PDF file.
- Please check that the PDF displays correctly when opened.

DRAYTON ARCHAEOLOGY

Cultural Resources Assessment of the Champions Centre (Parcels 0119362009, 0119362039 and 0119362043), Dupont, Pierce County, Washington

Prepared By:
Garth L. Baldwin, M.A., RPA 16248
and Alex L. Berry, M.A., RPA 5439

Prepared For:
David Rich
Legacy Development
32706 Mountain Hwy
Eatonville, Washington 98328

Drayton Archaeology Report: 0723E

August 15, 2023

CONTENTS

Summary....1
Regulatory Context....1
Project Location and Description....2
Background Review....6
Natural Environmental Setting....6
Geology and Topography....6
Soils....7
Flora and Fauna....8
Cultural Context....9
Precontact....9
Ethnographic....10
Historic Period....11
Cultural Resource Management Inventories and Documented Resources....14
Previous Cultural Resources and Sites....14
National Registered Historic Places (NRHP)....15
Recorded Cemeteries....15
Cultural Resource Expectations....15
Field Investigation....16
Conclusions and Recommendations....21
Inadvertent Discovery Protocols....22
Archaeological Resources....22
Human Burials, Remains, or Unidentified Bone(s)....22
References....23
Appendix A: Shovel Probe Index....29

FIGURES AND TABLES

Figure 1. A portion of the Nisqually/ Fort Lewis (2020), WA 7.5' USGS quad map of the project area. 3
Figure 2. An aerial image illustrating the project area. area....4
Figure 3. Site plans courtesy of the client. 5
Table 1. Cultural resource studies recorded within an approximate 0.4 km (0.25-mile) radius of the project area. 14
Table 2. Recorded archaeological/historic sites within a 0.4 km (0.25-mile) radius of the project area. 15
Figure 4. An aerial image illustrating shovel probe locations.....20

LIST OF PHOTOS

Photo 1. Northwestern overview of the project area. 16
Photo 2. Northeastern overview of the project area. 17
Photo 3. Southwestern overview of the forested portion within the project area. 17
Photo 4. Northeastern overview of the forested portion within the project area. 18
Photo 5. Example of overgrown sections within the project area. 18
Photo 6. Typical soil profile observed during subsurface survey of the project area. 21

Cultural Resources Assessment of the Champions Centre (Parcels 0119362009, 0119362039 and 0119362043), Dupont, Pierce County, Washington

Authors:	Garth L. Baldwin and Alex L. Berry
Date:	August 15, 2023
Location:	Dupont, Pierce County, Washington
USGS Quad:	Nisqually/ Fort Lewis, WA 7.5-minute USGS Quadrangle (2020)
Township, Range, Section:	T 19 N R 1 E S 36

SUMMARY

Drayton Archaeology (Drayton) was retained by David Rich of Legacy Development to conduct an archaeological assessment of parcels 0119362009, 0119362039 and 0119362043, near 121 Barksdale Avenue, Dupont, Pierce County for the proposed Champions Centre Development Project. The project involves the construction of a new religious assembly. The purpose of this review is to assess the property for cultural resources that may complicate the proposed work. The regulatory environment for the project is under compliance with Washington Code 43.21C, State Environmental Policy Act (SEPA) through Pierce County Planning and Land Services (the County), and if archaeological resources are encountered, through RCW 27.53 through Washington Department of Archaeology and Historic Preservation (DAHP).

Drayton's cultural resources assessment consisted of a thorough background review, field investigation, and production of this report. Background review concluded the project is in an area of moderate probability for cultural resources based primarily on the property's proximity to known archaeological sites, topography, and ecological context. On-site fieldwork included systematic visual reconnaissance and subsurface investigation of areas of proposed impact. No precontact or historic archaeological deposits were encountered within the project area during Drayton's field investigation. Drayton recommends the project proceed with no additional archaeological oversight.

Although no archaeological management or mitigation measures are recommended, the project is located within an area of moderate probability for encountering cultural resources. A general inadvertent discovery plan (IDP) for the information of all involved in the project is located at the end of this document. It is the responsibility of all involved to ensure proper consideration for cultural resources and to develop archaeological mitigation strategies, as needed.

REGULATORY CONTEXT

The subject project is being reviewed and permitted through Pierce County Planning and Land Services (the County) and is subject to SEPA. SEPA requires that impacts on cultural resources

be considered during the public environmental review process. Under SEPA, the DAHP is the sole agency with technical expertise regarding cultural resources and provides formal opinions to local governments and other state agencies on a site's significance and the impact of proposed projects upon such sites.

If archaeological resources are located, the project is subject to Washington State laws addressing the protection of archaeological sites and Native American burials. The Archaeological Sites and Resources Act (RCW 27.53) prohibits the disturbance of known precontact and historic archaeological sites on public or private lands. The Indian Graves and Records Act (RCW 27.44) prohibits the disturbance of American Indian graves and requires re-interment under the supervision of the affected Indian tribe if inadvertent disturbance by construction or other activity occurs.

PROJECT LOCATION AND DESCRIPTION

The project area consists of approximately 3 acres of undeveloped land located within parcels 0119362009, 0119362039 and 0119362043, near 121 Barksdale Avenue, Dupont, Pierce County in Township 19 North, Range 1 East, Section 36, of the Willamette Meridian (Figures 1 and 2). The project, as proposed, is the construction of a new religious assembly including the construction of walking paths, parking structures, and the installation of all associated utility infrastructure (Figure 3).

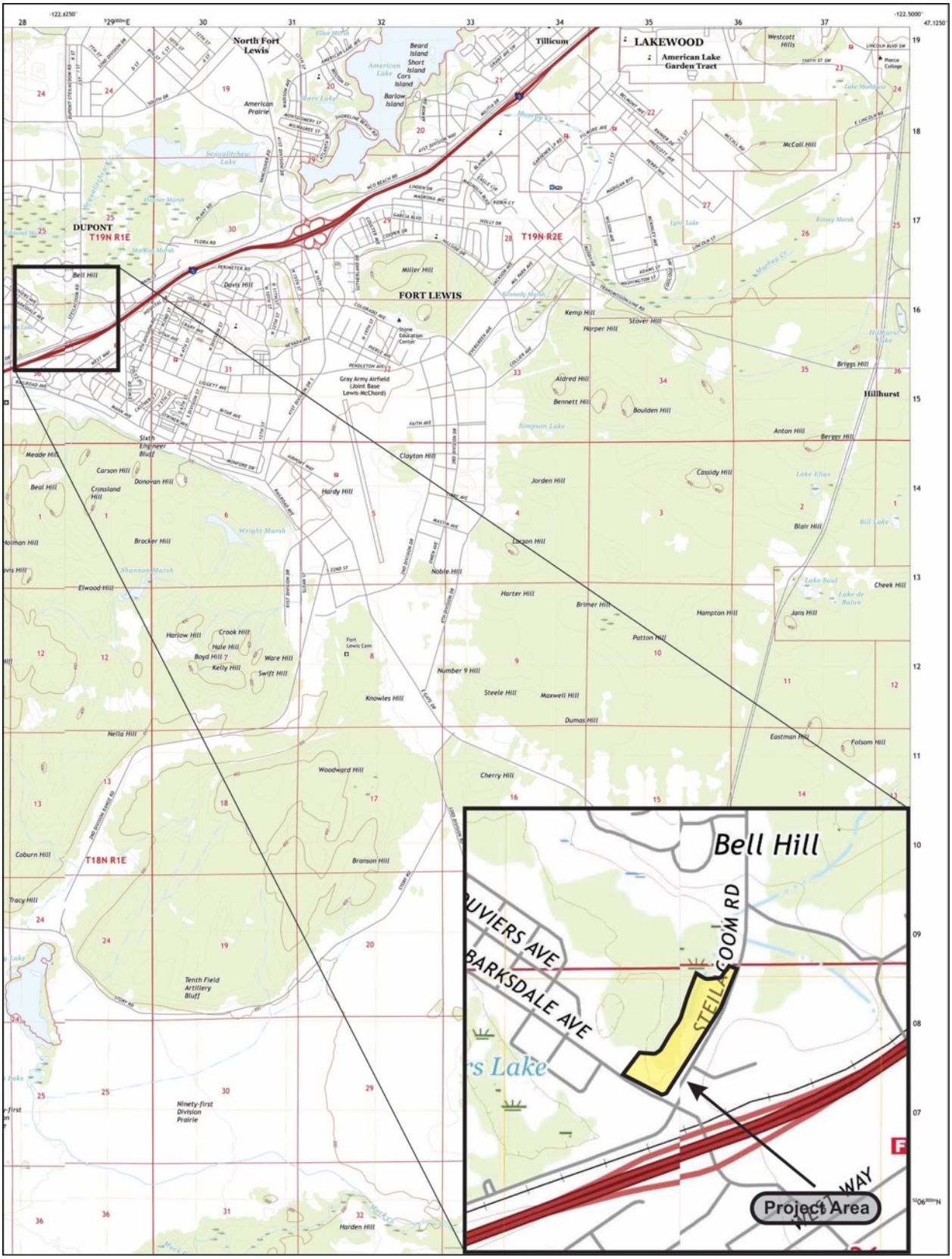

Figure 1. A portion of the Nisqually/ Fort Lewis (2020), WA 7.5' USGS quad map of the project area.

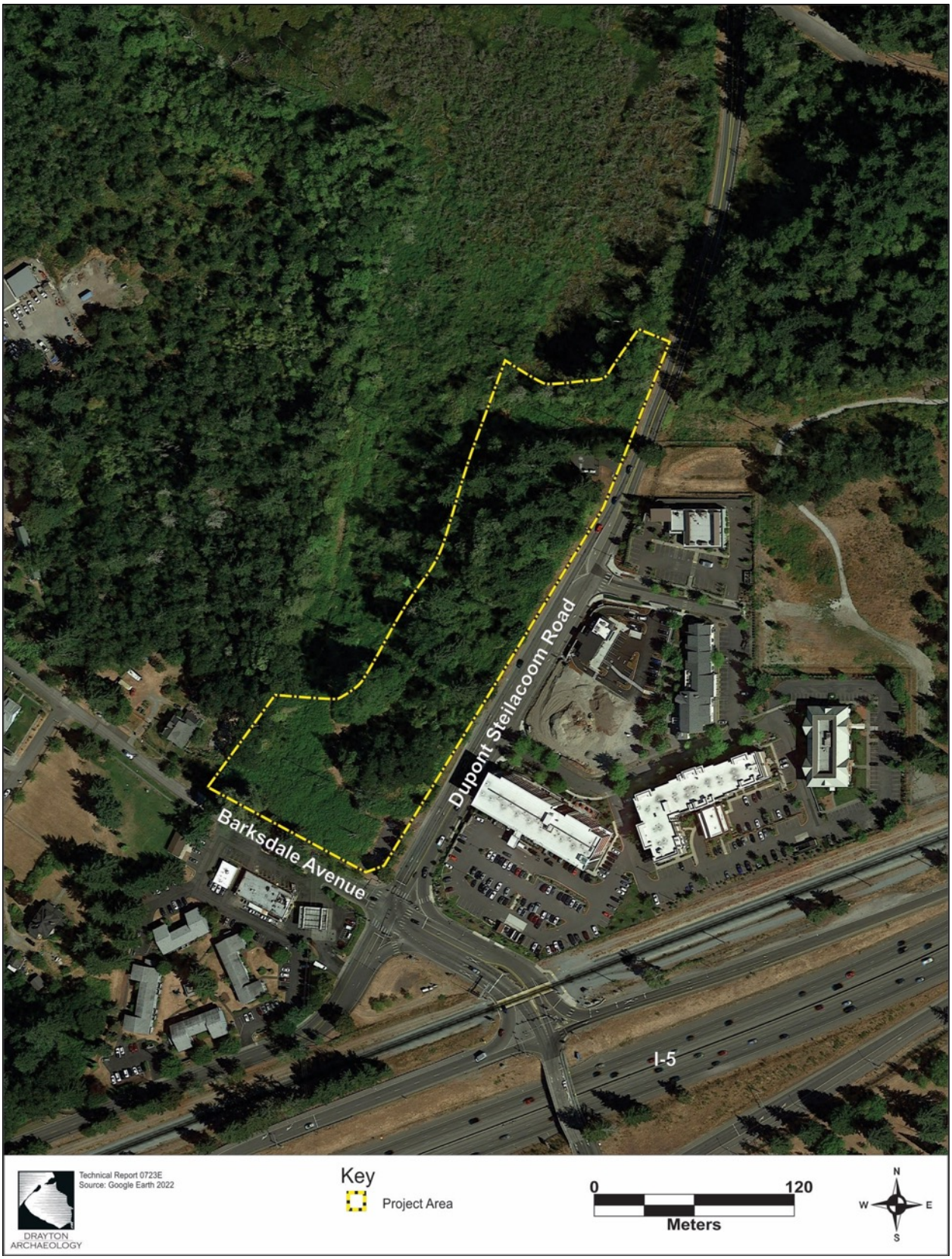

Figure 2. An aerial image illustrating the project area. area.

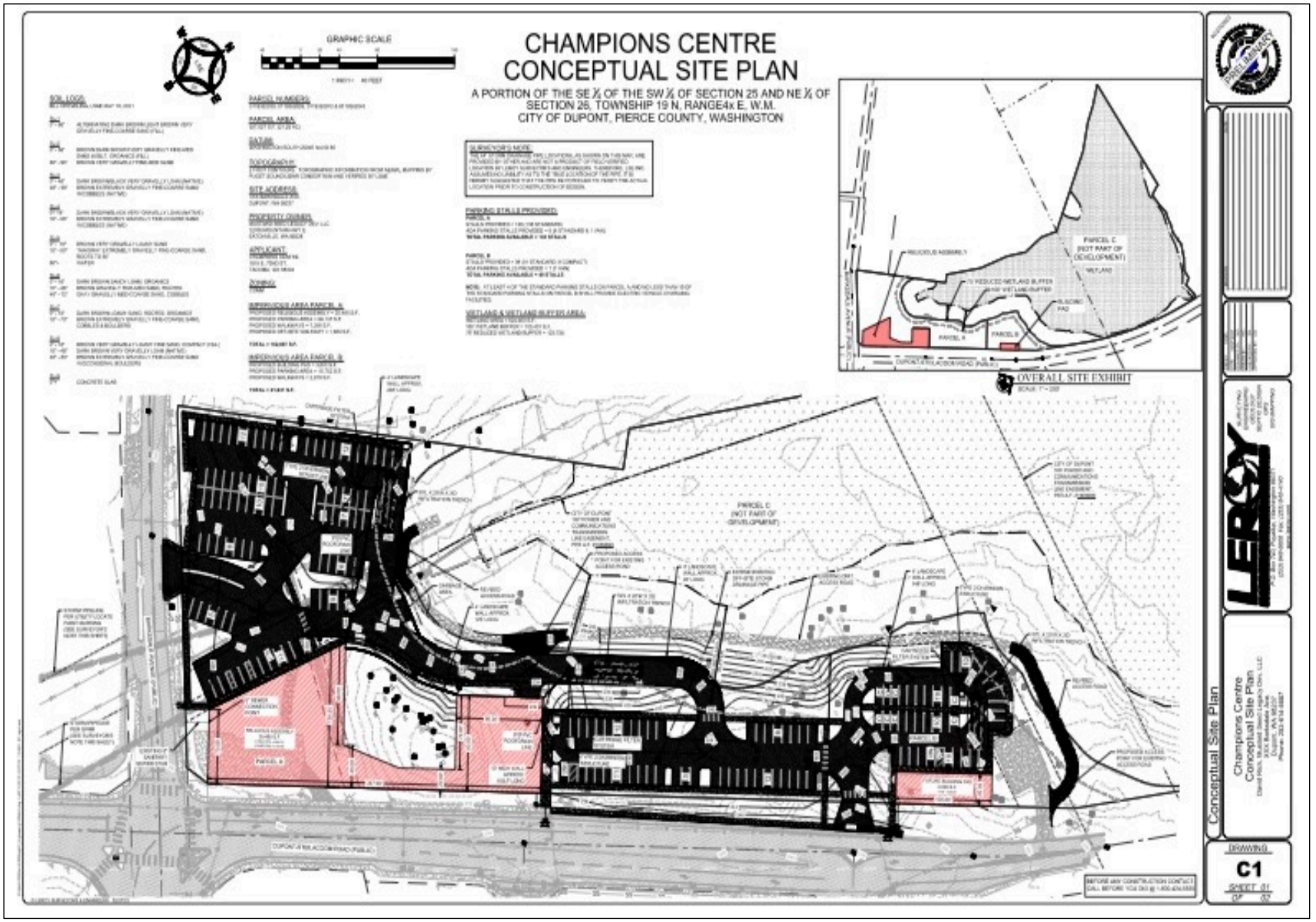

Figure 3. Site plans courtesy of the client.

BACKGROUND REVIEW

An investigation of available archives informs us of the potential for encountering cultural resources within project areas. Drayton's consulted archives include documents related to precontact and historic environmental and cultural contexts, previously recorded cultural resources studies and site records, and selected published local historic accounts. Archaeological records are obtained from the Washington State Department of Archaeology and Historic Preservation's (DAHP) Washington Information System for Architectural and Archaeological Records Data (WISAARD). WISAARD is a restricted-access searchable geographic information system containing locations of previously recorded cultural resources surveys conducted post-1995, archaeological sites, historic sites, National Register of Historic Places (NRHP) sites, and cemeteries and burials. For this project, Drayton reviewed cultural resource archives documented within an approximate 0.4-kilometer (km) or 0.25-mile (mi) radius of the project area.

The following sections detail the environmental, cultural, and archaeological circumstances that inform Drayton's archaeological assessment of the project area.

Natural Environmental Setting

The environmental setting of the region is presented here to appreciate the unique geologic conditions responsible for the landscape formations that affected the lifeways of early inhabitants. Natural geologic conditions also provide baseline context for the cultural resources assessment to better understand how the landscape has been culturally modified by various human activities.

Geology and Topography

Geomorphology in the project was largely shaped by Pleistocene and early Holocene glacial events and is characterized by glacial till, moraines, and outwash features. The valleys were created when glaciers retreated north, carving a deep trough through the Puget Lowland.

The Puget Lowland is a physiographic province shaped by at least four (4) periods of extensive glaciation during the Pleistocene (Easterbrook 2003, Waitt and Thorson 1983; Lasmanis 1991). Periodic glaciation depressed and deeply scoured bedrock depositing sediments that were continually reworked as glaciers advanced and retreated. These events resulted in the deposition of glacial till and outwash across much of the region at the end of the last glacial period, the Fraser Glaciation (Easterbrook 2003). The Vashon Stade of the Frasier Glaciation began approximately 18,000 years ago. This ice sheet advanced from British Columbia to just south of Olympia, enveloping the entire Puget Lowland (Porter and Swanson 1998). This tremendous volume of ice scoured the underlying bedrock and helped shape the present-day landscape. The ice retreated to present-day Seattle approximately 13,500 years ago, and large areas south of Seattle were covered by recessional outwash sands and gravel.

As the ice retreated, marine waters entered the lowlands carved out by the glacier, filling the Puget Sound. Seawater lifted the ice causing it to fracture into berg ice. Everson glaciomarine drift deposits dating between 12,500 and 11,500 years before present (BP) were released from the melting glacial ice and deposited on the sea floor across the northern and central Puget Lowland (Easterbrook 2003). The enormous weight of the ice depressed the land and as the crust rebounded, relative sea levels fell, exposing drift deposits (Clague and James 2002; Easterbrook 2003). The Cordilleran ice sheet advanced during the Sumas Stade of the Fraser Glaciation, ca. 11,600 to 10,000 BP, depositing glacial till and outwash sediments in northwestern Washington (Kovanen and Easterbrook 2002).

The Cordilleran ice sheet disappeared approximately 10,000 years ago, bringing an end to the Ice Age in this region. The melted ice resulted in the transport and deposit of rocks, sand, soil, and debris along the regions scoured by the glacier. These deposited materials came to be called, "great lowland fill" (Booth and Goldstein 1994). Rivers and streams altered the landscape by downcutting through this glacial till and outwash for the next 10,000 years. The thousands of rivers and streams within the Puget Lowland carved out valleys, created deltas, filled bays, and buried low-lying shorelines, creating the modern landscape. The underlying geology in the area consists of Tertiary sedimentary rocks (Lapen 2000). The bedrock is the Padden member of the Chuckanut Formation. The Padden Member consists of sandstone and conglomerate alternating with mudstone and minor amounts of coal dating to the late Eocene (Lapen 2000). These sedimentary rocks formed in a broad river floodplain prior to the formation of the Cascade Mountains (Mustoe et al. 2007).

The region became ice-free approximately 10,500 years ago, leaving it suitable for habitation (Downing 1983; Kruckeberg 1991; Dragovich et al. 1994; Booth et al. 2003). Approximately 5,600 years ago, a landslide originated from Mount Rainer that displaced approximately one (1) km (0.7 mi) of soil from the summit as far north as Kent (Crandell 1971; Dragovich et al. 1994; McKee 1972). The event, termed the Osceola Mudflow, caused the spread of mud and alluvium over existing glacial drift on the lowland plains, infiltrating the channels of the Puyallup, White, and Carbon Rivers. The effects of the mudflow entirely changed the course of the White River, moving it away from the Puyallup River. Depths of the mudflow deposits vary in thickness and typically are thinner further from Mount Rainier. In Sumner, Osceola deposits are reported to be 97 feet (30 meters) thick in places (Dragovich et al. 1994). Soils of the Osceola Mudflow are heterogeneous and comprised of poorly sorted, hard mixtures of clay, silt, sand, and gravel soils (Dragovich et al. 1994).

Soils

The University of California Davis Agriculture and Natural Resources, in conjunction with the United States Department of Agriculture Natural Resource Conservation District developed an interactive soil survey application that provides a description of native soils in specific locales. According to the UC Davis SoilWeb database, soils within the project area are mapped as Everett gravelly sandy loam on 0 to 65 percent slopes.

The Everett series consists of very deep, somewhat excessively drained soils formed in glacial outwash. Everett soils are found in outwash terraces and escarpments. A typical sediment profile consists of an Oi horizon 0 to 3 centimeters (cm) or 0 to 1 inch (in) of slightly decomposed plant material consisting of leaves, needles, and twigs, an A horizon 3 to 8 cm (1 to 3 in) of brown very gravelly sandy loam, a Bw horizon 8 to 60 cm (3 to 9 in) of brown very gravelly sandy loam, a C1 horizon 60 to 90 cm (9 to 35 in) of yellowish brown very gravelly loamy sand, and a C2 horizon 90 to 150 cm (35 to 59 in) of yellowish brown extremely cobbly sand (UCDavis SoilWeb n.d.).

Flora and Fauna

The project area is located within the Western Hemlock or *Tsuga heterophylla* vegetation zone. The Western Hemlock Zone extends from the Kenai Peninsula in Alaska, along the coast and inland western slopes of the Cascade Range of Washington and Oregon states, to Sonoma County in California. Dominating the mild and humid regions along the coast the Western Hemlock Zone is influenced by maritime climatic zones (Franklin and Dyrness 1973).

Native vegetation includes Douglas fir (*Pseudotsuga menziesii*), western red cedar (*Thuja plicata*), western hemlock (*Tsuga heterophylla*), salal (*Gaultheria shallon*), and vine maple (*Acer circinatum*). Native Understory vegetation includes bracken fern (*Pteridium aquilinum*), black raspberry or blackcap (*Rubus occidentalis*), currants and gooseberries (*Ribes* spp.), deer fern (*Blechnum spicant*), devil's club (*Oplopanax horridus*), huckleberries (*Vaccinium* spp.), Indian plum or Oso berry (*Oemleria cerasiformis*), oceanspray (*Holodiscus discolor*), red elderberry (*Sambucus racemosa*), snowberry (*Symphoricarpos albus*), sword fern (*Polystichum munitum*) and trailing blackberry (*Rubus ursinus*) (Franklin and Dyrness 1973; Pojar and MacKinnon 1994). Large areas of prairie, oak woodland, and pine forest are distributed throughout the southern Puget Sound basin (Franklin and Dyrness 1973).

A variety of fauna are abundant and essential to the Puget Lowland and surrounding waters. Marine mammals include orca (*Orcinus orca*), gray (*Eschrichtius robustus*), and humpback (*Megaptera novaeangliae*) whales, sea lions (*Otariidae* spp.), sea otters (*Enhydra lutris*), Dall's porpoise (*Phocoenoides dalli*), and harbor seals (*Phoca vitulina*). Over 300 species of seasonal and permanent birds are present. Raptors such as bald eagles (*Haliaeetus leucocephalus*), red-tailed hawks (*Buteo jamaicensis*), northern harriers (*Circus hudsonius*), and Peregrine falcons (*Falco peregrinus*) frequent the inland and shoreline habitats. Shorebirds and waterfowl including snow geese (*Anser caerulescens*), trumpeter (*Cygnus buccinator*) and tundra (*Cygnus columbianus*) swans, great blue heron (*Ardea erodias*), goose (*Branta canadensis*), wood duck (*Aix sponsa*), green-winged teal (*Anas crecca*), mallard (*Anas platyrhynchos*), northern pintail (*Anas acuta*), gadwall (*Anas strepera*), American wigeon (*Anas americana*), and red-winged blackbird (*Agelaius phoeniceus*) often find refuge in the salt and freshwater marshes.

Fish, such as cutthroat trout (*Oncorhynchus clarkii*), dolly varden (*Salvelinus malma*), rainbow trout (*Oncorhynchus mykiss*), mountain whitefish (*Prosopium williamsoni*), steelhead

(Oncorhynchus mykiss) pink salmon (*Oncorhynchus gorbuscha*), Sockeye (*Oncorhynchus nerka)*, chinook (*Oncorhynchus tshawytscha)*, coho (*Oncorhynchus kisutch),* and chum salmon *(Oncorhynchus keta)* are diversely available within the Puget Sound River valleys. Shellfish, including littleneck clam (*Leukoma staminea)*, butter clams (*Saxidomus giganteus)*, horse clams (*Tresus capax)*, cockles (*Clinocardium nuttallii)*, geoducks (*Panopea generosa)*, bay mussels (*Mytilus edulis*), and native oysters (*Ostrea lurida)* are also widely found within saltwater sources.

The region sustains a variety of large and small terrestrial mammals. Large mammal species include elk /wapiti (*Cervus canadensis*), blacktail deer (*Odocoileus hemionus*), mountain lion (*Puma concolor*), and black bear (*Ursus americanus*). Small mammals include rabbits (*Leporidae* spp.), beaver (*Castor canadensis*), raccoon (*Procyon lotor*), coyote (*Canis latrans*), northern flying squirrel (*Glaucomys sabrinus*), bobcat (*Lynx rufus*), Townsend's chipmunk (*Tamias townsendii*), and Douglas' squirrel (*Tamiasciurus douglasii*).

Cultural Context

A broad discussion of regional land use in the vicinity of the project area provides contextual information regarding past inhabitants and the activities in which they engaged. It is important to note that many of the name designations applied to Native inhabitants (particularly during contact and early historic periods), are those given by European explorers, Euro-American settlers, and others compiling information for treaty purposes.

Human occupation of the Puget Lowland is well documented in several archaeological, ethnographic, and oral historic records (e.g., Ames and Maschner 1999; Greengo and Houston 1970; Larson and Lewarch 1995; Moss 2011; Nelson 1990; Suttles 1974). British Columbia Northwest Coast Culture traditions are closely related and can be viewed in Borden (1950; 1975), Carlson and Dalla Bona (1996), Fladmark (1982), and Matson and Coupland (1995).

Precontact

Puget Lowland archaeology has traditionally been subdivided into three time periods: the early (approximately 12,000 to 5,000 years BP), middle (approximately 5,000 to 1,000 BP) and late periods (approximately 1,000 to 250 BP) (Carlson 1983). However, calibrated radiocarbon dates from the Bear Creek site (45KI839) located in Redmond, Washington date to 12,420 - 12,690 years BP (Kopperl et al. 2015). The date ranges associated with the archaeological time periods of this region are fluid and subject to change when new sites are located and dated.

The early period is characterized by activities to support habitation within camps along river terraces or outwash channels. Tool technology is primarily characterized by flaked stone tools including fluted projectile points, leaf-shaped points, and cobble-derived tools. These artifacts are often attributed to the Olcott phase, named after the site-type near Arlington and Granite Falls (Baldwin 2008; Kidd 1964; Mattson 1985). As suggested by Mattson (1985) and Kidd (1964), Olcott sites are generally located away from modern shorelines, where occupation took place along

terraces of active water courses of the time. Today, these past habitation areas are often found away from modern rivers, as the course of waterways and channels have shifted over time. Besides the lithic assemblage, little faunal or organic evidence dates to this period - likely a result of poor preservation due to soil composition and elapsed time. The lack of organic evidence and the abundance of lithic materials unintentionally skew the archaeological record to suggest a specialization of terrestrial hunting practices.

The middle period coincides with a stabilization of the physical environment and climate to modern conditions. The middle period is noted for its increased artifact and trait diversity including a full woodworking toolkit comprised of bone and antler implements, art and ornamental objects, status differentiation in burials, and extremely specialized fishing and sea-mammal hunting technologies (Ames and Maschner 1999; Matson and Coupland 1995; Moss 2011; Wessen 1990). Lithic technology becomes specialized to include smaller notched points and ground stone (Moss 2011; Nelson 1990; Wessen 1990). Shell midden sites first appear during this period, indicating a transition to a predominantly maritime-based subsistence pattern (Matson and Coupland 1995; Nelson 1990; Thompson 1978). Although structural elements such as post molds have been identified (Moss 2011; Nelson 1990), habitation structures have not been excavated.

The late period is dominated by a settlement pattern along the coastline, streams, and rivers that show evidence of increased fortification (Ames and Maschner 1999; Matson and Coupland 1995; Moss 2011). Rising sea levels and riparian environments supporting large salmon runs allowed salmon to become a predominant food source (Moss 2011; Wessen 1990). The late period is generally recognized by an apparent decrease in artifact diversity. Stone carving and chipped stone technologies nearly disappear, while trade goods (indicating extensive trade networks along the coast and with inland plateau peoples), increase (Moss 2011; Nelson 1990; Thompson 1978).

Ethnographic

The project area is a place of interest for the contemporary Muckleshoot Indian Tribe, Snoqualmie Indian Tribe, Suquamish Tribe, Squaxin Island Tribe, Nisqually Indian Tribe, and Steilacoom Tribe.

The project area is most associated with and located within the ceded and traditionally occupied lands of the Nisqually. The territory of the Nisqually included both the north and south sides of the Nisqually River from its delta to roughly 30 miles upstream into the foothills of Mt. Rainier (Haeberlin and Gunther 1930). The Nisqually were like other Puget Sound tribes in that they lived in cedar plank houses along salmon-bearing waterways for much of the year. A significant Nisqually village was the Mashel River Village near the confluence of the Mashel and Nisqually Rivers. The village is also significant because of an incident in 1856 perpetrated by members of the Washington Mounted Rifles in which several village members, principally women and children, were killed there while being forced onto the deeded reservations (Wonacott 2008).

Several Nisqually village sites are recorded in the vicinity of the project area including *toot-SEHTS-awh'lh* located on the west side of Henderson Inlet midway between the head of the inlet and Woodward Bay (Smith 1940); *too-DAH-dahb,* located at the mouth of McAllister or Medicine Creek (Smith 1940); *ehl-OH-suh-dahbch* located at the east side of the mouth of the Nisqually River (Smith 1940); and, *yoh-WHAHLS-tsahbch* located on the flats near the river bed at the mouth of Muck Creek (Smith 1940).

Upriver villages along the Nisqually were comprised of single or small clusters of cedar plank dwellings that housed family groups. Inland riverine groups are distinguished from their saltwater relatives, primarily by differences in subsistence activities. Upriver groups largely subsisted on salmon and resources hunted or gathered on the inland prairies. In contrast, saltwater groups utilized shellfish resources on river deltas. Salmon were fished at Ohop Lake and Ohop Creek using gaff hooks and spears (Yellout 1941) and fish traps and weirs were employed at the confluence of the Mashel and Nisqually Rivers (Meaney 1916; Bjarke 1949).

The inland Nisqually were also distinguished by the languages they spoke: the Southern Lushootseed and the Sahaptin languages. Nisqually trading and intermarriage with the Sahaptin east of the Cascades (including the Klickitat and Yakama) fostered strong ties. The Nisqually and Sahaptin crossed the Cascades on the "the Indian Henry Trail," a travel route that crossed at Cowlitz Pass (Bjarke 1949). This trail also became an early European route across to the Cascades, often with Native Americans as guides. Of significance to the local history of this area were the events that unfolded following the signing of treaties facilitated by Governor Isaac Stevens. Once the treaties were signed, Native title to traditionally used lands was dissolved, forcing people onto poor-quality reservation lands.

Euro-American presence and influence in the region substantially changed the lifeways of Native inhabitants. Treaties were implemented to establish Euro-American order among various tribal communities. Many Native American groups became angry and dissatisfied over the Euro-American settlement of their traditional lands, oftentimes resulting in conflict and uprisings. From 1855 - 1856, Chief Leschi, of the Nisqually, commanded the Indian forces during the Indian Wars against the United States military.

Historic Period

The non-native history of the region is largely linked to early exploration. Robert Gray was the first American to explore the coastline of Washington State in 1788 and 1789. The Voyage of Discovery under Captain George Vancouver of Britain followed soon after. Vancouver explored the Puget Sound region extensively and in 1792, claimed the entire territory for the British government. This went largely ignored by the Americans and the American government (Ritter 2003). The 1803 Louisiana Purchase extended American territory into the Northwest, but with undetermined boundaries. The Lewis and Clark expedition (1805 – 1806) began the formal effort by the United States to explore and eventually settle the Northwest. From 1818 until the early

1840s, the US and Britain agreed to coexist in the Oregon Territory, which extended from the northern border of California to the southern border of Alaska and included all land west of the Rocky Mountains (Tenlen 2006).

Following closely on the heels of explorers were those in search of profits from abundant land resources. Loggers and trappers collected these resources and transported them over water to larger ports. To gain control of the northwest, the British established a northwest branch of the Hudson's Bay Company (HBC) consisting of French-Canadian and British fur traders, creating Britain's legal extension in the territory. The HBC operated from their base at Fort Vancouver, (near present-day Vancouver in Clark County) and at Fort Nisqually, established in 1833, which resulted in the first major contact between the Nisqually and non-natives (Kirk and Alexander 1990). The first missionary, a Methodist named Dr. J.P. Richards, resided at Fort Nisqually from 1840 to 1842 (Suttles and Lane 1990). Americans migrated to the northwest due to economic depression and poor farming conditions in other parts of the country in the late 1830s. In 1850, the Donation Land Claim Act (DLC) was enacted by Congress to increase the American population in the region. The land act allowed any man over the age of eighteen years to claim 320 acres of land if it was cultivated for a period of at least four years. If the man was married, he could claim an additional 320 acres. In the period of just a few years, the Northwest experienced a relative increase in population (Avery 1965).

The Nisqually were friendly with their new Euro-American neighbors and often relinquished certain agreed-upon lands to them, however, tensions increased with the influx of new settlers. An attack on Fort Nisqually led by Chief Patkanim of the Snoqualmie and allied tribes occurred in 1849, leading to the construction of Fort Steilacoom and the demand for additional troops (Wonacott 2008). In 1853, Washington Territory was established, and shortly after Governor Isaac Stevens was entrusted to relinquish Indian land claims for American settlement. In a month's time, Governor Stevens pushed for treaties, including the Medicine Creek Treaty of 1854, which included signatories from the Puyallup, Squaxin, and Nisqually tribes (Wonacott 2008). The treaty included tribal fishing rights, but the land reserved for the Nisqually reservation did not contain rivers or prairies necessary for the Nisqually way of life. Chief Leschi, who had been made a sub-chief by Governor Stevens, voiced his displeasure, ripped up the commission, and left the treaty grounds (Wonacott 2008; Meeker 1905). There is doubt that Leschi ever signed the treaty. Leschi himself denied signing until the day of his execution, as did other Nisqually and Puyallup members. Senator L.F. Thompson also wrote that he does not believe that Leschi signed the treaty (Curtis 1913; Meeker 1905).

In 1855, the military and tribes east of the Cascades were engaged in warfare, and by late October of that year, The 'Puget Sound Indian Wars' erupted. James McAllister, the first settler of the Nisqually Valley (and friend of Leschi) wrote to Acting Territorial Governor Charles H. Mason requesting that Leschi, "be attended to as soon as convenient for fear he might do something bad"

(Blee 2014:244). McAllister and Michael Connell (both members of the Puget Sound Rangers under Captain Charles Eaton) took nineteen men and two Indian guides with them to find Leschi and his brother Quiemuth to force them into government surveillance in Olympia (Meeker 1905). The men fled and made an encampment on Connell's Prairie. McAllister and Connell were ambushed and killed on October 27, 1855. The White River Massacre, located near present-day Auburn, occurred the following day, and nine men, women, and children were murdered (Meeker 1905). Leschi condemned these actions by the White River groups and focused on military pursuits. On October 31, 1855, an express rider and his companions came upon the encampment at Connell's Prairie. After a brief council, the men continued their way. However, upon arriving near the location where McAllister and Connell were killed, the party was ambushed. Abraham Benton Moses of the Militia of Thurston County and Joseph Miles, a member of the Puget Sound Mounted Volunteers, were killed in the ambush (Meeker 1905).

Leschi would later stand trial for the murder of Benton Moses. Attempting to keep Nisqually women and children safe, Leschi and his soldiers took refuge in Yakama territory. Several small skirmishes, battles, and other acts of war occurred over the course of the next year, including what is known as the Mashel Massacre. Details of the event vary in written records, and within Nisqually oral history. Wonacott (2008) conducted a comprehensive review of the events that led to the Mashel Massacre and explored all available written records, oral histories, and indigenous interviews regarding the event. Wonacott describes that on March 31, 1856, Captain H.J.G. Maxon, Captain Achilles, and over 50 Washington Territorial Volunteers marched into Nisqually territory searching for Native people and settlers providing them with aid. While searching the area near Mashel Prairie and the Ohop Valley, Maxon and his forces encountered and killed several individuals near the mouth of the Mashel River. Tragically, the attack appears to have been an excessive response of force following the firing of a single defensive shot by a Nisqually gunman. Wonacott's (2008) summary states that these individuals were native men, but as mentioned previously, other accounts suggest the majority of those killed were women, children, and elderly men.

Most of the village's men were forcefully sent to reservation lands after this event. Accounts also vary as to the number of lives lost, spanning between eight to thirty casualties. The war ended in the summer of 1856. Leschi wished to surrender in November but was turned over to Governor Stevens by his nephew Sluggia. Leschi was placed on trial at Fort Steilacoom for the murder of Moses and other hostilities conducted over the last year. During this trial, jurors Ezra Meeker and William M. Kincaid refused to convict Leschi on the account that a deed committed as an act of war could not be punished in civil court (Meeker 1905). In 1857, Leschi again stood trial, this time in Olympia and under prejudices and the influence of Governor Stevens. He was convicted and sentenced to death by hanging at Steilacoom on June 10, 1857. Numerous appeals and clemency petitions were signed for the life of Leschi, but he was ultimately executed on February 19, 1858, about a mile east of Fort Steilacoom (Meeker 1905). In 2004, the Washington State Senate

Resolution 8727 formally exonerated Leschi of the charge of murder deeming that he and Moses were legal combatants in a war. The resolution also recognized the injustices of the trial and execution (HistoryLink Staff 2011).

Cultural Resource Management Inventories and Documented Resources

Previous cultural resources studies and projects conducted in the vicinity of the project area inform the archaeological context for this assessment and assist in the construction of Drayton's cultural resource expectations.

Previous Cultural Resources and Sites

A review of the DAHP's WISAARD database was conducted on July 21, 2023. According to the available data on WISAARD, thirteen (13) cultural resources studies are recorded within a 0.4 kilometer (km) or 0.25-mile radius of the project area (Table 1). These studies were largely conducted to satisfy regulatory compliance related to infrastructure and development projects. Additionally, six (6) archaeological sites are located within the same search radius (Table 2).

Table 1. Cultural resource studies recorded within an approximate 0.4 km (0.25-mile) radius of the project area.

Citation	Report Title	Results
Mathews 2020	Archaeological Monitoring of the DuPont Starbucks, Barksdale Station Development, Lots 5 & 11 DuPont, Pierce County, Washington	Negative
De Vry et al. 2020	Cultural Resource Survey for the DuPont-Steilacoom Road Improvement Project, DuPont, Pierce County, Washington	Negative
Amell et al. 2017	Joint-Base Lewis-McChord Vicinity I-5 Improvement Project Cultural Resource Assessment	45PI01393
Cooper et al. 2014	Archaeological Survey, Evaluation, and National Register Eligibility Testing at Joint Base Lewis-McChord	Negative
Roger 2013	Cultural Resources Survey, I-5/SR510 to SR 512- Stage 3 Mobility Improvements, Thurston and Pierce Counties, Washington	Negative
Van Galder et al. 2012	Federal Railroad Administration WSDOT Point Defiance Bypass Project Environmental Assessment, Section 106 Survey Report Historic, Cultural, and Archaeological Resources/ Discipline Report	Negative
Shaw et al. 2010	An Archaeological Inventory Survey of 169 Acres, Fiscal Year 2009, Joint Base Lewis-McChord Main	Negative
Dampf et al. 2006	Archaeological Site Testing for National Register of Historic Places Eligibility of Five Archaeological Sites at Fort Lewis, Fiscal Year 2006	Negative
Cooper 2008	FINAL: Cultural Resources Survey/Discipline Report Point Defiance Bypass Project	Negative
Daugherty 1996	The Status of Cultural Resources in the Area Designated Parcel S, Northwest Landing, DuPont	Negative
Robinson 1996a	Stage Two Cultural Resources Survey and Monitoring of the Washington State Department of Transportation's SR 5: South DuPont Interchange Project	Negative
Robinson 1996b	Cultural Resources Survey and Monitoring of the Washington State Department of Transportation's SR 5: South DuPont Interchange Project	Negative
Robinson 1996c	A Final Archaeological Survey of Washington State Department of Transportation's SR 5: South DuPont Interchange Project	Negative

Table 2. Recorded archaeological/historic sites within a 0.4 km (0.25-mile) radius of the project area.

Smithsonian Number	Site Type(s) and Description	Year Recorded	Most Recent Update
45PI01393	DuPont School Site, Historic school grounds including foundations, athletic complex and related debris, ca 1919-1960s, 200m x 200m x 46cmbs	2015	Amell and Mathews 2015
45PI01310	Bell hill liquor bottle, historic isolate, ca. post 1940	2013	McWilliams and Metz 2013
45PI01031	Arboretum, historic debris scatter/concentration, glass, terracotta pipe fragments, tile fragments, ferrous round wire nail, coal, 100 x 50, early 20th century	2010	Shaw 2010
45PI00769	Northern pacific railroad station/depot at camp lewis, historic concrete foundation, concrete footings, brick lined cistern, refuse scatter, locus a 255 x 34ft, locus b 82 x 50ft, ca. 1917-1973.	2007	Cooper and Sparks 2007
45PI00203	Hudson Bay trail monument	1973	Burnett 1973
45PI00069	Town of Dupont	1953	Riordan 1953

The nearest site recorded is 45PI01393, located approximately 183 meters (600 feet) east of the project area. The site was recorded by Amell and Mathews (2015) who describe the location as remnants of the DuPont School circa 1919 which includes the graded footprint of demolished school buildings, an abandoned athletic field, associated historic objects, and refuse scatters.

National Registered Historic Places (NRHP)

There are three (3) NRHP-eligible properties within a 0.4. km (0.25-mile) radius of the project. These properties include the company town of Dupont, the Fort Lewis Garrison District, and its associated memorial arboretum.

Recorded Cemeteries

There are no cemeteries recorded within a 0.4 km (0.25-mile) radius of the project.

CULTURAL RESOURCE EXPECTATIONS

Based on the preceding background review, Drayton concludes that the project is located within an area of moderate probability for historic-era or precontact cultural deposits, structures, or isolated items. If precontact materials are present, they may include remnants associated with habitation, subsistence practices, or ceremonial activities. Shell midden, vestiges of temporary camps and dwellings, lithic scatters, trails, hearths, fire modified rock, faunal remains, and other materials associated with precontact life may be represented. Historic-era remnants of early Euro-American settlement and subsequent occupation are also considered.

FIELD INVESTIGATION

Drayton employs standard archaeological field methods to assess the potential for cultural resources within the project area. Field methods include a thorough visual reconnaissance of the property and subsurface examination of soils. Visual reconnaissance includes a detailed surface survey of the areas proposed for ground alteration (or other impacts) to examine existing ground disturbances and locate surficial cultural materials or structures with historic or archaeological importance or cultural concern. Subsurface examination through the excavation of shovel probes or large-scale mechanical excavation provides a detailed sample of soil conditions to assess the potential for, or presence/absence of, buried archaeological deposits. Subsurface excavation is typically dependent upon considerations of the landform, topography, project proposal, and geologic conditions.

Drayton's archaeological assessment was conducted on July 25, 2023, by senior archaeologist Alex Berry and field technician Jack Baldwin. Weather conditions were sunny with a temperature of 84 degrees. A visual inspection of the project area was conducted to examine the terrain, observe existing ground disturbances, and locate surficial cultural materials. The project area encompasses approximately 3 acres of undeveloped land comprised of a forested environment with dense vegetation and an empty field. (Photos 1 – 5). No cultural materials were observed during the visual inspection of the project area.

Photo 1. Northwestern overview of the project area.

Photo 2. Northeastern overview of the project area.

Photo 3. Southwestern overview of the forested portion within the project area.

Photo 4. Northeastern overview of the forested portion within the project area.

Photo 5. Example of overgrown sections within the project area.

Sixteen (16) shovel probes were subsequently excavated throughout the project area (Figure 4). Standard shovel probes consist of cylindrical pits measuring approximately 40 cm (15.75 in) in diameter. No predetermined target depth is set for probing, as depths are based on geologic conditions, water table, degree of disturbance, and professional judgment. Ideally, shovel probes are considered complete when at least 20 cm (approx. 8 in) of sterile soils are observed or an intact stratum of glacial deposits is encountered. Soils excavated from probes were screened through a shaker screen with quarter-inch hardware cloth. The shovel probes were completely backfilled, and the locations were marked with a GPS to compose a site sketch map.

Soil profiles were consistent with the previously described soils mapped for the area. The probes excavated contained dark brown and yellowish-brown gravelly loam (Photo 6). A description of the soil sequence and composition of each shovel probe is described fully in Appendix A. No cultural materials were encountered during the field investigation.

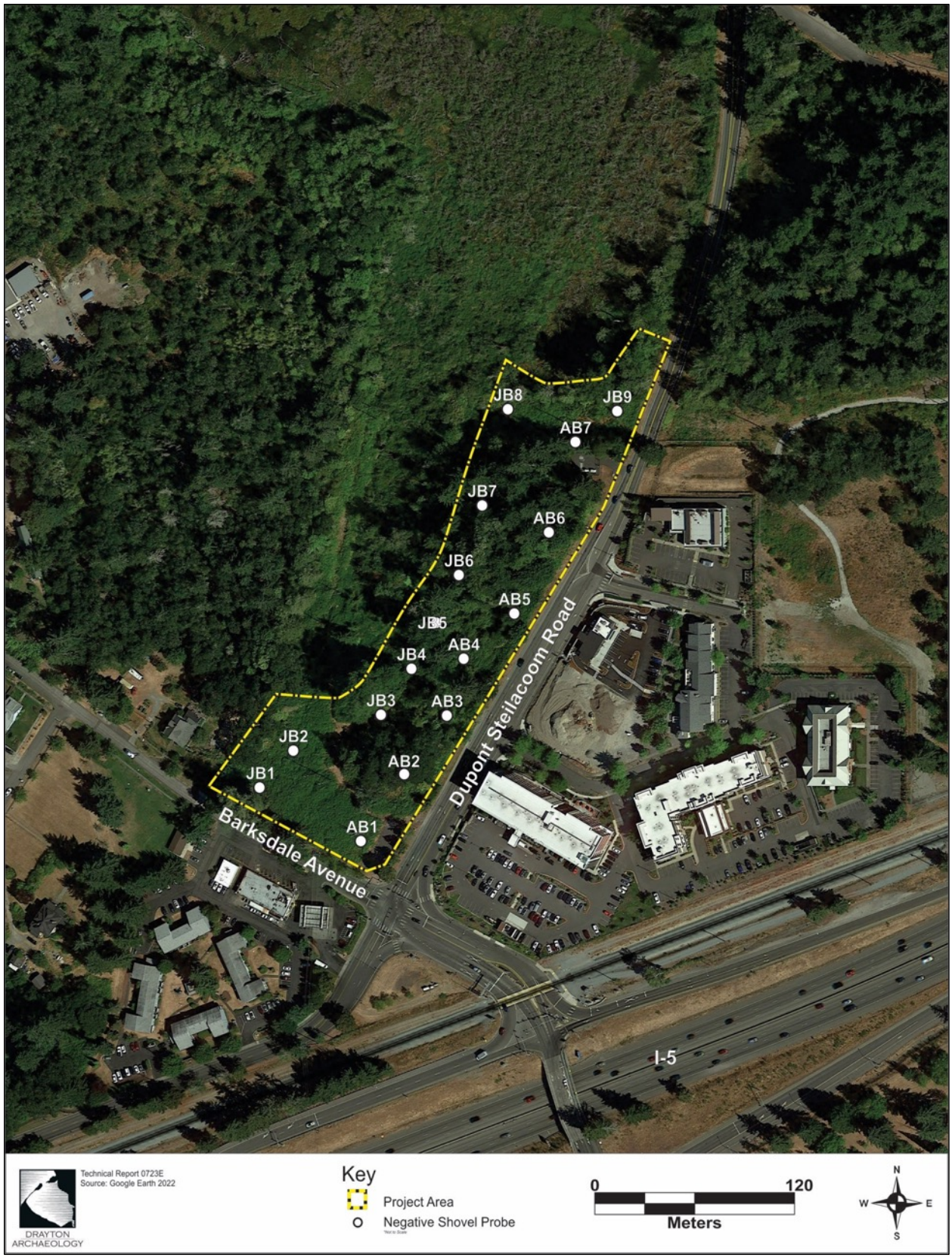

Figure 4. An aerial image illustrating shovel probe locations.

Photo 6. Typical soil profile observed during subsurface survey of the project area.

CONCLUSIONS AND RECOMMENDATIONS

Drayton's cultural resources assessment consisted of a thorough background examination, field investigation, and production of this report. A professional archaeologist who meets or exceeds the criteria set forth in RCW: 27.53 conducted this review and concluded the project is in an area of moderate probability for cultural resources. This assessment is based primarily on the property's proximity to known archaeological sites, topography, and ecological context. No cultural materials were located during the field investigation. Based on the results of this review, Drayton recommends that the project proceed without further archaeological oversight.

Shovel testing is employed as a cost-effective means to evaluate subsurface conditions and locate buried cultural resources; however, it is not exhaustive. Therefore, no shovel testing regiment is 100% accurate in recovering or locating buried cultural resources. Regardless, Washington State law provides for the protection of all archaeological resources under Washington State Revised Codes of Washington (RCW) Chapter 27.53, Archaeological Sites and Resources. Be advised that the unauthorized removal, theft, and/or destruction of archaeological resources and sites are strictly prohibited. Further, this statute provides for prosecution and financial penalties, including consultation and the recovery of archaeological resources, for those found in violation. Additional legal oversight is provided for Indian burials and grave offerings under RCW Chapter 27.44, Indian Graves and Records. RCW 27.44 states that the willful removal, mutilation, defacing,

and/or destruction of Indian burials constitute a Class C felony. Washington legal code, RCW 68.50.645 - Duty to Notify, provides a strict protocol for the notification of law enforcement and other interested parties if any human remains, regardless of perceived patrimony, are encountered**.**

The following section, Inadvertent Discovery Protocols, outlines the recommended procedures based on 36 CFR 800.13 that property owners, project managers, construction crews, and others responsible for work should follow if cultural materials are encountered during project activities.

INADVERTENT DISCOVERY PROTOCOLS

Archaeological Resources

If archaeological resources (e.g., shell midden, faunal remains (bones), stone tools, historic glass, metal, or other materials) are observed during project activities, all work in the immediate vicinity must stop and the area secured. The project archaeologist must be contacted immediately to inspect the materials and contact relevant parties. An assessment of the materials and consultation with government and tribal cultural resources staff is a requirement of Washington law. Once the situation has been assessed, steps to proceed can be determined.

Human Burials, Remains, or Unidentified Bone(s)

If human remains or indeterminate bones are encountered, work must stop immediately. The area surrounding the remains must be secured and of adequate size to protect them from further disturbance until the DAHP provides notice to proceed. The discovery of any human skeletal remains must be reported to law enforcement immediately. The county medical examiner/coroner will assume jurisdiction over the human skeletal remains to determine whether those remains are forensic or non-forensic. If the county medical examiner/coroner determines the remains are non-forensic, the State Physical Anthropologist at the DAHP will assume jurisdiction over the remains. The DAHP will notify appropriate cemeteries and all affected tribes of the disturbed remains. The State Physical Anthropologist will determine whether the remains are Native or Non-Native origin and report that finding to appropriate cemeteries and affected tribes. The DAHP will handle all consultation with the affected parties as to the future preservation, excavation, and deposition of the remains and authorize a timeline for the continuation of work.

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APPENDIX A: SHOVEL PROBE INDEX

DEPTH BELOW SURFACE (CM)	SOIL DESCRIPTIONS	RESULTS
AB1		
0 - 40	Dark grayish brown highly compacted gravelly sandy loam with a high content of small to medium sized cobbles throughout	Negative
Note: Probe terminated due to compaction		
AB2		
0 - 60	Dark brown lightly compacted gravelly sandy loam with minimal roots and a high content of small to medium sized cobbles throughout	Negative
Note: Probe terminated due to cave in		
AB3		
0 - 71	Dark brown lightly compacted gravelly sandy loam with minimal roots and a high content of small to medium sized cobbles throughout	Negative
Note: Probe terminated due to cave in		
AB4		
0 - 36	Dark brown lightly compacted gravelly sandy loam with minimal roots and a high content of small to medium sized cobbles throughout	Negative
36 - 80	Yellowish brown gravelly loam sand	Negative
Note: Probe terminated due to compaction		
AB5		
0 - 33	Dark brown lightly compacted gravelly sandy loam with minimal roots and a high content of small to medium sized cobbles throughout	Negative
33 - 63	Yellowish brown gravelly loam sand	Negative
Note: Probe terminated due to rock impasse		
AB6		
0 - 50	Dark brown lightly compacted gravelly sandy loam with minimal roots and a high content of small to medium sized cobbles throughout	Negative
Note: Probe terminated due to root impasse		
AB7		
0 - 48	Dark brown lightly compacted gravelly sandy loam with minimal roots a high content of small to medium sized cobbles and boulders throughout	Negative
Note: Probe terminated due to rock impasse		
JB1		
0 - 35	Very dark grayish brown sandy loam, high compaction, high gravel content consisting of small to large sized subrounded and angular pebbles, fragmented asphalt throughout, fine roots common	Negative
Note: Probe terminated due to rock impasse		
JB2		
0 - 61	Very dark grayish brown sandy loam, moderate compaction, high gravel content consisting of small to large sized subrounded and subangular pebbles, small to large sized cobbles throughout, fine to large roots common	Negative
Note: Probe terminated due to rock impasse		

DEPTH BELOW SURFACE (CM)	SOIL DESCRIPTIONS	RESULTS
JB3		
0 - 48	Grayish brown sandy loam, high compaction, very high gravel content consisting of small to large sized subrounded pebbles, small to medium sized cobbles throughout, fine to medium roots common	Negative
Note: Probe terminated due to rock impasse		
JB4		
0 - 45	Light grayish brown sandy loam, high compaction, very high gravel content consisting of small to large sized subrounded pebbles, small to large sized cobbles throughout, fine to large sized roots throughout	Negative
Note: Probe terminated due to rock impasse		
JB5		
0 - 30	Light grayish brown sandy loam, high compaction, very high gravel content consisting of small to large sized subrounded pebbles, small to large sized cobbles throughout, fine to large sized roots throughout	Negative
30 - 50	Light yellowish brown sandy loam, high compaction, high gravel content consisting of small to large sized subrounded pebbles, small to large sized cobbles throughout	Negative
Note: Probe terminated due to rock impasse		
JB6		
0 - 38	Light grayish brown sandy loam, high compaction, very high gravel content consisting of small to large sized subrounded pebbles, small to large sized cobbles throughout, fine to large sized roots throughout	Negative
38 - 58	Light yellowish brown sandy loam, high compaction, high gravel content consisting of small to large sized subrounded pebbles, small to large sized cobbles throughout, fine to large sized roots throughout	
Note: Probe terminated due to root impasse		
JB7		
0 - 45	Light grayish brown sandy loam, high compaction, very high gravel content consisting of small to large sized subrounded pebbles, small to large sized cobbles throughout, fine to large sized roots throughout	Negative
45 - 80	Light yellowish brown sand, high compaction, high gravel content consisting of small to large sized subrounded pebbles, small to large sized cobbles throughout	Negative
Note: Probe terminated due to root impasse		
JB8		
0 - 35	Light grayish brown sandy loam, high compaction, very high gravel content consisting of small to large sized subrounded pebbles, small to large sized cobbles throughout, fine roots throughout	Negative
Note: Probe terminated due to rock impasse		
JB9		
0 - 5	Light grayish brown sandy loam, high compaction, very high gravel content consisting of small to large sized subrounded pebbles, small to large sized cobbles throughout, fine to large sized roots throughout, glass fragments throughout	Negative
5 - 821	Light yellowish brown sandy loam, high compaction, high gravel content consisting of small to large sized subrounded pebbles, small to large sized cobbles throughout	Negative
Note: Probe terminated due to root impasse		

Exhibit 3.h

MUSTARD SEED LEGACY DEVELOPMENT LLC

BUFFER MITIGATION PLAN - REVISED

FARALLON CONSULTING | Grette Associates ENVIRONMENTAL CONSULTANTS

MUSTARD SEED LEGACY DEVELOPMENT LLC

BUFFER MITIGATION PLAN - REVISED

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TABLE OF CONTENTS

1 INTRODUCTION 1
2 PROJECT DESCRIPTION 1
2.1 Project Location 1
2.2 Current Land Use and Existing Conditions 2
2.3 Proposed Project 2
3 CRITICAL AREAS ASSESSMENT SUMMARY 2
4 BUFFER MITIGATION PLAN 3
4.1 Wetland Buffer Reduction 3
4.2 Buffer Impacts 4
4.3 Post Project Buffer Conditions 4
5 MITIGATION SEQUENCING 5
5.1.1 Avoidance 5
5.1.2 Minimization 5
5.1.3 Restoration 6
5.1.4 Reducing Impact over Time 6
5.1.5 Compensation 6
5.1.6 Monitoring 6
6 NATIVE REVEGETATION PLAN 6
6.1 Invasive Species Removal 6
6.1.1 Himalayan blackberry 7
6.1.2 English ivy 7
6.1.3 Reed canarygrass 7
6.1.4 English holly 8
6.1.5 Scotch broom 8
6.2 Native Plant Installation 8
6.2.1 Planting Schedule 9
6.2.2 Preparation and Installation of Planting Materials 10
7 MAINTENANCE RECOMMENDATIONS 10
7.1 Irrigation 10
7.2 Maintenance Activities 10
8 MONITORING AND CONTINGENCY PLAN 10
8.1 Post-Installation Inspections and Monitoring 11
8.2 Long-Term Monitoring 11
8.3 Performance Standards 11
8.5 Contingency Plan 13
9 BIOLOGIST QUALIFICATIONS 13
9.1 Chad Wallin 13
9.2 Terra Hauser 13
10 REFERENCES 13

LIST OF FIGURES

Figure 1. Vicinity map 1

LIST OF TABLES

Table 1. Wetland Summary 3
Table 2. Natural water feature identification summary 3
Table 3. Buffer Impacts Summary.....4
Table 4. Planting Schedule for Temporary Impact and Restoration Areas ..... **Error! Bookmark not defined.**
Table 5. Planting Schedule for Buffer Enhancement Area.....9
Table 6. Performance Standards 12

LIST OF APPENDICES

Appendix A. Proposed Site Plan

1 INTRODUCTION

Grette Associates, a division of Farallon Consulting, LLC, is under contract with Mustard Seed Legacy Development LLC to prepare a Buffer Mitigation Plan (Plan) in support of the proposed development project located off Steilacoom-DuPont Road SW and Barksdale Avenue in DuPont, Washington (Figure 1). The project site is located on Pierce County parcels 0119362039, 0119362009, 0119362012, and 0119362043.

The purpose of this Plan is to demonstrate compliance with Chapter 25.105.050 (Critical Areas) of the City of DuPont Municipal Code (DMC).

This Plan is based on site visits and on the revised Critical Areas Report prepared by Grette Associates (2024). For detailed information on the wetlands and streams on and surrounding the site, please refer to this report. For details specific to the stream buffer and compliance with the fish and wildlife habitat conservation areas requirements in DMC 25.105.050(2)(i), refer to the revised Habitat Management Plan (Grette Associates 2025)

2 PROJECT DESCRIPTION

2.1 Project Location

To access the project site from I-5, take Exit 119 and turn North. The first intersection in approximately 250 feet is Barksdale Avenue and DuPont-Steilacoom Road, which is the southern corner of the property.

The approximate location of the proposed project is identified by the red polygon as shown in Figure 1.

Figure 1. Vicinity map

2.2 Current Land Use and Existing Conditions

The project site is largely undeveloped. It is dominated by Bell Marsh (Grette Associates 2019). This wetland is approximately 20 acres and is classified as a Category II depressional feature. Habitats that the wetland provides includes aquatic bed, emergent, scrub-shrub, and forested components. According to DMC 25.105.050, Category II wetlands have a required 100-ft standard buffer before any modifications. The buffer for Bell Marsh extends into the project site, necessitating this Plan. The majority of the buffer within the project site is a mature forest canopy made of native species including Douglas-fir (*Pseudotsuga menziesii*), Oregon white oak (*Quercus garryana*), and bigleaf maple (*Acer macrophyllum*). The understory is currently inundated by invasive vegetation, particularly Himalayan blackberry (*Rubus bifrons*) and English ivy (*Hedera helix*). Other invasive species that are less prevalent include English holly (*Ilex aquifolium*), reed canarygrass (*Phalaris arundinacea*), and Scotch broom (*Cytisus scoparius*). While the Himalayan blackberry occurs in large dense thickets, the other invasive species exists among desirable native vegetation, including oceanspray (*Holodiscus discolor*), salal (*Gaultheria shallon*), beaked hazelnut (*Corylus cornuta*), and low Oregon grape (*Berberis nervosa*). The buffer mainly consists of gentle slopes except for the southeastern end along DuPont-Steilacoom Road. A dirt access road lies on the base of the steeper slopes and loops from the corner of Barksdale Avenue and DuPont-Steilacoom Road to connect to a small Pierce County sanitary sewer easement area along DuPont-Steilacoom Road.

Upland areas outside of the buffer also contain a mix of native and invasive species. The northwestern area of the parcel contains a large thicket of Himalayan blackberry, and the upland forested area along DuPont-Steilacoom Road contains several native species of trees that are covered with English ivy. English holly shrubs and trees are also scattered throughout the forested area. A notable stand of native Oregon white oak is located near the corner of Barksdale Avenue and DuPont-Steilacoom Road. Like other species, these trees are covered with English ivy.

There is evidence of human use despite the lack of development. There is also evidence of dumping and littering within and on the margins of the wetland buffer as observed during a site visit on January 30, 2023.

2.3 Proposed Project

Champions Centre, a Washington not-for profit corporation, is proposing to build a religious assembly and parking area primarily outside of the wetland buffer (Appendix A). The building is proposed to be approximately 26,000 square feet and will be located on the corner of Barksdale Avenue and DuPont-Steilacoom Road.

3 CRITICAL AREAS ASSESSMENT SUMMARY

Grette Associates (2024) evaluated the site and delineated one wetland (Wetland A/Bell Marsh; Table 1) in accordance with the U.S. Army Corps of Engineers' (USACE) *Wetland Delineation Manual – Mountains, Valleys, and Coast Region Regional Supplement* (2010). The wetland was rated in accordance with DMC 25.105.050 and the WA State Department of Ecology's *Revised Washington State Wetland Rating System for Western Washington – 2014 Update* (Hruby 2014).

Wetland A/Bell Marsh is located in the western boundary of the project site, outside of the proposed construction boundaries. This wetland is classified as a Palustrine Aquatic-Bed/Emergent/Scrub-Shrub/Forested wetland and is hydrogeomorphically classified as a depressional wetland. The wetland scored a total of 20 points on the rating system. Under the Washington Department of Ecology rating system, wetlands scoring 20 points are rated as Category II (Hruby 2014). According to DMC 25.105.050, Category II wetlands require a buffer of 100 feet. A summary of Wetland A is provided below in Table 1.

Table 1. Wetland Summary

Wetland ID	Cowardin Class[1]	HGM Class[2]	Size (approximate)	Wetland Category[3]	Buffer Width[4]
A	Palustrine Aquatic-Bed/Emergent/Scrub-Shrub/Forested	Depressional	20 acres	II	100 ft

[1] Classification of Wetlands and Deepwater Habitats of the United States (Cowardin 1979)
[2] Hydrogeomorphic Classification - Washington State Wetland Rating System for Western Washington– 2014 Update (Hruby 2014)
[3] Washington State Wetland Rating System for Western Washington – 2014 Update (Hruby 2014) (BCES 2021)
[4] City of DuPont Municipal Code Chapter 25.105.050 (Critical areas)

A natural fish-bearing stream was also identified by Grette Associates as an inlet to the wetland (Table 2). This stream originates at a stormwater outfall that carries water from Joint Base Lewis-McChord (JBLM) and other areas. According to DMC 25.105.050 (Critical areas), all streams require a 100-foot buffer.

Table 2. Natural water feature identification summary

Feature	Water Type[1]	Buffer[2]
PS-1	F	100 ft.

[1] Natural water features were rated according to DMC 25.105.030 and WAC 222-16-030.
[2] Buffers are based on DMC 25.105.050

For a more detailed description of the conditions on the site and Wetland A, please refer to the critical areas report prepared by Grette Associates (2024).

4 BUFFER MITIGATION PLAN

4.1 Wetland Buffer Reduction

According to DMC 25.105.050(1)(b)(iv), buffers can be reduced with enhancement when an applicant can prove the buffer fits the following criteria: "(A) The existing condition of the buffer is degraded; and (B) Additional protection to the wetland is provided through the implementation of a buffer enhancement plan." The current project design proposes to reduce the recommended 100-foot buffer to accommodate the required project infrastructure.

As described in Section 2.2, the buffer is degraded and there are many opportunities for enhancement. Buffer enhancement actions will include vegetation planting, wildlife habitat improvements, and invasive species removal.

4.2 Buffer Impacts

Despite the poor state of the wetland buffer as discussed in Section 2.2, it is still providing ecological functions to Bell Marsh. Even degraded wetland buffers are known to protect wetlands from sediment loads and toxins, prevent human intrusion, levels, reduce water temperature, and provide wildlife habitat (Castelle et al. 1992). The buffer area to be reduced includes significant patches of Himalayan blackberry and English ivy, but it also contains several native vegetation species including beaked hazelnut, Douglas-fir, and bigleaf maple that provide important wildlife habitat. Most of this buffer area consists of dense vegetation, which can filter toxins from its surroundings before water reaches the wetland. It can also reduce erosion and prevent sediment loading to the wetland.

As noted below, the proposed project also involves upgrades to the existing access road nearest the concrete JBLM outfall, encompassing approximately 1,003 sq. ft. at the edge of the reduced buffer (Appendix A, Table 3). An access point will be created immediately northeast of the main building off of the interior drive lane. The access road between this access point and the outfall structure to the southwest will be maintained for periodic inspection and maintenance of the outfall structure. The remainder of the access path to the north will be abandoned and enhanced, as described below.

In addition, a flow dispersal trench will be installed immediately outside of the wetland buffer to infiltrate clean stormwater. The trench will be installed in the central portion of the site immediately north of the access road (Appendix A). The trench will involve temporary grading and excavation impacts and may require the removal of existing vegetation. The trench will be approximately 55 feet long by six feet wide, and approximately 3.5 feet deep, covering approximately 330 square feet (Table 3). Once the trench and all components are installed, the surrounding surface soils will be stabilized and replanted with native vegetation. The trench at it closest point will be approximately 37 feet from the wetland boundary.

Temporary grading, permanent parking areas, drive lanes, and retaining walls will be constructed within the outer portions of the 100-ft standard buffer width. The buffer in these areas will be reduced the minimum amount necessary to provide space for these features, per DMC 25.105.050 (Table 3). These features have been pulled as far away from the wetland as is feasible.

Table 3. Buffer Reduction Summary

Wetland Buffer	Area On-Site (sq ft)
Standard 100 ft Wetland Buffer	150,401
Reduced Wetland Buffer	125,271
Total Buffer Reduction	24,833

4.3 Post Project Buffer Conditions

The current buffer, while still able to provide some valuable ecological functions to the wetland, is highly degraded and contains invasive species that limit its ability to provide quality wildlife habitat. Enhancement of the remaining wetland buffer will increase the levels of function provided by these areas. Removing invasive species will protect the

wetland from further infestation, and planting desirable native species will provide benefits to the wetland in terms of wildlife habitat, water quality and hydrology (Castelle et al. 1992). A reduced but successfully enhanced and preserved buffer can function more effectively than the current buffer.

Present within the reduced buffer along much of the project site is an existing 8- to 10-foot-wide dirt access road. Except for the portion of this access road near the concrete outfall structure in the southern end of the wetland, this access road will be decompacted and planted along with the remainder of the buffer enhancement. This will provide enhanced protection to the wetland beyond the existing condition of the buffer.

5 MITIGATION SEQUENCING

DMC 25.105.030.215 outlines the preferred mitigation sequencing for critical areas.

5.1.1 Avoidance

Chapter 25.105.050(1)(d) of the DMC requires that the project demonstrate that all reasonable efforts have been made to avoid and minimize impacts to the critical areas on the site. Extensive design iteration was completed to develop a proposal that did not result in direct impacts to the wetland or stream on-site. Initial designs included a larger sanctuary building and parking areas, which would have required filling into the wetland and stream. This also would have resulted in the removal of the oak trees within the site. The design was refined to reduce the footprint of the building, reconfigure the parking areas, and reposition the commercial building on the site to avoid direct impacts to the wetland. Additionally, impacts to the oak stand within the southeast area of the site were avoided by redesigning the building around the trees (Appendix A).

Avoidance of impacts to the buffer occurred to the extent possible. This was accomplished by designing the road and incorporating it into the parking area as much as possible; however, given topographic constraints, there is no design alternative that would not require the proposed buffer reductions described herein.

5.1.2 Minimization

Minimization measures to limit direct and indirect impacts to the wetland buffer occurred to the extent possible. Minimization efforts included repositioning the parking areas to pull as much developed area out of the buffers. Additionally, the current design includes the use of retaining walls along the outer edges of the buffers in several areas to minimize grading disturbances. The proposed concrete outfall access road utilizes a portion of the existing road, with minor improvements limited to the area immediately adjacent to the drive lane west of the sanctuary building and leading to the south toward the concrete outfall structure.

To minimize impacts from stormwater runoff, most site stormwater will be collected and infiltrated within infiltration trenches. One infiltration trench will be located immediately outside of the wetland buffer and will convey existing stormwater that is currently discharged to the wetland. This trench will ensure that existing inputs of hydrology to the wetland will be maintained post-construction in order to minimize any hydrologic impacts. This stormwater will be treated through an oil-water separator prior to discharge.

5.1.3 Restoration

Areas along the wetland buffer that are disturbed by the construction of project infrastructure will be restored where possible. However, in areas where the wetland buffer is reduced to accommodate project infrastructure, the impacts will be permanent and restoration of those areas is not possible.

5.1.4 Reducing Impact Over Time

The impact of the project will be reduced over time by preserving the remaining enhanced buffer areas and allowing the buffer to continue providing valuable ecological functions to the wetland. There are no plans to expand the project to encroach further into the buffer or interfere with the buffer's ability to provide wildlife habitat, control changing hydrology, and protect the wetland from decreased water quality arising from upland influences.

5.1.5 Compensation

As no direct wetland or stream impacts will occur, no direct compensatory wetland or stream mitigation is proposed.

To ensure no adverse indirect impacts will occur as a result of the proposed buffer reductions, enhancement of approximately 53,983 square feet of remaining buffer is proposed. This will minimize the potential for indirect impacts to the wetland by removing invasive vegetation and increasing native shrub and forest cover in the buffer. This vegetation will screen the wetland from nearby disturbances and provide increased habitat, water quality and hydrology functions over the existing buffer condition.

Details of the enhancement plan can be found in Section 5 and Appendix A.

5.1.6 Monitoring

The buffer enhancement project will be monitored for at least five years, as discussed in Section 7. Monitoring the buffer enhancement is important to document the success and development of the plantings. This will ensure that the proposed enhancement improves the functioning of the reduced buffer and provides improved protection to the wetland and stream.

6 NATIVE REVEGETATION PLAN

6.1 Invasive Species Removal

Invasive species control should focus on integrated pest management (IPM), a method that focuses on prevention and monitoring, and encourages the use of control strategies that are cost-effective and sustainable, often encompassing a combination of chemical, mechanical, manual, and biological removal (King County 2018). The goal is to tailor these strategies to the specific needs of the site. Each species has a Best Management Practices (BMP) document compiled by King County outlining different removal options and should be consulted when controlling infestations in sensitive or hazardous areas like riparian environments and wetland and stream buffers. The following subsections are based on these documents.

After removal of invasive species, the area should be revegetated to shade out smaller invasive seedlings and routinely monitored for re-establishment of invasive species. Immature plants are often easier and cheaper to remove than extensive, mature infestations,

so it is advisable to remove reinvasions quickly. It is likely that it will take several years to completely control the infestations.

6.1.1 Himalayan blackberry

Methods for removing Himalayan blackberry differ based on the extent of the infestation. At the project site, there are some small patches of blackberry among native species, and some large monoculture infestations. In small patches among native species, manual removal should be the primary tool to ensure that broad herbicide use does not affect native vegetation (King County 2014). Branches can be lopped off with hand tools, and the root ball must be dug up in order to prevent re-establishment. If the root ball cannot be removed, an herbicide such as Glyphosate should be used on the cut stump. Revegetation should follow to prevent re-establishment of the blackberry, and the area should then be mulched. The mulch should not touch the trunks of trees and shrubs as this can cause the plants to rot (Chalker-Scott 2015).

In large, monoculture infestations, blackberry should be mowed and the branches removed. After this, the root balls can be dug up or, in large areas, herbicide can be used on cut stumps. Alternatively, herbicide may be applied to mature blackberry and the dead branches can be mowed. This is faster and less laborious, but may be less effective. The area must be revegetated and mulched to reduce re-establishment.

As discussed above, control will likely take several years, so the removal process will likely need to be repeated until regrowth no longer occurs. For full details on Himalayan blackberry removal, see the Best Management Practices by King County on this species (King County 2014).

6.1.2 English ivy

Like Himalayan blackberry, methods on removing English ivy differ based on the size and location of infestations. Where English ivy is in small patches, manual control can be sufficient (King County 2020a). This includes pulling roots fully from groundcover ivy and cutting vines from tree trunks from the base to about four feet high. The upper vines will die and dry out. Mulching the ground can be effective. However, the recommended depth of the mulching is eight inches to prevent regrowth, which can interfere with the establishment of planted native species.

In large patches of English ivy, a combination of manual and chemical removal is recommended (King County 2020a). Manual removal is more effective, but the size of some of the infestations at the project site may make this method cost-prohibitive. A combination approach will start with the manual removal of vines from trees as described above. Glyphosate with an appropriate surfactant can then be applied to ground ivy. Care will need to be taken to avoid impacting the desirable native vegetation.

For full details on English ivy removal and disposal, see the Best Management Practices by King County on this species (King County 2020a).

6.1.3 Reed canarygrass

The integrated pest management recommendations for reed canarygrass prioritizes shading out existing infestations (King County 2015). Existing plants should first be removed manually, mechanically, or chemically, depending on the extent of the infestation. The seed bank should be depleted by continuing to remove plants each time they resprout. Finally,

the area should be replanted with shady species to create a full canopy. This creates a poor environment for reed canarygrass to grow, and will often prevent reinfestation (King County 2015).

6.1.4 English holly

Methods on removing English holly are determined based on the size of the plant. Small English holly seedlings should be pulled, along with their roots, and larger trees should be chemically treated with an EZ-Ject lance (King County 2020b).

6.1.5 Scotch broom

There are several methods that can be effective in removing Scotch broom. The infestation at the project site is a large monoculture. This type of invasion is effectively controlled by herbicide (King County 2008). There are two effective methods of herbicide application: foliar spraying, which requires the entire plant be saturated; and basal bark and cut stump application, which is more labor-intensive but less risky when spraying near desirable native species. After chemical treatment, native grasses should be planted. A healthy grassy area mixed with clover can reduce reinvasion of Scotch broom (King County 2008).

6.2 Native Plant Installation

Table 4 specifies the selection of native plant species to be planted within the identified buffer enhancement areas. The selected plant species are adapted to grow within the planting areas based on moisture tolerances and available sunlight, as well as use in similar, previously approved buffer installations.

The enhancement areas will include all areas of buffer west and north of the proposed site improvements. Based on the total size of the enhancement area (53,983 square feet), Grette Associates recommends that 178 trees and 910 shrubs should be planted (Table 4).

In order to enhance the remaining buffer to allow for a buffer reduction per DMC 25.105.050(1)(b)(iv), native plantings will be installed throughout the remaining wetland and stream buffer. In total this area has approximately 53,983 square feet of planting area, but there is already an existing forest canopy in some areas so after invasive species have been removed, Grette Associates recommends that 178 trees and 910 shade-tolerant shrubs be planted among existing vegetation (Table 4). Native species are to be planted within and around existing native vegetation, focusing on areas that undergo invasive removal as well as the unvegetated areas along and within the footprint of the existing dirt path.

Table 4. Planting Schedule for Buffer Enhancement Area

Scientific	Common Name	Size	Spacing[1]	Quantity[1]
Trees				
Acer macrophyllum	big leaf maple	2 gallon	15 feet	34
Pseudotsuga menziesii	Douglas-fir	2 gallon	15 feet	35
Quercus garryana	Oregon white oak	2 gallon	15 feet	75
Tsuga heterophylla[2]	Western hemlock	2 gallon	15 feet	34
Shrubs				
Symphoricarpos albus	common snowberry	1 gallon	6 feet	130
Holodiscus discolor	oceanspray	1-2 gallon	6 feet	130
Oemleria cerasiformis	osoberry	1-2 gallon	6 feet	130
Corylus cornuta	beaked hazelnut	1-2 gallon	6 feet	130
Berberis aquifolium	tall Oregon grape	1-2 gallon	6 feet	130
Rubus spectabilis[2]	salmonberry	1-2 gallon	6 feet	130
Amelanchier alnifolia	serviceberry	1-2 gallon	6 feet	130

[1] Spacing and quantities are meant to account for existing vegetation. Final quantity and spacing will be determined at 100% design and plant installation, respectively.

[2] Western hemlock and salmonberry should be planted closer to the wetland as they typically require wetter soils.

The landscape contractor shall make a good faith effort to secure all species specified in this plan. Variations from the approved plan will require review and approval by the City of DuPont prior to installation.

6.2.1 Planting Schedule

In order to reduce mortality, a late fall planting installation (October – November) for container stock is preferred. Plants should not be installed during or immediately before freezing weather.

Plant installation will be performed in accordance with the specifications outlined in this plan. Any alterations to the planting plan due to site conditions will require prior approval from the project biologist and the City of DuPont.

All plant materials to be used on the site will be native to Western Washington and will consist of nursery grown stock and seeds from a reputable, local dealer. Only native species specified in the approved plant schedule are to be used; no hybrids will be allowed. Plant substitutions must be approved by the project biologist if specified species are not commercially available.

Container stock provided will be typical of their species or variety; 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 infestation.

6.2.2 Preparation and Installation of Planting Materials

The landscape contractor shall verify the location of all elements of the landscape plan prior to installation. The project biologist and the City of SeaTac may adjust the locations of landscape elements during the installation period as necessary.

Circular plant pits with vertical sides will be excavated for all container stock. The pits should be at least twice the diameter of the root system, and the depth of the pit should accommodate the entire root system. The bottom of each pit will be scarified to a depth of 4 inches, and the pit should be thoroughly wetted prior to plant insertion to prevent capillary stress. The planting hole shall be amended with a mixture of topsoil and organic material if necessary to provide appropriate rooting media.

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 organic amendments as necessary. Water pits again upon completion of backfilling. No filling should occur around 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.

After plant installation is complete, the landscape contractor should inspect the site to confirm that all planted material is installed as appropriate.

7 MAINTENANCE RECOMMENDATIONS

7.1 Irrigation

Grette Associates strongly recommends irrigation for at least two years to increase the chances of survival. Several methods of irrigation are effective, including manual hand watering and temporary above-ground systems (Alexander 2003). Hand watering can be a practical choice because a crew can water each plant according to its specific needs. However, the labor is expensive. Above-ground drip irrigation methods are cheaper, but often require more planning around where plants are installed (Alexander 2003). If an above-ground method is chosen, the irrigation system must be removed after two years to avoid roots growing around the piping.

7.2 Maintenance Activities

Recommended maintenance activities are designed to prevent current poor habitat conditions from returning after the initial mitigation process is complete. Every six months, all litter including paper, plastic, bottles, construction debris, etc., will be removed, as well as all invasive and noxious vegetation. Invasive species will be removed according to recommendations in Section 6.1.

Maintenance activities will be logged and a summary of all maintenance conducted will be included in the annual monitoring report.

8 MONITORING AND CONTINGENCY PLAN

The following sections describe the planting plan's monitoring program. As described below, qualified professionals will monitor the site annually for a total of five years. For clarification, the year during which construction of the site is completed (including plant installation) will be Monitoring Year 0 (as-built).

8.1 Post-Installation Inspections and Monitoring

Compliance monitoring will consist of evaluating the plantings immediately after construction to confirm the plan was followed and plants were installed appropriately. A walk-through survey will be conducted by a qualified biologist to verify that the installation conforms to the approved plan. Fixed points will be established within the restoration areas, with each point to be used for photo-point documentation during long-term monitoring. Following completion of the post-installation inspection, a memorandum will be prepared to verify that the restoration was correctly implemented and document any changes to the planting plan that may have occurred. The post-installation inspection will occur no later than 30 days after plants have been installed.

8.2 Long-Term Monitoring

Long-term monitoring will be conducted over a five-year period with observations conducted during years 1, 2, 3, 4, and 5, per DMC 25.105.100 (Table 5). The purpose of the long-term monitoring program is to evaluate the establishment and maintenance of the plant communities within the enhancement and restoration areas, and to determine if the goals and objectives of the plan have been met. Photographs will be taken at each photo point to document the development of the vegetation communities at the site.

Representative transects will be established during the post-installation inspection. These transects will be used for line-intercept sampling to document native plant coverage estimates to ensure canopy coverage development and success.

8.3 Performance Standards

Performance standards provide a clear means of evaluating the success of the restoration plan. The following performance standards (Table 5) have been developed to ensure the mitigation activities have the best chance of success and that any possible issues with the project are identified and rectified in a timely manner.

Table 5. Performance Standards

Restoration Goal	Functional Objective	Performance Standard	Year Inspected	Sampling Method
Enhance and restore wetland buffer habitat and provide diverse native vegetation to improve buffer functions	1. Plant an assortment of native trees and shrubs within approx. 53,983 square feet of wetland buffer.	1a. The wetland buffer will be free of trash and dumping each monitoring year.	0, 1, 2, 3, 4, 5	As-built, visual walk-through
		1b. A minimum of 80% survival of planted vegetation each monitoring year[1].	0, 1, 2, 3, 4, 5	Plant census
		1c. A minimum 20% native vegetation cover at Year 1, 50% cover at Year 3, and 75% cover at Year 5.[2]	1, 3, 5	Line-intercept
		1c. A maximum of 20% invasive and noxious species coverage at Year 1, then maximum 10% throughout Years 2-5.[3]	0, 1, 2, 3, 4, 5	Visual walk through

[1] 100% percent survival during the post-installation inspection.

[2] Existing native vegetation can count toward canopy coverage requirement.

[3] Class A, B and C-listed species in the most current Washington State Noxious Weed List (as issued by the Washington State Noxious Weed Control Board).

8.4 Monitoring Methods

8.4.1 Vegetation Monitoring

Vegetation surveys will be conducted in accordance with the monitoring schedule to compare results against the performance standards described above. Inspection of the planted material to determine health and vigor of the installations will occur during each monitoring visit.

Vegetation monitoring will include collection of qualitative and quantitative data during each monitoring visit. Survival will be evaluated by visually assessing the planted vegetation and recording any mortality that was observed. Survival will be compared against the total plant quantity installed within the restoration as defined in the as-built report. Plant coverage data will be documented using the line-intercept method (WSDOT 2008)

8.4.2 Photographic Documentation

Permanent photo-points will be established during the post-construction inspection in order to obtain representative photographs of the restoration areas. Photo-points will be established during the post construction inspection to document success of the vegetation and development over time. Photographs will be taken from the same locations (and facing the same direction) yearly to document the project's appearance and progress.

8.4.3 Monitoring Reports

The project biologist will submit a monitoring report to the City of DuPont in a timely manner each year in which monitoring occurs detailing the results of that year's monitoring activities. The report will document site conditions, provide a summary of the maintenance actions conducted on the site, and describe any deviations from the monitoring protocols

prescribed in this plan. The report will also describe any potential problems observed and recommend changes to the maintenance or monitoring protocols.

8.5 Contingency Plan

This contingency plan identifies a planning process for selecting appropriate actions to address failure of specific performance standards. In order to maintain the flexibility needed to respond effectively and appropriately to biological and/or physical conditions, this plan does not present a specific list of actions that will be taken to remedy all specific types of failures at the restoration areas.

While the species selected for planting were chosen based on their ability to thrive in the wetland buffer, some mortality is to be expected. When this occurs, the following general approaches are anticipated:

- If the vegetation planted in the restoration area fails to meet the performance standards, additional planting may occur.
- If a specific species that was originally planted continues to have a high mortality rate over time, an approved substitute may be planted.

9 BIOLOGIST QUALIFICATIONS

9.1 Chad Wallin, PWS

Chad Wallin is a Wetland Scientist with extensive training in wetland science and ecology restoration. Chad also has professional experience in stream and fish habitat restoration, marine monitoring, mitigation monitoring, and fish and wildlife assessments.

Chad has earned a Bachelor's of Arts degree in Environmental Studies from the University of Washington along with certificates in ecology restoration and wetland science and management. Chad is also a certified Professional Wetland Scientist through the Society of Wetland Scientists.

For a list of representative projects, please contact him at Grette Associates.

9.2 Terra Hauser

Terra Hauser is a Biologist with training in wetland science and management. Terra also has experience in wildlife biology and ecological restoration.

Terra has earned a Bachelor's of Arts and Sciences degree from Quest University Canada along with a certificate in Wetland Science and Management from the University of Washington.

For a list of representative projects, please contact her at Grette Associates.

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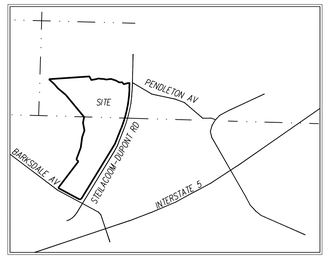
MUSTARD SEED LEGACY DEVELOPMENT LLC

BUFFER MITIGATION PLAN

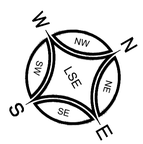
APPENDIX A: PROPOSED SITE PLAN

CHAMPIONS CENTRE
OVERALL SITE PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE4x E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON



VICINITY MAP
SCALE: 1" = 1000'



GRAPHIC SCALE
80 0 40 80 160 320
1 INCH = 80 FEET

SURVEYOR'S NOTE:
THE 84" STORM DRAINAGE PIPE LOCATIONS, AS SHOWN ON THIS MAP, ARE PROVIDED BY OTHER AND ARE NOT A PRODUCT OF FIELD VERIFIED LOCATION BY LEROY SURVEYOR'S AND ENGINEERS INC. THE CONTRACTOR IS REQUIRED TO POTHOLE THE LOCATION OF THE PIPE AND CONTACT THE ENGINEER AND SURVEYOR TO MAP ITS ACCURATE LOCATION PRIOR TO ANY CONSTRUCTION.

Wetland and Stream Buffer Enhancement
Approximately 53,983 sq ft

Reduced Wetland and Stream Buffer
Approximately 24,833 sq ft

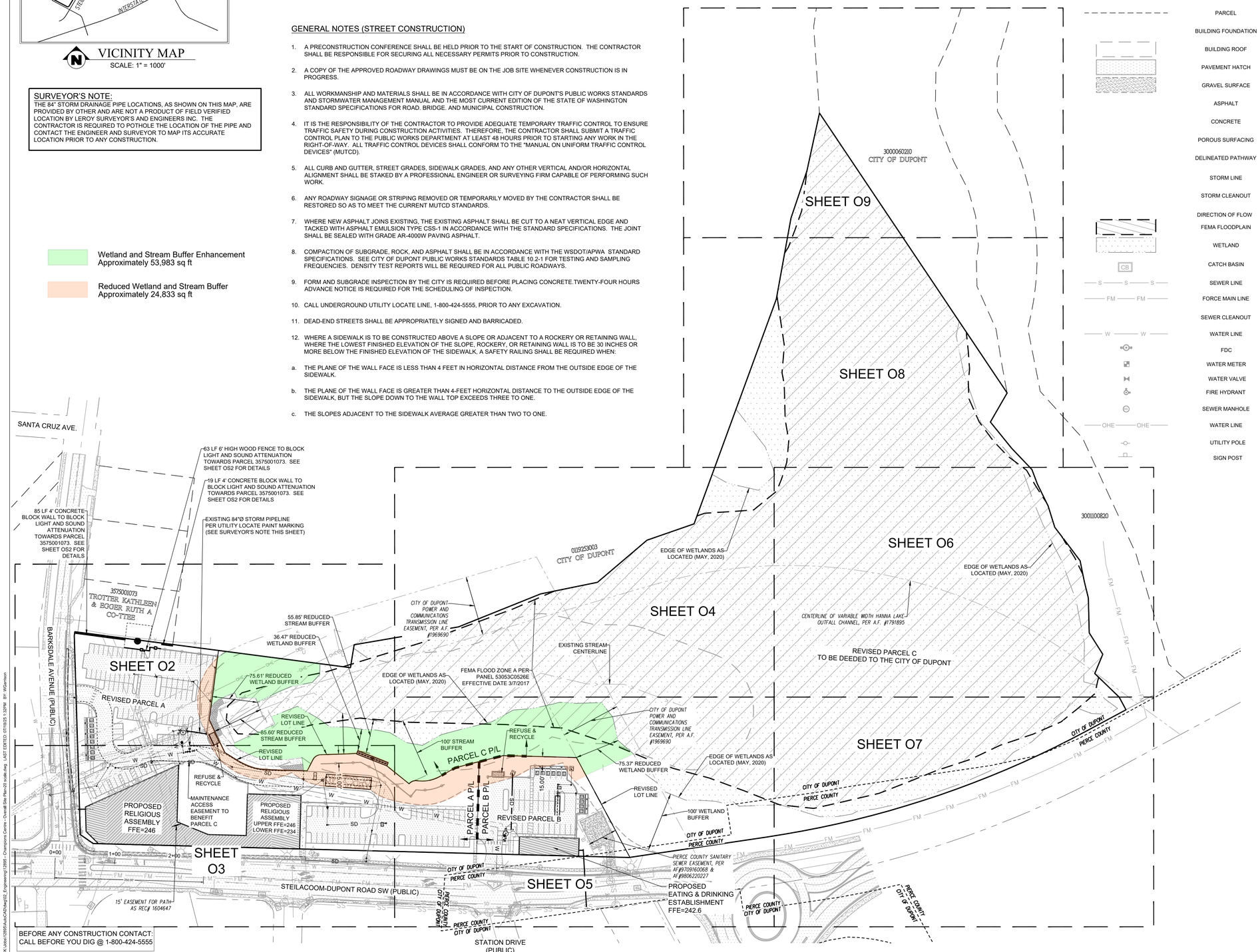
GENERAL NOTES (STREET CONSTRUCTION)

1. A PRECONSTRUCTION CONFERENCE SHALL BE HELD PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION.
2. A COPY OF THE APPROVED ROADWAY DRAWINGS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
3. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH CITY OF DUPONT'S PUBLIC WORKS STANDARDS AND STORMWATER MANAGEMENT MANUAL AND THE MOST CURRENT EDITION OF THE STATE OF WASHINGTON STANDARD SPECIFICATIONS FOR ROAD. BRIDGE. AND MUNICIPAL CONSTRUCTION.
4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ADEQUATE TEMPORARY TRAFFIC CONTROL TO ENSURE TRAFFIC SAFETY DURING CONSTRUCTION ACTIVITIES. THEREFORE, THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE PUBLIC WORKS DEPARTMENT AT LEAST 48 HOURS PRIOR TO STARTING ANY WORK IN THE RIGHT-OF-WAY. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD).
5. ALL CURB AND GUTTER, STREET GRADES, SIDEWALK GRADES, AND ANY OTHER VERTICAL AND/OR HORIZONTAL ALIGNMENT SHALL BE STAKED BY A PROFESSIONAL ENGINEER OR SURVEYING FIRM CAPABLE OF PERFORMING SUCH WORK.
6. ANY ROADWAY SIGNAGE OR STRIPING REMOVED OR TEMPORARILY MOVED BY THE CONTRACTOR SHALL BE RESTORED SO AS TO MEET THE CURRENT MUTCD STANDARDS.
7. WHERE NEW ASPHALT JOINS EXISTING, THE EXISTING ASPHALT SHALL BE CUT TO A NEAT VERTICAL EDGE AND TACKED WITH ASPHALT EMULSION TYPE CSS-1 IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. THE JOINT SHALL BE SEALED WITH GRADE AR-4000W PAVING ASPHALT.
8. COMPACTION OF SUBGRADE, ROCK, AND ASPHALT SHALL BE IN ACCORDANCE WITH THE WSDOT/APWA STANDARD SPECIFICATIONS. SEE CITY OF DUPONT PUBLIC WORKS STANDARDS TABLE 10.2-1 FOR TESTING AND SAMPLING FREQUENCIES. DENSITY TEST REPORTS WILL BE REQUIRED FOR ALL PUBLIC ROADWAYS.
9. FORM AND SUBGRADE INSPECTION BY THE CITY IS REQUIRED BEFORE PLACING CONCRETE.TWENTY-FOUR HOURS ADVANCE NOTICE IS REQUIRED FOR THE SCHEDULING OF INSPECTION.
10. CALL UNDERGROUND UTILITY LOCATE LINE, 1-800-424-5555, PRIOR TO ANY EXCAVATION.
11. DEAD-END STREETS SHALL BE APPROPRIATELY SIGNED AND BARRICADED.
12. WHERE A SIDEWALK IS TO BE CONSTRUCTED ABOVE A SLOPE OR ADJACENT TO A ROCKERY OR RETAINING WALL, WHERE THE LOWEST FINISHED ELEVATION OF THE SLOPE, ROCKERY, OR RETAINING WALL IS TO BE 30 INCHES OR MORE BELOW THE FINISHED ELEVATION OF THE SIDEWALK, A SAFETY RAILING SHALL BE REQUIRED WHEN:

a. THE PLANE OF THE WALL FACE IS LESS THAN 4 FEET IN HORIZONTAL DISTANCE FROM THE OUTSIDE EDGE OF THE SIDEWALK.

b. THE PLANE OF THE WALL FACE IS GREATER THAN 4-FEET HORIZONTAL DISTANCE TO THE OUTSIDE EDGE OF THE SIDEWALK, BUT THE SLOPE DOWN TO THE WALL TOP EXCEEDS THREE TO ONE.

c. THE SLOPES ADJACENT TO THE SIDEWALK AVERAGE GREATER THAN TWO TO ONE.



BEFORE ANY CONSTRUCTION CONTACT:
CALL BEFORE YOU DIG @ 1-800-424-5555

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EXISTING

510
502
RIGHT-OF-WAY
CENTERLINE
BOUNDARY
LANDSCAPE BUFFER
PARCEL
BUILDING FOUNDATION
BUILDING ROOF
PAVEMENT HATCH
GRAVEL SURFACE
ASPHALT
CONCRETE
POROUS SURFACING
DELINEATED PATHWAY
STORM LINE
STORM CLEANOUT
DIRECTION OF FLOW
FEMA FLOODPLAIN
WETLAND
CB
CATCH BASIN
S S S
SEWER LINE
FM FM
FORCE MAIN LINE
SEWER CLEANOUT
W W
WATER LINE
FDC
WATER METER
WATER VALVE
FIRE HYDRANT
SEWER MANHOLE
OHE OHE
WATER LINE
UTILITY POLE
SIGN POST

LEGEND

2' CONTOURS MAJOR
2' CONTOURS MINOR

PROPOSED

510
502
SD
S S S
W W

PARCEL NUMBERS:
0119362039, 0119362009, 0119362012 & 0119362043

PARCEL AREA:
927,027 S.F. (21.28 AC)

SHEET INDEX:

1. COVER SHEET
2. SITE PLAN AREA 1
3. SITE PLAN AREA 2
4. SITE PLAN AREA 3
5. SITE PLAN AREA 4
6. SITE PLAN AREA 5
7. SITE PLAN AREA 6
8. SITE PLAN AREA 7
9. SITE PLAN AREA 8

PROJECT DESCRIPTION:
THE CHAMPIONS CENTRE PROJECT CONTAINS 4 EXISTING PARCELS. THE OVERALL COMBINED PARCEL AREA OF THE 4 PARCELS IS 927,027 SQUARE FEET (21.28 ACRES). THIS COMMERCIAL PROJECT CONSISTS OF A BOUNDARY LINE ADJUSTMENT TO REDUCE THE NUMBER OF LOTS FROM 4 PARCELS INTO 3 PARCELS. PARCELS A, B & C.

PARCEL A WILL BE 139,369 SQUARE FEET (3.20 ACRE). THIS WILL BE A COMMERCIAL LOT THAT WILL INCLUDE THE CONSTRUCTION OF APPROXIMATELY 26,000 SQUARE FOOT RELIGIOUS ASSEMBLY THAT WILL HAVE A MAXIMUM CONGREGATION OCCUPANCY OF 350 PEOPLE. THE ARCHITECTURAL FOOTPRINT FOR THIS RELIGIOUS ASSEMBLY IS UNIQUE TO ALLOW FOR THE EXISTING GROVE OF LANDMARK OREGON WHITE OAK TREES THAT SIT ON AN EXISTING KNOLL TO BE PROTECTED AND REMAIN ON-SITE. THIS PROPERTY WILL ALSO HAVE A TOTAL OF 136 PARKING STALLS. THE PARKING STALLS WILL INCLUDE 8 ELECTRIC VEHICLE STALLS, 5 STANDARD ADA STALLS, 1 VAN ADA STALL AND 122 STANDARD STALLS. THIS PROPERTY WILL BE SERVED BY PUBLIC SEWER & WATER AND WILL HAVE ON-SITE STORM FILTER SYSTEM(S) THAT WILL PROVIDE QUALITY TREATMENT OF ON-SITE STORMWATER RUNOFF. AFTER TREATMENT ONSITE STORMWATER RUNOFF WILL BE CONVEYED TO AN ON-SITE INFILTRATION SYSTEM WHICH WILL PROVIDE QUANTITY MITIGATION.

PARCEL B WILL BE 34,601 SQUARE FEET (0.79 ACRES). THIS WILL BE A COMMERCIAL LOT THAT WILL INCLUDE THE CONSTRUCTION OF APPROXIMATELY 3,000 SQUARE FOOT EATING AND DRINKING ESTABLISHMENT. THE MAXIMUM OCCUPANCY IS UNKNOWN AT THIS TIME. THIS PROPERTY WILL ALSO HAVE A TOTAL OF 39 PARKING STALLS. THE PARKING STALLS WILL INCLUDE 11 ELECTRIC VEHICLE STALLS, 1 STANDARD ADA STALL, 1 VAN ADA STALL AND 26 STANDARD STALLS. THIS PROPERTY WILL BE SERVED BY PUBLIC SEWER & WATER AND WILL HAVE AN ON-SITE CARTRIDGE-STYLE STORM FILTER SYSTEM WHICH WILL PROVIDE QUALITY MITIGATION. TREATED STORMWATER RUNOFF WILL THEN BE CONVEYED TO AND ON-SITE STORMWATER INFILTRATION SYSTEM.

PARCEL C WILL BE 753,056 SQUARE FEET (17.29 ACRES). THIS WILL INCLUDE AN EXISTING WETLAND, WETLAND BUFFER, STREAM, STREAM BUFFER AND FEMA FLOOD ZONE A PER PANEL 53053C0526E EFFECTIVE DATE 3/7/2017. THIS PARCEL WILL BE DEEDED TO THE CITY OF DUPONT.

DATUM:
WASHINGTON SOUTH ZONE NAVD 88

TOPOGRAPHY:
2 FOOT CONTOURS. TOPOGRAPHIC INFORMATION FROM AERIAL MAPPING BY PUGET SOUND LIDAR CONSORTIUM AND VERIFIED BY LS&E

SITE ADDRESS:
XXX BARKSDALE AVE.
DUPONT, WA 98237

PROPERTY OWNER:
MUSTARD SEED LEGACY DEV. LLC
32706 MOUNTAIN HWY E
EATONVILLE, WA 98328

APPLICANT:
CHAMPIONS CENTRE
CONTACT: DAVID YADON, CORPORATE SECRETARY
PHONE: 253-606-9041
1819 E. 72ND ST.
TACOMA, WA 98404

ZONING:
COMM

SURVEY DISCLAIMER:
THIS IS NOT A BOUNDARY SURVEY

OVERALL LANDSCAPE REQUIREMENTS:
20% LANDSCAPE AREA REQUIRED FOR PARCEL A
139,369 S.F. X 20% = 27,874 S.F.
41,140 S.F. PROVIDED

20% LANDSCAPE AREA REQUIRED FOR PARCEL B
34,601 S.F. X 20% = 6,920 S.F.
10,926 S.F. PROVIDED

WETLAND & WETLAND BUFFER AREA:
WETLAND AREA = 624,000 S.F.
ORIGINAL 100' WETLAND BUFFER = 150,401 S.F.
REDUCED WETLAND BUFFER = 125,271 S.F.

STREAM BUFFER AREA:
ORIGINAL 100' STREAM BUFFER = 179,269 S.F.
REDUCED STREAM BUFFER AREA = 171,589 S.F.

07/18/2025
STEVE THEODORE ABRAHAMSON
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER

DATE:
REVISION
1 2 3 4 5 6 7 8 9 10

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APPROVED BY: SN

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Cover Sheet

Champions Centre
Overall Site Plan
David Yadon, Champions Centre
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DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

DRAWING
01
SHEET 01
OF 09

CHAMPIONS CENTRE
OVERALL SITE PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE4x E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE
20 0 10 20 40 80
1 INCH = 20 FEET

Wetland and Stream Buffer Enhancement
Approximately 53,983 sq ft

Reduced Wetland and Stream Buffer
Approximately 24,833 sq ft

3575001073
TROTTER KATHLEEN &
EGGER RUTH A CO-TTEE

LIMITS OF DISTURBANCE FOR EXISTING OAK TREE THAT IS TO REMAIN

85 LF 4' CONCRETE BLOCK WALL TO BLOCK LIGHT AND SOUND ATTENUATION TOWARDS PARCEL 3575001073

63 LF 6' HIGH WOOD FENCE TO BLOCK LIGHT AND SOUND ATTENUATION TOWARDS PARCEL 3575001073

EXISTING OAK TREE THAT IS TO REMAIN

19 LF 4' CONCRETE BLOCK WALL TO BLOCK LIGHT AND SOUND ATTENUATION TOWARDS PARCEL 3575001073

10' MODERATE LANDSCAPE BUFFER

0119253003
CITY OF DUPONT

CITY OF DUPONT POWER AND COMMUNICATIONS TRANSMISSION LINE EASEMENT, PER A.F. #1969690

EX. 100' STREAM BUFFER TO BE REDUCED IN THIS AREA

EX. 100' WETLAND BUFFER TO BE REDUCED IN THIS AREA

MARKED PEDESTRIAN PATHWAY

PARCEL A P/LS

PARCEL C P/L

100' STREAM BUFFER

100' WETLAND BUFFER

REVISED LOT LINE

75.61' REDUCED WETLAND BUFFER

85.60' REDUCED STREAM BUFFER

EDGE OF WETLANDS AS LOCATED (MAY, 2020)

EXISTING STREAM CENTERLINE

FEMA FLOOD ZONE A PER PANEL 53053C0526E EFFECTIVE DATE 3/7/2017

REVISED PARCEL C
TO BE DEEDED TO THE CITY OF DUPONT

15' EASEMENT FOR PATH AS REC# 1604647

BARKSDALE AVENUE (PUBLIC)

REVISED PARCEL A

REFUSE & RECYCLE

EXISTING 84"Ø STORM PIPELINE OUTLET

EX. DIRT ACCESS ROAD

36.47' REDUCED WETLAND BUFFER

55.85' REDUCED STREAM BUFFER

EXISTING 84"Ø STORM PIPELINE PER UTILITY LOCATE PAINT MARKING (SEE SURVEYOR'S NOTE THIS SHEET)

CENTERLINE OF VARIABLE WIDTH HANNA LAKE OUTFALL CHANNEL, PER A.F. #1791895

MATCHLINE SHEET O3

MATCHLINE SHEET O4

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dave@cc.church

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02
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CHAMPIONS CENTRE
OVERALL SITE PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE4x E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE
20 0 10 20 40 80
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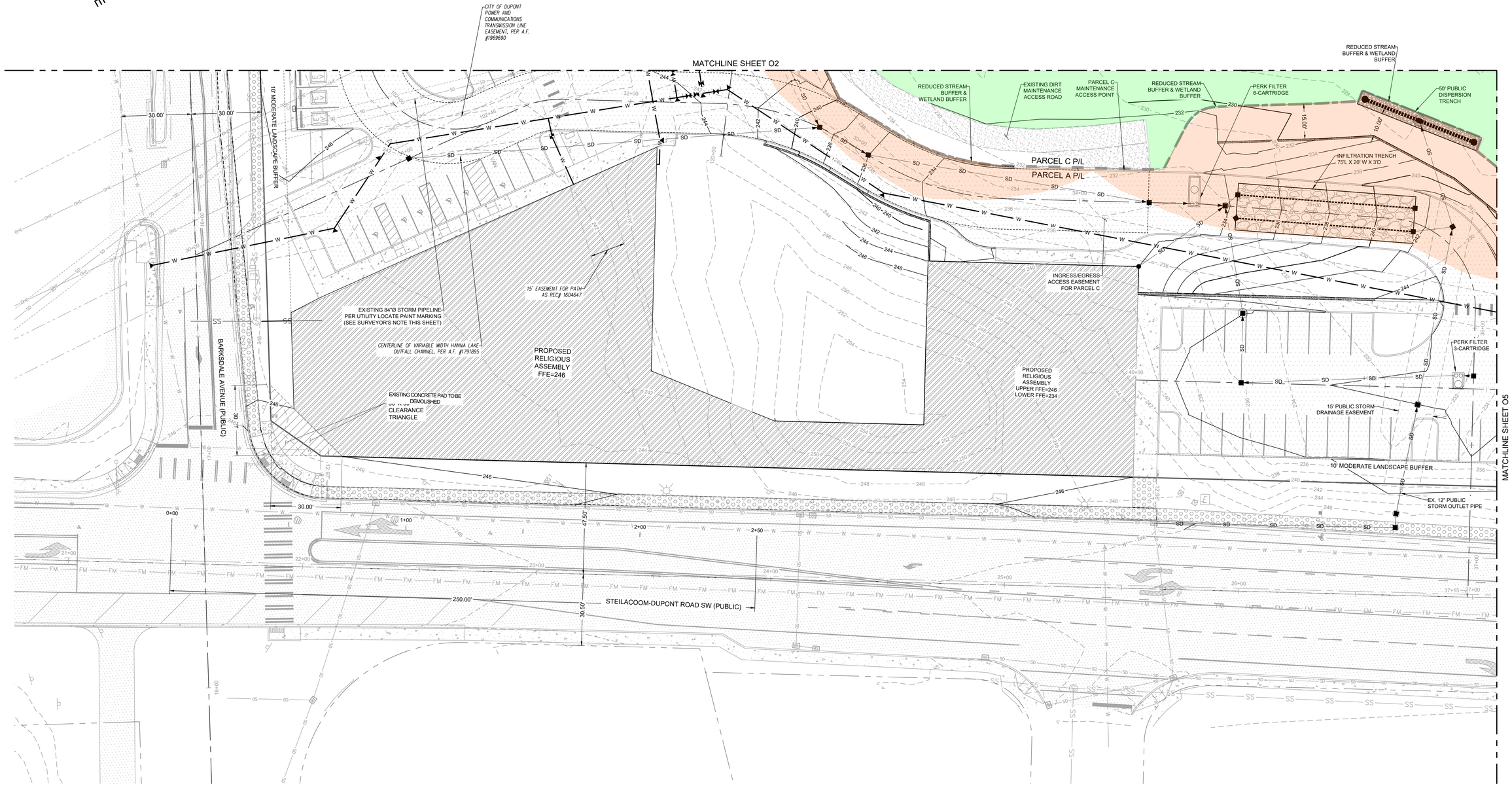
Wetland and Stream Buffer Enhancement
Approximately 53,983 sq ft

Reduced Wetland and Stream Buffer
Approximately 24,833 sq ft



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dave@cc.church

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O3
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CHAMPIONS CENTRE
OVERALL SITE PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE4x E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE
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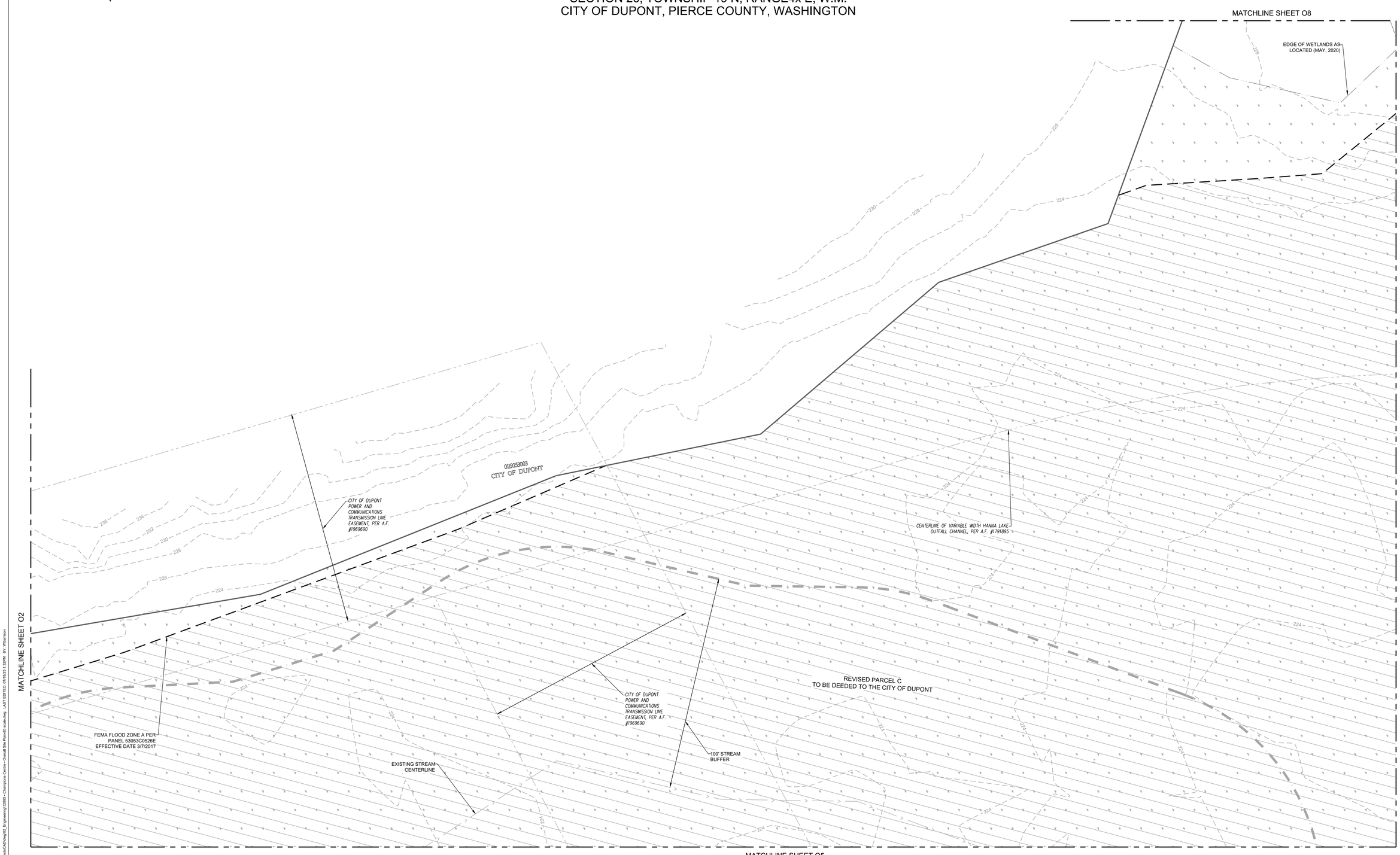

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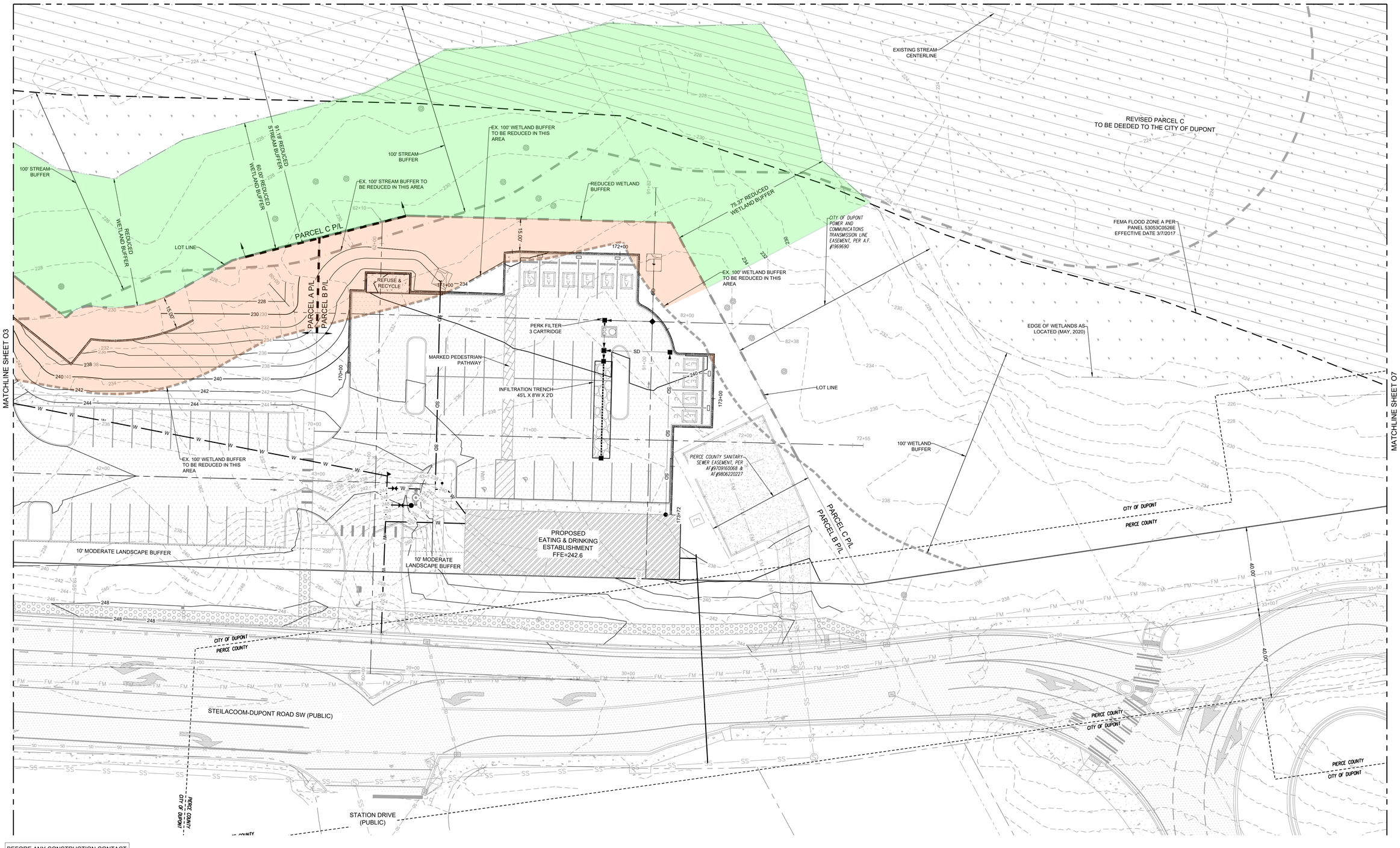

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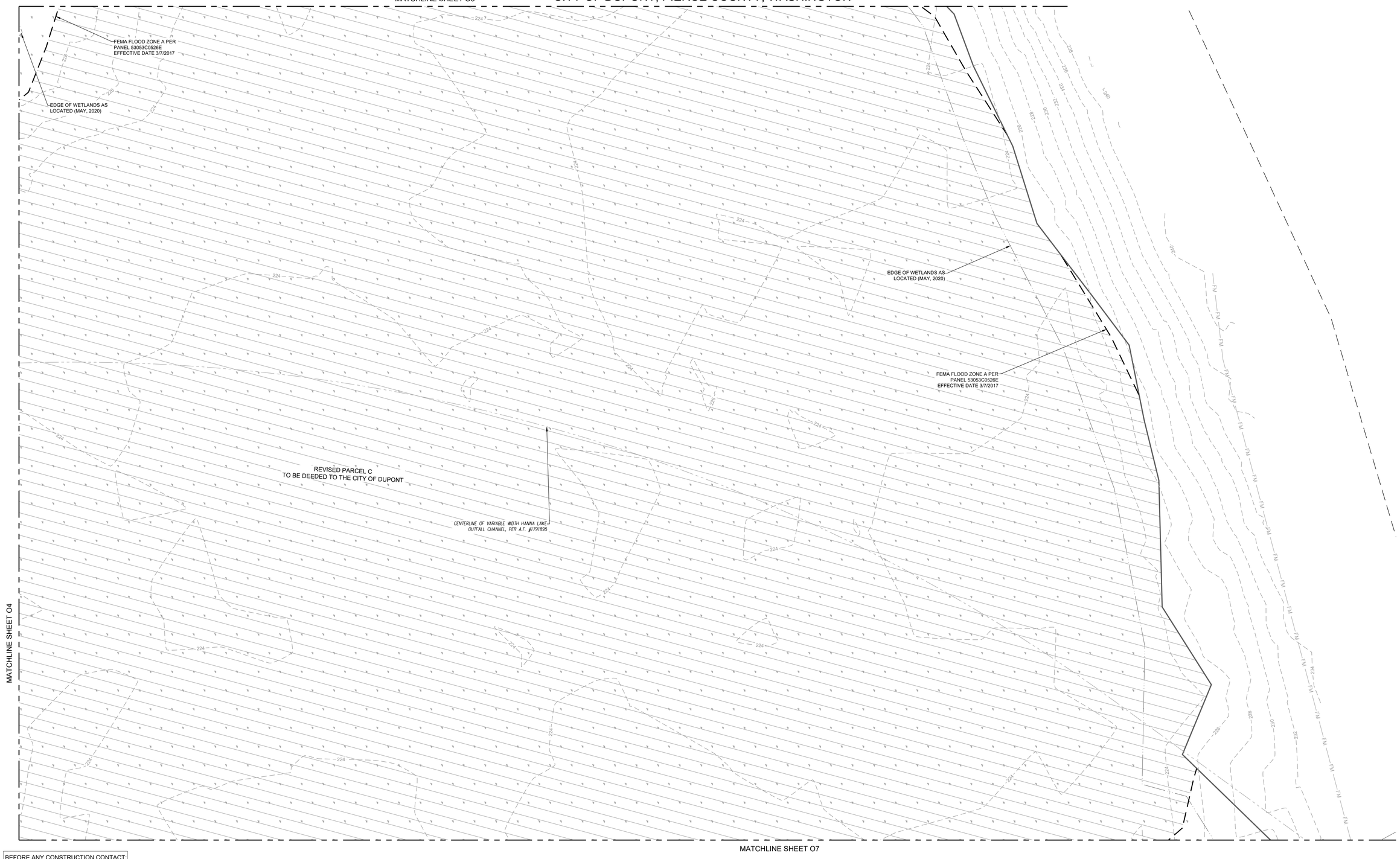
MATCHLINE SHEET O8



MATCHLINE SHEET O4

MATCHLINE SHEET O7

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CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE

20 0 10 20 40 80

1 INCH = 20 FEET

MATCHLINE SHEET O6

MATCHLINE SHEET O5

FEMA FLOOD ZONE A PER
PANEL 53053C0526E
EFFECTIVE DATE 3/7/2017

EDGE OF WETLANDS AS-
LOCATED (MAY, 2020)

CITY OF DUPONT
PIERCE COUNTY

CENTERLINE OF VARIABLE WIDTH HANNA LAKE
OUTFALL CHANNEL, PER A.F. #1791895

60.00'

STEILACOOM-DUPONT ROAD SW (PUBLIC)

PIERCE COUNTY
CITY OF DUPONT

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22007
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Site Plan Area 6

Champions Centre
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07
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GRAPHIC SCALE
20 0 10 20 40 80
1 INCH = 20 FEET

MATCHLINE SHEET O9

3000060210
CITY OF DUPONT

3001100820

3575001073
TROTTER KATHLEEN &
EGGER RUTH A CO-TTEE

FEMA FLOOD ZONE A PER
PANEL 53053C0526E
EFFECTIVE DATE 3/7/2017

REVISED PARCEL C
TO BE DEEDED TO THE CITY OF DUPONT

EDGE OF WETLANDS AS
LOCATED (MAY, 2020)

MATCHLINE SHEET O4

MATCHLINE SHEET O6

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Site Plan Area 7

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08
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CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

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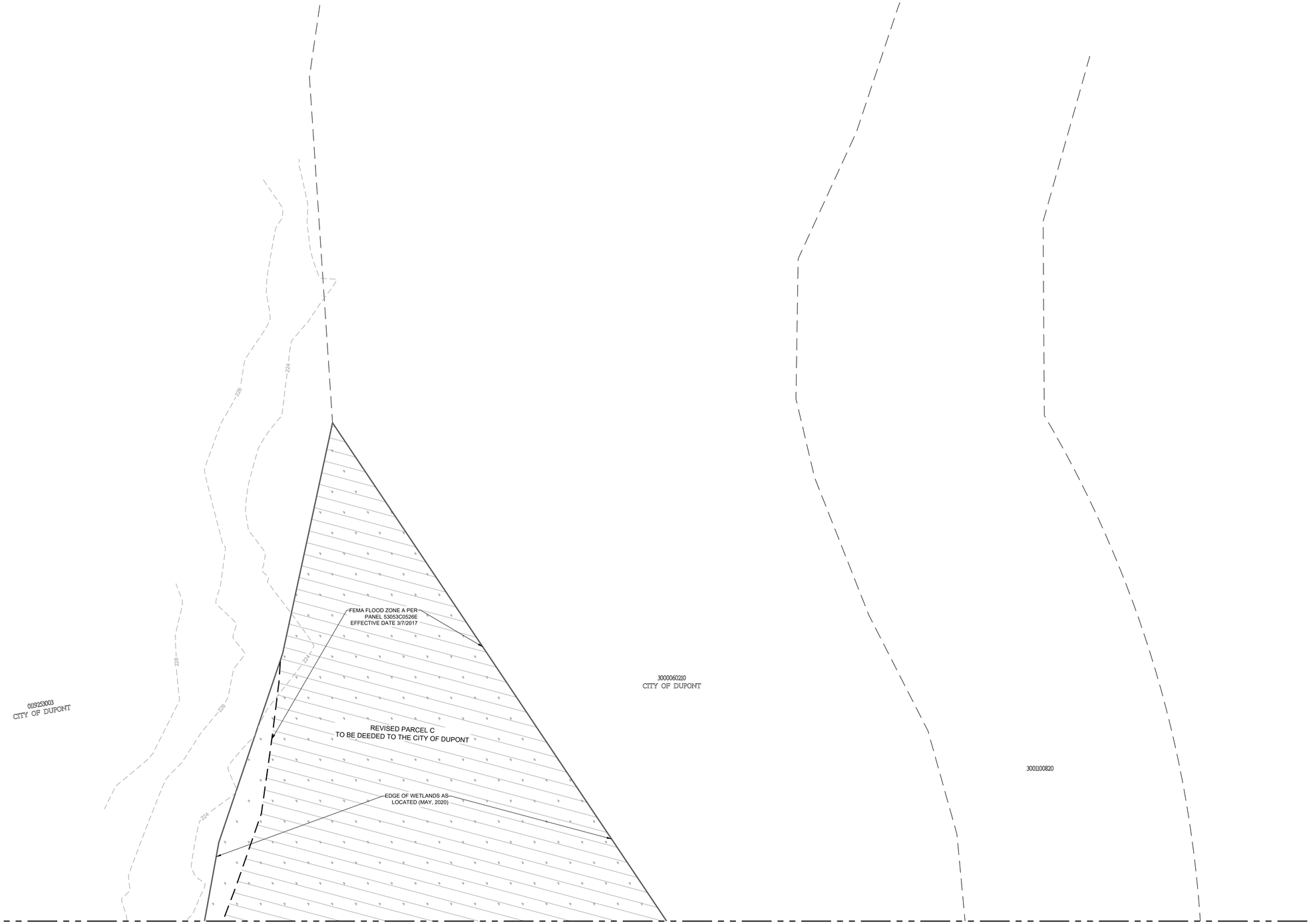

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07/18/2025
STEVE THEODORE NELSON
STATE OF WASHINGTON
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www.lserinc.com

Site Plan Area 8

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Overall Site Plan
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DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

DRAWING
O9
SHEET 09
OF 09

Exhibit 3.i

MUSTARD SEED LEGACY DEVELOPMENT LLC

HABITAT MANAGEMENT PLAN - REVISED

FARALLON CONSULTING | Grette Associates ENVIRONMENTAL CONSULTANTS

MUSTARD SEED LEGACY DEVELOPMENT LLC

HABITAT MANAGEMENT PLAN - REVISED

PREPARED FOR:

MUSTARD SEED LEGACY DEVELOPMENT LLC
ATTN: LOREN COMBS
VSI LAW GROUP PLLC
225 TACOMA AVE S
TACOMA, WA 98402

PREPARED BY:

GRETTE ASSOCIATES, A DIVISION OF FARALLON CONSULTING, L.L.C.
2709 JAHN AVE NW, SUITE H5
GIG HARBOR, WA 98335
(253) 573-9300

CHAD WALLIN, PWS
BIOLOGIST

AUGUST 5, 2025
DATE

TERRA HAUSER
BIOLOGIST

AUGUST 5, 2025
DATE

TABLE OF CONTENTS

1 INTRODUCTION 1
2 PROJECT DESCRIPTION 1
2.1 Project Location 1
2.2 Site Description 2
2.3 Proposed Project 2
3 CRITICAL AREAS SUMMARY 2
3.1 Wetlands 3
3.2 Fish and Wildlife Habitat Conservation Areas 3
3.2.1 Streams 3
3.2.2 Resident Cutthroat Trout 4
3.2.3 Waterfowl Concentrations 4
4 MITIGATION SEQUENCING 4
5 STREAM BUFFER REDUCTION 5
6 STORMWATER INFRASTRUCTURE 5
7 IMPACT ANALYSIS 6
7.1 Water Quality Impacts 6
7.2 Aquatic Habitat and Buffer Impacts 6
7.2.1 Direct Impacts 6
7.2.2 Indirect Impacts 6
7.2.3 Buffer Impacts 7
7.3 Wildlife Impacts 7
8 HABITAT MANAGEMENT PLAN 7
8.1 Effects on Fish and Wildlife Habitat Conservation Areas 7
8.1.1 Effects on Habitat 7
8.1.2 Effects on Fish and Wildlife Species 7
8.2 Proposed Stormwater Outfall Mitigation Measures 8
8.2.1 Stormwater Outfall Design 8
8.2.2 Stormwater Drainage Plan 8
8.2.3 Best Management Practices 8
8.3 Stream Buffer Enhancement 8
8.3.1 Mitigation Requirements 8
8.3.2 Invasive Species Removal 9
8.3.3 Native Plant Installation 11
8.3.4 Maintenance Recommendations 12
8.3.5 Monitoring and Contingency Plan 13
9 BIOLOGIST QUALIFICATIONS 15
9.1 Chad Wallin 15
9.2 Terra Hauser 15
10 REFERENCES 15

LIST OF FIGURES

Figure 1. Vicinity map 1

LIST OF TABLES

Table 1. Wetland Summary 3
Table 2. Natural water feature identification summary 4
Table 3. Planting Schedule for Buffer Enhancement Area.....11
Table 4. Performance Standards 14

LIST OF APPENDICES

Appendix A. Project Site Plan
Appendix B. Queried Database Figures

1 INTRODUCTION

Grette Associates, a division of Farallon Consulting, LLC, is under contract with Mustard Seed Legacy Development, LLC to prepare a Habitat Management Plan (Plan) in support of the proposed development project located off Steilacoom-DuPont Road SW and Barksdale Avenue in DuPont, Washington (Figure 1). The project site is located on Pierce County parcels 0119362039, 0119362009, 0119362012, and 0119362043.

The purpose of this Plan is to demonstrate compliance with the fish and wildlife habitat conservation area (FWHCAs) requirements of DuPont Municipal Code (DMC) 25.105.050(2)(i).

This Plan is prepared based on information provided in the revised Critical Areas Report (Grette Associates 2024) and the revised Buffer Mitigation Plan (Grette Associates 2025) that have been prepared in support of the proposed project.

2 PROJECT DESCRIPTION

2.1 Project Location

To access the project site from I-5, take Exit 119 and turn North. The first intersection in approximately 250 feet is Barksdale Avenue and DuPont-Steilacoom Road, which is the southern corner of the property.

The approximate location of the proposed project is identified by the red polygon as shown in Figure 1.

Figure 1. Vicinity map

2.2 Site Description

The subject property is largely undeveloped and is dominated by Bell Marsh (Grette Associates 2019). This wetland is approximately 20 acres in size and is classified as a Category II depressional feature.

The portion of the subject property that is not occupied by Bell Marsh largely consists of a mature forest predominantly consisting of Douglas-fir (*Pseudotsuga menziesii*), Oregon white oak (*Quercus garryana*), and big-leaf maple (*Acer macrophyllum*). The understory is currently inundated by invasive vegetation, particularly Himalayan blackberry (*Rubus bifrons*) and English ivy (*Hedera helix*). Other invasive species that are less prevalent include English holly (*Ilex aquifolium*), reed canarygrass (*Phalaris arundinacea*), and Scotch broom (*Cytisus scoparius*). While the Himalayan blackberry occurs in large dense thickets, the other invasive species exists among desirable native vegetation, including oceanspray (*Holodiscus discolor*), salal (*Gaultheria shallon*), beaked hazelnut (*Corylus cornuta*), and low Oregon grape (*Berberis nervosa*).

A Type F stream flows northerly within Bell Marsh, originating in the southwest portion of the site from the outfall of a large concrete culvert that passes beneath Interstate 5 from Joint Base Lewis-McChord (JBLM).

2.3 Proposed Project

Champions Centre, a Washington not-for profit corporation, is proposing to build a religious assembly and parking area primarily outside of the stream buffer (Appendix A). The building is proposed to be approximately 26,000 square feet in size and will be located on the corner of Barksdale Avenue and DuPont-Steilacoom Road.

The project proposes to reduce the standard 100-foot stream buffer on the site to accommodate the required project infrastructure, as allowed under DMC 25.105.050(1)(b)(iv). To offset this reduction, both the wetland and stream buffers on the site will be enhanced, including removal of invasive vegetation and planting native species at densities sufficient to provide enhanced habitat and water quality functions. Buffer enhancement actions proposed for the site are described in detail in the Buffer Mitigation Plan prepared for this project (Grette Associates 2025).

In addition to the actions summarized above, the proposed project will require the extension of an existing stormwater outfall associated with City of DuPont stormwater infrastructure along Dupont-Steilacoom Rd. that discharges into the project site. Currently this outfall is discharging within the eastern portion of the project site and allowing stormwater to sheet flow towards the critical areas identified within the subject property. The new stormwater outfall will be extended through the site adjacent to the remaining buffer, where it will discharge into a buried dispersion trench to avoid potential scouring or erosion (Appendix A). The dispersion trench will be backfilled and the disturbed area planted once construction of the outfall is complete.

3 CRITICAL AREAS SUMMARY

In 2019, Grette Associates Biologists visited the subject property to identify all wetlands and streams within 300 feet of the proposed project. One wetland (Bell Marsh) and one

associated stream were identified during Grette Associates' 2019 assessment (Grette Associates 2024).

3.1 Wetlands

Bell Marsh is located throughout the subject property and extends near the northern boundary of the project site. This wetland is classified as a Palustrine Aquatic-Bed/Emergent/Scrub-Shrub/Forested wetland and is hydrogeomorphically classified as a depressional wetland. This feature was rated in accordance with DMC 25.105.050 and the Washington Department of Ecology's *Revised Washington State Wetland Rating System for Western Washington – 2014 Update* (Hruby 2014). The wetland scored a total of 20 points on the rating system, which makes the wetland Category II (Hruby 2014). According to DMC 25.105.050, Category II wetlands require a standard buffer of 100 feet. A summary of Wetland A is provided below in Table 1.

Table 1. Wetland Summary

Wetland ID	Cowardin Class[1]	HGM Class[2]	Size (approximate)	Wetland Category[2]	Buffer Width[3]
A	Palustrine Aquatic-Bed/Emergent/Scrub-Shrub/Forested	Depressional	20 acres	II	100 ft

[1] Classification of Wetlands and Deepwater Habitats of the United States (Cowardin 1979)
[2] Washington State Wetland Rating System for Western Washington – 2014 Update (Hruby 2014)
[3] DMC Chapter 25.105.050 (Critical areas)

3.2 Fish and Wildlife Habitat Conservation Areas

Per DMC 25.105.030(140), FWHCAs include those areas associated with state or federally listed species; habitats for Washington Department of Fish and Wildlife's (WDFW) Priority Habitats and Species; tidelands and bedlands; and streams and waters of the state that support listed species, priority species, or game fish.

In addition to the stream associated with Bell Marsh, there is a small stand of large Oregon white oak (*Quercus garryana*) trees mapped within the northwest portion of the subject property (Grette Associates 2024). As this stand of oaks are more than 300 feet from the proposed project, the oak stand is no longer discussed in this document. However, there is an unmapped stand of oaks near the location of the proposed building (Appendix A). This stand of oaks will be preserved. Furthermore, 75 native oaks will be planted as part of the wetland and stream buffer enhancement conducted for this project.

Lastly, there no mapped federally-listed critical habitats in the vicinity of the project area (USFWS 2023; NMFS 2023), and none of these types of habitats were observed during the 2019 site visit (Grette Associates 2024).

3.2.1 Streams

A fish-bearing stream was also identified during Grette Associates' 2019 assessment (Appendix A). This stream originates from a large concrete stormwater outfall that carries water from JBLM and other developed areas through the southern portion of the basin and towards the open-water areas of the wetland (Grette Associates 2024). According to DMC 25.105.050, all streams require a 100-foot buffer.

Table 2. Natural water feature identification summary

Feature	Water Type[1]	Buffer[2]
PS-1	F	100 ft.

[1] Natural water features were rated according to DMC 25.105.030 and WAC 222-16-030.
[2] Buffers are based on DMC 25.105.050

3.2.2 Resident Cutthroat Trout

Bell Marsh and the associated stream (PS-1) are mapped as supporting resident cutthroat trout (*Oncorhynchus clarki clarki*; WDFW 2023a, 2023b).

Coastal cutthroat trout are a species of salmonid that can have a variety of life history forms, including resident, fluvial, and anadromous (Elliott 2008). The trout mapped to occur at the project site is the resident form (WDFW 2023a, 2023b, 2023c). These trout live in cool freshwaters including lakes and streams with complex habitat like large woody debris, overhanging riparian vegetation, and pools (Machtinger 2007). They feed on invertebrates, fish, and plankton. They spawn in streams with loose gravel and winter in deep pools with plenty of cover (Machtinger 2007). Resident coastal cutthroat have declined in the past decades, most likely due to habitat degradation and invasive fish species (Machtinger 2007).

3.2.3 Waterfowl Concentrations

Bell Marsh is mapped by WDFW to support waterfowl concentrations (WDFW 2023a, 2023b).

Waterfowl are prominent game birds in Washington. Pierce County has over 40 species of waterfowl, including 15 common species (Washington Birder 2023). Freshwater wetlands provide waterfowl with habitat for feeding, nesting, and rearing, and these wetlands can also provide social interaction between birds (Stewart 2016).

4 MITIGATION SEQUENCING

Mitigation sequencing is a set of steps demonstrating how a project prevents and/or minimizes avoidable impacts to the environment for conformance with the requirements defined in DMC 25.105.030.215.

The revised Buffer Mitigation Plan (Grette Associates 2025) that was prepared in support of this project provides a detailed sequence of actions that were implemented during design to address mitigation sequencing. In summary, the proposed project has been designed to avoid direct impacts to the wetland and stream. While direct impacts to the wetland or stream have been avoided, there is no design alternative that would not require the use of an administrative buffer reduction, as defined in DMC 25.105.050.2.g. In support of the proposed buffer reduction, 53,983 sq ft of wetland and stream buffer enhancement will be completed throughout the remaining buffer area in the vicinity of the proposed project to ensure no indirect impacts will occur.

Please refer to the submitted revised Buffer Mitigation Plan (Grette Associates 2025) for more details on the wetland buffer enhancement and refer to Section 8.3 of this document for the stream buffer enhancement.

5 STREAM BUFFER REDUCTION

According to DMC 25.105.050(1)(b)(iv), buffers can be reduced with enhancement when an applicant can prove the buffer fits the following criteria: "(A) The existing condition of the buffer is degraded; and (B) Additional protection to the wetland is provided through the implementation of a buffer enhancement plan." The current project design proposes to reduce the recommended 100-foot buffer to accommodate the required project infrastructure.

As noted above, a revised Buffer Mitigation Plan (Grette Associates 2025) has been prepared to address the proposed wetland and stream buffer reductions. This document includes a detailed buffer enhancement plan which includes a summary of the reductions, proposed planting schedule, and monitoring plan. Please refer to this plan for more details regarding the proposed buffer enhancement.

In addition to the information provided in the buffer mitigation plan, the habitat management plan sections summarized below are intended to demonstrate that the proposed project will not result in any adverse impacts to the stream and/or the functions the proposed buffer will provide.

6 STORMWATER INFRASTRUCTURE

Per DMC 25.105.050.2.a, stormwater outfalls are permitted in stream buffers without additional mitigation. While this is not an allowed activity in wetland buffers under DMC 25.105.050.1.c, it fits as an exception under DMC 25.105.070.2, which lists utilities as an acceptable use when it can "clearly be demonstrated that the project is needed for the benefit of the public; and no feasible alternative exists or to gain access to private property; and there is no feasible alternative to the proposed location; and the proposed location results in no net loss in a critical area's functional value." Stormwater utilities, including outfalls, are necessary to mitigate flooding, particularly in a developed area with ample impermeable surfaces including the busy roads adjacent to the wetland. Currently, the stormwater outfall pipe is located outside of the stream buffer. However, it will need to be extended since the project design includes a parking lot at the current outfall location. The updated design of the stormwater outfall (Appendix A) extends it to just outside the reduced wetland and stream buffer, and is intended to result in no net loss in the buffer's function. The new design now includes a dispersion trench to minimize the chance of scouring or erosion in the buffer. Before reaching the outfall, stormwater will be filtered through an oil-water separator and a filter sock to treat the water prior to discharge. This will assist the remaining buffer in filtering sediments and toxins. This design, in conjunction with the buffer enhancements outlined in the revised Buffer Mitigation Plan (Grette Associates 2025), will ensure the buffer and the wetland are not degraded by untreated stormwater discharge and will meet the no net loss requirement.

The stormwater dispersion trench adjacent to the buffer will be approximately 330 square feet in size (55 feet by 6 feet by 3.5 feet deep). The area disturbed by installation of the stormwater dispersion trench will be restored through the planting of native species.

Other mitigation activities to comply with the regulations in DMC 25.105.050 can be found in the revised Buffer Mitigation Plan (Grette Associates 2025). These activities primarily consist of invasive species removal and native plant installations.

7 IMPACT ANALYSIS

This impact analysis is intended to summarize potential impacts that may occur as a result of the project and demonstrate that the proposed project will conform to the requirements defined in Chapter 25.105 of the DMC. Under the current project design, the onsite wetland and stream buffers will be reduced by approximately 24,833 sq ft (Appendix A). To compensate for this reduction, the remaining buffer areas onsite (53,983 sq ft) will be enhanced through the removal of invasive vegetation and planting of native species.

7.1 Water Quality Impacts

According to the Washington Department of Ecology, the moderation of adverse effects of stormwater on wetland water quality is one of the most paramount values a wetland buffer provides (Castelle et al. 1992). Wetland buffers control fluctuating water levels; treat sediments, nutrients, and toxins; and prevent erosion by stabilizing soils (Castelle et al. 1992). However, the ability of buffers to provide these values depend strongly on the amount of time stormwater can spend in the buffer (Castelle et al. 1992). Potential impacts to the water quality from both extending the existing outfall pipe and reducing the width of the stream buffer include increased erosion leading to increased suspended sediments, flashy hydrological patterns, and increased pollution from untreated toxins and nutrients. However, as discussed in Section 6, the updated stormwater outfall design includes treatment by an oil-water separator and filter socks, and discharge through a buried dispersion trench to address erosion and scouring concerns. Also, the stream buffer will be enhanced as part of the wetland buffer mitigation requirements. These enhancements are designed to ensure the remaining buffer is able to provide valuable ecological services to the aquatic resource, including stormwater treatment, to a similar or better capability than it currently is functioning at. Based on these improvements to the stormwater infrastructure and buffer vegetation, there will be no net loss of function with respect to water quality as a result of the proposed project.

Any temporary water quality impacts resulting from construction activities will be addressed with construction Best Management Practices (BMPs), as outlined in the required Stormwater Pollution Prevention Plan and Temporary Erosion and Sediment Control Plan.

7.2 Aquatic Habitat and Buffer Impacts

7.2.1 Direct Impacts

No direct impacts to the wetland or stream will occur as a result of the project.

7.2.2 Indirect Impacts

Indirect effects, such as turbidity and pollution, may potentially occur during the construction of the proposed project. Enhancement activities described in the revised Buffer Mitigation Plan (Grette Associates 2025) have been designed to minimize these impacts. Temporary impacts from construction will be avoided or minimized by implementing applicable Best Management Practices (BMPs) such as silt fencing and mulching of disturbed soils.

7.2.3 Buffer Impacts

Reductions of the standard wetland and stream buffers are proposed. Temporary construction impacts adjacent to the reduced buffers, including minor grading and filling and installation of the stormwater dispersion trench, will be addressed through immediate stabilization of the surface soils and replanting of the areas with native buffer vegetation. Potential impacts related to the reduction in buffer widths will be offset by the removal of invasive vegetation and installing native, woody, riparian plants within the remaining buffer to ensure no net loss of buffer function will occur as a result of the proposed project.

The proposed buffer reductions will total approximately 24,833 sq ft of onsite buffer area. This reduction will be offset by the full enhancement of 53,983 sq ft of the remaining buffer, a ratio of approximately 2.2:1 (enhancement : reduction).

7.3 Wildlife Impacts

Potential impacts to resident cutthroat trout and waterfowl concentrations, though unlikely, would primarily occur through water quality impacts described in Section 7.1. As addressed in Section 3.2, resident cutthroat trout require cool, clean water to thrive. No instream work is proposed, and stormwater from the site would not be directly discharged to the wetland or stream. The stormwater outfall design includes a buried dispersion trench to dissipate and infiltrate stormwater in a way that avoids erosion and scouring that can lead to increased sedimentation.

8 HABITAT MANAGEMENT PLAN

8.1 Effects on Fish and Wildlife Habitat Conservation Areas

8.1.1 Effects on Habitat

Several potential impacts could occur as a result of the proposed project, particularly the reduction in the stream buffer. Decreased water quality from the reduction of the stream buffer is unlikely as the remaining buffer will be enhanced through removal of invasive vegetation and installation of native species. Furthermore, installation of dense trees and shrubs will protect in-stream habitat from impacts related to lighting and noise associated with operation of the site.

It is unlikely that the stormwater outfall will affect the in-stream habitat. As addressed in Section 6, a dispersion trench will be installed to minimize the potential for erosion and scouring that can cause sedimentation, and the stormwater will be treated through a filter sock and oil-water separator to minimize the potential for toxins to reach the buffer.

8.1.2 Effects on Fish and Wildlife Species

Impacts to resident cutthroat trout and waterfowl concentrations from the reduction in the stream buffer width are not anticipated. The removal of invasive vegetation and replanting with native species will provide increased quality of buffer functions over the existing conditions, resulting in more protection of fish and wildlife species.

Degradation of the habitat from the reduced stream buffer or stormwater outfall is unlikely, considering the remaining buffer will be enhanced with native species and stormwater will be treated before reaching the outfall.

To further protect the buffer functions provided on the site during construction, all applicable drainage and erosion control measures (i.e., BMPs) will be implemented. Please refer to the proposed mitigation measures in the revised Buffer Mitigation Plan (Grette Associates 2025) for details on mitigating construction activities, and Section 8.3 for details on buffer enhancement activities to mitigate impacts resulting from the stream buffer reduction.

8.2 Proposed Stormwater Outfall Mitigation Measures

8.2.1 Stormwater Outfall Design

As addressed in Section 6, the updated stormwater outfall design contains two key elements to protect water quality and reduce the need for the buffer to filter toxins and sediments: a dispersion trench and a filtering system. The dispersion trench is meant to diffuse stormwater exiting the outfall over a larger area to avoid erosion and scouring that can lead to sedimentation. The filtering system consists of an oil-water separator to remove oils from cars on the road, and a filter sock to further treat the water. This stormwater treatment avoids the use of the wetland and stream buffer as a tool for water treatment, as discouraged by Best Management Practice (BMP) C102 in the Stormwater Management Manual for Western Washington (Ecology 2019).

8.2.2 Stormwater Drainage Plan

The proposed stormwater outfall extension will adhere to all applicable drainage and erosion control methods defined in Chapter 22 of the DMC. These methods are intended to ensure a proposed project will meet the City's water quality standards.

8.2.3 Best Management Practices

At a minimum, the following BMPs from the Stormwater Management Manual for Western Washington (WDOEWQP 2019) will be utilized to counter the effects of the stormwater outfall extension:

- BMP C101: Preserving Natural Vegetation
- BMP C102: Buffer Zones
- BMP C103: High-Visibility Fence
- BMP C105: Stabilized Construction Access
- At least one BMP addressing erosion control (e.g., BMP C122: Nets and Blankets)

8.3 Stream Buffer Enhancement

8.3.1 Mitigation Requirements

When a stream buffer is encroached by a development that is not an allowable activity, mitigation is required per DMC 25.105.050(2)(c)(i). The mitigation plan will show that:

A. The stream has been degraded and will not be further degraded by the enhancement, rehabilitation, or restoration activity;
B. The enhancement, rehabilitation, or restoration will reliably and demonstrably improve the water quality and fish and wildlife habitat of the stream;
C. The enhancement, rehabilitation, or restoration will have no lasting, significant, adverse impact on any stream functions; and

D. The enhancement, rehabilitation, or restoration will assist in stabilizing the stream channel.

As addressed in Section 3.2.1, the stormwater outfall carries water from nearby developed areas and currently discharges outside of the stream buffer onto the site near DuPont-Steilacoom Road. The outfall is proposed to be relocated outside of but adjacent to the stream buffer, discharging through a buried dispersion trench. No in-water work will occur as part of this project or buffer enhancement, so this project is unlikely to contribute to stream quality degradation. In addition, dense plantings of native vegetation are known to provide benefits to streams by stabilizing the banks and preventing erosion, increasing riparian habitat value, providing large woody debris when plants die and fall into the stream, providing shade to salmonids, and enhancing water quality by filtering sediments and toxins from stormwater prior to reaching the stream (Cramer et al. 2003). No adverse impact on stream functions is anticipated from this enhancement project.

8.3.2 Invasive Species Removal

Invasive species control should focus on integrated pest management (IPM), a method that focuses on prevention and monitoring, and encourages the use of control strategies that are cost-effective and sustainable, often encompassing a combination of chemical, mechanical, manual, and biological removal (King County 2018). The goal is to tailor these strategies to the specific needs of the site. Each species has a Best Management Practices (BMP) document compiled by King County outlining different removal options and should be consulted when controlling infestations in sensitive or hazardous areas like riparian environments and the public Right of Way. The following subsections are based on these documents.

After removal of invasive species, the area should be revegetated to shade out smaller invasive seedlings and routinely monitored for re-establishment of invasive species. Immature plants are often easier and cheaper to remove than extensive, mature infestations, so it is advisable to remove reinvasions quickly. It is likely that it will take several years to completely control the infestations.

Himalayan blackberry

Methods for removing Himalayan blackberry differ based on the extent of the infestation. At the project site, there are some small patches of blackberry among native species, and some large monoculture infestations. In small patches among native species, manual removal should be the primary tool to ensure that broad herbicide use does not affect native vegetation (King County 2014). Branches can be lopped off with hand tools, and the root ball must be dug up in order to prevent re-establishment. If the root ball cannot be removed, an herbicide such as Glyphosate should be used on the cut stump. Revegetation should follow to prevent re-establishment of the blackberry, and the area should then be mulched. The mulch should not touch the trunks of trees and shrubs as this can cause the plants to rot (Chalker-Scott 2015).

In large, monoculture infestations, blackberry should be mowed and the branches removed. After this, the root balls can be dug up or, in large areas, herbicide can be used on cut stumps. Alternatively, herbicide may be applied to mature blackberry and the dead

branches can be mowed. This is faster and less laborious, but may be less effective. The area must be revegetated and mulched to reduce re-establishment.

As discussed above, control will likely take several years, so the removal process will likely need to be repeated until regrowth no longer occurs. For full details on Himalayan blackberry removal, see the Best Management Practices by King County on this species (King County 2014).

English ivy

Like Himalayan blackberry, methods on removing English ivy differ based on the size and location of infestations. Where English ivy is in small patches, manual control can be sufficient (King County 2020a). This includes pulling roots fully from groundcover ivy and cutting vines from tree trunks from the base to about four feet high. The upper vines will die and dry out. Mulching the ground can be effective. However, the recommended depth of the mulching is eight inches to prevent regrowth, which can interfere with the establishment of planted native species.

In large patches of English ivy, a combination of manual and chemical removal is recommended (King County 2020a). Manual removal is more effective, but the size of some of the infestations at the project site may make this method cost-prohibitive. A combination approach will start with the manual removal of vines from trees as described above. Glyphosate with an appropriate surfactant can then be applied to ground ivy. Care will need to be taken to avoid impacting the desirable native vegetation.

For full details on English ivy removal and disposal, see the Best Management Practices by King County on this species (King County 2020a).

Reed canarygrass

The integrated pest management recommendations for reed canarygrass prioritizes shading out existing infestations (King County 2015). Existing plants should first be removed manually, mechanically, or chemically, depending on the extent of the infestation. The seed bank should be depleted by continuing to remove plants each time they resprout. Finally, the area should be replanted with shady species to create a full canopy. This creates a poor environment for reed canarygrass to grow, and will often prevent reinfestation (King County 2015).

English holly

Methods on removing English holly are determined based on the size of the plant. Small English holly seedlings should be pulled, along with their roots, and larger trees should be chemically treated with an EZ-Ject lance (King County 2020b).

Scotch broom

There are several methods that can be effective in removing Scotch broom. The infestation at the project site is a large monoculture. This type of invasion is effectively controlled by herbicide (King County 2008). There are two effective methods of herbicide application: foliar spraying, which requires the entire plant be saturated; and basal bark and cut stump application, which is more labor-intensive but less risky when spraying near desirable native species. After chemical treatment, native grasses should be planted. A healthy grassy area mixed with clover can reduce reinvasion of Scotch broom (King County 2008).

8.3.3 Native Plant Installation

The entire remaining stream and wetland buffer adjacent to the project will be enhanced through the removal of invasive species and planting of native species. This will total approximately 53,983 sq ft of enhancement.

Table 3 below specifies the selection of native plant species and their quantity. These species are adapted to grow within the planting areas based on moisture tolerances and available sunlight, as well as use in similar, previously approved buffer installations.

Table 3 is reproduced from the revised Buffer Mitigation Plan and presents the proposed native species to be used to enhance the remaining wetland and stream buffers on the site.

Table 3. Planting Schedule for Buffer Enhancement Area

Scientific	Common Name	Size	Spacing[1]	Quantity[1]
Trees				
Acer macrophyllum	big leaf maple	2 gallon	15 feet	34
Pseudotsuga menziesii	Douglas-fir	2 gallon	15 feet	35
Quercus garryana	Oregon white oak	2 gallon	15 feet	75
Tsuga heterophylla[2]	Western hemlock	2 gallon	15 feet	34
Shrubs				
Symphoricarpos albus	common snowberry	1 gallon	6 feet	130
Holodiscus discolor	oceanspray	1-2 gallon	6 feet	130
Oemleria cerasiformis	osoberry	1-2 gallon	6 feet	130
Corylus cornuta	beaked hazelnut	1-2 gallon	6 feet	130
Berberis aquifolium	tall Oregon grape	1-2 gallon	6 feet	130
Rubus spectabilis[2]	salmonberry	1-2 gallon	6 feet	130
Amelanchier alnifolia	serviceberry	1-2 gallon	6 feet	130

[1] Spacing and quantities estimated based on the Sound Native Plants Plant Quantity Calculator (2023). Average spacing was used in the calculator to account for existing vegetation. Final plant counts and spacing will be determined upon final design and installation.

[2] Western hemlock and salmonberry should be planted closer to the wetland as they typically require wetter soils.

The landscape contractor shall make a good faith effort to secure all species specified in this plan. Variations from the approved plan will require review and approval by the City of DuPont prior to installation.

Planting Schedule

In order to reduce mortality, a late fall planting installation (October – November) for container stock is preferred. Plants should not be installed during or immediately before freezing weather.

Plant installation will be performed in accordance with the specifications outlined in this plan. Any alterations to the planting plan due to site conditions will require prior approval from the project biologist and the City of DuPont.

All plant materials to be used on the site will be native to Western Washington and will consist of nursery grown stock and seeds from a reputable, local dealer. Only native species specified in the approved plant schedule are to be used; no hybrids will be allowed. Plant substitutions must be approved by the project biologist if specified species are not commercially available.

Container stock provided will be typical of their species or variety; 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 infestation.

Preparation and Installation of Planting Materials

The landscape contractor shall verify the location of all elements of the landscape plan prior to installation. The project biologist and the City of DuPont may adjust the locations of landscape elements during the installation period as necessary.

Circular plant pits with vertical sides will be excavated for all container stock. The pits should be at least twice the diameter of the root system, and the depth of the pit should accommodate the entire root system. The bottom of each pit will be scarified to a depth of 4 inches, and the pit should be thoroughly wetted prior to plant insertion to prevent capillary stress. The planting hole shall be amended with a mixture of topsoil and organic material if necessary to provide appropriate rooting media.

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 Agriform tablets as necessary. Water pits again upon completion of backfilling. No filling should occur around 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.

After plant installation is complete, the landscape contractor should inspect the site to confirm that all planted material is installed as appropriate.

8.3.4 Maintenance Recommendations

Irrigation

Grette Associates strongly recommends irrigation for at least two years to increase the chance of survival. Several methods of irrigation are effective, including manual hand watering and above-ground systems (Alexander 2003). Hand watering can be a practical choice because a crew can water each plant according to its specific needs. However, the labor is expensive. Above-ground drip irrigation methods are cheaper but often require more planning around where plants are installed (Alexander 2003). If an above-ground

method is chosen, the irrigation system must be removed after two years to avoid roots growing around the piping.

Maintenance Activities

Recommended maintenance activities are designed to prevent current poor habitat conditions from returning after the initial mitigation process is complete. Every six months, all litter including paper, plastic, bottles, construction debris, yard debris, etc., will be removed, as well as all invasive and noxious vegetation. Invasive species will be removed according to recommendations in Section 8.3.2.

Maintenance activities will be logged and a summary of all maintenance conducted will be included in the annual monitoring report.

8.3.5 Monitoring and Contingency Plan

The following sections describe the planting plan's monitoring program. As described below, qualified professionals will monitor the site annually for a total of five years. For clarification, the year during which construction of the site is completed (including plant installation) will be Monitoring Year 0 (as-built).

All monitoring described below is consistent with the Buffer Mitigation Plan (Grette Associates 2023).

Post-Installation Inspections and Monitoring

Compliance monitoring will consist of evaluating the plantings immediately after construction to confirm the plan was followed and plants were installed appropriately. A walk-through survey will be conducted by a qualified biologist to verify that the installation conforms to the approved plan. Fixed points will be established within the restoration areas, with each point to be used for photo-point documentation during long-term monitoring. Following completion of the post-installation inspection, a memorandum will be prepared to verify that the restoration was correctly implemented and document any changes to the planting plan that may have occurred. The post-installation inspection will occur no later than 30 days after plants have been installed.

Long-Term Monitoring

Long-term monitoring will be conducted over a five-year period with observations conducted during years 1, 2, 3, 4, and 5, per DMC 25.105.100 (Table 4). The purpose of the long-term monitoring program is to evaluate the establishment and maintenance of the plant communities within the enhancement areas, and to determine if the goals and objectives of the plan have been met. Photographs will be taken at each photo point to document the development of the vegetation communities at the site.

Representative transects will be established during the post-installation inspection. These transects will be used for line-intercept sampling to document native plant coverage estimates to ensure canopy coverage development and success.

Performance Standards

Performance standards provide a clear means of evaluating the success of the restoration plan. The following performance standards (Table 4) have been developed to ensure the

mitigation activities have the best chance of success and that any possible issues with the project are identified and rectified in a timely manner.

Table 4. Performance Standards

Restoration Goal	Functional Objective	Performance Standard	Year Inspected	Sampling Method
Enhance and restore stream buffer habitat and provide diverse native vegetation to improve buffer functions	1. Plant an assortment of native trees and shrubs within approx. 53,983 square feet of stream and wetland buffer.	1a. The stream buffer will be free of trash and dumping each monitoring year.	0, 1, 2, 3, 4, 5	As-built, visual walk-through
		1b. A minimum of 80% survival of planted vegetation each monitoring year[1].	0, 1, 2, 3, 4, 5	Plant census
		1c. A minimum 20% native vegetation cover at Year 1, 50% cover at Year 3, and 75% cover at Year 5.[2]	1, 3, 5	Line-intercept
		1c. A maximum of 20% invasive and noxious species coverage at Year 1, then maximum 10% throughout Years 2-5.[3]	0, 1, 2, 3, 4, 5	Visual walk through

[1] 100% percent survival during the post-installation inspection.

[2] Existing native vegetation can count toward canopy coverage requirement.

[3] Class A, B and C-listed species in the most current Washington State Noxious Weed List (as issued by the Washington State Noxious Weed Control Board).

Monitoring Methods

Vegetation surveys will be conducted in accordance with the monitoring schedule to compare results against the performance standards described above. Inspection of the planted material to determine health and vigor of the installations will occur during each monitoring visit.

Vegetation monitoring will include collection of qualitative data during each monitoring visit. Survival will be evaluated by visually assessing the planted vegetation and recording any mortality that was observed. Survival will be compared against the total plant quantity installed within the restoration as defined in the as-built report.

Permanent photo-points will be established during the post-construction inspection in order to obtain representative photographs of the restoration areas. Photo-points will be established during the post construction inspection to document success of the vegetation and development over time. Photographs will be taken from the same locations (and facing the same direction) yearly to document the project's appearance and progress.

The project biologist will submit a monitoring report to the City of DuPont in a timely manner each year in which monitoring occurs detailing the results of that year's monitoring activities. The report will document site conditions, provide a summary of the maintenance actions conducted on the site, and describe any deviations from the monitoring protocols prescribed in this plan. The report will also describe any potential problems observed and recommend changes to the maintenance or monitoring protocols.

Contingency Plan

This contingency plan identifies a planning process for selecting appropriate actions to address failure of specific performance standards. In order to maintain the flexibility needed to respond effectively and appropriately to biological and/or physical conditions, this plan does not present a specific list of actions that will be taken to remedy all specific types of failures at the restoration areas.

While the species selected for planting were chosen based on their ability to thrive in the wetland buffer, some mortality is to be expected. When this occurs, the following general approaches are anticipated:

- If the vegetation planted in the restoration area fails to meet the performance standards, additional planting may occur.
- If a specific species that was originally planted continues to have a high mortality rate over time, an approved substitute may be planted.

9 BIOLOGIST QUALIFICATIONS

9.1 Chad Wallin

Chad Wallin is a Biologist and Pierce County Qualified Wetland Specialist with extensive training in wetland science and ecology restoration. Chad also has professional experience in stream and fish restoration, marine monitoring, mitigation monitoring, and fish and wildlife assessments.

Chad has earned a Bachelor's of Arts degree in Environmental Studies from the University of Washington along with certificates in ecology restoration and wetland science and management. Chad is also a certified Professional Wetland Scientist through the Society of Wetland Scientists.

For a list of representative projects, please contact him at Grette Associates.

9.2 Terra Hauser

Terra Hauser is a Biologist with training in wetland science and management. Terra also has experience in wildlife biology and ecological restoration.

Terra has earned a Bachelor's of Arts and Sciences degree from Quest University Canada along with a certificate in Wetland Science and Management from the University of Washington.

For a list of representative projects, please contact her at Grette Associates.

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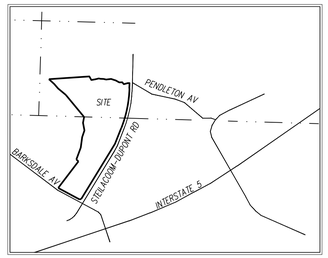
MUSTARD SEED LEGACY DEVELOPMENT LLC

HABITAT MANAGEMENT PLAN

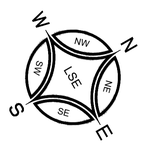
APPENDIX A: PROJECT PLANS

CHAMPIONS CENTRE
OVERALL SITE PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE4x E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON



VICINITY MAP
SCALE: 1" = 1000'



GRAPHIC SCALE
80 0 40 80 160 320
1 INCH = 80 FEET

SURVEYOR'S NOTE:
THE 84" STORM DRAINAGE PIPE LOCATIONS, AS SHOWN ON THIS MAP, ARE PROVIDED BY OTHER AND ARE NOT A PRODUCT OF FIELD VERIFIED LOCATION BY LEROY SURVEYOR'S AND ENGINEERS INC. THE CONTRACTOR IS REQUIRED TO POTHOLE THE LOCATION OF THE PIPE AND CONTACT THE ENGINEER AND SURVEYOR TO MAP ITS ACCURATE LOCATION PRIOR TO ANY CONSTRUCTION.

Wetland and Stream Buffer Enhancement
Approximately 53,983 sq ft

Reduced Wetland and Stream Buffer
Approximately 24,833 sq ft

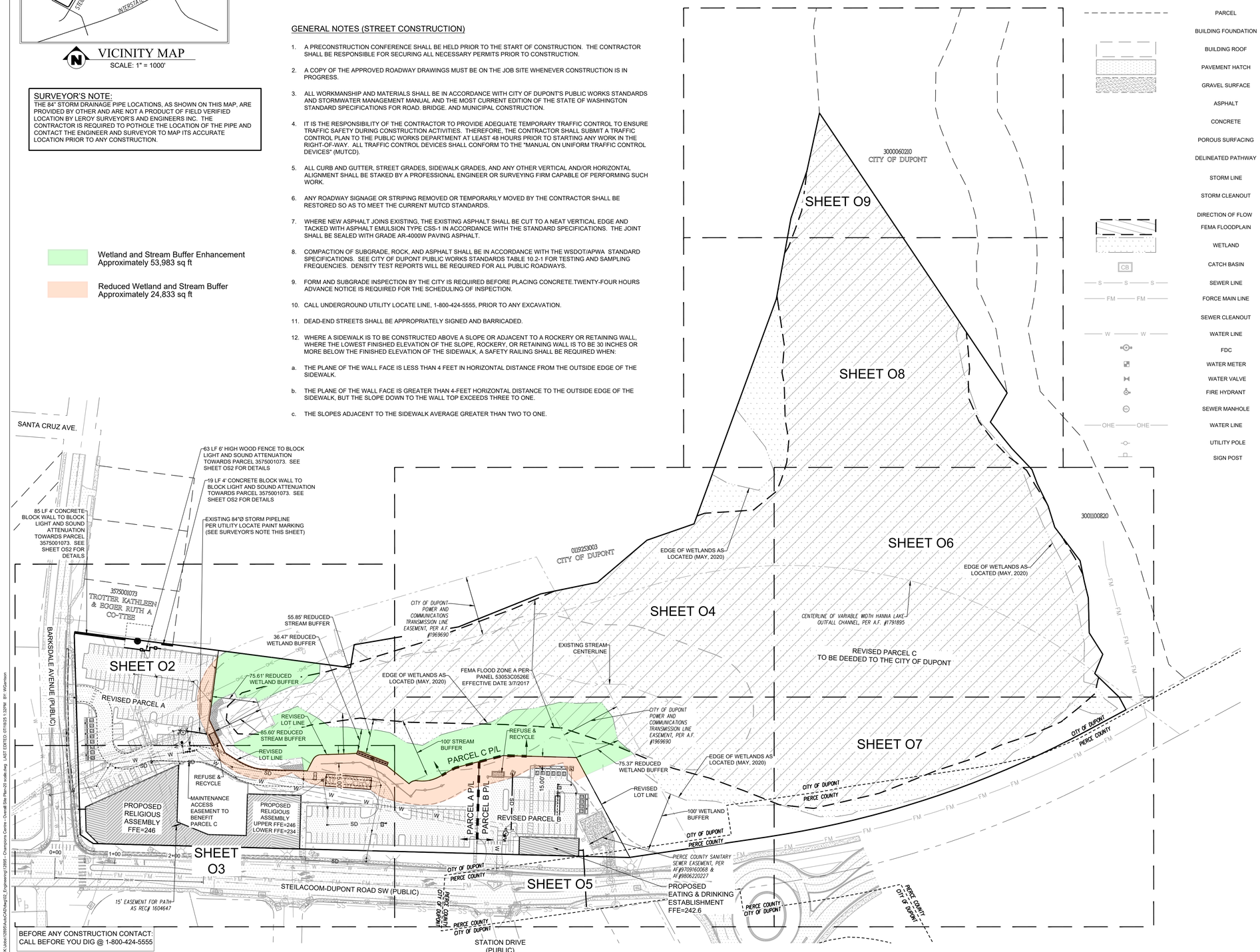
GENERAL NOTES (STREET CONSTRUCTION)

1. A PRECONSTRUCTION CONFERENCE SHALL BE HELD PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION.
2. A COPY OF THE APPROVED ROADWAY DRAWINGS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
3. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH CITY OF DUPONT'S PUBLIC WORKS STANDARDS AND STORMWATER MANAGEMENT MANUAL AND THE MOST CURRENT EDITION OF THE STATE OF WASHINGTON STANDARD SPECIFICATIONS FOR ROAD. BRIDGE. AND MUNICIPAL CONSTRUCTION.
4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ADEQUATE TEMPORARY TRAFFIC CONTROL TO ENSURE TRAFFIC SAFETY DURING CONSTRUCTION ACTIVITIES. THEREFORE, THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE PUBLIC WORKS DEPARTMENT AT LEAST 48 HOURS PRIOR TO STARTING ANY WORK IN THE RIGHT-OF-WAY. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD).
5. ALL CURB AND GUTTER, STREET GRADES, SIDEWALK GRADES, AND ANY OTHER VERTICAL AND/OR HORIZONTAL ALIGNMENT SHALL BE STAKED BY A PROFESSIONAL ENGINEER OR SURVEYING FIRM CAPABLE OF PERFORMING SUCH WORK.
6. ANY ROADWAY SIGNAGE OR STRIPING REMOVED OR TEMPORARILY MOVED BY THE CONTRACTOR SHALL BE RESTORED SO AS TO MEET THE CURRENT MUTCD STANDARDS.
7. WHERE NEW ASPHALT JOINS EXISTING, THE EXISTING ASPHALT SHALL BE CUT TO A NEAT VERTICAL EDGE AND TACKED WITH ASPHALT EMULSION TYPE CSS-1 IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. THE JOINT SHALL BE SEALED WITH GRADE AR-4000W PAVING ASPHALT.
8. COMPACTION OF SUBGRADE, ROCK, AND ASPHALT SHALL BE IN ACCORDANCE WITH THE WSDOT/APWA STANDARD SPECIFICATIONS. SEE CITY OF DUPONT PUBLIC WORKS STANDARDS TABLE 10.2-1 FOR TESTING AND SAMPLING FREQUENCIES. DENSITY TEST REPORTS WILL BE REQUIRED FOR ALL PUBLIC ROADWAYS.
9. FORM AND SUBGRADE INSPECTION BY THE CITY IS REQUIRED BEFORE PLACING CONCRETE.TWENTY-FOUR HOURS ADVANCE NOTICE IS REQUIRED FOR THE SCHEDULING OF INSPECTION.
10. CALL UNDERGROUND UTILITY LOCATE LINE, 1-800-424-5555, PRIOR TO ANY EXCAVATION.
11. DEAD-END STREETS SHALL BE APPROPRIATELY SIGNED AND BARRICADED.
12. WHERE A SIDEWALK IS TO BE CONSTRUCTED ABOVE A SLOPE OR ADJACENT TO A ROCKERY OR RETAINING WALL, WHERE THE LOWEST FINISHED ELEVATION OF THE SLOPE, ROCKERY, OR RETAINING WALL IS TO BE 30 INCHES OR MORE BELOW THE FINISHED ELEVATION OF THE SIDEWALK, A SAFETY RAILING SHALL BE REQUIRED WHEN:

a. THE PLANE OF THE WALL FACE IS LESS THAN 4 FEET IN HORIZONTAL DISTANCE FROM THE OUTSIDE EDGE OF THE SIDEWALK.

b. THE PLANE OF THE WALL FACE IS GREATER THAN 4-FEET HORIZONTAL DISTANCE TO THE OUTSIDE EDGE OF THE SIDEWALK, BUT THE SLOPE DOWN TO THE WALL TOP EXCEEDS THREE TO ONE.

c. THE SLOPES ADJACENT TO THE SIDEWALK AVERAGE GREATER THAN TWO TO ONE.



BEFORE ANY CONSTRUCTION CONTACT:
CALL BEFORE YOU DIG @ 1-800-424-5555

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K:\Jobs\12695\AutoCAD\Sheets\Q_Engineering\12695 - Champions Centre - Overall Site Plan-2D traffic.dwg LAST EDITED: 07/18/25 1:32PM BY: WGlennon

EXISTING

510
502
RIGHT-OF-WAY
CENTERLINE
BOUNDARY
LANDSCAPE BUFFER
PARCEL
BUILDING FOUNDATION
BUILDING ROOF
PAVEMENT HATCH
GRAVEL SURFACE
ASPHALT
CONCRETE
POROUS SURFACING
DELINEATED PATHWAY
STORM LINE
STORM CLEANOUT
DIRECTION OF FLOW
FEMA FLOODPLAIN
WETLAND
CB
CATCH BASIN
S S S
SEWER LINE
FM FM
FORCE MAIN LINE
SEWER CLEANOUT
W W
WATER LINE
FDC
WATER METER
WATER VALVE
FIRE HYDRANT
SEWER MANHOLE
OHE OHE
WATER LINE
UTILITY POLE
SIGN POST

LEGEND

2' CONTOURS MAJOR
2' CONTOURS MINOR

PROPOSED

510
502
SD
S S S
W W

PARCEL NUMBERS:
0119362039, 0119362009, 0119362012 & 0119362043

PARCEL AREA:
927,027 S.F. (21.28 AC)

SHEET INDEX:

1. COVER SHEET
2. SITE PLAN AREA 1
3. SITE PLAN AREA 2
4. SITE PLAN AREA 3
5. SITE PLAN AREA 4
6. SITE PLAN AREA 5
7. SITE PLAN AREA 6
8. SITE PLAN AREA 7
9. SITE PLAN AREA 8

PROJECT DESCRIPTION:
THE CHAMPIONS CENTRE PROJECT CONTAINS 4 EXISTING PARCELS. THE OVERALL COMBINED PARCEL AREA OF THE 4 PARCELS IS 927,027 SQUARE FEET (21.28 ACRES). THIS COMMERCIAL PROJECT CONSISTS OF A BOUNDARY LINE ADJUSTMENT TO REDUCE THE NUMBER OF LOTS FROM 4 PARCELS INTO 3 PARCELS. PARCELS A, B & C.

PARCEL A WILL BE 139,369 SQUARE FEET (3.20 ACRE). THIS WILL BE A COMMERCIAL LOT THAT WILL INCLUDE THE CONSTRUCTION OF APPROXIMATELY 26,000 SQUARE FOOT RELIGIOUS ASSEMBLY THAT WILL HAVE A MAXIMUM CONGREGATION OCCUPANCY OF 350 PEOPLE. THE ARCHITECTURAL FOOTPRINT FOR THIS RELIGIOUS ASSEMBLY IS UNIQUE TO ALLOW FOR THE EXISTING GROVE OF LANDMARK OREGON WHITE OAK TREES THAT SIT ON AN EXISTING KNOLL TO BE PROTECTED AND REMAIN ON-SITE. THIS PROPERTY WILL ALSO HAVE A TOTAL OF 136 PARKING STALLS. THE PARKING STALLS WILL INCLUDE 8 ELECTRIC VEHICLE STALLS, 5 STANDARD ADA STALLS, 1 VAN ADA STALL AND 122 STANDARD STALLS. THIS PROPERTY WILL BE SERVED BY PUBLIC SEWER & WATER AND WILL HAVE ON-SITE STORM FILTER SYSTEM(S) THAT WILL PROVIDE QUALITY TREATMENT OF ON-SITE STORMWATER RUNOFF. AFTER TREATMENT ONSITE STORMWATER RUNOFF WILL BE CONVEYED TO AN ON-SITE INFILTRATION SYSTEM WHICH WILL PROVIDE QUANTITY MITIGATION.

PARCEL B WILL BE 34,601 SQUARE FEET (0.79 ACRES). THIS WILL BE A COMMERCIAL LOT THAT WILL INCLUDE THE CONSTRUCTION OF APPROXIMATELY 3,000 SQUARE FOOT EATING AND DRINKING ESTABLISHMENT. THE MAXIMUM OCCUPANCY IS UNKNOWN AT THIS TIME. THIS PROPERTY WILL ALSO HAVE A TOTAL OF 39 PARKING STALLS. THE PARKING STALLS WILL INCLUDE 11 ELECTRIC VEHICLE STALLS, 1 STANDARD ADA STALL, 1 VAN ADA STALL AND 26 STANDARD STALLS. THIS PROPERTY WILL BE SERVED BY PUBLIC SEWER & WATER AND WILL HAVE AN ON-SITE CARTRIDGE-STYLE STORM FILTER SYSTEM WHICH WILL PROVIDE QUALITY MITIGATION. TREATED STORMWATER RUNOFF WILL THEN BE CONVEYED TO AND ON-SITE STORMWATER INFILTRATION SYSTEM.

PARCEL C WILL BE 753,056 SQUARE FEET (17.29 ACRES). THIS WILL INCLUDE AN EXISTING WETLAND, WETLAND BUFFER, STREAM, STREAM BUFFER AND FEMA FLOOD ZONE A PER PANEL 53053C0526E EFFECTIVE DATE 3/7/2017. THIS PARCEL WILL BE DEEDED TO THE CITY OF DUPONT.

DATUM:
WASHINGTON SOUTH ZONE NAVD 88

TOPOGRAPHY:
2 FOOT CONTOURS. TOPOGRAPHIC INFORMATION FROM AERIAL MAPPING BY PUGET SOUND LIDAR CONSORTIUM AND VERIFIED BY LS&E

SITE ADDRESS:
XXX BARKSDALE AVE.
DUPONT, WA 98237

PROPERTY OWNER:
MUSTARD SEED LEGACY DEV. LLC
32706 MOUNTAIN HWY E
EATONVILLE, WA 98328

APPLICANT:
CHAMPIONS CENTRE
CONTACT: DAVID YADON, CORPORATE SECRETARY
PHONE: 253-606-9041
1819 E. 72ND ST.
TACOMA, WA 98404

ZONING:
COMM

SURVEY DISCLAIMER:
THIS IS NOT A BOUNDARY SURVEY

OVERALL LANDSCAPE REQUIREMENTS:
20% LANDSCAPE AREA REQUIRED FOR PARCEL A
139,369 S.F. X 20% = 27,874 S.F.
41,140 S.F. PROVIDED

20% LANDSCAPE AREA REQUIRED FOR PARCEL B
34,601 S.F. X 20% = 6,920 S.F.
10,926 S.F. PROVIDED

WETLAND & WETLAND BUFFER AREA:
WETLAND AREA = 624,000 S.F.
ORIGINAL 100' WETLAND BUFFER = 150,401 S.F.
REDUCED WETLAND BUFFER = 125,271 S.F.

STREAM BUFFER AREA:
ORIGINAL 100' STREAM BUFFER = 179,269 S.F.
REDUCED STREAM BUFFER AREA = 171,589 S.F.

07/18/2025
STEVE THEODORE ABRAHAMSON
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER

DATE:
REVISION
1 2 3 4 5 6 7 8 9 10

JOB NO 12695
DATE: 07/18/2025
DESIGNED BY: WG
DRAWN BY: WG
CHECKED BY: SN
APPROVED BY: SN

SURVEYING
ENGINEERING
GEOLOGY
SEPTIC DESIGN
GIS MAPPING

LEROY SURVEYORS & ENGINEERS
P.O. Box 740, Puyallup, Washington 98371
(253) 840-8808 Fax: (253) 840-4140
www.lseinc.com

Cover Sheet

Champions Centre
Overall Site Plan
David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

DRAWING
01
SHEET 01
OF 09

CHAMPIONS CENTRE
OVERALL SITE PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE4x E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE
20 0 10 20 40 80
1 INCH = 20 FEET

Wetland and Stream Buffer Enhancement
Approximately 53,983 sq ft

Reduced Wetland and Stream Buffer
Approximately 24,833 sq ft

3575001073
TROTTER KATHLEEN &
EGGER RUTH A CO-TTEE

LIMITS OF DISTURBANCE FOR EXISTING OAK TREE THAT IS TO REMAIN

85 LF 4' CONCRETE BLOCK WALL TO BLOCK LIGHT AND SOUND ATTENUATION TOWARDS PARCEL 3575001073

63 LF 6' HIGH WOOD FENCE TO BLOCK LIGHT AND SOUND ATTENUATION TOWARDS PARCEL 3575001073

EXISTING OAK TREE THAT IS TO REMAIN

19 LF 4' CONCRETE BLOCK WALL TO BLOCK LIGHT AND SOUND ATTENUATION TOWARDS PARCEL 3575001073

10' MODERATE LANDSCAPE BUFFER

0119253003
CITY OF DUPONT

CITY OF DUPONT POWER AND COMMUNICATIONS TRANSMISSION LINE EASEMENT, PER A.F. #1969690

EX. 100' STREAM BUFFER TO BE REDUCED IN THIS AREA

EX. 100' WETLAND BUFFER TO BE REDUCED IN THIS AREA

MARKED PEDESTRIAN PATHWAY

PARCEL A P/LS

PARCEL C P/L

100' STREAM BUFFER

100' WETLAND BUFFER

REVISED LOT LINE

75.61' REDUCED WETLAND BUFFER

85.60' REDUCED STREAM BUFFER

EDGE OF WETLANDS AS LOCATED (MAY, 2020)

EXISTING STREAM CENTERLINE

FEMA FLOOD ZONE A PER PANEL 53053C0526E EFFECTIVE DATE 3/7/2017

REVISED PARCEL C
TO BE DEEDED TO THE CITY OF DUPONT

15' EASEMENT FOR PATH AS REC# 1604647

BARKSDALE AVENUE (PUBLIC)

REVISED PARCEL A

REFUSE & RECYCLE

EXISTING 84"Ø STORM PIPELINE OUTLET

EX. DIRT ACCESS ROAD

36.47' REDUCED WETLAND BUFFER

55.85' REDUCED STREAM BUFFER

EXISTING 84"Ø STORM PIPELINE PER UTILITY LOCATE PAINT MARKING (SEE SURVEYOR'S NOTE THIS SHEET)

CENTERLINE OF VARIABLE WIDTH HANNA LAKE OUTFALL CHANNEL, PER A.F. #1791895

MATCHLINE SHEET O3

MATCHLINE SHEET O4

BEFORE ANY CONSTRUCTION CONTACT:
CALL BEFORE YOU DIG @ 1-800-424-5555

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K:\Jobs\12895\Acad\CAD\dwg\02_Engineering\12895 - Champions Centre - Overall Site Plan.dwg LAST EDITED 07/18/25 1:30PM BY YHOANG

07/18/2025
STEVE THEODORE ERLANSON
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER

REVISION	DATE
1	
2	
3	
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5	
6	
7	
8	
9	
10	

JOB NO: 12895
DATE: 07/18/2025
DESIGNED BY: WG
DRAWN BY: WG
CHECKED BY: SN
APPROVED BY: SN

SURVEYING
ENGINEERING
GEOLOGY
SEPTIC DESIGN
GIS MAPPING

LEROY SURVEYORS & ENGINEERS
P.O. Box 740, Puyallup, Washington 98371
(253) 848-6068 Fax: (253) 840-4140
www.lserlc.com

Site Plan Area 1

Champions Centre
Overall Site Plan
David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

DRAWING
02
SHEET 02
OF 09

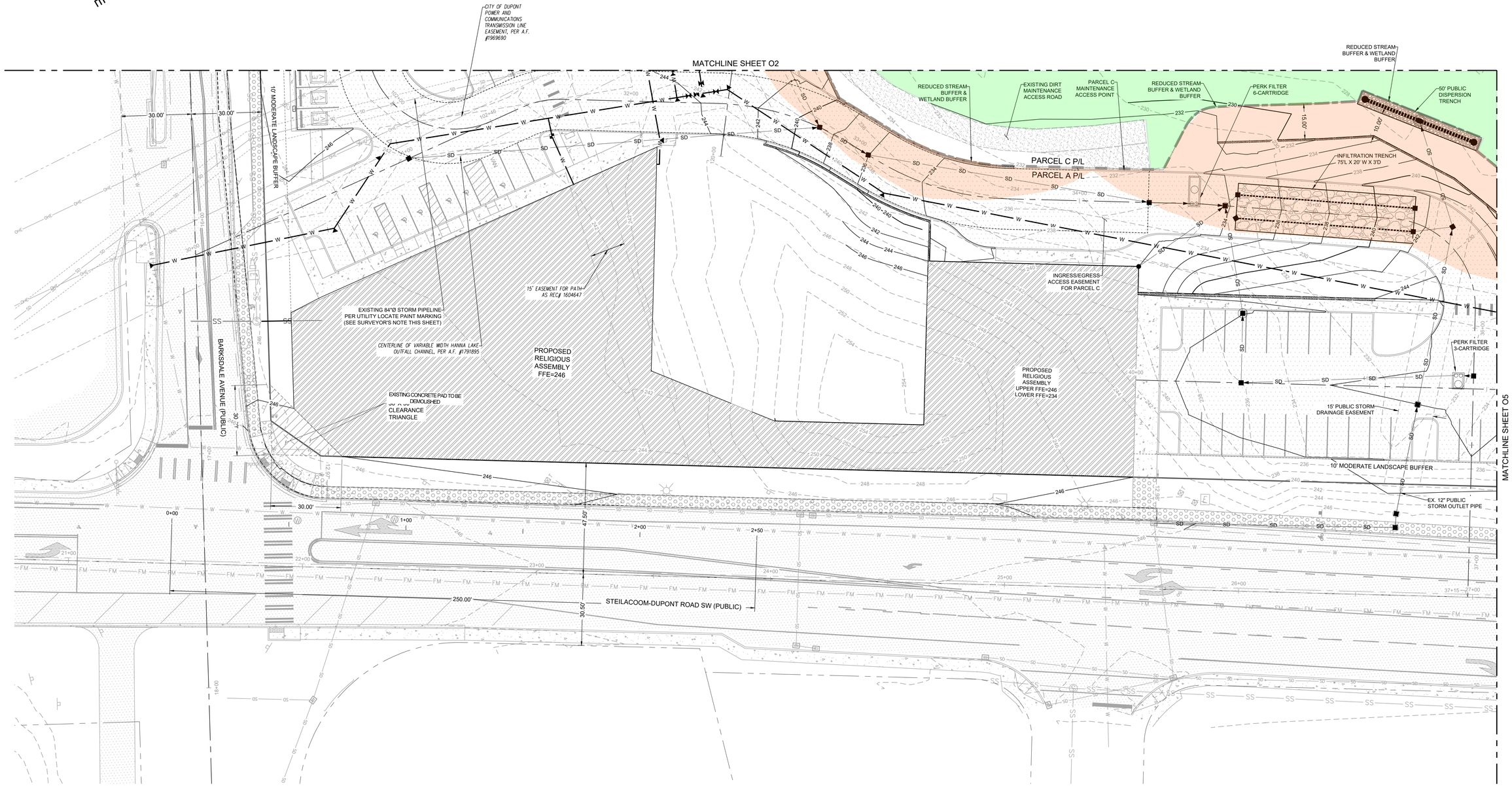
CHAMPIONS CENTRE
OVERALL SITE PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE4x E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE
20 0 10 20 40 80
1 INCH = 20 FEET

Wetland and Stream Buffer Enhancement
Approximately 53,983 sq ft

Reduced Wetland and Stream Buffer
Approximately 24,833 sq ft



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CALL BEFORE YOU DIG @ 1-800-424-5555

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07/18/2025
STEVE THEODORE ERIKSEN
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER

DATE:

REVISION
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DATE: 07/18/2025
DESIGNED BY: WG
DRAWN BY: WG
CHECKED BY: SN
APPROVED BY: SN

SURVEYING
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GIS
GIS MAPPING

LEROY SURVEYORS & ENGINEERS
P.O. Box 740, Puyallup, Washington 98371
(253) 846-6068 Fax: (253) 840-4140
www.lserinc.com

Site Plan Area 2

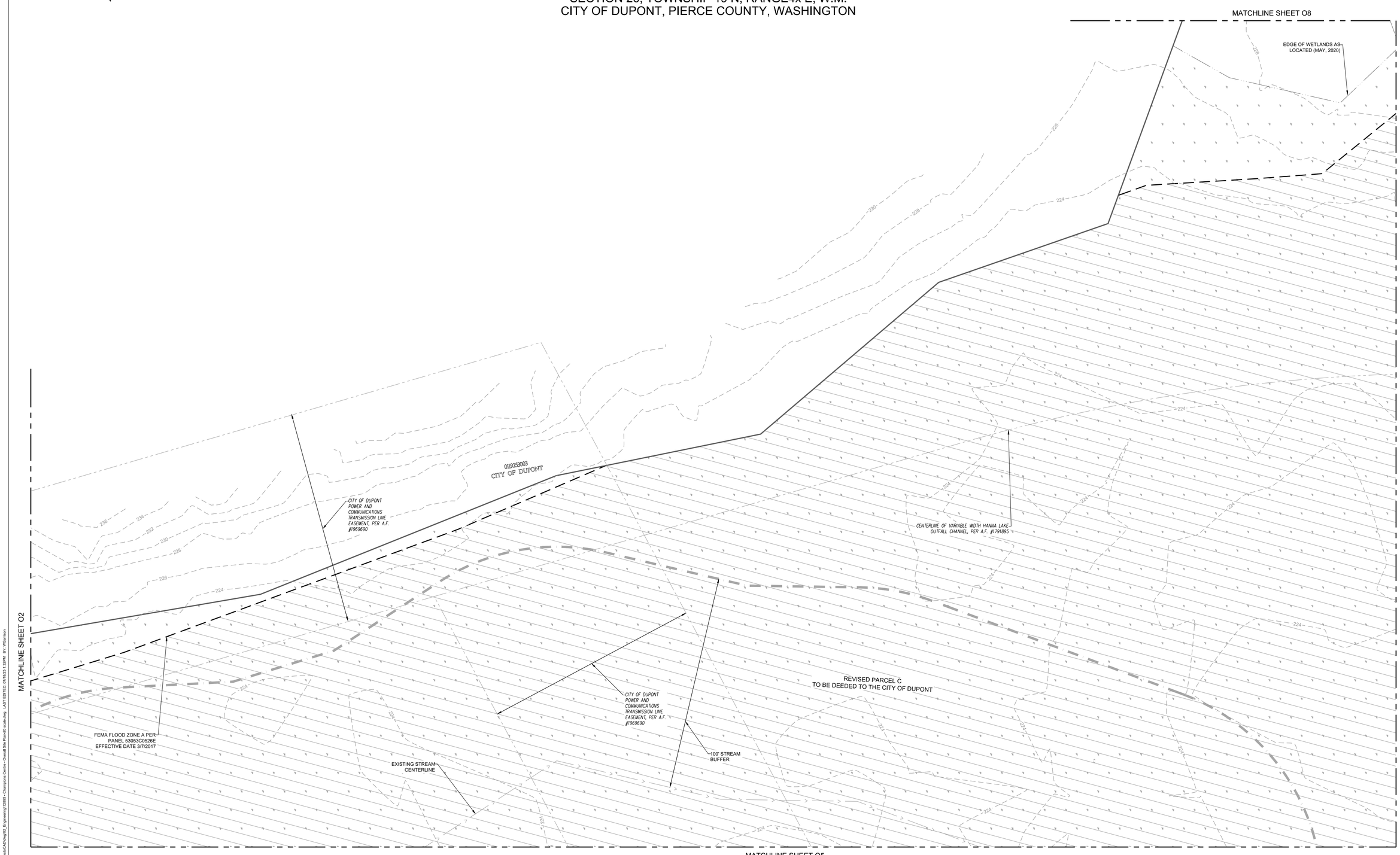
Champions Centre
Overall Site Plan
David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

DRAWING
O3
SHEET 03
OF 09

CHAMPIONS CENTRE
OVERALL SITE PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE4x E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE
20 0 10 20 40 80
1 INCH = 20 FEET



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STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER

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JOB NO: 12995
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Site Plan Area 3

Champions Centre
Overall Site Plan
David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

DRAWING
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OF 09

CHAMPIONS CENTRE
OVERALL SITE PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE4x E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE
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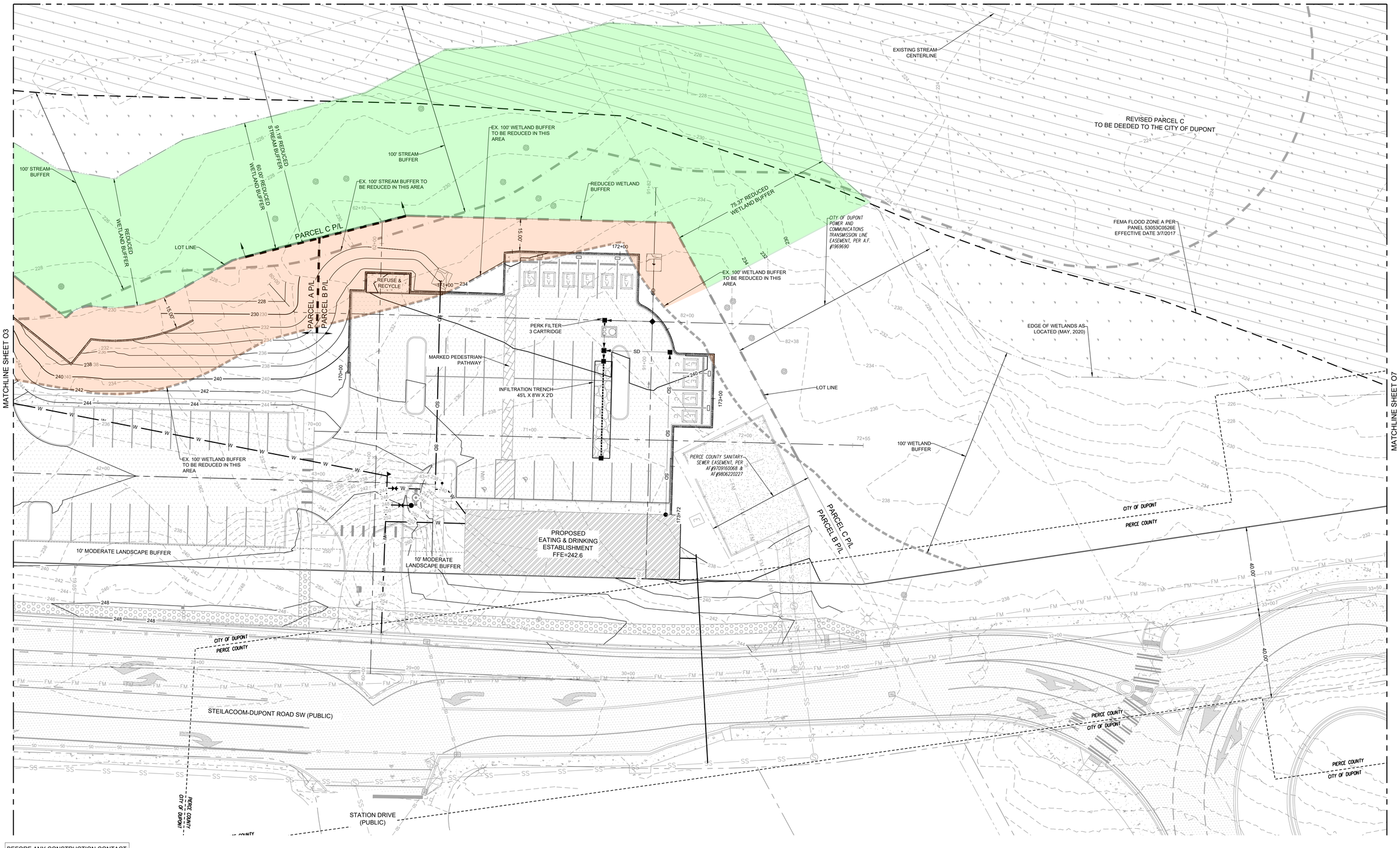
1 INCH = 20 FEET

Wetland and Stream Buffer Enhancement
Approximately 53,983 sq ft

Reduced Wetland and Stream Buffer
Approximately 24,833 sq ft



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Site Plan Area 4

Champions Centre
Overall Site Plan
David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

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OF 09

CHAMPIONS CENTRE
OVERALL SITE PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF
SECTION 26, TOWNSHIP 19 N, RANGE4x E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE
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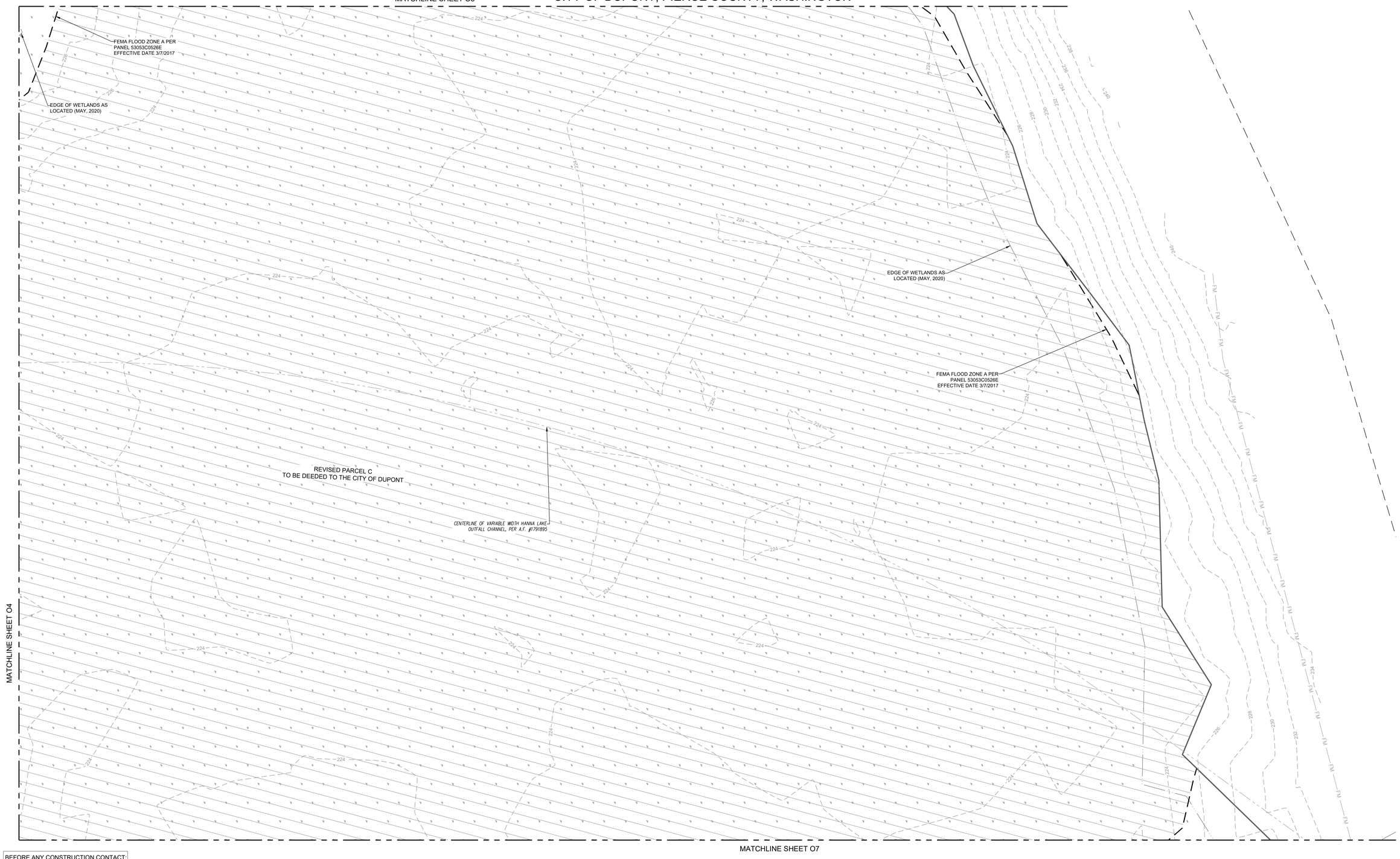

MATCHLINE SHEET O4

MATCHLINE SHEET O7

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STEVE THEODORE ERLANSON
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Site Plan Area 5

Champions Centre
Overall Site Plan
David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

DRAWING
06
SHEET 06
OF 09

CHAMPIONS CENTRE
OVERALL SITE PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF
SECTION 26, TOWNSHIP 19 N, RANGE4x E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE

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1 INCH = 20 FEET

MATCHLINE SHEET O6

MATCHLINE SHEET O5

FEMA FLOOD ZONE A PER
PANEL 53053C0526E
EFFECTIVE DATE 3/7/2017

EDGE OF WETLANDS AS-
LOCATED (MAY, 2020)

CITY OF DUPONT
PIERCE COUNTY

CENTERLINE OF VARIABLE WIDTH HANNA LAKE
OUTFALL CHANNEL, PER A.F. #1791895

60.00'

STEILACOOM-DUPONT ROAD SW (PUBLIC)

PIERCE COUNTY
CITY OF DUPONT

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07/18/2025
STEVE THEODORE ABRAHAMSON
STATE OF WASHINGTON
22007
REGISTERED
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JOB NO. 12895
DATE: 07/18/2025
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Site Plan Area 6

Champions Centre
Overall Site Plan

David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

DRAWING
07
SHEET 07
OF 09

CHAMPIONS CENTRE
OVERALL SITE PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF
SECTION 26, TOWNSHIP 19 N, RANGE4x E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE
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1 INCH = 20 FEET

MATCHLINE SHEET O9

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CITY OF DUPONT

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TROTTER KATHLEEN &
EGGER RUTH A CO-TTEE

FEMA FLOOD ZONE A PER
PANEL 53053C0526E
EFFECTIVE DATE 3/7/2017

REVISED PARCEL C
TO BE DEEDED TO THE CITY OF DUPONT

EDGE OF WETLANDS AS
LOCATED (MAY, 2020)

MATCHLINE SHEET O4

MATCHLINE SHEET O6

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STATE OF WASHINGTON
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PROFESSIONAL ENGINEER

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DATE 07/18/2025
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APPROVED BY SN

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(253) 848-6688 Fax: (253) 840-4140
www.sterrc.com

Site Plan Area 7

Champions Centre
Overall Site Plan
David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

DRAWING
08
SHEET 08
OF 09

CHAMPIONS CENTRE
OVERALL SITE PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE4x E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE
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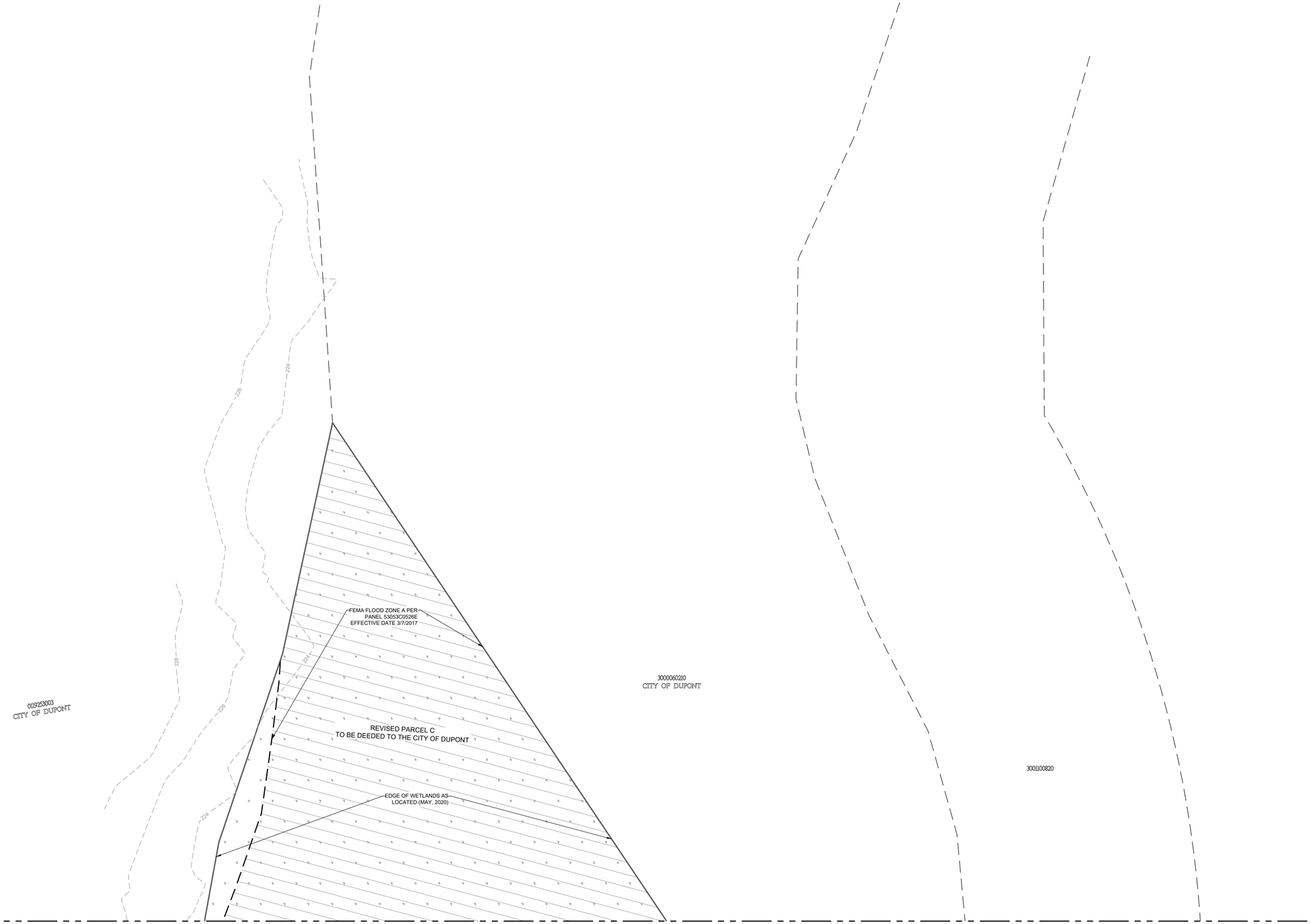

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07/18/2025
STEVE THEODORE NELSON
STATE OF WASHINGTON
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PROFESSIONAL ENGINEER

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JOB NO: 12995
DATE: 07/18/2025
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GPS
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Site Plan Area 8

Champions Centre
Overall Site Plan
David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

DRAWING
O9
SHEET 09
OF 09

MUSTARD SEED LEGACY DEVELOPMENT LLC

HABITAT MANAGEMENT PLAN

APPENDIX B: QUERIED DATABASE FIGURES

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

NOT FOR CONSULTATION

Location

Pierce County, Washington

Local office

Washington Fish And Wildlife Office

(360) 753-9440
(360) 753-9405

510 Desmond Drive Se, Suite 102
Lacey, WA 98503-1263

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
North American Wolverine *Gulo gulo luscus* Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5123	Proposed Threatened

NOT FOR CONSULTATION

Birds

NAME	STATUS
Marbled Murrelet Brachyramphus marmoratus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/4467	Threatened
Streaked Horned Lark Eremophila alpestris strigata Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/7268	Threatened
Yellow-billed Cuckoo Coccyzus americanus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/3911	Threatened

Fishes

NAME	STATUS
Bull Trout Salvelinus confluentus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8212	Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate
Taylor's (=whulge) Checkerspot Euphydryas editha taylori Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5907	Endangered

Flowering Plants

NAME	STATUS
Golden Paintbrush Castilleja levisecta Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7706	Threatened

NOT FOR CONSULTATION

Marsh Sandwort Arenaria paludicola Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2229	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act.

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

Additional information can be found using the following links:

- Eagle Managment https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

There are bald and/or golden eagles in your project area.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list,click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Jan 1 to Sep 30

NOT FOR CONSULTATION

Golden Eagle *Aquila chrysaetos* Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (▪)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

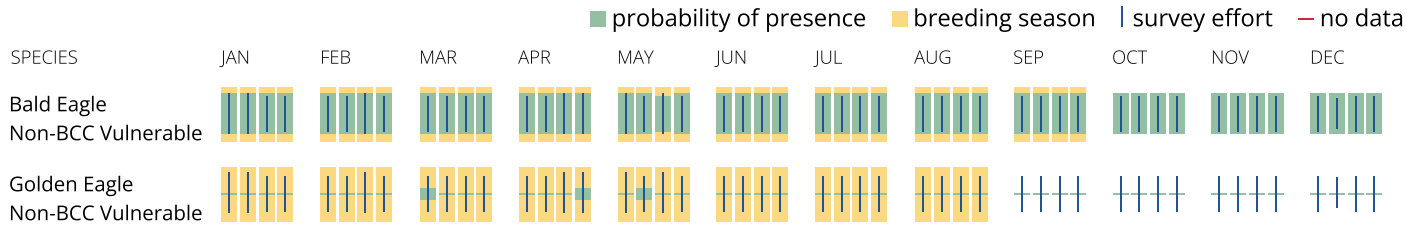
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

NOT FOR CONSULTATION



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

NOT FOR CONSULTATION

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Jan 1 to Sep 30
Black Swift *Cypseloides niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8878	Breeds Jun 15 to Sep 10
Black Turnstone *Arenaria melanocephala* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
California Gull *Larus californicus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 1 to Jul 31
Cassin's Auklet *Ptychoramphus aleuticus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/6967	Breeds Mar 21 to Sep 21
Evening Grosbeak *Coccothraustes vespertinus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 15 to Aug 10
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

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Lesser Yellowlegs Tringa flavipes This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Marbled Godwit Limosa fedoa This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Olive-sided Flycatcher Contopus cooperi This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Rufous Hummingbird selasphorus rufus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds Apr 15 to Jul 15
Short-billed Dowitcher Limnodromus griseus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds Jun 1 to Aug 10
Western Grebe aechmophorus occidentalis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31
Willet Tringa semipalmata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

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Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in

week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

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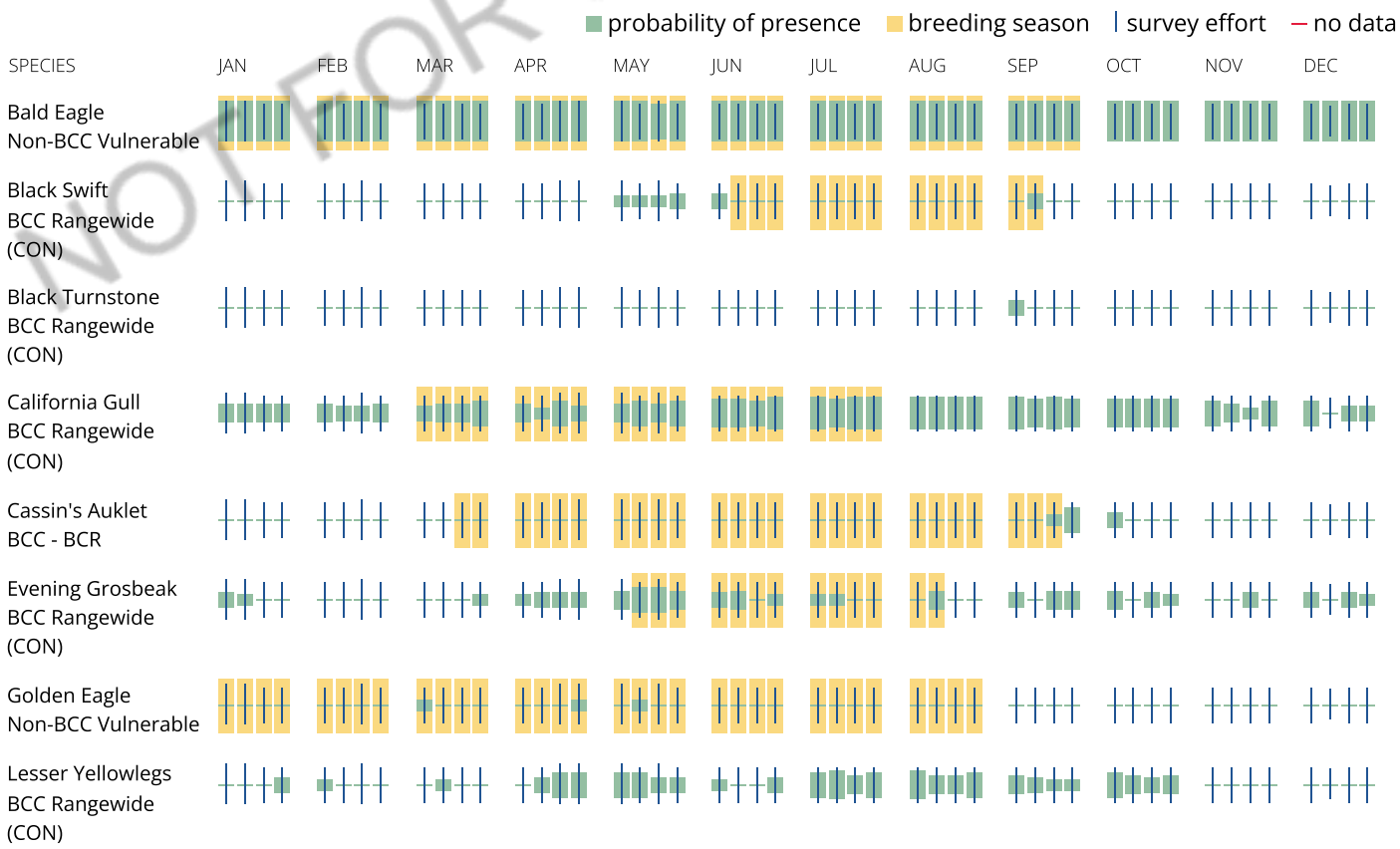

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

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To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

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Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER FORESTED/SHRUB WETLAND

PSSC

RIVERINE

R4SBC

A full description for each wetland code can be found at the National Wetlands Inventory website

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

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The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

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Critical Habitat for Threatened & Endangered Species [USFWS]

Final Polygon Features

Final Linear Features

Proposed Polygon Features

Proposed Linear Features

A specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.

Bureau of Land Management, Esri Canada, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA

National Flood Hazard Layer FIRMette

FEMA

122°37'48"W 47°6'4"N

122°37'10"W 47°5'39"N

Feet 1:6,000

0 250 500 1,000 1,500 2,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 7/3/2023 at 12:12 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

NMFS ESA Critical Habitat Mapper

6/30/2023, 9:23:13 AM

1:9,028

0 0.05 0.1 0.2 mi

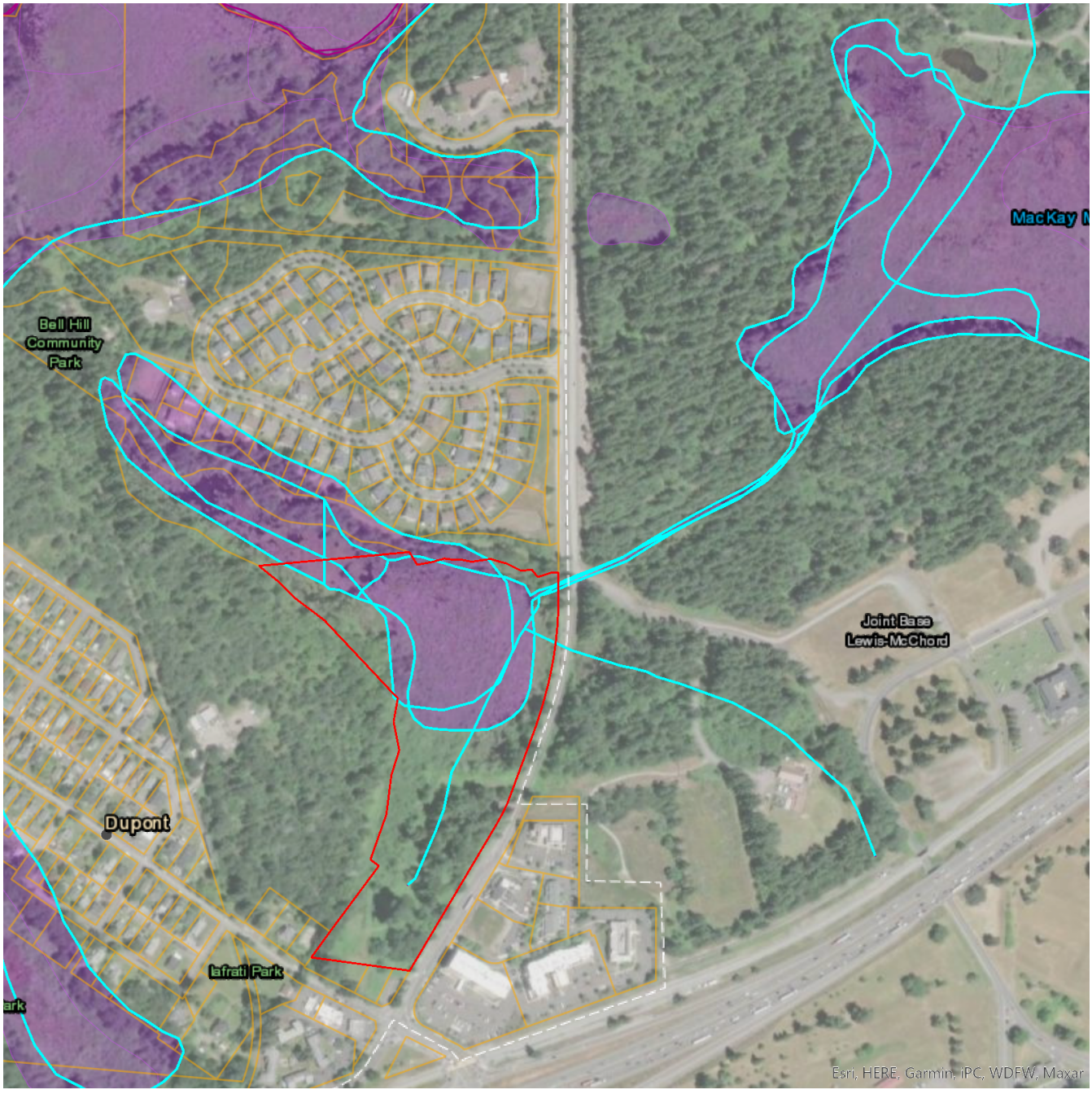
0 0.07 0.15 0.3 km

NOAA National Marine Fisheries Service, Maxar, Esri Community Maps Contributors, WA State Parks GIS, © OpenStreetMap, Microsoft, Esri, HERE,

NOAA Fisheries

NOAA National Marine Fisheries Service | National Marine Fisheries Service | Maxar | Esri Community Maps Contributors, WA State Parks GIS, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land

Priority Habitats and Species on the Web



Report Date: 06/30/2023, Parcel ID: 0119362043

PHS Species/Habitats Overview:

Occurence Name	Federal Status	State Status	Sensitive Location
Resident Coastal Cutthroat	N/A	N/A	No
Wetlands	N/A	N/A	No
Waterfowl Concentrations	N/A	N/A	No
Freshwater Emergent Wetland	N/A	N/A	No
Freshwater Forested/Shrub Wetland	N/A	N/A	No
Big brown bat	N/A	N/A	Yes
Little Brown Bat	N/A	N/A	Yes
Yuma myotis	N/A	N/A	Yes

PHS Species/Habitats Details:

Resident Coastal Cutthroat	
Scientific Name	*Oncorhynchus clarki*
Priority Area	Occurrence/Migration
Accuracy	NA
Notes	LLID: 1226157471121, Fish Name: Cutthroat Trout, Run Time: Unknown or not Applicable, Life History: Unknown
Source Record	49349
Source Dataset	SWIFD
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
More Info	http://wdfw.wa.gov/wlm/diversty/soc/soc.htm
Geometry Type	Lines

Resident Coastal Cutthroat	
Scientific Name	*Oncorhynchus clarki*
Priority Area	Occurrence/Migration
Accuracy	NA
Notes	LLID: 1226220470981, Fish Name: Cutthroat Trout, Run Time: Unknown or not Applicable, Life History: Unknown
Source Record	49472
Source Dataset	SWIFD
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
More Info	http://wdfw.wa.gov/wlm/diversty/soc/soc.htm

Geometry Type	Lines

Wetlands	
Priority Area	Aquatic Habitat
Site Name	SEQUALICHEW CREEK WETLANDS
Accuracy	1/4 mile (Quarter Section)
Notes	WETLANDS ASSOCIATED WITH SEQUALICHEW CREEK DRAINAGE WHICH PROVIDE SIGNIFICANT WINTERING WATERFOWL HABITAT AND GENERAL WILDLIFE HABITAT.
Source Record	902594
Source Dataset	PHSREGION
Source Name	NAUER, DON, WDW
Source Entity	WA Dept. of Fish and Wildlife
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html
Geometry Type	Polygons

Waterfowl Concentrations	
Priority Area	Regular Concentration
Site Name	PIERCE COUNTY - NON FARM
Accuracy	1/4 mile (Quarter Section)
Notes	SMALL WATERFOWL CONCENTRATION AREAS, NON AGRICULTURAL.
Source Record	902564
Source Dataset	PHSREGION
Source Name	NAUER, DON WDW
Source Entity	WA Dept. of Fish and Wildlife
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS LISTED OCCURRENCE
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00026
Geometry Type	Polygons

Freshwater Emergent Wetland	
Priority Area	Aquatic Habitat
Site Name	N/A
Accuracy	NA
Notes	Wetland System: Freshwater Emergent Wetland - NWI Code: PEM1/SSF
Source Dataset	NWIWetlands
Source Name	Not Given
Source Entity	US Fish and Wildlife Service
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html
Geometry Type	Polygons

Freshwater Forested/Shrub Wetland	
Priority Area	Aquatic Habitat
Site Name	N/A
Accuracy	NA
Notes	Wetland System: Freshwater Forested/Shrub Wetland - NWI Code: PSS/EM1F
Source Dataset	NWIWetlands
Source Name	Not Given
Source Entity	US Fish and Wildlife Service
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html
Geometry Type	Polygons

Freshwater Forested/Shrub Wetland	
Priority Area	Aquatic Habitat
Site Name	N/A
Accuracy	NA
Notes	Wetland System: Freshwater Forested/Shrub Wetland - NWI Code: PSSC
Source Dataset	NWIWetlands
Source Name	Not Given
Source Entity	US Fish and Wildlife Service
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html
Geometry Type	Polygons

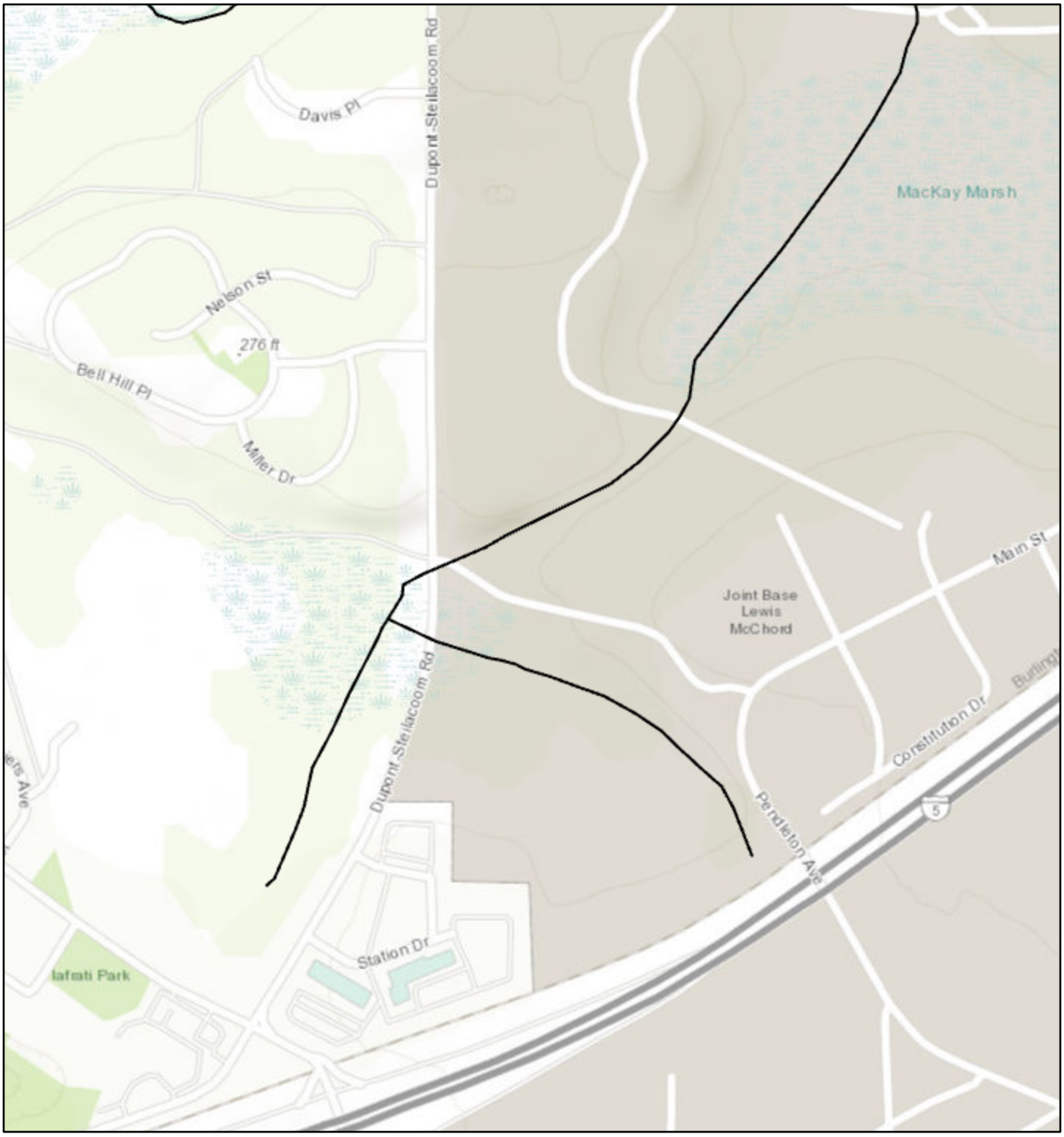
Big brown bat	
Scientific Name	*Eptesicus fuscus*
Notes	This polygon mask represents one or more records of the above species or habitat occurrence. Contact PHS Data Release at phsproducts@dfw.wa.gov for obtaining information about masked sensitive species and habitats.
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
Display Resolution	TOWNSHIP
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00605

Little Brown Bat	
Scientific Name	*Myotis lucifugus*
Notes	This polygon mask represents one or more records of the above species or habitat occurrence. Contact PHS Data Release at phsproducts@dfw.wa.gov for obtaining information about masked sensitive species and habitats.
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
Display Resolution	TOWNSHIP
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00605

Yuma myotis	
Scientific Name	*Myotis yumanensis*
Notes	This polygon mask represents one or more records of the above species or habitat occurrence. Contact PHS Data Release at phsproducts@dfw.wa.gov for obtaining information about masked sensitive species and habitats.
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
Display Resolution	TOWNSHIP
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00605

DISCLAIMER. This report includes information that the Washington Department of Fish and Wildlife (WDFW) maintains in a central computer database. It is not an attempt to provide you with an official agency response as to the impacts of your project on fish and wildlife. This information only documents the location of fish and wildlife resources to the best of our knowledge. It is not a complete inventory and it is important to note that fish and wildlife resources may occur in areas not currently known to WDFW biologists, or in areas for which comprehensive surveys have not been conducted. Site specific surveys are frequently necesssary to rule out the presence of priority resources. Locations of fish and wildlife resources are subject to variation caused by disturbance, changes in season and weather, and other factors. WDFW does not recommend using reports more than six months old.

Resident Coastal Cutthroat



June 30, 2023

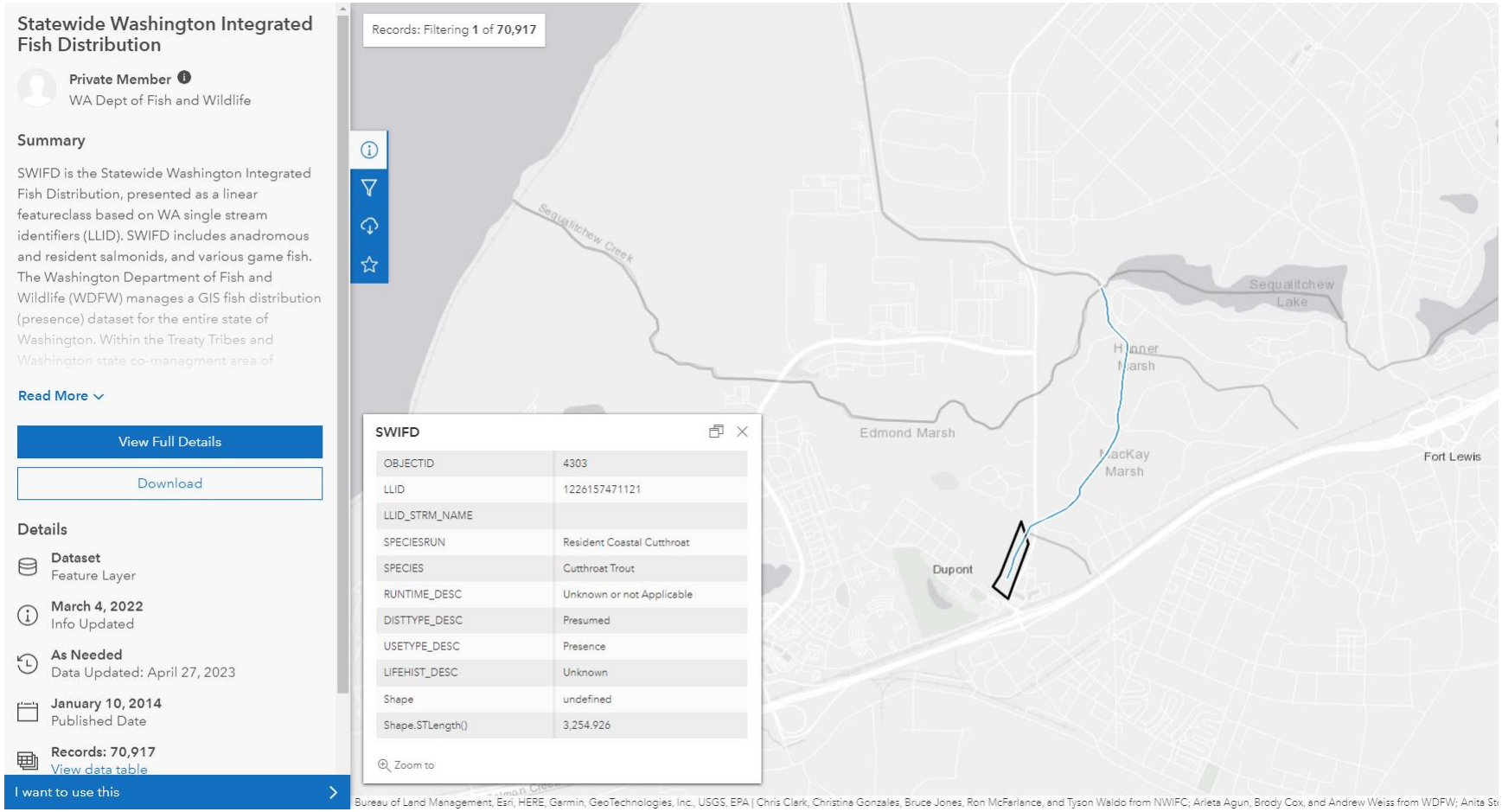
All SalmonScape Species

1:9,028

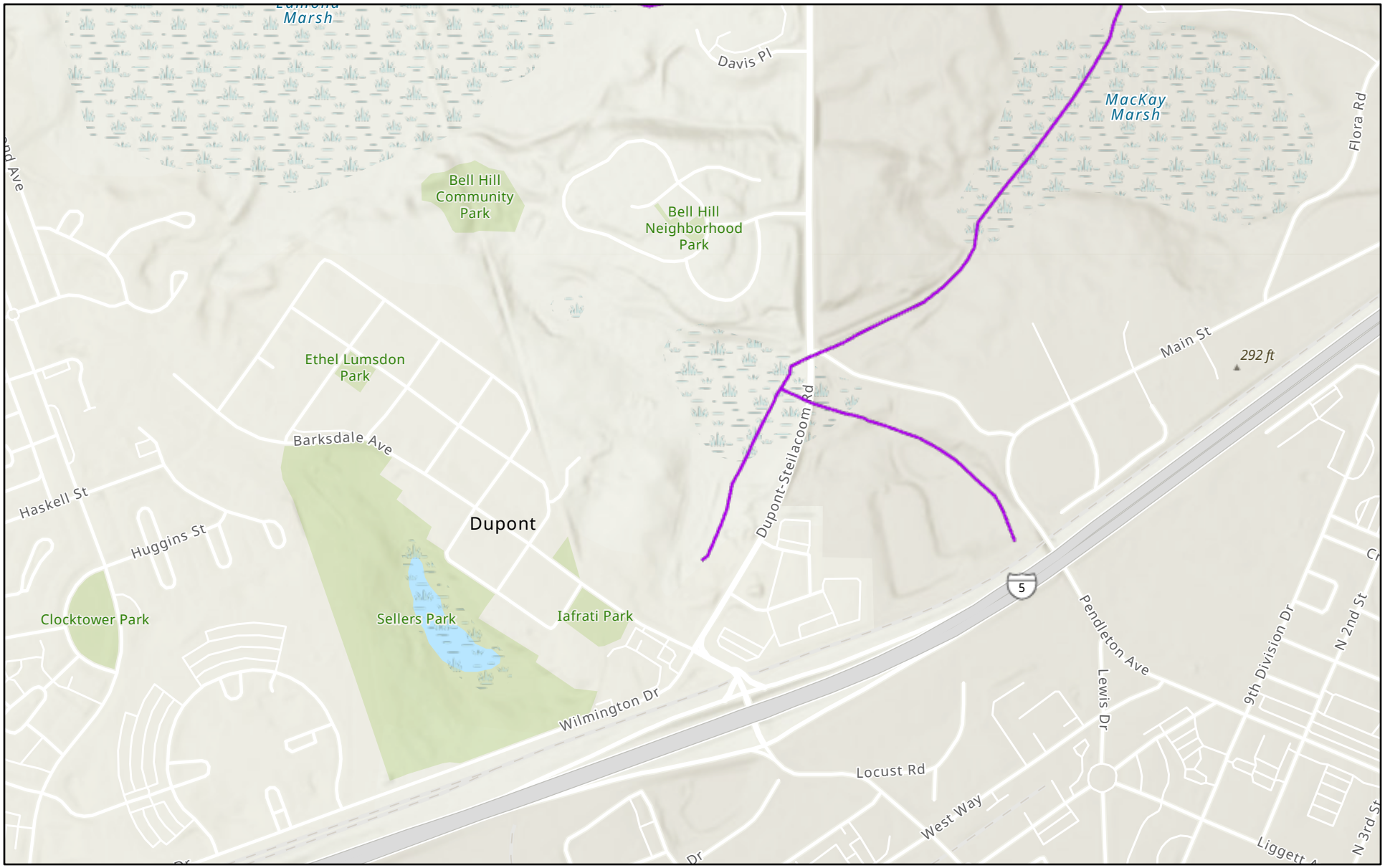
0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

Bureau of Land Management, Esri Canada, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA, WDFW


Statewide Washington Integrated Fish Distribution
Private Member
WA Dept of Fish and Wildlife
Summary
SWIFD is the Statewide Washington Integrated Fish Distribution, presented as a linear featureclass based on WA single stream identifiers (LLID). SWIFD includes anadromous and resident salmonids, and various game fish. The Washington Department of Fish and Wildlife (WDFW) manages a GIS fish distribution (presence) dataset for the entire state of Washington. Within the Treaty Tribes and Washington state co-managment area of
Read More
View Full Details
Download
Details
Dataset
Feature Layer
March 4, 2022
Info Updated
As Needed
Data Updated: April 27, 2023
January 10, 2014
Published Date
Records: 70,917
View data table
I want to use this
Records: Filtering 1 of 70,917
Sequalitchew Creek
Sequalitchew Lake
Edmond Marsh
MacKay Marsh
Fort Lewis
Dupont
SWIFD
OBJECTID 4303
LLID 1226157471121
LLID_STRM_NAME
SPECIESRUN Resident Coastal Cutthroat
SPECIES Cutthroat Trout
RUNTIME_DESC Unknown or not Applicable
DISTTYPE_DESC Presumed
USETYPE_DESC Presence
LIFEHIST_DESC Unknown
Shape undefined
Shape.STLength() 3,254.926
Zoom to
Bureau of Land Management, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, EPA | Chris Clark, Christina Gonzales, Bruce Jones, Ron McFarlance, and Tyson Waldo from NWIFC; Arleta Agun, Brody Cox, and Andrew Weiss from WDFW; Anita St

Mustard Seed HMP



7/11/2023

Fish Distribution

World Hillshade

1:13,738

0 0.07 0.15 0.3 mi

0 0.13 0.25 0.5 km

Esri, NASA, NGA, USGS, FEMA, Esri Community Maps Contributors, WA State Parks GIS, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc,

Exhibit 4.a

CITY OF DUPONT

Department of Community Development
1700 Civic Drive, DuPont, WA 98327
Telephone: (253) 964-8121
www.dupontwa.gov

January 16, 2023

Sent via email only to: wgarrison@lseinc.com

Champions Centre (Applicant)
Wendy Garrison (Agent)
LeRoy Surveyors & Engineers, Inc.
P.O. Box 740, Puyallup, WA 98371

Project: Champions Centre
Subject: File No. PLNG2023-010 (Site Plan Review)
PLNG2023-011 (Critical Areas/Tree Modification)
PLNG2023-012 (Boundary Line Adjustment/Lot Line Elimination)
PLNG 2023-013 (SEPA)

Dear Ms. Garrison:

On December 20, 2023, the City received a submission and fees due for the following development applications (permit procedure type in parenthesis):

1. Critical Areas Permit (Type III)
2. Tree Modification Permit (Type III)
3. Site Plan Review (Type II)
4. Boundary Line Adjustment (Type I)
5. SEPA Environmental Review (Type I)
6. Transportation Concurrency Review

You have elected to defer Design Review for a future phase. The submission included the following items (listed by application):

All Applications

1. Cover Letter prepared by LeRoy Surveyors & Engineers, Inc. dated December 20, 2023.
2. Title Report provided by Fidelity National Title Insurance Company dated December 11, 2023.
3. SEPA Environmental Checklist prepared by David Yadon dated November 13, 2023.
4. Agent Authorization Affidavit signed and notarized on March 6, 2023.
5. Agent Authorization Affidavit signed and notarized on March 1, 2023.
6. Receipt for fees paid to City dated December 20, 2023.

Site Development

7. Land Use Application signed by David Yadon dated October 2, 2023.
8. Overall Site Plan prepared by LeRoy Surveyors & Engineers dated December 8, 2023.
9. Landscape Plans prepared by ARW Landscape Design dated December 5, 2023.
10. Grading Plans prepared by LeRoy Surveyors & Engineers dated December 8, 2023.

11. Storm Drainage & Utility Plans prepared by LeRoy Surveyors & Engineers dated December 8, 2023.
12. Preliminary Stormwater Report prepared by LeRoy Surveyors & Engineers dated September 22, 2023.
13. Architectural Elevations and Modulation Plans prepared by Elevation Home Designs dated November 15, 2023.
14. Refuse Enclosure prepared by LeRoy Surveyors & Engineers dated October 31, 2023.
15. Traffic Impact Analysis Report prepared by Heath & Associates dated September 1, 2023.
16. Letter of Sewer Availability.
17. Letter of Water Availability.
18. Landscape Plan Review memo prepared by Greenforest dated December 4, 2023.
19. Stormwater Pollution Prevention Plan prepared by LeRoy Surveyors & Engineers dated September 26, 2023.
20. Maintenance and Source Control Manual prepared by LeRoy Surveyors & Engineers dated September 2023.

Critical Area & Tree Modification

1. Land Use Application prepared by LeRoy Surveyors & Engineers dated October 2, 2023.
2. Arborist Report prepared by Greenforest dated September 6, 2023.
3. Geotechnical Report prepared by LeRoy Surveyors & Engineers dated August 24, 2023.
4. Critical Area Report prepared by Grette Associates dated July 2019.
5. Buffer Mitigation Plan prepared by Grette Associates dated December 4, 2023.
6. Habitat Management Plan prepared by Grette Associates dated December 4, 2023.
7. Biologist Memo prepared by Grette Associates dated December 4, 2023.
8. Type III Modification Letter prepared by LeRoy Surveyors & Engineers dated December 20, 2023.
9. Legal Tree Modification Memo prepared by Dille Law dated December 20, 2023.
10. Cultural Resources Study prepared by Drayton Archaeology dated August 15, 2023.
11. Tree Retention Plan prepared by LeRoy Surveyors & Engineers dated November 15, 2023.

Boundary Line Adjustment/Lot Line Elimination

12. Boundary Line Adjustment/Lot Line Elimination Application prepared by LeRoy Surveyors & Engineers dated December 15, 2023.
13. BLA Preliminary Survey prepared by LeRoy Surveyors & Engineers dated December 18, 2023.
14. Lot Closures Exhibit.

Response to PreApp Meeting Comments

15. Technical Response Letter prepared by LeRoy Surveyors & Engineers dated December 19, 2023.
16. Parking Plan prepared by LeRoy Surveyors & Engineers dated November 14, 2023.
17. Public Works Response Data Exhibit.
18. Record of Easements Encumbering Property (35).

As of the date of this letter, your application has been deemed **complete** for processing.

We intend to issue the Notice of Application on January 19, 2024. **You will need to post the site with the notice by that date.** Attached is the notice board installation instructions and affidavit of posting. The notice board should be posted in the approximate location indicated on the map below.

If you have any questions, please call me at 253-912-5393, or email me at bkincaid@dupontwa.gov.

Sincerely,

Barb Kincaid, AICP
Director of Community Development

Notice Board Location

Cc: File No. PLNG2023-010, PLNG2023-011, & PLNG2023-012
Wendy Garrison, LeRoy Surveyors & Engineers, Inc.
Lisa Klein, AHBL, Inc. (representing the City of DuPont)

NOTICE BOARD POSTING REQUIREMENTS

City of DuPont
Department of Community Development
1700 Civic Drive, DuPont, WA 98327
Phone: (253) 964-8121
www.dupontwa.gov

Posting a notice board (i.e., "sign") on the subject property notifies the public of a filed application for a proposed project and is required by DuPont Municipal Code 25.175.030.

Sign Requirements

Placement: Midpoint of the street at the front of the site (or as determined by the director)
5 feet inside the street property line (except when it is structurally attached to an existing building)
Maximum 5 feet from the street (director approval required to exceed 5 feet)
Top of sign is to not exceed 8 feet above grade – must be completely visible to pedestrians

Quantity: 1 board per site
*Additional signs may be required if the site does **not** abut a public road, it is a large site that abuts more than 1 public road, or if the director determines additional notice signs are necessary for adequate public notice*

Material: Weather-resistant

Dimensions: 11 inches x 17 inches (printed area)

Removal Date: Within 15 days following the end of the notice period (notice period ends on comments due date)

Examples

These are for example purposes only.

Items to Submit

The following **must** be emailed to permittech@dupontwa.gov

- ☐ Completed **Affidavit of Posting**
- ☐ Photo(s) of installed posted sign(s)

Questions

Do you have additional questions? Feel free to contact the community development department at (253) 964-8121 or permittech@dupontwa.gov.

AFFIDAVIT OF POSTING

CITY OF DUPONT

1700 Civic Drive, DuPont, WA 98327
Telephone 253.964.8121
www.dupontwa.gov

Application #_____ and City File No._____

I,_____applicant/applicant's agent for the above referenced project number, being duly sworn on oath, deposes and says: That on the _____ day of _____, 20_____ posted a notice, prominently displayed, at the site.

Site/Project Description:_____

_____

_____

_____ _____
Signed By Print Name

_____
Company Name

Submit Form and Photos of Posting to: Permits@dupontwa.gov

Rev.2021

CITY OF DUPONT
Department of Community Development
1700 Civic Drive, DuPont, WA 98327
Telephone: (253) 964-8121
www.dupontwa.gov

NOTICE OF APPLICATION WITH OPTIONAL DNS
Champions Centre

The City of DuPont has received permit applications for the Champions Centre church development that may be of interest to you and you are invited to comment on the proposal.

City File Nos.: Type II Site Plan Review (PLNG2023-010), Type III Critical Areas Permit (PLNG 2023-014), Type III Tree Modification (PLNG2023-011), & Type I Boundary Line Adjustment/Lot Line Elimination (PLNG2023-012), Type I SEPA Environmental Review (PLNG2023-013)

Project Description: The proposal is for the construction of a church to accommodate a congregation of approximately 350 people. The subject property consists of four legal lots of record, which upon approval of the lot line elimination, will become three lots. Although the property consists of approximately 21.29 acres, only approximately 4.1 acres are proposed to be developed as follows:

- Lot A will be approximately 139,369 square feet upon which a 26,000 square foot church and associated parking lot will be constructed.
- Lot B will be approximately 39,928 square feet upon which a 3,000 square foot retail pad will be constructed, along with EV parking as an accessory use that will be open to the public.
- Lot C will be approximately 747,729 square feet upon which the wetland and associated buffer is located and which may be conveyed to the city at the time Lots A and B are developed.

The proposal includes a request to remove regulated landmark trees and to reduce the standard wetland buffer.

Date of Complete Application: January 16, 2024
Date of Notice of Application: January 19, 2024
Comments Due: February 2, 2024

Project Location: The subject property is located at DuPont Steilacoom Road and Barksdale Avenue and includes tax parcel numbers 0119362039, 0119362009, 0119362012, and 0119362043. Section 36 Township 19 Range 01 Quarter 21

Project Applicant/Agent: Wendy Garrison
LeRoy Surveyors & Engineers, Inc.
P.O. Box 740, Puyallup, WA 98371

City Permits, Approvals, and Procedures: Critical Areas Permit (Type III), Tree Modification Permit (Type III), Site Plan Review (Type II), Boundary Line Adjustment (Type I), and SEPA Environmental Review (Type I). The applications will be reviewed concurrently, and a public hearing will be required. A date has not been set for the public hearing; a separate notice of the public hearing will be issued.

Other Potential Permits and Approvals: Other city permits potentially required include a site development permit, design review, transportation concurrency, building permit, sign permit, right-of-way permit, NPDES permit, Pierce County Sewer Division approval. A forest practices permit may also be required.

SEPA: The City of DuPont has reviewed the proposal and probable adverse environmental impacts. A SEPA Mitigated Determination of Non-significance (MDNS) is anticipated.

The optional DNS process in WAC 197-11-355 is being used. **This may be your only opportunity to comment on the environmental impacts of the proposal**. Agencies, tribes, and the public are encouraged to review and comment on the proposed projects and its probable environmental impacts. Comments must be submitted by the date noted above to:

Barb Kincaid, AICP
Director of Public Services
City of DuPont
1700 Civic Drive
DuPont, WA 98327
(253) 912-5393 / bkincaid@dupontwa.gov

The following may require mitigation for the adverse environmental impacts of the proposal: historic and cultural resources, tree protection, critical areas, noise, and traffic mitigation measures are anticipated. (Note: The mitigation measures are in addition to conditions of approval required for adherence to the development regulations listed below.)

Consistency Review: City staff will review the proposed project permit application for consistency with applicable regulations and the comprehensive plan by evaluating the following: (i) The type of land use permitted at the site, including uses that may be allowed if the criteria for their approval have been satisfied; (ii) The level of development; (iii) Availability and adequacy of infrastructure and public facilities identified in the comprehensive plan; (iv) Whether the plan or development regulations provide for funding of these facilities as required by Chapter 36.70A RCW; and (v) The character of the proposed development, as authorized by development regulations, including Title 12, Buildings and Construction; Title 14, Streets, Sidewalks, Curbs, Driveways and Parking Strips; Title 21, Water & Sewer Utilities; Title 22, Stormwater Utility; Title 23, Environment; Title 24, Subdivision Regulations; and Title 25, Land Use Code.

Required Studies: Stormwater Drainage Report, Arborist Report, Geotechnical Report, Critical Areas Report, Buffer Mitigation Plan, Habitat Management Plan, Cultural Resources Study, Transportation Impact Analysis, and a SEPA Checklist.

Public Comment: The public may comment on the proposal by submitting written comments to the City of DuPont by 5 p.m. February 2, 2024. Copies of all application plans and documents may be viewed at City Hall at the location listed below or at the following website location: https://www.dupontwa.gov/139/Active-Development-Projects.

Comments must be submitted by the date noted above. They may be submitted via email to bkincaid@dupontwa.gov or mailed or dropped off to City Hall at the address provided above.

CITY OF DUPONT
Department of Community Development
1700 Civic Drive, DuPont, WA 98327
Telephone: (253) 964-8121
www.dupontwa.gov

SEPA ENVIRONMENTAL POLICY ACT

NOTICE OF DECISION TO ISSUE A MITIGATED DETERMINATION OF NONSIGNIFICANCE

Champions Centre

City File Number: SEPA2023-013 (SEPA)
Related File Numbers: PLNG2023-010 (Site Plan Review), PLNG2023-014 (Critical Areas Permit), PLNG2023-011 (Tree Modification), PLNG2025-010 (Design Review)

Description of proposal: The proposal is for the construction of a church to accommodate a congregation of approximately 350 people and an eating and drinking establishment. The subject property consists of four legal lots of record, which upon approval of the lot line adjustment, will become three lots. Although the property consists of approximately 21.29 acres, only approximately 4.1 acres are proposed to be developed as follows:

- Lot A will be approximately 3.2 acres (139,369 square feet) upon which a 26,000 square foot church and associated parking lot will be constructed.
- Lot B will be approximately 0.79 acre (34,601 square feet) upon which a 3,000 square foot eating and drinking establishment will be constructed, along with EV parking as an accessory use that will be open to the public.
- Lot C will be approximately 17.28 acres (753,056 square feet) upon which the wetland and associated buffer is located and which may be conveyed to the city at the time Lots A and B are developed.

The proposal site is undeveloped land that includes mature forest canopy consisting of native trees, a mixed understory with documented presence of common invasive plant species, scattered stands of trees including Oregon white oaks, and a 20-acre wetland with associated stream known as the Bell Marsh. Clearing, grading, and site preparation will include removal of 62% of the trees on-site. Replacement trees will be required at the rate required by City Code. A Type III Tree Modification Request is included in the proposal. The applicant is proposing to remove 3 Landmark Trees within the development footprint and to replace them with 75 mature trees of same species. The proposal includes implementation of a Buffer Mitigation Plan and Habitat Management Plan in order to accommodate a reduced wetland buffer around Bell Marsh.

Project Location: The subject property is located at DuPont Steilacoom Road and Barksdale Avenue and includes tax parcel numbers 0119362039, 0119362009, 0119362012, and 0119362043. Section 36 Township 19 Range 01 Quarter 21.

Proponent: Wendy Garrison
LeRoy Surveyors & Engineers, Inc.
P.O. Box 740, Puyallup, WA 98371

Lead Agency: City of DuPont

Responsible Official: Barb Kincaid
Director of Public Services
City of DuPont

Contact Information: Barb Kincaid, City of DuPont, 1700 Civic Drive, DuPont, WA 98327, 253-912-5393

The Responsible Official hereby makes the following findings and conclusions based on a review of the environmental checklist and attachments; comments received from City Departments and consultants; other information on file with the City and the policies, plans and regulations designated by the City of DuPont as a basis for the exercise of substantive authority under RCW 43.21C.060.

The lead agency has determined that the requirements for environmental analysis and protection have been adequately addressed in the development regulations and comprehensive plan adopted under Chapter 36.70A RCW, and mitigation measures have been included as part of this determination which alleviates any probable significant adverse environmental impact.

A Notice of Application with Optional DNS anticipating an MDNS was issued on January 19, 2024. The comment period ended on February 2, 2024. There were 19 comments submitted expressing concern about the project, the majority of which addressed the loss of existing oak trees on the property due to the project. Other issues of concern were the classification of Bell Marsh as a class 1 or 2 wetland, general wetland impacts, vehicle traffic generation, visual compatibility with the Historic Village, and temporary construction impacts. There were also twenty comments submitted in support of the project.

A. FINDINGS

This determination is based on the following findings and conclusions:

1. Earth – The site topography includes gradual to moderate slopes up to 22% in grade that generally descend northwestward from Steilacoom-DuPont Road towards the wetland and Barksdale Avenue. The proposed area of development slopes from a high point of 246 feet in the south corner of the site to a low of approximately 232 feet near the wetland buffer. A Geotechnical Soil Observation Report was prepared for the proposed development by LeRoy Surveyors and Engineers on August 24, 2023, revised October 14, 2024. Soils were found to be generally recessional glacial outwash deposits consisting predominately of Spanaway gravelly sandy loam and there are no indications of unstable soils in the vicinity. Proposed clearing limits are approximately 168,508 square feet and earthwork consists of 2,655 cubic yards of cut and 25,539 cubic yards of fill. Upon completion, the proposed development will result in approximately 118,834 square feet of impervious surface coverage, approximately 66% of the development area. A temporary erosion and sedimentation control (TESC) plan will be implemented during construction to reduce and control erosion impacts.
2. Air – During construction activity, dust and vehicular exhaust from construction equipment are the most likely short-term sources of emissions. The primary source of long-term emissions will be from vehicular exhaust resulting from the proposed development. Watering will be implemented during construction to minimize airborne dust.
3. Water – The subject property is largely dominated by the Bell Marsh wetland and associated stream and is in the FEMA Floodzone A. A critical areas report was prepared by Grette Associates on July 2019, revised May 2024, that delineated Bell Marsh as a Type II wetland and identified the associated stream as a Type F, both of which require a 100-foot protective buffer per City Code. The proposed area of development is outside of the delineated wetland and flood zone, but within the protective buffer. The City has approved reduced wetland buffer ranging from 36 feet to 100 feet in width, with the implementation of a Buffer Mitigation Plan and Habitat Management Plan in order to accommodate for the proposed development while maintaining or enhancing the ecological functions these features provide. The TESC plan will ensure construction activities do not cause erosion impacts to the wetland and stream.

   Current site stormwater runoff flows north into the Bell Marsh wetland. A storm drainage system was designed for the proposed per City of DuPont standards and in accordance with the requirements of the 2019 Ecology Stormwater Manual. Upon completion of the proposed development, the majority of runoff will be collected by catch basins where it will be discharged to on-site stormwater filter systems that will provide quality mitigation and be conveyed to two underground infiltration trenches located in

the parking areas. A minor amount of stormwater runoff will sheet-flow infiltrating the landscaping and into the wetland.

4. Plants – Existing vegetation is a mix of deciduous and coniferous trees and an understory consisting of native and invasive plant species. An arborist report prepared for the proposed development by Greenforest dated January 29, 2025 and a tree retention plan prepared by LeRoy Surveyors & Engineers dated January 28, 2025 identified 84 existing trees on-site, 32 (38%) of which are proposed for retention and 52 (62%) of which are proposed for removal. Tree protection measures are provided to ensure the retained trees do not withstand any damage during grading and construction. The removed trees will be replaced at the rate required by the City Code.
5. Animals – Songbirds, deer, and other animals common in urbanized areas are known to be present onsite. The Washington Dept. of Fish and Wildlife (PHS) map identifies the subject property as high potential for containing habitat for three different bat species. The site is also within the Pacific Flyway for migratory birds. The proposed development is not anticipated to have any negative impacts on wildlife habitat or cause disturbance to wildlife, however, a habitat management plan was developed and will be implemented for the wetland buffer reduction. The habitat management plan includes the removal of invasive plant species, planting of native plant species, and monitoring.
6. Environmental Health – The site is undeveloped but shows signs of human activity and disturbance. There is no known contamination on site and the proposed development will not involve the use or storage of toxic or hazardous materials.
7. Noise – Existing noise is from vehicular traffic on the surrounding streets. Temporary noise associated with construction equipment and traffic is anticipated at acceptable levels and only during the hours allowed by the City Code to ensure noise impacts are limited.
8. Land Use – The site is currently vacant undeveloped land. The portion of the subject property to be developed within proposed Lots A and B is located in the Historic Village, and a portion of the wetland parcel, Lot C, is located in the Bell Hill Village. All subject parcels are in the Commercial zoning district and are surrounded by other Commercial zoned properties to the south and southeast and by Open Space and R3 to the north and northwest.
9. Aesthetics – The proposed development will significantly alter the existing aesthetics of the undeveloped site and will be visible from the surrounding streets and adjacent properties. The church building will be 24 feet tall, the eating and drinking establishment will be 18 feet tall, and surface parking for 173 vehicles including EV charging stations will be provided. To ensure consistency with surrounding neighborhood character, the development will be subject to the City's development regulations and design standards including but not limited to setbacks, buffer landscaping and walls, exterior building materials, and architectural details. The proposed new buffering landscaping and wall will help to provide a visual screen to mitigate the impact to aesthetics.
10. Light and Glare – The primary sources of light or glare resulting from the completed project will be produced from exterior lighting fixtures and vehicle headlights. The main time of day that this will occur is Sunday evenings. The project will utilize light fixtures and landscaping designed to minimize glare and/or light spill affecting adjacent uses and the wetland wildlife habitat.
11. Recreation – The subject property does not currently contain any recreation uses, the nearest facility is Lafrati Park located to the west of the subject property. The proposed development is not anticipated to impact recreation.
12. Historic and Cultural Preservation – There are three local historic landmarks within the immediate vicinity of the proposed site. Lafrati Park/Barksdale Avenue was the original entry point to the Village of DuPont. Within Lafrati Park is a residential structure, built in 1910, that was once the former DuPont Plant manager's residence. There is another residential structure built in 1913 that was once the residence of the former assistant manager of the DuPont Plant. To the west of the site is the Historic

Village, which is on the State and National Register of Historic Places. A cultural resources report prepared for the proposal by Drayton Archeology dated August 15, 2023 concluded that, although the project is in an area of moderate probability for cultural resources, no cultural materials were located during field investigation and recommended that the project proceed without further archaeological oversight.

13. Transportation – The project site is bound by Barksdale Avenue to the southwest and Wilmington Drive to the southeast and the proposal includes full access driveways onto both rights-of-way. The main transportation impacts associated with the proposed development would occur on Sunday morning when church services occur. The proposed restaurant will be the main attractor during the weekday PM peak hour with limited church activity during this same time period. A transportation impact analysis report prepared by Heath and Associates dated September 1, 2023 indicates that the proposed development could potentially generate 360 net new weekday trips and 43 net new trips during the weekday PM peak hour and 329 net new Sunday peak hour trips are estimated. The project will have its greatest impacts at the Barksdale Avenue/DuPont-Steilacoom Road intersection, however, vehicle traffic volumes at this intersection are expected to drop considerably upon completion of the new interchange to the north and operating level of service conditions are expected to be good. The proposed pedestrian right-of-way improvements include replacing the existing sidewalk along Barksdale Avenue and addition of ADA ramps at the intersection. Based on the information presented for the proposed uses, limited transportation impacts are expected.
14. Public Services – The proposed development will need the typical level of public services and utilities, all of which are available on site, and will be required to pay the associated impact fees and/or charges.

B. MITIGATION MEASURES

1. Tree protection measures shall be implemented as specified on the landscape plans prepared by ARW Landscape Design dated August 1, 2025.
2. The Wetland Buffer Mitigation Plan prepared by Grette Associates dated August 2025 shall be implemented.
3. The Habitat Management Plan prepared by Grette Associates dated August 2025 shall be implemented.
4. A construction general stormwater permit is to be obtained prior to clearing, grading, or excavation activities.
5. All imported fill must be clean fill utilizing an approved source.
6. A temporary erosion and sedimentation control (TESC) plan shall be implemented during construction to reduce and control erosion impacts.
7. The following inadvertent discovery protocols shall be followed:

   Archaeological Resources
   If archaeological resources (e.g., shell midden, faunal remains (bones), stone tools, historic glass, metal, or other materials) are observed during project activities, all work in the immediate vicinity must stop and the area secured. The project archaeologist must be contacted immediately to inspect the materials and contact relevant parties. An assessment of the materials and consultation with government and tribal cultural resources staff is a requirement of Washington law. Once the situation has been assessed, steps to proceed can be determined.

   Human Burials, Remains, or Unidentified Bone(s)
   If human remains or indeterminate bones are encountered, work must stop immediately. The area surrounding the remains must be secured and of adequate size to protect them from further disturbance until the DAHP provides notice to proceed. The discovery of any human skeletal remains must be reported to law enforcement immediately. The county medical examiner/coroner will assume

jurisdiction over the human skeletal remains to determine whether those remains are forensic or non-forensic. If the county medical examiner/coroner determines the remains are nonforensic, the State Physical Anthropologist at the DAHP will assume jurisdiction over the remains. The DAHP will notify appropriate cemeteries and all affected tribes of the disturbed remains. The State Physical Anthropologist will determine whether the remains are Native or Non-Native origin and report that finding to appropriate cemeteries and affected tribes. The DAHP will handle all consultation with the affected parties as to the future preservation, excavation, and deposition of the remains and authorize a timeline for the continuation of work.

CONCLUSIONS OF THE RESPONSIBLE OFFICIAL: The Responsible Official has determined, with the mitigation measures listed above, that the proposal will not have a probable significant adverse impact on the environment, and an Environmental Impact Statement is not required under RCW 43.21c.030(2)(c). The mitigation measures described are recommended as conditions of project approval. This decision is made after review of a completed environmental checklist, other information on file with the City, and existing regulations.

PUBLIC COMMENT: The Optional DNS process was used for this application pursuant to the Washington Administrative Code (WAC) 197-11-355. The public comment period was held from January 19, 2024 to February 2, 2024 during which time 41 comments were received.

APPEAL PERIOD: Consistent with DMC 25.175.060(4) and WAC 197-11-680, this Determination may be appealed to the City hearing examiner. Pursuant to DMC 25.175.060(3), only parties of record may file an administrative appeal. **Per DMC 23.01.210(b)(1)(C), appeals must be filed within 14 days after the issuance of this MDNS (no later than 5:00 pm on November 3, 2025)**. Instructions for filing an appeal are found in DMC 25.175.060(4). Appeals shall be in writing, be accompanied by the required appeal fee ($487), and contain the information detailed in DMC 25.175.060(4) (d). You should be prepared to make specific factual objections. Contact Barb Kincaid at the City to read or ask about the procedures for SEPA appeals.

SEPA Responsible Official Signature: Barbara Kincaid Date: October 20, 2025
Barb Kincaid
Director of Public Services
City of DuPont

NOA/DNS Issue Date: January 19, 2024
End of Public Comment Period: February 2, 2024
Notice of Decision: October 20, 2025
End of Appeal Period: November 3, 2025
Parties of Record:

1. Emily Griffith
2. Brad Beach
3. Eddie Anderson
4. Hunter Bungert
5. Tristan J. Ellingsworth
6. Tammie Pitzler
7. Amber Blair
8. Dustin Blair
9. Valerie Marmolejo
10. Kevin Torg

11. Nikki Macias
12. Chaise Music
13. Isabel Olds
14. Dan Otchere
15. Isaac and Jaime Paulson
16. Loujanna Rohrer
17. Sandon McCoy
18. Tashara Smith
19. Monet Thompson
20. Sherrell Young
21. Mary Zepeda
22. Don Zimmerman
23. Chrystal Patterson
24. Sean Arent
25. Chris Barnes
26. Karen Burch
27. Kathleen Trotter and Ruth Egger
28. Beth Elliot
29. Jessica Fester
30. Asa and Candice Frederick
31. Maria Gudaitis
32. Judy Norris
33. Bridget King
34. Nicole McNeil
35. Karen Nolan
36. Judy Norris
37. Krista Novak
38. Krystal Richards
39. Alicia Roubicek
40. Michelle Ryder
41. Portland Williams

Applicant: Wendy Garrison
Le Roy Surveyors & Engineers, Inc
P.O. Box 740, Puyallup, WA 98371

Exhibit 4.d

CITY OF DUPONT
Department of Community Development
1700 Civic Drive, DuPont, WA 98327
Telephone: (253) 964-8121
www.dupontwa.gov

Notice of Public Hearing

Champions Centre

City File Nos: PLNG2023-010 (Site Plan Review), PLNG2023-014 (Critical Areas Permit), PLNG2023-011 (Tree Modification), PLNG2025-010 (Design Review)

Related City File Numbers: SEPA2023-013

Project Description: The proposal is for the construction of a church to accommodate a congregation of approximately 350 people and an eating and drinking establishment. The subject property consists of four legal lots of record, which upon approval of the lot line adjustment, will become three lots. Although the property consists of approximately 21.29 acres, only approximately 4.1 acres are proposed to be developed as follows:

- Lot A will be approximately 3.2 acres (139,369 square feet) upon which a 26,000 square foot church and associated parking lot will be constructed.
- Lot B will be approximately 0.79 acre (34,601 square feet) upon which a 3,000 square foot eating and drinking establishment will be constructed, along with EV parking as an accessory use that will be open to the public.
- Lot C will be approximately 17.28 acres (753,056 square feet) upon which the wetland and associated buffer is located and which may be conveyed to the city at the time Lots A and B are developed.

The proposal site is undeveloped land that includes mature forest canopy consisting of native trees, a mixed understory with documented presence of common invasive plant species, scattered stands of trees including Oregon white oaks, and a 20-acre wetland with associated stream known as the Bell Marsh. Clearing, grading, and site preparation will include removal of 62% of the trees on-site. Replacement trees will be required at the rate required by City Code. A Type III Tree Modification Request is included in the proposal. The applicant is proposing to remove 3 Landmark Trees within the development footprint and to replace them with 75 mature trees of same species. The proposal includes implementation of a Buffer Mitigation Plan and Habitat Management Plan in order to accommodate a reduced wetland buffer around Bell Marsh**.**

Project Location: The subject property is located at DuPont Steilacoom Road and Barksdale Avenue and includes tax parcel numbers 0119362039, 0119362009, 0119362012, and 0119362043. Section 36 Township 19 Range 01 Quarter 21.

Public Hearing Date and Time: November 18, 2025 at 2pm

Public Hearing Location: DuPont City Hall / Council Chambers
1700 Civic Drive
Dupont, WA 98327

Project Applicant:
Wendy Garrison
LeRoy Surveyors & Engineers, Inc.
P.O. Box 740, Puyallup, WA 98371

A public hearing will be held with the City of DuPont Hearing Examiner on November 18, 2025 at 2:00 pm following the procedures outlined in DMC 25.175.050. Anyone who wishes to testify/comment on the proposal may do so in person or by submitting written comments up to the date of the hearing (submit by 2:00pm on November 18, 2025). Written comments may be submitted via mail to 1700 Civic Drive, DuPont WA 98327 or by dropping off at same location as mailing address C/O Barb Kincaid. For questions, contact Barb Kincaid at bkincaid@dupontwa.gov.

Staff Report & Recommendations: A determination of consistency with DMC 25.150 Site Plan will be completed per DMC 25.175.040(1). The evaluation will be summarized in a staff report available for review approximately seven (7) days prior to the public hearing. The application materials and staff report may be viewed on the City's website as follows:

- Application materials https://www.dupontwa.gov/714/Champions-Centre
- Staff report: The staff report will be available for review approximately 7 days prior to the public hearing at the same link.

Northwest Landing
Commercial
Owners Association

This is a simplified list of requirements for review by the Commercial New Construction Committee (CNCC). They will need the following:

- Plans (hard copy) Building elevations, design, and color schemes (a color board, samples of material)
- Plans showing exterior lighting
- Fencing material and detail plans
- Retaining wall material and detail plans if any
- Waste container enclosure materials and details
- Electric-Vehicle Charging Stations, "EV Chargers" if any
- A presentation in a three-ring binder with architectural rendering is encouraged
- Landscaping Plans can be submitted as a separate application when plans have been completed
- Tree removal is prohibited without prior CNCC approval
- Signage Plans can be submitted as a separate application when plans have been completed
- All revisions to previously approved plans and submittals
- This is not a complete list of project requirements for CNCC review. If you have not received the following documents, call the Northwest Landing Commercial Owners Association at 253-964-3210 or 253-964-1289. Association Documents are on the website at www.nwlandingcoa.org

    A. The Declaration of Covenants, Conditions, and Restrictions (CC&Rs) for Northwest Landing Commercial Property, Recorded Document #9208240297
    B. By-Laws and Articles of Incorporation
    C. The Northwest Landing Design Guidelines for Commercial Properties

Please do not hesitate to call me if you have any questions regarding the above.

Thank you,

FOR THE NWL COMMERCIAL NEW CONSTRUCTION COMMITTEE

Emily Griffith, Director
Northwest Landing Commercial Owners Association
1495 Wilmington Dr., Suite 110
DuPont, WA 98327
Direct Phone No. 253-964-3210
Fax: 253-912-9759

Exhibit 5-2

NISQUALLY INDIAN TRIBE
Tribal Historic Preservation Office
4820 She-Nah-Num Drive S.E.
Olympia, Washington 98513
360.456.5221 (main)
877.768.8886 (toll free)
www.nisqually-nsn.gov

January 30, 2024

To: Barbara Kincaid
Director of Public Services
City of DuPont
1700 Civic Drive
DuPont, WA 98327

Re: PLNG2023-010, 011, 012, 013, 014

The Nisqually Indian Tribe's THPO has reviewed the notice of application and supplemental materials that you provided for the above-named project and has no specific comments or concerns at this time. Please keep us informed if there are any Inadvertent Discoveries of Archaeological Resources/Human Burials.

Although the Nisqually Indian Tribe doesn't have any specific concerns at this time, we respect the traditional cultural knowledge of affected tribes and support their opinions on this matter as well.

Sincerely,

Brad Beach, THPO
Nisqually Indian Tribe
360-528-1084
360-456-5221 ext 1277
beach.brad@nisqually-nsn.gov

cc: Annette Bullchild, Director, Nisqually Indian Tribe

Exhibit 5.a.1

From: Barbara Kincaid
To: Janet Howald
Cc: Lisa Klein
Subject: [EXTERNAL] Fwd: Champions Centre Dupont
Date: Wednesday, January 31, 2024 7:23:46 AM

Get Outlook for iOS

From: homeloans eddieanderson.com <homeloans@eddieanderson.com>
Sent: Monday, January 29, 2024 8:12:06 AM
To: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: Champions Centre Dupont

Dear Barb & Team,
I just want to send you a quick note to give you a personal account of the impact Champions Centre has had on me and my family over the last 30 years.
My wife and I started attending in 1994 as two single people searching for purpose. A year later, we were married in the Tacoma Location (the only one at the time) and it has been amazing journey of personal & spiritual growth, community and outreach. The relationships created are one of the greatest outcomes of our decision to stay connected and committed all of years.
Dupont is a beautiful community and a permanent Champions Centre would be a tremendous asset to the city.
Thank you so much for being part of expanding the opportunity, that my wife and I had years ago, for the residents in your community to be part of something bigger than themselves and at the same time create lifelong relationships.

Eddie Anderson
253-222-3888

Exhibit 5.a.2

From: Barbara Kincaid
To: Janet Howald
Cc: Lisa Klein
Subject: [EXTERNAL] Fwd: Champions Centre DuPont
Date: Monday, January 22, 2024 10:48:05 PM

Get Outlook for iOS

From: Hunter Bungert <hunterbungert@gmail.com>
Sent: Monday, January 22, 2024 9:13:59 PM
To: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: Champions Centre DuPont

Hello, my name is Hunter Bungert. I am a current resident here in DuPont and would like to express my personal interest in having a permanent location for Champions Centre to be built here in DuPont. I have been attending Champions Centre here in DuPont for only about a year so far but the impact it has had on me personally is profound to say the least. When I was doing a bit of research about historical DuPont I came across the history of the DuPont Presbyterian Church and how it was founded. In the article I came across a passage that really resonated with me and the current state of Champions Centre today. The passage read,

"Records indicate that from the very beginning, the spiritual life of the community played an important part in the development of the community. A non-denominational church and Sunday School met in the Factor's House at the 1843 Ft. Nisqually site during 1909 so the church was a part of the community from the very beginning."

Knowing that the community of DuPont was founded on the spiritual life of the people was awe inspiring. Which got me thinking about the current state of DuPont and how far it has grown since then. Community is a huge thing for every city to strive for and provide for its people. With that in mind I truly do believe people are in desperate need for a place to gather and share the love of community with one another. With a permanent building for Champions Centre here in DuPont not only does it bring the current church family together but it also provides the opportunity for the whole of DuPont to come together with each other strengthening the bond of community as a united front.

Exhibit 5.a.3

From: Barbara Kincaid
To: Janet Howald
Cc: Lisa Klein
Subject: [EXTERNAL] Fwd: Endorsement for Champions Centre DuPont Land Bid
Date: Wednesday, January 31, 2024 7:21:19 AM
Attachments: image001.png

Get Outlook for iOS

From: Ellingsworth, Tristan J 1LT USARMY 2-2 SBCT (USA) <tristan.j.ellingsworth.mil@army.mil>
Sent: Monday, January 29, 2024 10:25:41 AM
To: Barbara Kincaid <bkincaid@dupontwa.gov>
Cc: Tristan Ellingsworth <tristanellingsworth@gmail.com>; Ann Ellingsworth <ann.hawkinsellingsworth@gmail.com>
Subject: Endorsement for Champions Centre DuPont Land Bid

To whom it may concern,

I am writing to offer my wholehearted endorsement for Champions Center DuPont's bid to acquire a land and build permits for our permanent location, located off exit 119 in DuPont, WA.
I have attended Champions Center for six years; first at the Tacoma campus (prior to the opening of the current DuPont campus), then online while I was stationed in Los Angeles, and most recently in DuPont. During that time, the Church has served as an emotional and spiritual grounding rod for myself and my wife, even serving as a catalyst that brought me back to my own faith after a series of traumas drove me away from the church in my youth.
The principled, socially engaged, culturally relevant teachings of head Pastor Kevin Gerald have had a unifying, healing influence on not only my own family, but the Pacific Northwest in general. The satellite campuses in Yakima, Bellview, and DuPont stand head and shoulders above other local institutions, even churches, as examples of morality, social responsibility, outreach, volunteering, community service, and ethical public engagement.
DuPont stands as a community apart from the degradation, decay, and despair that can be seen along any street of neighboring Yelm, Olympia, Puyallup, Lacey, or Lakewood. The streets are clean and well kept, the neighborhoods safe and welcoming, the community spaces clean and bright, and the schools and public works reputable and respectable. Formalizing the addition of an institution like the Church that is Champions Center though the approval of their purchase and build permits will only add to DuPont's already brilliant future. The men and women that make up the congregation of this campus, many of whom are drawn from Joint Base Lewis-McChord, are among the finest people I have met in my thirteen years of military service, and the local congregation is guided by the husband and wife Pastoral team of Jonathan and Hailey Yadon, who's passion, wisdom, and empathy are unlike anything I have seen in my nearly forty years in churches across the continent.
Lastly, as a father of two young girls, I cannot say enough good about Champion Centre's dedication to investing in the welfare and development of future generations, which they codify in their multi-generational "think three" philosophy of forward-leaning stewardship and engagement. This Church takes a vested interest in family, engages in their local community, takes responsibility for

developing principled, educated leaders of tomorrow, and calls every member of its congregation to find a way to serve their fellow man. This is the Church you want in DuPont, today and in the decades to come.
Thank you for your time and thank you for your support.

V/R

Tristan J. Ellingsworth
1LT, IN
Battalion Adjutant
2-1 IN BN, 2-2 SBCT
JBLM, WA

E: tristan.j.ellingsworth.mil@army.mil
C: 503-312-1039

Exhibit 5.a.4

From: Barbara Kincaid <bkincaid@dupontwa.gov>
Sent: Monday, January 22, 2024 11:59 AM
To: Janet Howald
Subject: FW: Champion Centre Dupont

From: Tammie Pitzler <tldoherty74@gmail.com>
Sent: Monday, January 22, 2024 7:15 AM
To: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: Champion Centre Dupont

Good morning,
I've been attending Champions Centre for 11 years, the Dupont location since it opened. We live in Roy and love the vision for our church to have a permanent location in Dupont. I joined Champion Centre after a divorce in 2013 and was searching for a family to walk through life with. My daughter was 14 at the time and we were invited to watch Scrooge The Musical by a friend. Walking through the doors felt like home, Pastor Kevin spoke in a way that was sincere,honest and at our level in life. We began attending regularly and were both Baptized in 2014, declaring our faith and love publicly. I met my current husband at Champions Centre in 2013 and he proposed during intermission of Scrooge in 2014. Life has become more than I ever imagined it could be again, and the center of that is God. His church is my family and that feeling of belonging happens when you walk through the doors in Dupont. Thank you for the opportunity to share my story with you.
Sincerely,
Tammie Pitzler

Exhibit 5.a.5

From: Barbara Kincaid <bkincaid@dupontwa.gov>
Sent: Monday, January 22, 2024 11:58 AM
To: Janet Howald
Subject: FW: Champion Centre

-----Original Message-----
From: Amber Blair <anewblair@yahoo.com>
Sent: Sunday, January 21, 2024 8:55 PM
To: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: Champion Centre

City leaders of Dupont,

What a great community we have! As a military family it's been so nice to live in DuPont. We especially love our church family at Champion Centre and even after we move on will continue to pray for its growth. In the meantime, we are very excited to be a small part of its next generation. It will always feel like home.

Fondly,
Amber Blair

Sent from my iPhone

Exhibit 5.a.6

From: Barbara Kincaid <bkincaid@dupontwa.gov>
Sent: Monday, January 22, 2024 11:58 AM
To: Janet Howald
Subject: FW: Support for building a permanent location for Champions Centre DuPont

---

From: Dustin Blair <dustin.blair20@gmail.com>
Sent: Sunday, January 21, 2024 8:01 PM
To: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: Support for building a permanent location for Champions Centre DuPont

Ms. Kincaid,

My family and I have been attending Champions Centre location in DuPont for approximately one and a half years, and I am very excited for our church to have permanent roots in our community. A permanent location church location will greatly assist in Champions Centre's investment into the next generation.

As we are a military family, I cannot tell you how awesome it is to have a church with a mission as powerful as Champions Centre, that is right outside the base. Champions Centre provides a great message and opportunities for my entire family while I am away.

--
Thankful for the community of DuPont.

Dustin Blair

Exhibit 5.a.7

Ali Masterson

From: Barbara Kincaid <bkincaid@dupontwa.gov>
Sent: Monday, January 22, 2024 11:59 AM
To: Janet Howald
Subject: FW: Dupont Champions Centre

From: Valerie Marmolejo, DPM, MS, MWC <vlsdpm@gmail.com>
Sent: Monday, January 22, 2024 10:24 AM
To: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: Dupont Champions Centre

Ms. Kincaid,

I am writing in support of Champions Centre in DuPont. Champions Centre has been such a great church and addition to the community of DuPont. I am excited for the church to have a permanent location in DuPont.

v/r,

Valerie Marmolejo

Exhibit 5.a.8

From: Barbara Kincaid
To: Janet Howald
Cc: Lisa Klein
Subject: [EXTERNAL] FW: Champion Center Dupont
Date: Wednesday, January 31, 2024 1:21:57 PM

From: Kevin Torgerson <kevintorg@gmail.com>
Sent: Wednesday, January 31, 2024 12:23 PM
To: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: Champion Center Dupont

Good afternoon,

I wanted to reach out to you in hopes for your support for the building of the Champion Center Dupont campus. As a member of Champion Center I have participated in the events and support of the communities we serve. I hope you too can support the community by assisting in the support of Champion Center Church.
--
Thanks,

~ Kevin

Exhibit 5.a.9

From: Barbara Kincaid
To: Janet Howald
Cc: Lisa Klein
Subject: [EXTERNAL] Fwd: Champion Centre
Date: Saturday, February 3, 2024 5:17:45 PM

Get Outlook for iOS

From: Nikki Macias <nikkimacias13@gmail.com>
Sent: Thursday, February 1, 2024 1:55:06 PM
To: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: Champion Centre

Greetings,

I wanted to share how important it is to support the construction and expansion of Champions Center church. The church and the people of the church have brought live and love into our family!

Thank you for your time,
Nikki Macias

Exhibit 5.a.10

From: Barbara Kincaid
To: Janet Howald
Cc: Lisa Klein
Subject: [EXTERNAL] Fwd: Champion Centre DuPont Location
Date: Wednesday, January 31, 2024 7:26:53 AM

Get Outlook for iOS

From: Chaise Music <ijustmetyou@gmail.com>
Sent: Sunday, January 28, 2024 10:43:40 AM
To: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: Champion Centre DuPont Location

I'm sure you will get other emails talking about blessings and salvation but my endorsement of the importance of Champions Center is from a mental health and social aspect. I've been through some very low and very dark times. Thanks to Champions Centre and their outreach programs, their welcoming environment and open doors, I found a place to go at my absolute lowest moment.
It's entirely possible that I'd have killed myself without a place like this to wander into. For your own community, that cannot be a bad thing. Help them get built and grow.

Chaise

Exhibit 5.a.11

From:	Barbara Kincaid
To:	Janet Howald
Cc:	Lisa Klein
Subject:	[EXTERNAL] FW: DuPont Champions Center
Date:	Tuesday, January 30, 2024 11:38:29 AM

From: Olds, Isabel A 1LT USARMY 1 MDTF (USA) <isabel.a.olds.mil@army.mil>
Sent: Tuesday, January 30, 2024 10:28 AM
To: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: DuPont Champions Center

Good Morning!

I just wanted to share how lovely it has been to have a church to go to as a military officer. Due to moving to different locations in the United States and abroad, Champions Center has been one of the only constants in my life. I appreciate all they do and the positive message they spread. I am extremely happy there will be a new building for them to reside!

Have a great day!

V/R,

Isabel Olds
1LT, FA
5-3, HHB Executive Officer
734-365-9971

Exhibit 5.a.12

From:	Barbara Kincaid
To:	Janet Howald
Cc:	Lisa Klein
Subject:	[EXTERNAL] Fwd: Champion Centre Family Dupont
Date:	Wednesday, January 31, 2024 7:25:51 AM

Get Outlook for iOS

From: Dan Otchere <daniel.n.otchere@gmail.com>
Sent: Sunday, January 28, 2024 1:53:32 PM
To: Barbara Kincaid <bkincaid@dupontwa.gov>
Cc: Daniel N. Otchere <daniel.n.otchere.mil@army.mil>
Subject: Champion Centre Family Dupont

Aloha and good evening Ms. Kincaid,

We recently moved back to JBLM after 3 years in Hawai'i.

With the constant moves of our military family, we finally found a church home after 90 days of moving here.

We have fallen in love with CC Dupont and look forward to a permanent home where we can worship.

Mahalo,

Dan

V/R

Daniel N. Otchere

(912) 223-2626

daniel.n.otchere@gmail.com

Exhibit 5.a.13

From: Barbara Kincaid
To: Janet Howald
Cc: Lisa Klein
Subject: [EXTERNAL] Fwd: Champions Centre
Date: Wednesday, January 31, 2024 7:25:31 AM

Get Outlook for iOS

From: Isaac and Jaime Paulson <paulyj25@hotmail.com>
Sent: Sunday, January 28, 2024 10:20:02 PM
To: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: Champions Centre

Hello,

My family has been attending Champions Centre for almost 15 years & we are so excited for our church to have permanent roots in our community. We love this church and are so grateful for their heart to invest into the next generations. We cannot express enough; how good Champions Centre has been for our family and we are beyond excited to have a permanent location in Dupont.

Thank you from the bottom of our hearts!!

Blessings,

Isaac & Jaime Paulson
Avery (11), Aly (11), Eli (7) & Ethan (4)

Sent from Outlook

Exhibit 5.a.14

From: Barbara Kincaid
To: Janet Howald
Cc: Lisa Klein
Subject: [EXTERNAL] Fwd: Champion Centre DuPont- a positive for the community
Date: Saturday, February 3, 2024 5:04:10 PM

Get Outlook for iOS

From: Loujanna Rohrer <hellorohrers@gmail.com>
Sent: Saturday, February 3, 2024 8:03:12 AM
To: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: Champion Centre DuPont- a positive for the community

City of DuPont Leaders,

I am a community member passionate about DuPont, Steilacoom, and our families. I also serve on the SHSD Board as a Director. I support the request for Champion Centre DuPont's permit application. I am a regular member of this church and it supports many families in our community and JBLM's military community. Families need and want a healthy place to grow stronger and connected. The church is involved with City event's and the city's youth. The Church has been great partners and want to work with city leaders to make a positive impact on the quality of life of its residents. I believe they will be good stewards of the land and respect every code and regulations. They will be good neighbors for years and years to the nearby historic DuPont area.

Thanks for letting me share my support.

LJ (Loujanna) Rohrer

Exhibit 5.a.15

From:	Barbara Kincaid
To:	Janet Howald
Cc:	Lisa Klein
Subject:	[EXTERNAL] FW: Dupont Champions Centre
Date:	Tuesday, January 30, 2024 11:39:07 AM

From: Mccoy, Sandon D 1LT USARMY 1-2 SBCT (USA) <sandon.d.mccoy.mil@army.mil>
Sent: Tuesday, January 30, 2024 10:14 AM
To: Barbara Kincaid <bkincaid@dupontwa.gov>
Cc: Olds, Isabel A 1LT USARMY 1 MDTF (USA) <isabel.a.olds.mil@army.mil>; sandonmccoy30@gmail.com; izzy olds <izzyolds15@gmail.com>
Subject: Dupont Champions Centre

To whom it may concern,

What an opportunity to share how the Dupont Champion Centre has moved not only my life, but so many more military families closer to Christ. The Dupont Champion Centre is located in a paramount location that allows military families to feel welcomed to one of the best cities in the state of Washington. This Church builds leaders and enables the next generation of children to become the absolute best of themselves. In this pinnacle moment for the Dupont Champion Centre, I ask that you allow for our church to continue to move forward in order to better the lives of many more military families as they pass through this superb city.

Very Respectfully,

1LT Sandon McCoy

3rd PLT Platoon Leader

D TRP, 1-14 CAV

Go Army Football, beat navy!

"I want an officer for a secret and dangerous mission. I want a West Point Football Player."
-Gen. George C. Marshall

Exhibit 5.a.16

From:	Barbara Kincaid
To:	Janet Howald
Cc:	Lisa Klein
Subject:	[EXTERNAL] FW: Champion Center
Date:	Tuesday, January 23, 2024 9:37:21 PM

From: Tashara Smith <tasharamcsmith@gmail.com>
Sent: Tuesday, January 23, 2024 2:10 PM
To: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: Champion Center

I have been attending Champion Center for about 3 years now and I am thankful to have a great church community so close to home.

Exhibit 5.a.17

From: Barbara Kincaid
To: Janet Howald
Cc: Lisa Klein
Subject: [EXTERNAL] Fwd: Champions Centre DuPont Location
Date: Wednesday, January 31, 2024 7:26:32 AM

Get Outlook for iOS

From: Monet Thompson <monet.thompson1@gmail.com>
Sent: Sunday, January 28, 2024 10:51:37 AM
To: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: Champions Centre DuPont Location

Hello,

My name is Monet. I've been attending Champions Centre for two years as an adult. I attended when I was a child. It's so refreshing and uplifting to be back.

Attending this church, has truly blessed my entire family.

My teenage daughter Alyssa says it best. At this church, "We feel welcomed, we're not judged, we are growing and changing in a positive way. I love this church!"

I urge you to think of others. Go beyond yourself. Don't make it hard, but pave the way so that the freedom of religion continues and teenagers have the choice to attend church.

The community should not look one certain way. It should be diverse - ethnically and spiritually.

Thank you,

Monet Thompson
Frederickson, WA

Exhibit 5.a.17

From: Barbara Kincaid
To: Janet Howald
Cc: Lisa Klein
Subject: [EXTERNAL] Fwd: Champion Center
Date: Wednesday, January 31, 2024 7:27:13 AM

Get Outlook for iOS

From: Sherrell Young <sherrellyoung9@gmail.com>
Sent: Sunday, January 28, 2024 10:38:12 AM
To: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: Champion Center

Champion Center has been a blessing and is a life changing place!

Exhibit 5.a.19

From: Barbara Kincaid
To: Janet Howald
Cc: Lisa Klein
Subject: [EXTERNAL] Fwd: Support for Champion centre
Date: Wednesday, January 31, 2024 7:26:08 AM

Get Outlook for iOS

From: Mary zepeda <thenicelady29@yahoo.com>
Sent: Sunday, January 28, 2024 1:19:32 PM
To: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: Support for Champion centre

We have really appreciated the community of this church and the people who serve and attend. We have been part of attending since 2013 as a family. As a mixed race we appreciate tge diversity and inclusive environment. Teaching that everyone is welcome even with different backgrounds and economical, educational, etc. We feel supported and benefited from this church and we have drove way out of our way to attend. It is wonderful to have more Champion Centre churches in different locations in all communities, so people can attend without having to drive so far. It will be a blessing to your community. Thanks for welcoming them.
We attend the Tacoma location, but love that there is one coming to Dupont!
The Zepeda's
Zepeda Painting LLC
Sent from my iPhone

Exhibit 5.a.20

From:	Barbara Kincaid
To:	Janet Howald
Cc:	Lisa Klein
Subject:	[EXTERNAL] FW:
Date:	Thursday, February 1, 2024 6:43:09 PM

From: Don Zimmerman <zman12927@gmail.com>
Sent: Thursday, February 1, 2024 5:49 PM
To: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject:

Re: Proposed Dupont Champion Centre campus

My wife and I are super excited for the new campus to be built. We receive so much enrichment , encouragement and fellowship through this church. We have been attending for 2 1/2 years. It is very encouraging to see so many young couples and families attending and thriving,including our children and grandchildren. This can only be a positive for the Dupont area for years to come.

We hope you will look favorably upon this project.

Sincerely,

Don Zimmerman
10440 Clark RD SE
Yelm, WA 98597

Exhibit 5.b.1

From: Barbara Kincaid
To: Janet Howald
Cc: Lisa Klein
Subject: [EXTERNAL] Fwd: Opposition of Dupont, WA construction, Champion Center
Date: Saturday, February 3, 2024 5:07:44 PM

Get Outlook for iOS

From: Patterson, Chrystal <Chrystal.Patterson@molinahealthcare.com>
Sent: Friday, February 2, 2024 5:00:59 PM
To: Karri Muir <KMuir@dupontwa.gov>
Cc: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: Opposition of Dupont, WA construction, Champion Center

City of Dupont Planning Commission c/o City Hall 1700 Civic Drive Dupont, WA 98327

Subject: Opposition to Champions Center Church Construction

Dear Members of the City of Dupont Planning Commission,

I hope this letter finds you well. I am writing to express my strong opposition to the proposed construction of the Champions Center Church in Dupont, particularly due to the potential environmental and community concerns it raises.

One of the primary issues I want to address is the potential damage to protected heritage trees and the impact on the wetlands buffer. These natural resources play a crucial role in maintaining biodiversity and providing habitat for wildlife. The construction of the Champions Center Church threatens to further endanger these resources, which are already under pressure from various sources.

Additionally, I am concerned about the potential strain on our public roads caused by the increased traffic resulting from the construction. The current volume of traffic on these roads is already a significant challenge, and adding to it could have severe consequences for our community. Emergency services may be hindered, residents may face difficulties in exiting our consolidated neighborhood, and the availability of street parking—sometimes the only option in our historic neighborhood—could be further compromised.

I believe that there are alternative locations within Dupont that would better serve a congregation of the size proposed by the Champions Center Church. With several existing structures and multiple vacancies throughout the city, it seems unnecessary to jeopardize our natural resources and disrupt our community for the sake of this construction project.

I urge the Planning Commission to thoroughly consider the environmental and community impacts of the Champions Center Church construction and to explore alternative locations that would be more suitable for such a development. It is essential to prioritize the

preservation of our natural resources, protection of wildlife habitats, and the well-being of the community members who call Dupont home.

Thank you for your time and consideration of this matter. I trust that you will make decisions that prioritize the long-term sustainability and harmony of our beloved city.

Sincerely,

Chrystal M. Patterson, Resident in the city of DuPont, Washington

Chrystal M. Patterson *(She/Her/Hers)* **| Community Engagement Specialist**
Growth & Community Engagement
Molina Healthcare of Washington, Inc.
Chrystal.Patterson@MolinaHealthcare.com

Cell: 253-682-8876

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Exhibit 5.b.2

From: Barbara Kincaid
To: Janet Howald
Cc: Lisa Klein
Subject: [EXTERNAL] Fwd: Champion Center - Devastating Environmental Impacts
Date: Saturday, February 3, 2024 5:13:03 PM

Get Outlook for iOS

From: Sean Arent <seanarent5@gmail.com>
Sent: Friday, February 2, 2024 3:02:37 PM
To: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: Champion Center - Devastating Environmental Impacts

Hi there,

I'm writing to register my firm opposition to the aspects of the Champion Center project that would destroy critical wetland habitat and landmark Garry Oaks.
At a time when the Sequalitchew Creek is running dry, we can't afford to deplete more natural groundwater infiltration systems. Similarly, we can't afford to lose the few remaining mature Garry Oaks in Pierce County. WDFW directs all efforts be made to preserve these rare Oaks. The plans must be altered. We do have the technology to build while preserving essential habitat.

-Sean Arent
Tacoma Washington

Exhibit 5.b.3

From: Barbara Kincaid
To: Janet Howald
Cc: Lisa Klein
Subject: [EXTERNAL] Fwd: Barksdale/DuPont Steilacoom Rd Development
Date: Saturday, February 3, 2024 5:13:04 PM

Get Outlook for iOS

From: Chris Barnes <chrisbarnes5000@gmail.com>
Sent: Friday, February 2, 2024 2:29:40 PM
To: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: Barksdale/DuPont Steilacoom Rd Development

Barb,

I just learned of the proposed development by Champion Center across from the 76. I am deeply concerned about the environmental impact of the proposed development. This property includes and abuts sensitive wetlands and should include the strongest protections the City can manage. Further this property includes multiple landmark Garry oak tress which are immensely valuable as ecological and historic resources.

While my wish is to not have that property be developed my more realistic wish is to have any development held to the most stringent standards to help protect the nature and environment of DuPont.

Thanks,
Chris Barnes

Exhibit 5.b.4

From:	Barbara Kincaid
To:	Janet Howald
Cc:	Lisa Klein
Subject:	[EXTERNAL] Fwd: Development application in Bellmash. 74 and where Garry Oak heritage trees are
Date:	Saturday, February 3, 2024 5:09:33 PM

Get Outlook for iOS

From: Karen Burch <burchtrees1_@hotmail.com>
Sent: Friday, February 2, 2024 4:42:35 PM
To: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: Development application in Bellmash. 74 and where Garry Oak heritage trees are

Hello, Ms. Kincaid, I'm concerned about the application of a church being built within areas of the heritage Garry Oak trees, which are supposed to be protected as are the marsh lands. My husband. Mike is a retired horticulturalist and arborist with other certifications in dangerous trees. We both feel that these areas need to be protected, only for the aesthetic value, but for the preservation and health of the surrounding areas. Once these are gone, they are gone forever. Please don't allow these areas and trees to suffer the fate of development. Thank you, Kate and Mike Burch

Sent from my Verizon, Samsung Galaxy smartphone
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Exhibit 5.b.5

To: City of DuPont Planning Department
Barb Kincaid

Re: Comment Letter on Proposed Champion Centre Development

We have reviewed the plans submitted for the development of the property adjacent to our residence by the Champion Centre and have three concerns.

The first concern is with the tree retention plan. They indicate that they would like to remove two Oregon White Oak trees that are near the boundary with our property. To do this they would have to be granted a variance from the City's Tree Retention Code. We respectfully ask that they not be granted a variance for these trees. They are important shade for our property and an important source of food and habitat for many birds and animals. One of the trees is within the identified 10' landscape buffer, the other would only require the relocation of a parking lot median or loss of one or two parking spaces to preserve.

There is also a tree identified on the Plan as a Conifer that is designated for destruction that we question the need for removing. It is located in the 10' landscape buffer. It also provides habitat for birds and animals.

Our second concern is with the 4 foot cinder block fence they plan to put on the property line between our two properties. We would have preferred a larger, densely landscaped buffer between the properties as proposed by the previous Arco development project, particularly because we note that the "landscaping" of the landscape buffer is on their side of the wall, not ours. What is of primary concern to us, however, is that the submitted plans do not indicate how they will accommodate the landmark trees that are on the property line. It appears they are proposing to put the block wall directly against our property line where there are several trees that would be affected. We will NOT agree to remove any trees that are partially on our property. We hope that they can adjust the location of this wall such that it does not disturb any trees, the ones on the property line or the ones we are asking to save above.

We also ask that they consider a different material for the wall than cinder blocks. Their property is at the front of a historical village district and we would hope that they would try to match the historical visual of the neighborhood.

Which segways into our third concern. We have looked at the architects rendering of the proposed buildings and they do not look the least bit Craftsman to us. We know that the City Building Code requires all buildings to incorporate elements of the Craftsman style and we would hope that the Church, with their building at the front of the Historic Village, would try harder to match the architectural style of the City.

Respectfully submitted,

Kathleen Trotter
Ruth Egger
125 Barksdale Ave

Exhibit 5.b.6

February 2, 2024

Dear Director Kincaid,

I am writing to express my concerns regarding the land use application for Champions Center on the DuPont Steilacoom and Barksdale Roads. While this is a great improvement from the ARCO application, my concerns remain.

My first concern is regarding the classification of Bell Hill Marsh.

In 2016 Bell Marsh was considered a Class I wetland. It was evaluated by the state in 2015 for the I-5 JBLM Congestion Relief Study. DuPont was not only a partner agency…we sat on the advisory council.

1. "On October 4, 2016, WSDOT published an Environmental Assessment (EA) for the I-5 - JBLM Vicinity Congestion Relief Project." (from the DOT website)
2. For the study that rated Bell Marsh a Class I wetlands, the City of DuPont was a partner agency and *"a member of the Executive Committee and Technical Support Team"* (Appendix F, "Environmental Assessment (EA) for the I-5 - JBLM Vicinity Congestion Relief Project," p. 388, October 4, 2016.)

Since DuPont agreed with WSDOT on the Class I 2016 classification, it is reasonable to believe that Bell Marsh is a Class I wetland which demands greater protection. The least the City of DuPont could do is to contract a non-biased wetland biologist to determine the true classification of Bell Marsh.

If it is determined that Bell Hill Marsh is a Class 2 wetland then DuPont Municipal Code: Chapter 25.105 Critical Areas, b, wetland buffers must be followed.

My second concern is DMC 25.120 Tree Retention.

- DMC 25.120.30 states, removal of Landmark Oregon White Oak Trees is prohibited. The current application lists the removal of 4 Landmark Oregon White Oak Trees. These trees are close to a critical area, a Class one wetland and provide much needed food and protection for a variety of species. There is a good reason why these trees are in a protective status.

Sincerely,

Beth Elliott

1485 Kittson Street

DuPont, WA 98327

Exhibit 5.b.7

From: Barbara Kincaid
To: Janet Howald
Cc: Lisa Klein
Subject: [EXTERNAL] Fwd: Public Notice for Parcels: 0119362012, 0119362009, 0119362039
Date: Saturday, February 3, 2024 5:13:02 PM

Get Outlook for iOS

From: Jessica Fester <jjfester@gmail.com>
Sent: Friday, February 2, 2024 3:15:57 PM
To: Barbara Kincaid <bkincaid@dupontwa.gov>
Cc: Karri Muir <KMuir@dupontwa.gov>
Subject: Public Notice for Parcels: 0119362012, 0119362009, 0119362039

Dear Mrs. Kinkaid,

I am writing to voice my public concern about the building plans submitted for Parcels: 0119362012, 0119362009, 0119362039 at the corner of Barksdale and DuPont-Steilacoom Road across from the 76 Station.

I am concerned about the proposed amount of traffic that this will bring onto Barksdale Avenue. This intersection already backs up during normal traffic conditions and it is the only way in and out of the historic village neighborhood. On top of the church traffic there will be additional traffic from the proposed restaurant at that sight.

I am also concerned about the Legacy Trees/White Oaks they are proposing to cut down. Even with replacing the trees they are slow growing trees and replacing them would be extremely difficult without clearing out the other trees around them as they are in direct competition and one of the reasons they are dying out and are protected.

It seems to me that there would be ample room for the intended purpose of the church while keeping the Legacy Trees if they were not also proposing a restaurant.

I also seem to recall that the wetlands in question are a Type I classification, which came up during the last applicant that tried to build there. The wetlands were misclassified in their report and it seems possible the new applicant is also using the same flawed report.

If this plot can not be used and classified as a conservatory then I would much prefer a church there than a monster gas station, but I would like to see this balanced with a less intrusive amount of traffic and continuing to be stewards of the wetlands and protected trees.

Those of us living in the historic village already battle with traffic issues at that intersection and I would hate to see 300-600 cars or more trying to take a left on barksdale or more likely taking a right and using our neighborhood to turn around to get out of town. As it is with just the 76 Station and neighborhood traffic we get frequent back ups. It is my belief that even with the change coming to the I-5 exit that the historic village will be negatively impacted by traffic.

Thank you.

Jessica Fester
504 DuPont Ave

Exhibit 5.b.8

From: Barbara Kincaid
To: Janet Howald
Cc: Lisa Klein
Subject: [EXTERNAL] Fwd: Champions Church Plans
Date: Saturday, February 3, 2024 5:09:50 PM

Get Outlook for iOS

From: Asa Jack <ajackfrederick@gmail.com>
Sent: Friday, February 2, 2024 4:41:41 PM
To: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: Champions Church Plans

To whom it may concern,

As residents and property owners of the Historic Village in the City of DuPont, my wife, Candice Frederick, and myself, Asa Frederick, would like to make our concerns to the city with regard to the plans of the lot across the street from the 76 station.

In addition to the ecological concerns of the protected wetlands issue, the potential destruction of 3 heritage Oak trees that are a valuable cultural resource, we have the additional concern that the massive increase in traffic that has not been addressed will cause significant access problems for the residents of the historic village.

We are concerned that these issues will not be given the due process in approval for any construction on that lot.

Thank you for your time,
Asa and Candice Frederick

Sent from my iPhone

Exhibit 5.b.9

From:	Barbara Kincaid
To:	Janet Howald
Cc:	Lisa Klein
Subject:	[EXTERNAL] Fwd: Champions Center Site Proposal
Date:	Saturday, February 3, 2024 5:13:05 PM
Attachments:	Pavement Width Public Works MARKED.pdf Driveways 150 feet PW standards MARKED.pdf DOT_I5JBLMEAChapter5.pdf Wetland Error.png

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Get Outlook for iOS

From: Maria Gudaitis <mariagudaitis@gmail.com>
Sent: Friday, February 2, 2024 3:59:11 PM
To: Karri Muir <KMuir@dupontwa.gov>
Cc: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: Champions Center Site Proposal

Dear City of DuPont,

Thank you for all your work to protecting children, trails, economic development, local businesses, history, green spaces, walkability, and small-town neighborhoods.

I'm writing about the Champions Center proposal and SEPA/Critical Areas Study that was submitted in December and updated in January. Churches often can be great community partners and make life more vibrant. My own church just purchased a property and we are graciously moving in over the next couple of weeks with sensitivity to the existing neighborhood. I believe churches play a vital role in making communities healthier and in supporting residents through life.

This proposal for the Champions Center project has a couple of issues that don't conform to city code. I believe not only do we need to address these, there are potential code violations that may require redesign or reassessment:

1) Tree Removal: Removal of rare heritage Gerry oak trees protected by city law is problematic. These are Gerry oak trees are at the entrance to the oldest part of the city and one of the most historic neighborhoods in this county. The Comprehensive Code calls for development in this area to be sensitive and to reflect the scope of a small neighborhood with great historic value. I applaud the developer and church for designing a workaround for one section, where they protected one knoll). I would encourage the developer to not compare the removal of trees in industrial areas (zoned for industrial use) with the removal of trees in a residential area that was the founding site of this city and that has great historical value. The development is located at the entrance to a nationally-protected city on the Historic Register.

2) Traffic Challenges: It appears around 300 car trips (in and out) on Sundays is the traffic estimate, with a planned increase of up to 600 car trips--using the historic Barksdale Avenue for the majority of these. Currently there isn't capacity for more than ten cars on this street to queue up. Not sure how this will work and how Historic Village residents and emergency responders will handle backups with only one outlet. Attached are some copies of city code

with highlighted concerns about queuing, the driveway opposite the proposed driveway being too close, and the width of the street. The future proposal of a DuPont-Steilacoom Road left turn is also concerning, since the sightlines do not conform to city code and having 150-300 cars making left turns so close to an intersection may not be safe.

3) **Wetland Delineation Report Error:** Under Site Potential / Improving Water Quality on the Wetlands Delineation Report, there is a major error. DuPont Muck is the underlying soil. It is an organic soil. That should have been scored as a 4.

There are also other errors such as pollutant sources.

Bell Marsh is a Class I wetlands. The Wetlands Report contains an error, and attempts to build as if it were a Class II wetlands (much less protection). The development is built 100 feet into the wetlands buffer. Most of this is parking lot so could be redesigned to protect the critical area of the wetlands. It's unfortunate this mistake was made, because the exact same error was made in the ARCO wetland report!

4) About 1/4 of the site is dedicated to a restaurant (yay!) with around 40 parking spaces. Food is good. But the loss of this large section of the site for the church means that the road and parking for the church are now designed to be built on the wetland buffer (boo!). It may not be possible to build two buildings on a small site next to a Class 1 wetland. I like food, but I wouldn't pave over a critical area wetland for a cheeseburger.

I know our green spaces, wetland quality and aquifers/drinking water, protected heritage trees, and traffic capacity are things many in DuPont care about because of the way they affect quality-of-life.

It's always great when a new neighbor moves into a neighborhood and they come with a plate of cookies or a helping hand. Champions Center members have come to events, volunteered, and been part of DuPont for many years now, so that is a plus. However, this is a unique site with one of the city's only Class I wetlands. Protecting critical areas like Sequalitchew Creek, our historic sites, the Historic Village, the wetlands is the job of our community. We do this together as a small-town, with laws to guide us.

Thank you for considering these comments.

Maria Gudaitis
507 Louviers Ave.
DuPont, WA 98327

3. DRIVEWAYS, WALKS, AND TRAILS

3.1 Driveways

Dimensions, slopes, and details shall be in accordance with Drawing Nos. 3.1-1 and 3.1-2.

3.1.1 Conditions for Approval of New Driveways:

3.1.1.1 Driveways directly giving access onto arterials will be denied if alternate access is available.

3.1.1.2 All abandoned driveway areas on the same frontage shall be removed and the curbing and sidewalk, or shoulder and ditch section, shall be properly restored.

3.1.1.3 Maintenance of driveway approaches shall be the responsibility of the owner whose property they serve.

3.1.1.4 For driveways crossing an open ditch section, culverts shall be adequately sized to carry anticipated stormwater flows and in no case be less than 12 inches in diameter. The property owner making the installation shall be responsible for determining proper pipe size. The City may require the owner to verify the adequacy of pipe size.

3.1.2 Location and Width of New Driveways:

3.1.2.1 Driveways that serve any use other than detached dwelling units may not be located closer than 150 feet to any street intersection or to any other driveway, whether on or off the subject property. Driveways that serve only residential use may not be located closer than 25 feet to any street intersection.

3.1.2.2 A residential driveway shall typically serve only one parcel.

3.1.2.3 On frontages 100 feet or less, no more than one driveway per lot shall be constructed; on frontages over 100 feet, two or more driveways per lot may be permitted, subject to approval by the City. The City may further limit or prohibit access to or from driveways onto arterial streets.

3.1.2.4 Joint-use driveways serving two adjacent parcels may be built on their common boundary upon formal written agreement by both property owners and approval of the City. The agreement shall be submitted to the City for review and recorded at the developer's expense prior to issuance of the related building permit for either of the affected lots.

4.8.2 What Wetlands Currently Exist in the Study Area?

There are 14 wetlands located within the study area. These wetlands are depicted in Figure 4.8-1 through Figure 4.8-4. The wetlands include depressional areas that are located in topographic depressions and riverine wetlands that receive over bank flooding from adjacent streams. Wetlands within the study area have a combination of forested, shrub, and herbaceous vegetation. Wetlands were identified on both sides of the Thorne Lane interchange, along Murray Creek, and in the vicinity of the Steilacoom-DuPont Road interchange.

One of the wetlands in the study area, Bell Marsh, was rated as a Category I wetland. Three other wetlands were rated as Category II and 10 wetlands were rated as Category III. No Category IV wetlands were identified. **(The City is a partner agency to this Exit 119 rebuild!)**

5 SOUTH STUDY AREA ANALYSIS

5.1 INTRODUCTION

5.1.1 What is the Need for and Context of the Corridor Level Evaluation?

As noted in Chapter 1 of this EA, the I-5 JBLM Vicinity Congestion Relief Project (**Project**) is a program of proposed improvements planned within north and south study areas. In the North Study Area, generally between Steilacoom-DuPont Road (Exit 119) and Gravelly Lake Drive (Exit 124), a project-specific Build Alternative has been defined. Specific impacts and mitigation for these improvements are discussed in detail in Chapter 4. In the South Study Area, generally located between Mounts Road (Exit 116) and Steilacoom-DuPont Road (Exit 119), (see figure 5.1-1) a specific build alternative has not been defined. Design and construction of planned improvements in the North Study Area would not preclude design options or otherwise dictate an outcome within the South Study Area. The South Study Area is being evaluated at a corridor level. A corridor level evaluation is a broad first tier analysis that will have more detail applied in a second tier analysis when a specific build alternative is defined.

The first tier focuses on a general description of potential improvements, approximate physical limits, and a broad discussion of potential environmental conditions. Results of this evaluation are documented in this chapter. This evaluation will be used to inform project specific design development, engage stakeholders and stimulate public discussion of possible South Study Area environmental issues. It can also highlight work tasks that should be included in a later second tier evaluation focusing on project-specific environmental studies and documentation when a specific build alternative has been defined.

5.1.2 What is the Scope of the South Study Area Evaluation?

As shown in Figure 5.1-1, a corridor level evaluation has been conducted for the South Study Area. It generally covers the area between the Steilacoom-DuPont Road interchange (Exit 119) and the Mounts Road interchange (Exit 116), a distance of approximately three miles. Proposed future actions in the South Study Area are broadly identified and distinguished from actions that are addressed in the North Study Area Build Alternative portions of this EA. A range of potential impacts and an approach to identifying possible mitigation or conservation measures is also discussed.

5.1.3 What are the Potential Improvements in the I-5 Corridor that are Addressed Here?

Potential improvements within the South Study Area of the corridor are intended to relieve congestion on I-5 during peak traffic periods,

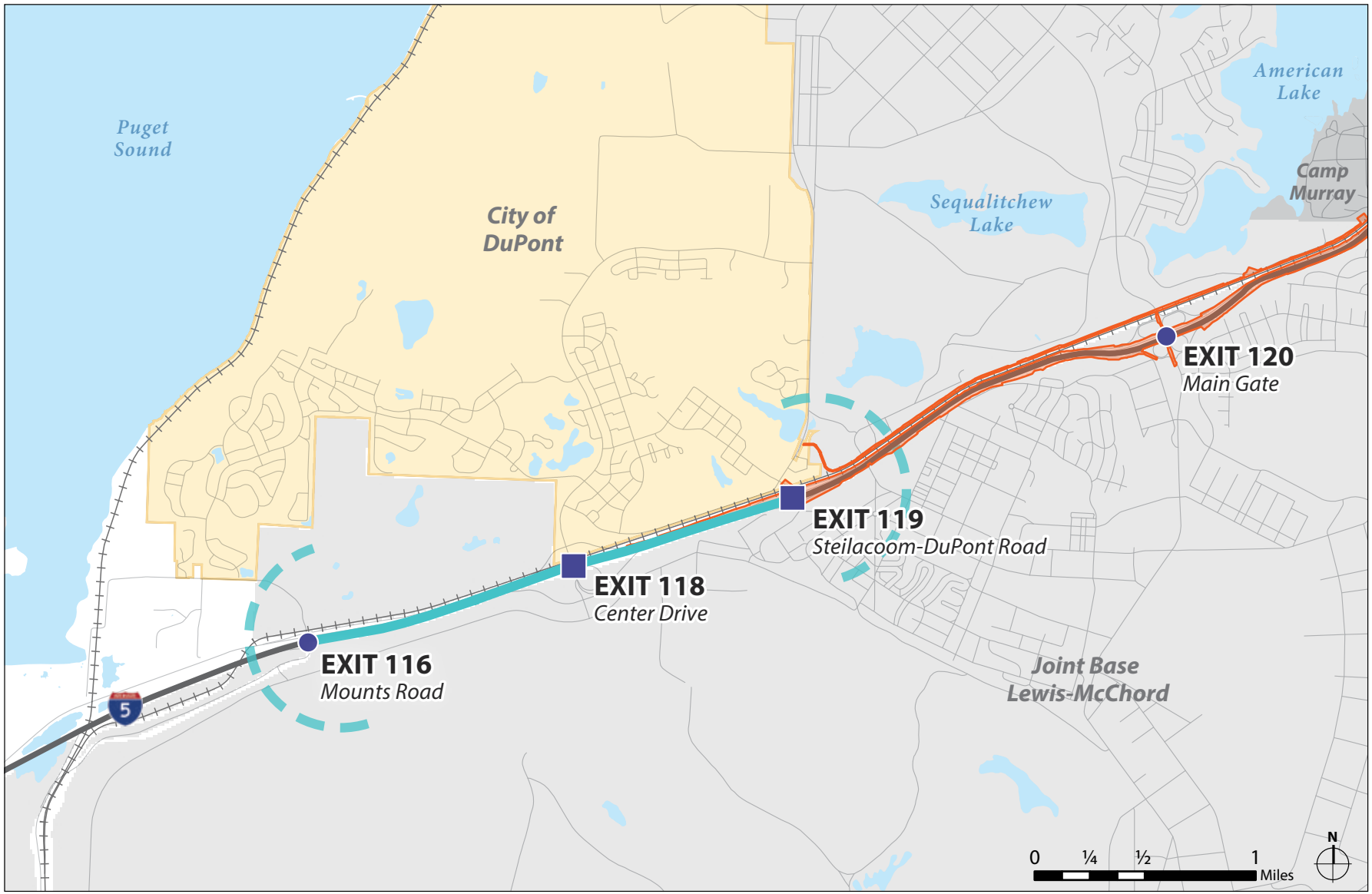

Figure 5.1-1
Potential South Study Area Improvements

while maintaining access to JBLM and the neighboring communities. The evaluation of alternatives leading to this EA identified that increasing I-5 capacity is necessary to accomplish the purpose.

At the Steilacoom-DuPont Road interchange (Exit 119), the existing bridge over I-5 was built in 1957. The openings at this bridge for the I-5 directional roadways are just over 50 feet wide and are limiting factors for adding lanes to I-5. The overpass also does not meet current height standards for its vertical clearance from I-5. In addition, traffic flow is constrained by the close proximity of the ramp intersections with public surface streets, JBLM's DuPont Access Control Point (ACP), the Sound Transit railroad, and the intersection of Wilmington Drive and Barksdale Avenue.

Improvements in the South Study Area between Steilacoom-DuPont Road and Mounts Road are anticipated to include adding capacity to the I-5 mainline. Added I-5 capacity would need to be configured to be operationally compatible with existing travel lanes at the Mounts Road interchange.

The existing (original) interchange at Steilacoom-DuPont Road (Exit 119) is a constraint to traffic flow on I-5 and to/from JBLM and the communities to the west of I-5. Reconfiguration of this interchange would allow for improved traffic movement.

Previous studies (see Table 2.2-1 in Chapter 2) recommended re-construction of the Steilacoom-DuPont Road interchange approximately 1,000 feet north of its existing location. This option was recommended because it would allow for grade-separation of the interchange roadway with the Sound Transit railroad. Associated with the recommended interchange was construction of a reconfigured JBLM DuPont ACP (gate) that was conceptually designed jointly by WSDOT and the Army Corps of Engineers. The reconfiguration of the ACP was necessary because the new interchange design was not compatible with the existing ACP location. In October of 2015, JBLM informed WSDOT that the proposed reconfiguration of the ACP was undesirable due to concerns regarding DuPont Gate safety and JBLM base security. JBLM expressed an interest in reconfiguring the ACP to connect at the Center Drive interchange as a possible alternative to a modified DuPont Gate. The scope of this request necessitates further evaluation of options and impacts including the possible need for modifying the Center Drive interchange. This evaluation would be completed in collaboration with the Project stakeholders.

The impacts associated with improvements in the South Study Area are unknown until a build alternative has been defined and a proposed footprint established.

5.1.4 Timing and Sequence of Future Decisions

Improvements along the I-5 corridor are intended to be implemented in a sequence of construction contracts that generally move from the north to the south. After approval of the I-5 JBLM Vicinity Congestion Relief Project EA, and completion of all necessary project-specific environmental permitting, purchase of right of way, and final design activities, construction is expected to proceed in the North Study Area. It is anticipated that this would occur between 2018 and 2021.

Analysis of specific improvement options for the South Study Area is expected to begin in late 2016 and be completed in 2017. Construction of identified improvements in this area is anticipated to occur following the improvements identified in the Build Alternative, anticipated for construction, in the period between approximately 2021 and 2024. A key trigger for South Study Area activity would be a determination by JBLM of the relocation and/or modification of the DuPont ACP. It is expected that this corridor level analysis will form the basis for developing future project-specific NEPA documentation for the proposed improvements in the South Study Area.

5.2 WHAT RANGE OF ALTERNATIVES HAS BEEN IDENTIFIED?

Due to the lack of information about a future configuration for the JBLM DuPont ACP, a range of South Study Area interchange improvement alternatives cannot be developed and evaluated for the corridor level analysis. To provide context for improvement alternatives or design options in the corridor level stage, the prior analysis conducted for the I-5 corridor is included by reference. A preferred I-5 mainline configuration has been identified through the earlier work, and is described in Section 5.1.3.

Additionally, as part of the multimodal improvement alternatives analysis for the Build Alternative, a wide range of options were previously considered for the three interchanges in the South Study Area (Steilacoom-DuPont Road/Exit 119, Center Drive/Exit 118, and Mounts Road/Exit 116). As possible improvements in the South Study Area are further developed, it will be important to build on that earlier analysis and to study alternatives that address interchange improvement needs. If the DuPont ACP is moved to the Center Drive interchange, a reconfiguration of this interchange may be needed to address traffic volume shifts and other concerns that may be identified by JBLM, DuPont and/or other Project stakeholders.

Any future analysis of alternatives or design options at the three South Study Area interchanges should address the full range of potential impacts associated with the preferred improvement scenario. Additionally, alternatives should meet the overall Project purpose. The alternatives would be the subject of subsequent environmental analysis that recognizes and reflects the detailed assessment previously conducted.

5.3 WHAT POTENTIAL ENVIRONMENTAL ISSUES HAVE BEEN IDENTIFIED?

5.3.1 Transportation

The Project corridor for the entire I-5 JBLM Congestion Relief Project is identified in Figure 1.2.1. Analysis of existing transportation conditions, as well as future 2020 and 2040 Build and No Build conditions are described in detail in the prior study reports (Table 2.2.1 in Section 2) and summarized for the Build Alternative in Section 4.3. The transportation study area for South Study Area focuses on the I-5 corridor and includes the interchanges at Steilacoom-DuPont Road (Exit 119), Center Drive (Exit 118) and Mounts Road (Exit 116). Within this area, I-5 is a divided highway with three general purpose lanes in each direction. Northbound and southbound auxiliary lanes are located between the Steilacoom-DuPont Road and Center Drive interchanges. A southbound auxiliary lane is also located between Center Drive and Mounts Road.

A key finding of the existing conditions analysis in the South Study Area was that high levels of southbound PM peak exiting and entering traffic, from the close-proximity ramps between the Steilacoom-DuPont Road and Mounts Road interchanges, result in significant weaving and causes drivers to shift lanes frequently, resulting in slow travel speeds.

Consistent with the regional travel demand modeling framework provided by the Puget Sound Regional Council (PSRC), traffic volume forecasts were prepared for the entire I-5 JBLM Project corridor for peak periods in 2020 and 2040. Key findings for the freeway mainline and interchanges in the South Study Area include:

- In 2020, PM peak period northbound speeds along I-5 are expected to be at less than 40 mph with the No Build condition, increasing to 60 mph with modeled mainline improvements

in the South Study area. In the southbound direction, PM peak period speeds are expected to be less than 40 mph in the vicinity of Center Drive with either the No Build or Build Alternative. The three-lane highway capacity constraints south of the Mounts Road interchange strongly influence traffic performance in the South Study Area, particularly in the southbound travel direction.

- In 2040, PM peak period northbound speeds along I-5 are expected to be in the range of 5 to 10 mph with the No Build condition, increasing to approximately 15 mph in the vicinity of Center Drive with the Build Alternative. In the southbound direction, PM peak period speeds are expected to be below 15 mph with either the No Build or Build Alternative. As with the 2020 analysis, capacity constraints south of the Mounts Road interchange affect long-term traffic operations in the South Study Area.

For the No Build Alternative in the 2020 AM peak hour, the intersection of Steilacoom-DuPont Road with Barksdale Avenue/ Wilmington Drive is expected to operate at Level of Service (LOS) F. 2020 PM peak hour traffic at the I-5/Center Drive southbound on-ramp is expected to back up from the ramp meter through the intersection with Center Drive and then to the west along Center Drive. The potential exists for traffic to be queued through the signalized intersections at Wilmington Drive and McNeil Street. The ramp metering rate at this location is currently actively managed so queues do not extend to the Wilmington Drive or McNeil Street intersections. 2020 PM peak hour traffic at the unsignalized I-5 southbound ramp intersection with Mounts Road is expected to operate at LOS F.

For the No Build Alternative in the 2040 AM peak hour, the intersections at the I-5 interchange with Steilacoom-DuPont Road and at the intersection of Steilacoom-DuPont Road with Barksdale Avenue/Wilmington Drive are expected to operate at LOS F. As with the 2020 conditions, 2040 PM peak hour traffic at the I-5 southbound intersection with Center Drive would see extensive queuing. The unsignalized I-5 southbound ramp intersection with Mounts Road is expected to operate at LOS F.

2020 and 2040 transportation impacts and appropriate mitigation will be fully addressed in any future environmental analysis of a proposed build alternative in the South Study Area. Analysis will include future operational performance and safety, effect on local public or private (JBLM) roads, transit/TDM services, bicycles and pedestrians, and construction impacts.

5.3.2 Air Quality

The air quality assessment for improvements in the I-5 corridor in Pierce County focuses on transportation-related pollutants including carbon monoxide (CO) and Mobile Source Air Toxic Emissions (MSAT).

CO is a project level concern and emissions are primarily dependent on traffic volumes and levels of congestion. Section 176(c) of the Clean Air Act requires that transportation plans, programs and projects conform to the intent of the state air quality implementation plan (SIP) for the on-going management of CO emissions.

Based on the process described in Section 4.4.1, three intersections in the South Study Area were initially identified as having the highest accumulated delay for entering vehicles, and thus the potential for generating the highest localized CO concentrations:

- I-5 southbound ramps at Nisqually-Mounts Road.
- I-5 southbound ramps at Steilacoom-DuPont Road.
- Steilacoom-DuPont Road, Barksdale Avenue and Wilmington Drive.

This list of potentially impacted intersections could change as a South Study Area build alternative is further defined.

With the 2020 and 2040 No Build Alternative, traffic congestion through the I-5 corridor and the interchanges in the vicinity of JBLM would continue to increase. Congested traffic could result in higher emissions of CO or MSAT pollutants than free-flowing traffic. Therefore, the No Build Alternative would be expected to result in more localized air pollution than the existing condition. However, changes in vehicle technology, fleet turnover, and improvements to fuels may offset the increased congestion with reduced emissions.

Potential South Study Area improvements along the I-5 mainline and at interchanges are intended to reduce congestion and are thus expected to improve localized air quality. 2020 and 2040 impacts with a build alternative will be fully evaluated in any future Air Quality Conformity Analysis to determine that the National Ambient Air Quality Standards (NAAQS) will not be exceeded as a result of these improvements. Impacts on MSAT will also be identified.

5.3.3 Noise

A traffic noise study was conducted along the entire project corridor (Gravelly Lake Drive on the north to Mounts Road on the south) using the FHWA Traffic Noise Model (TNM) version 2.5. The noise model was used to predict existing 2015, future 2040 Build and 2040 No Build Alternatives, and to identify future noise impacts. Traffic noise levels under the Build Alternative would result in a small increase of 1 to 2 dBA in noise levels compared to the No Build Alternative. These small changes are not perceptible to the human ear; therefore, any changes in sound level from the No Build Alternative to the Build Alternative would generally not be noticeable.

Noise sensitive receptors include residential development and a variety of non-residential land uses that could be impacted by highway noise such as parks and golf courses. In the South Study Area, noise sensitive receptors were identified on the west side of I-5 in the vicinity of the Steilacoom-DuPont Road interchange and on the east side between Center Drive and the Steilacoom-DuPont Road interchanges. Abatement in the form of noise walls was recommended at several locations in the Build Alternative area, but no noise wall locations were recommended within the South Study Area at this time. When a build alternative is defined for South Study Area, potential noise impacts associated with those improvements will need to be evaluated as part of future environmental analysis, and potential mitigation measures identified as necessary.

5.3.4 Geology and Soils

The nature and physical characteristics of the geology and soil types likely to be encountered in the Project corridor were assessed through a literature review of available, existing site data and two field reconnaissance site visits. Based on this assessment, it was determined that the majority of the study area is dominated by sand and gravel outwash deposits left after glacial retreat about 13,500 years ago.

Man-made fill has also been imported and used in the construction of I-5, the I-5 on- and off-ramps, adjacent roads, and structures at the JBLM military complex. Additionally, peat, soft sediment (silt and clay), and recently deposited alluvial sand may be present in the vicinity of the Steilacoom-DuPont Road interchange. Potential geologic hazards that may affect improvements in the South Study Area include volcanic events, landslides, erosion, and seismic-related (earthquake) hazards such as ground shaking, fault-related ground rupture, and liquefaction.

Day-to-day operational effects, related to geology and soil associated with the No Build Alternative, are not anticipated. However, the existing overpass bridges and associated embankments and walls are aging and were not designed for the level of earthquake shaking required by modern standards. Therefore, there would be a greater risk of loss of functionality to these facilities due to seismic-related damage for the No Build Alternative.

Long-term geology and soil related impacts could occur along the proposed new I-5 roadway and interchange modifications within the South Study Area. Long-term operational impacts could include seismic-related instability and long-term settlement following placement of new fill over soft sediments and peat deposits. The extent of these effects would depend on final design and the mitigation alternatives implemented during construction to reduce these effects. Future improvements would be designed based on the available and project-specific subsurface information collected, design procedures and criteria approved by WSDOT, and the site conditions as they exist at the time of design and construction.

5.3.5 Water Resources

Water resources are sources of water which are or may be useful in supporting agriculture, industry, recreation, and human and ecological health. These sources are typically subdivided into two types: surface water and groundwater. Surface and groundwater interconnect with floodplains which are land areas whose surface is susceptible to being inundated by water from a nearby surface water source. Given the importance of these resources to human and ecological health, their use and maintenance are regulated at the federal, state, and local level in order to ensure they remain a beneficial resource for generations to come.

The study area for surface water includes Bell Marsh, a wetland and stream system that is located adjacent to and west of the Steilacoom-DuPont Road interchange (Exit 119). The floodplain associated with the Bell Marsh system is located within the city of DuPont. Bell Marsh and its associated floodplain may be impacted by potential improvements in the South Study Area. Red Salmon Creek is also located in the general vicinity and downstream of the South Study Area. Red Salmon Creek originates southwest of the I-5/Mounts Road interchange. Additional assessment of floodplain impacts may be required if future improvements are made in the study area within or tributary to Red Salmon Creek.

The study area for groundwater resources is located within the Central Pierce County Aquifer (sole source) and includes Wellhead Protection Areas in the vicinity of I-5. There are seven Group A wellheads in the vicinity of the Steilacoom-DuPont Road interchange, including one located immediately southeast of the existing interchange.

Long-term and operational effects resulting from potential improvements in the South Study Area may include increased runoff due to increases in impervious areas, loss of floodplain storage, reduced channel and floodplain conveyance, and changes in infiltration capacity, thereby increasing river and stream channel flood flow rates and corresponding flood water surface elevations. Potential impacts to surface water, groundwater and floodplain resources associated with any future improvements will need to be evaluated as part of future environmental analysis and potential mitigation measures developed as necessary.

5.3.6 Wetlands

Wetlands are important to protect because they provide valuable ecological functions and help protect human communities. Wetlands

are protected in the environment by wetland buffers, land encircling the wetland that helps separate the wetland from human disturbance. Local municipalities such as cities and counties typically regulate what activities can occur in wetland buffers, ensuring that buffers continue to provide protection to wetlands. Wetlands are also protected by Section 401 and 404 of the federal Clean Water Act, as well as regulations at the state level. Wetlands are rated by their function and value from Category I (highest value) to Category IV (lowest value and/or most disturbed).

Within the South Study Area, wetlands have been identified west of I-5, adjacent to Steilacoom-DuPont Road. These wetlands include Bell Marsh, a Category I wetland associated with an un-named stream, as well as several Category III wetlands located within topographic depressions. Bell Marsh and two of the depressional wetlands are in close proximity to the original relocated Steilacoom-DuPont Road interchange design concept.

Additional field investigation of potential wetlands in the vicinity of the Center Drive interchange may be required if future improvements are made in this area. Potential wetland impacts in this area will need to be evaluated and an associated mitigation strategy may need to be developed as part of future environmental analysis.

5.3.7 Fish, Vegetation and Wildlife

Fish, vegetation and wildlife communities were identified and evaluated through the Project corridor to determine whether there were any potential impacts. Analysis focused on mapping and characterizing habitat, and evaluating the potential for fish, wildlife and vegetation to be present.

Habitat in the study area is typically a mosaic of isolated fragments including primarily second-growth forest, open grassy areas, and wetlands. Except for wetlands, habitat is suitable primarily for species with high tolerances for noise and human activity, or species that are attracted by the byproducts of development. Wildlife likely to be observed in terrestrial habitats in the South Study Area includes, but is not limited to, birds, squirrels and other rodents, deer, raccoons, opossum, coyotes, and feral cats and dogs. Wetland habitats contain a variety of amphibian species: red-legged frog, northwestern salamander, and long-toed salamander were observed in several of the wetlands during site visits.

Based on initial analysis, no federally-listed fish or fish habitat was identified in the South Study Area. The potential for listed mammals (Roy Prairie pocket gopher) and listed or priority plants (water Howellia, white-top aster, Torrey's peavine) to be in a future potential disturbance footprint is low, but still possible. Numerous migratory bird species have been identified through sightings, particularly in the vicinity of Eagles Pride Golf Course and Mounts Road, Sellars Lake, MacKay Marsh, Edmond Marsh, and in and near the Nisqually National Wildlife Refuge.

Potential impacts to fish, vegetation and wildlife resources associated with proposed future improvements will need to be evaluated as part of future environmental analysis. Potential effects of improvements in the South Study Area could include:

- Physical disturbance of sensitive species or occupied habitat.
- Permanent vegetation clearing or temporary clearing during construction.
- Permanent and temporary wetland alterations (fill, clearing).
- Permanent and temporary stream and wetland buffer alteration.
- Elevated noise and visual disturbance during construction.

- Increased volumes or reduced water quality of stormwater discharges into surface waters.

A variety of minimization measures could be implemented to reduce potential construction and permanent effects. It is recommended that additional surveys for the Roy Prairie pocket gopher, water Howellia, Torrey's peavine, and white-top aster should be completed in potentially suitable habitat areas once a build alternative is selected in the South Study Area. Impacts to wetlands and wetland buffers would be mitigated as required. Short- and long-term stormwater management would be conducted consistent with the WSDOT *Highway Runoff Manual*.

5.3.8 Hazardous Materials

Existing and potential locations where hazardous materials are or may be present in the Project corridor were identified and evaluated to assess their potential impact on the proposed Project. Within the South Study Area, a total of ten sites of concern that have or may have soil and/or groundwater contamination were identified. Of the ten sites, two are considered to have a potential moderate risk and the remaining eight sites are considered to have a potential low risk. These sites included:

- An above ground storage tank located adjacent to the southbound Steilacoom-DuPont Road exit from I-5.
- Up to three former Underground Storage Tank (UST) sites are located south-southeast of the northbound Steilacoom-DuPont Road exit from I-5 on JBLM property. Two of the sites were issued No Further Action opinions from DOE. Residual contamination associated with the former UST is present in both soil and groundwater at the third site.
- One currently active and one former service station are both located south and west of the I-5/Steilacoom-DuPont Road interchange.
- A former landfill located within and east of the I-5 corridor at the Center Drive interchange. The landfill was used for disposal of vegetation and municipal/medical waste. Approximately five acres (northwest portion) of the approximately 15-acre landfill are located within an I-5 easement and are documented to have been remediated. Additional mitigation at this location may be necessary as part of any future improvements in the vicinity of the I-5/Center Drive interchange.
- An existing dry cleaning business located on the west side of I-5 at the Center Drive interchange.
- A former landfill site located within and west of the I-5 corridor at the Center Drive interchange.
- Another former landfill is located east of and directly adjacent to the I-5 south of the Center Drive interchange.

Hazardous materials impacts and/or appropriate mitigation associated with any future improvements in the South Study Area will need to be evaluated as part of future environmental analysis and potential mitigation measures developed as necessary.

5.3.9 Visual Quality

A visual impact assessment was prepared to identify potential visual impacts of proposed improvements in the Project corridor, including possible impacts in the South Study Area. The assessment focused primarily on the I-5 interchange at Steilacoom-DuPont Road (Exit 119). The visual character of this interchange is dominated by JBLM to the east and the city of DuPont to the west. On the east side, the view is dominated by JBLM colonial style military housing with associated office and training facilities. In the background, the view is forested

with Mount Rainier serving as the focal point. To the west the city of DuPont dominates the landscape view with the Sound Transit railroad dividing I-5 from businesses.

The visual character of the area would be changed by the additional height of future new interchanges if they are designed to provide grade-separation from the railroad. The most sought out view in the area is Mount Rainier to the east. Most viewers using I-5 would be focused on the roadway due to traffic and speed.

Visual impacts associated with any modifications to interchanges as part of future improvements in the South Study Area will need to be assessed once a build alternative is selected.

5.3.10 Archaeological and Historical Resources

The Project is subject to approval by the FHWA, and as such must be conducted in compliance with Section 106 of the National Historic Preservation Act (NHPA). This act requires an assessment of potential project-related impacts to historic resources, archaeological sites, and traditional cultural properties. Consultation with stakeholders to find acceptable ways to avoid, minimize, or mitigate adverse effects is also required.

Within the South Study Area, the presence of cultural and/or historic resources is largely concentrated in the vicinity of the Steilacoom-DuPont Road interchange (Exit 119). Properties eligible for listing on the National Register of Historic Places (NRHP) include:

- Quartermaster Gasoline Filling Station/Stone Station located to the east of the interchange.
- A warehouse on West Way located to the east of the interchange.
- The American National Red Cross Field Office/Lewis Community Spouse's Club located northeast of the interchange.

Additionally, the Fort Lewis Garrison Historic District (designated on the NRHP in 2004) is located north and east of the interchange area and the DuPont Village Historic District is located west of the interchange. The effect of future improvements on these facilities will need to be further considered in the development of a build alternative for the South Study Area. A Programmatic Agreement will be prepared to identify future analysis needs.

5.3.11 Section 4(f) Resources

Section 4(f) refers to a section of the Department of Transportation Act of 1966 which stipulates U.S. Department of Transportation (DOT) agencies cannot approve the use of land for transportation projects from publicly owned parks, recreational areas, wildlife and waterfowl refuges, or public and private historical sites unless the following conditions apply:

1. There is no feasible and prudent alternative to the use of land from the property.
2. The action includes all possible planning to minimize harm to the property resulting from such use.

Historic and archaeological resources were identified and evaluated within the Project's Area of Potential Effect (APE), while public recreational properties, including parks, public schools and wildlife refuges, were evaluated within a ½ mile of I-5 in the South Study Area.

Seventeen Section 4(f) resources were identified in the vicinity of the South Study Area including: three historic properties and two historic districts (as described under section 5.3.10 above); Chloe Elementary School located in the city of DuPont; eight parks in DuPont (Ross, Clocktower, Sellers, Iafrati, Lumsdon, Bell Hill Neighborhood, Bell Hill Community and Robinson); a variety of DuPont trails; the DuPont Community Center; and the Eagle's Pride Golf Course.

It is not anticipated that future improvements would result in an adverse impact to any of the historic properties, historic districts, parks or recreational resources identified on the basis of an initial assessment. The effect of future improvements on these facilities will need to be further considered in the development of a build alternative for the South Study Area.

5.3.12 Socioeconomics and Environmental Justice

The assessment of socioeconomic and environmental justice (EJ) issues in the Project corridor addresses potential adverse impacts or benefits to the human environment, such as housing, social resources, community resources, economic conditions, and aesthetic conditions. The EJ analysis was conducted to determine if public involvement has been inclusive of minority and low-income persons, and if potential impacts are disproportionately burdensome to those populations.

To conduct this analysis, demographic data has been mapped and potential impact areas identified. Within the South Study Area, the Pierce County Public Library in DuPont is a key community resource. DuPont is also home to many large employers and is directly adjacent to one of Washington State's largest employers, JBLM. The South Study Area includes a high percentage of rental housing on JBLM and within DuPont near the Steilacoom-DuPont Road interchange (Exit 119). There is a lower percentage of low-income persons, Hispanic persons, and minorities in the South Study Area than in the northern portion of the corridor in the Tillicum and Woodbrook neighborhoods.

The social and economic aspects of reducing congestion on I-5 and connecting roads would benefit the entire Project corridor area. Area residents and employees who travel on I-5 would benefit from reduced delay, as would those traveling through the area to other destinations. Development of potential future improvements in the South Study Area, especially interchanges, should address any potential property acquisitions or displacements and/or any other potential social, economic, or other EJ impacts.

5.3.13 Land Use

Land use within the South Study Area is characterized by a mix of urbanizing residential and commercial land uses, as well as extensive military lands that are part of JBLM. JBLM currently hosts more than 40,000 active duty military service members, 14,000 civilian employees, and 60,000 military family members. The size, population, and services offered on JBLM make it comparable to a fully-functioning city. While most of JBLM is composed of open range lands for military maneuvers and training, an extensive network of urban services such as military offices, residential areas, schools, Madigan Army Medical Center, fire stations, and other operational support features are located close to I-5.

Much of the South Study Area on the west side of I-5 is located in the city of DuPont. This historic community was incorporated in 1951. The land area in DuPont is composed of residential areas, business/industrial areas, and open space. While residential areas currently make up the majority of the developed areas, the city has large land areas designated for future commercial and business/industrial development. Three I-5 interchanges serve DuPont:

- Exit 119 (Steilacoom-DuPont Road).
- Exit 118 (Center Drive).
- Exit 116 (Mounts Road).

The City of DuPont's *Comprehensive Plan* sets forth the goals and policies for the city's future development. These goals and policies are reflected throughout the city's other planning documents, as well as in the zoning ordinance. Future land use in the study area

is envisioned to be primarily a combination of commercial, office, and mixed-use, with some residential and open space designation. The *Comprehensive Plan's* transportation project list also includes the Steilacoom-DuPont Road interchange (Exit 119), with the project description, "Construct new interchange to add capacity."

Generally, improvements to the I-5 corridor within the South Study Area would be consistent with currently adopted plans and policies at the local, regional, and state levels, as these improvements would provide relief to worsening congestion problems on I-5 and its key interchanges. Access to one of JBLM's busiest access control points, the DuPont Gate, may also be improved consistent with JBLM's security objectives. The potential impacts on the I-5 interchanges at Steilacoom-DuPont Road (Exit 119) and Center Drive (Exit 118) to property acquisition and future land development will be addressed in future environmental analysis as design concepts in the South Study Area become more refined.

5.3.14 Utilities

Numerous utilities and stakes marking utilities were observed at the interchanges along I-5 in the South Study Area. The utilities include buried fiber optic cables, telephone, ITS, stormwater, overhead lines and others. Many of these utilities will need to be considered for relocation during design and construction. Potential impacts of future improvements on utilities will be further addressed in future environmental analysis.

5.3.15 Indirect Effects

When improvements become further refined and a build alternative is identified for the South Study Area, a detailed environmental evaluation of indirect effects will be conducted. Cumulative effects were considered across the entire corridor (see Section 4.18-3 - 4.18-7). Historical trends reasonably foreseeable future actions, and climate change risks in the South Study Area were considered. The cumulative effects section may be updated following the detailed analysis of potential direct effects as needed.

5.4 PUBLIC REVIEW OF CORRIDOR LEVEL ELEMENTS

Review of potential future improvements in the South Study Area have been and will continue to be reviewed by Project stakeholders and the general public. Recent and upcoming meetings to inform the community and solicit input on Project elements include:

- **January 19, 2016** DuPont City Council Work Session – An update was held to discuss JBLM's request to consider moving the location of the DuPont ACP and the resulting EA revisions for both the North Study Area Build Alternative and South Study Area elements.
- **April 18, 2016** DuPont City Council Work Session – A follow up discussion was held to address next steps in determining a build alternative for the South Study Area and the results of initial modeling of JBLM's proposal to relocate the DuPont Gate to the Center Drive interchange.
- **May 4, 2016** Tillicum Community – Meeting was held to brief and receive input from residents, property owners and business owners on Project status.
- **May 23, 2016** DuPont Community – Meeting was held to brief and receive input from residents, property, owners and business owners on Project status.
- **September 2016** Public Open House and Public Hearing.

OVERALL WETLAND CATEGORY II (based on functions X or special characteristics)

1. Category of wetland based on FUNCTIONS

__ __**Category I** - Total score = 23 – 27
__X__**Category II** - Total score = 20 - 22
__ __**Category III** - Total score = 16 - 19
_____**Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic Text	Habitat	
	Circle the	*appropriate*	*ratings*	
Site Potential	H 4 M L	H M ● L	H M ● L	
Landscape Potential	H M ● L	H ● M L	H M L ●	
Value	H M ● L	H ● M L	H ● M L	**TOTAL**
Score Based on Ratings	5 9	8	7	20 24

Score for each function based on three ratings *(order of ratings is not important)*

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

Exhibit 5.b.10

February 2, 2024

Dear Director Kincaid,

I have some concerns about the current Champions Centre land use application.

Fortunately, the ARCO application of 2017 (subsequently withdrawn) establishes some historical context for the current Champions Centre land use application.

First, based on many public comments, ARCO agreed to change the design of their gas station to meet the Comprehensive Plan requirements to design their station using traditional building materials. The architectural draft in the application documents says that tilt-up construction, looking like a warehouse, is one option. If the church is built on this property, they need to follow the Comprehensive Plan and build the church to fit into the commercial zoning in the Historic Village area. Barksdale Station did a quality job following these criteria.

Next, I noticed that Bell Marsh is designated a Class II wetland in their documents. ARCO also designated it as such, and citizen pushback during the ARCO era discovered that the wetland is a Class I wetland. In 2015, the state evaluated the wetland for the I-5 JBLM Congestion Relief Study and designed it as a Class I wetland in 2016. DuPont agreed to this designation. Per the DMC, a Class I wetland must have a 200-foot buffer.

DMC 25.120 Tree Retention prohibits the removal of Landmark Oregon White Oak Trees. Removing these landmark trees cannot be mitigated by planting new trees as proposed in the development application. The property is in a critical area, next to a Class I wetland.

Dille Law, LLC submitted a memorandum arguing that the three Landmark Oregon White Trees, and the DMC protecting these landmark trees, should be ignored because other white oak trees have been cut down in other parts of the city. Also, they state our DMC should be ignored because, for some reason, these trees are "sacrosanct." Yes, they are sacrosanct as they protect critical areas and wetlands. The size and drip line are why they are called landmark trees. Hence, our DMC protecting them.

The most illogical argument in the memorandum is that Champions Centre is protected under the Washington constitution, for religious reasons, from following city codes. I am not a lawyer, but common sense, and a precursory review of Washington case law, dictates that religious institutions do not have a constitutional right to ignore city codes when said institutions are not being discriminated against by city government. Clearly, DuPont is not discriminating against Champions Centre when stating in the technical response letter that Landmark Oregon White Tree removal is prohibited under DMC 25.120.

In summary, the Champions Centre application is far preferable to the ARCO proposal. With a few adjustments, it seems like the church could be built on the property and would be a good addition to community building in DuPont.

Sincerely,

Judy Norris
1485 Kittson Street

Exhibit 5.b.11

From:	Barbara Kincaid
To:	Janet Howald
Cc:	Lisa Klein
Subject:	[EXTERNAL] Fwd: Commnets re: NOTICE OF APPLICATION WITH OPTIONAL DNS Champions Centre
Date:	Saturday, February 3, 2024 5:10:36 PM

Get Outlook for iOS

From: Bridget King <bkking3@hotmail.com>
Sent: Friday, February 2, 2024 4:39:34 PM
To: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: Commnets re: NOTICE OF APPLICATION WITH OPTIONAL DNS Champions Centre

To CIty Planner, Barb Kincaid:

These are my initial comments on this proposal. There are many details in this proposal but this jumps out to me immediately:
"The proposal includes a request to remove regulated landmark trees and to reduce the standard wetland buffer."

1. Trees: The removal of landmark trees in unacceptable. Let's develop with as many of our established trees as possible. When I look at recent developments that have placed new trees and vegetation, e.g. along DuPont Steilacoom Rd, more than half are dead and uncared for. Once we agree to exchanges, there is no code enforcement or maintenance enforcement. Keep what we have that is rare alive.
2. Wetland: The wetland is mislabeled if I recall from our last application for a gas station in this area. It was determined to be a Class I wetland; this limits development possibilities. Any variance in wetland or wetland exchange should take into account the creek restoration plan. I believe the plan is based on receiving flow generated from all the wetlands as an open system. Please consult the restoration team before proceeding.
3. Heat Island: A 140 parking lot is mentioned. How will we prevent this from becoming a heat island next to the wetland.

Thank you
Bridget King

Exhibit 5.b.12

From: Barbara Kincaid
To: Janet Howald
Cc: Lisa Klein
Subject: [EXTERNAL] Fwd: Barksdale/Wilmington site
Date: Saturday, February 3, 2024 5:10:49 PM

Get Outlook for iOS

From: Nicole McNeil <nikimac@gmail.com>
Sent: Friday, February 2, 2024 4:37:05 PM
To: Karri Muir <KMuir@dupontwa.gov>; Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: Barksdale/Wilmington site

Hi! I saw a couple posts about the proposal for the church and it's exciting to see the land finally being used. I do appreciate that there's concern about the wetlands classification and it being encroached upon. Can they propose a different idea that offers less parking to allow plenty of wetland to still thrive?
And with the traffic light on Barksdale only allowing exactly 4 cars to pass through (that's IF nobody turns from DuPont-Steilacoom and blocks the intersection), how will the church ensure the neighbors can drive out? I am very concerned about that. Perhaps the city could look into opening Haskell on the weekends? Or at least adjusting the road.
Thanks for receiving our concerns!
-Nicole McNeil (253-459-5318, 210 Brandywine Ave.)

Exhibit 5.b.13

From: Barbara Kincaid
To: Janet Howald
Cc: Lisa Klein
Subject: [EXTERNAL] Fwd: Champion Center building proposal
Date: Saturday, February 3, 2024 5:11:33 PM

Get Outlook for iOS

From: Karen Nolan <fraukln@yahoo.com>
Sent: Friday, February 2, 2024 4:31:29 PM
To: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: Champion Center building proposal

Ms. Kincaid,

I am expressing my dismay at the proposal for a Champion Center Church to be built across from the present-day Arco station and market. I cite the following reasons:

First, building a church on that corner intersection would be adding too much traffic to that intersection and to Barksdale Street.

Second, the plan calls for removing four Landmark Oregon White Oak trees from the property. These precious trees must be preserved where they are.

Third, there are Bell Marsh Wetlands located there. The wetlands are actually Class I , not Class II. Therefore the buffers to the marsh need to be bigger.

Thank yo for allowing these comments regarding this development application.

Karen Nolan
1518 McDonald
Dupont, WA 98327

Exhibit 5.b.14

From: Barbara Kincaid
To: Janet Howald
Cc: Lisa Klein
Subject: [EXTERNAL] Fwd: Historic Village
Date: Saturday, February 3, 2024 5:08:52 PM

Get Outlook for iOS

From: Krista Novak <kristamnovak@yahoo.com>
Sent: Friday, February 2, 2024 4:52:25 PM
To: Karri Muir <KMuir@dupontwa.gov>; Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: Historic Village

Hi there,

It was brought to my attention late today that it is the last day to put comments in for development request at the corner of the Historic Village.

The details of this request are of concern to me. I am concerned with the removal of the Garry Oaks and the infringement into the wetland buffer. The request states that they can remove a large number of these trees because they were allowed to be removed in the industrial park, but our city code states that industrial areas are different than residential areas so requires better consideration. The development is also built into the wetland buffer by 100 feet, which is the same mistake the Arco proposal made.

Lastly, I am worried about the congestion that will inevitably happen on Sundays, and possibly other days, at an already VERY congested crossing. We already have semi trucks getting stuck across train tracks at the red light and congestion on DuPont-Steilacoom Rd, why would we add 200-300 trips to this area?

Thank you for hearing my concerns,
Krista Novak
1449 Kittson St

Exhibit 5.b.15

From: Barbara Kincaid
To: Janet Howald
Cc: Lisa Klein
Subject: [EXTERNAL] Fwd: Possible mega-church in Historic Dupont
Date: Saturday, February 3, 2024 5:05:11 PM

Get Outlook for iOS

From: Krystal Coates <Krystal.Coates@outlook.com>
Sent: Friday, February 2, 2024 5:49:28 PM
To: Karri Muir <KMuir@dupontwa.gov>
Cc: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: Possible mega-church in Historic Dupont

I wouldn't want to stop anyone from joining our community and a church seems like a wonderful way to bring enrichment to religious members of the community. With all the structures vacant (Ace Hardware and the old Super Buffet come to mind) it seems wasteful to build new construction on a historical site.

Add to that the year(s?) of construction planned that will snarl that area over the next while it seems like it would create quite a hardship for people living in that area.

A building to house 500-1000 people might have to be quite a bit more "industrial" looking than the vibe of that area.

This addition to Historic Dupont would bring a lot of stress to people living in that area several days a week without adding much, if any, revenue to the city.

Perhaps if they are set on using new construction to add a location to Dupont they could look at more accessible locations like the lot on Center drive that has been vacant (except for the odd firework stand a twice a year) or somewhere near the industrial parks.

Thank you so much for taking time to hear what the community thinks about this possibly huge change.

Krystal Richards

Exhibit 5.b.16

From: Barbara Kincaid
To: Janet Howald
Cc: Lisa Klein
Subject: [EXTERNAL] Fwd: Please look into issues with new build in historic area
Date: Saturday, February 3, 2024 5:05:39 PM

Get Outlook for iOS

From: Alicia <aliciamroubicek@gmail.com>
Sent: Friday, February 2, 2024 5:06:11 PM
To: Karri Muir <KMuir@dupontwa.gov>
Cc: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: Please look into issues with new build in historic area

Copied from save our town … I agree it needs to be looked into

This proposal for the Champions Center project has a couple of issues that don't conform to city code and will need to address:

1) Removal of rare heritage Gerry oak trees protected by city law (there is a good workaround for one section, kudos to the developer for protecting one knoll). These are Gerry oak trees at the entrance to the oldest part of the city and one of the most historic neighborhoods in this county. The Comprehensive Code calls for development in this area to be sensitive and to reflect the scope of a small neighborhood with great historic value.

2) Around 300 car trips (in and out) on Sundays is the estimate, with a planned increase of up to 600 car trips--using the historic Barksdale Avenue for the majority of these. Currently there isn't capacity for more than ten cars on this street to queue up. Not sure how this will work and how Historic Village residents and emergency responders will handle backups with only one outlet.

3) Bell Marsh is a Class I wetlands. The Wetlands Report contains an error, and attempts to build as if it were a Class II wetlands (much less protection). The development is built 100 feet into the wetlands buffer. Most of this is parking lot so could be redesigned to protect the critical area of the wetlands. It's unfortunate this mistake was made, because the exact same error was made in the ARCO wetland report!

4) About 1/4 of the site is dedicated to a restaurant (yay!) with around 40 parking spaces. Food is good. But the loss of this large section of the site for the church means that the road and parking for the church are now designed to be built on the wetland buffer.

Very respectfully,

Alicia Roubicek

Exhibit 5.b.17

From: Barbara Kincaid
To: Janet Howald
Cc: Lisa Klein
Subject: [EXTERNAL] Fwd: Barsdale Oaks
Date: Saturday, February 3, 2024 5:10:15 PM

Get Outlook for iOS

From: Michelle Ryder <akkadia@gmail.com>
Sent: Friday, February 2, 2024 4:42:38 PM
To: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: Barsdale Oaks

Hello Barb,

I was informed today that the development application has been submitted for the property across from the 76 gas station on Barksdale. Along with including and abutting sensitive wetlands, they want to remove three landmark Garry Oaks.

I am really concerned about these three native Garry oaks. Protecting all trees is important, but I especially urge you to protect the city's Garry oak populations because that is where "landmarks, history, and environmental issues" converge.

Garry oaks, called cəʔadᶻac in Lushootseed, are not only ecologically significant, but culturally significant. These trees are a keystone species of the historic prairie-oak ecosystem that once blanketed this area and was managed by the Nisqually People, with the use of fire, for thousands of years.

I feel confident you know all this (how can someone not while working in DuPont with its legendary collection of Garry oaks!), and wanted to share my thoughts.

I also know the area well as a Noxious Weed Inspector, and I am familiar with the manager of that property. In fact, he told me he was going to do everything he could to keep those trees standing. I told him that the people of DuPont (and its pollinators, insects, birds, and other animals) would really appreciate that.

I am sad to hear he has changed his mind. I hope we can save these trees!

Thank you!

Michelle (she/her)

Exhibit 5.b.18

From: Barbara Kincaid
To: Janet Howald
Cc: Lisa Klein
Subject: [EXTERNAL] Fwd: New development proposed for Historic Village.
Date: Saturday, February 3, 2024 5:11:06 PM

Get Outlook for iOS

From: portia Willi <pcwilli@hotmail.com>
Sent: Friday, February 2, 2024 4:36:44 PM
To: Karri Muir <KMuir@dupontwa.gov>
Cc: Barbara Kincaid <bkincaid@dupontwa.gov>
Subject: New development proposed for Historic Village.

Please take the time to consider the application by the church for the building site at the entrance of Historic Village. I am not opposed to this business being here I just feel this proposal for the Champions Center project has a couple of issues that don't conform to city code and will need to address:
1) Removal of rare heritage Gerry oak trees protected by city law. These are Gerry oak trees at the entrance to the oldest part of the city and one of the most historic neighborhoods in this county. The Comprehensive Code calls for development in this area to be sensitive and to reflect the scope of a small neighborhood with great historic value.
2) Around 300 car trips (in and out) on Sundays is the estimate, with a planned increase of up to 600 car trips--using the historic Barksdale Avenue for the majority of these.
3) Bell Marsh is a Class I wetlands. The Wetlands Report contains an error, and attempts to build as if it were a Class II wetlands (much less protection). The development is built 100 feet into the wetlands buffer. Most of this is parking lot so could be redesigned to protect the critical area of the wetlands. It's unfortunate this mistake was made, because the exact same error was made in the ARCO wetland report!
I appreciate your consideration in resolving these issues.
Portland Williams
3097 Hoffman Hill Blvd
DuPont, WA 98327
Sent from my iPad

Exhibit 6.a

From: Meyer, Zachary (ECY)
To: Janet Howald
Subject: RE: Champions Centre- Notice of Application with Optional DNS
Date: Monday, January 22, 2024 8:03:20 AM
Attachments: image001.jpg

Hi Janet,

My only comment would be to make sure that any wetland buffer reduction the City allows is consistent with the Dupont Critical Area Ordinance and appropriate mitigation is provided.

If the City needs any technical assistance as it relates to wetlands, please feel free to reach out to me.

Zach Meyer
Shorelands Technical and Regulatory Lead
Shorelands & Environmental Assistance Program
Washington State Department of Ecology
Southwest Regional Office, Lacey, WA
360-481-9885

From: Janet Howald <JHowald@dupontwa.gov>
Sent: Friday, January 19, 2024 7:44 AM
To: Adonais Clark, Pierce County) <aclark@co.pierce.wa.us>; Fritzel, Anne (COM) <anne.fritzel@commerce.wa.gov>; Annette Bullchild <bullchild.annette@nisqually-nsn.gov>; Brad Beach (Nisqually Tribe, THPO Dept) <beach.brad@nisqually-nsn.gov>; Charles S Markham, JBLM <Charles.s.markham2.civ@mail.mil>; Cowlitz Indian Tribe Permit Review <permitreview@cowlitz.org>; David Fullmer <david.j.fullmer4.civ@mail.mil>; David Parker Brown <david.p.brown@pse.com>; Debbie Germer @ Pierce County <debbie.germer@piercecountywa.gov>; Delane Hand, Pierce County Auditor <delane.hand@piercecountywa.gov>; ECY RE SEPA REGISTER <separegister@ecy.wa.gov>; Joblonski, Donna <dmca461@ECY.WA.GOV>; Elizabeth Sanchey <elizabeth_sanchey@yakama.com>; Emily Griffith <emily.griffith@agynbyte.com>; FEMA <john.graves1@dhs.gov>; Glynnis Nakai-Nisqually Wildlife Refuge <Glynnis_Nakai@fws.gov>; James Gordon <jgordon@cowlitz.org>; Jessica Olson <Jolson@cityoflakewood.us>; Joe Cushman <Cushman.joe@nisqually-nsn.gov>; Kirk Kirkland <kirkkirkland@gmail.com>; Krystal Kyer <krystal.kyer@piercecountywa.gov>; LeMay <Cust2180@wcnx.org>; Tealer, Nick (PSP) <nick.tealer@psp.wa.gov>; Pete Stoltz <Pstoltz@calportland.com>; Puget Sound Clean Air Agency <SEPA@pscleanair.org>; Rebecca

Kowalski, JBLM <rebecca.j.kowalski.civ@mail.mil>; Sean Gaffney <sean.gaffney@piercecountywa.gov>; Shawn Lewis <shlewis@steilacoom.k12.wa.us>; Shirley Ely <shirley.ely@agynbyte.com>; Tanner Fuller <tanner.fuller@ci.steilacoom.wa.us>; Taran Bedi, P.E., Pierce County <taran.bedi@piercecountywa.gov>; Terri Hebert <Thebert@cloverpark.k12.wa.us>; US Army Corps of Engineers <Halie.N.Endicott@usace.army.mil>; Washington State Parks Planning <Planning@PARKS.WA.GOV>; DOH EPH SEPA <SEPA.reviewteam@doh.wa.gov>; WA State Dept of Social & Health Services <hubenbj@dshs.wa.gov>; DAHP SEPA <sepa@dahp.wa.gov>; Abbett, Marian L. (ECY) <MABB461@ECY.WA.GOV>; Ison, Diana (ECY) <diso461@ECY.WA.GOV>; DFW R6SSplanning <R6SSplanning@dfw.wa.gov>; DNR RE SEPACENTER <SEPACENTER@dnr.wa.gov>; DNR RE SOUTHPUGET REGION <southpuget.region@dnr.wa.gov>; Team Montesano (DFW) <TeamMontesano@dfw.wa.gov>; William C. Brittion <william.c.britton.civ@mail.mil>; Windy Kruse <Windy.kruse@piercecountywa.gov>; WSDOT/Olympic Region <OR-SEPA-REVIEW@wsdot.wa.gov>; Meyer, Zachary (ECY) <ZMEY461@ECY.WA.GOV>
Cc: Barbara Kincaid <bkincaid@dupontwa.gov>; Lisa Klein <LKlein@AHBL.com>; Wendy Garrison <wgarrison@lseinc.com>
Subject: Champions Centre- Notice of Application with Optional DNS

Hello,

For your review, attached is the Champions Centre, Notice of Application with Optional DNS for the City of DuPont. File Nos.PLNG2023-010, 011, 012, 013, 014

Respectfully,

Janet Howald
Administrative Specialist|Public Services Department
City of DuPont

Direct 253.912.5232
City Hall 253.964.8121
Jhowald@dupontwa.gov

Exhibit 6.b

Geralyn Reinart, P.E.
831 Sprague Street
Edmonds, WA. 98020
(425) 530-0664
Traffic & Transportation Engineering Services

MEMORANDUM

February 20, 2024

TO: Barbara Kincaid, AICP
Public Services Director

FROM: Geralyn Reinart, P.E.

SUBJECT: Champions Centre Development (PLNG2023-022) – Review of September 2023 Traffic Impact Analysis

The following summarizes my review of the traffic impact analysis (TIA) for the proposed Champions Centre Development dated September 1, 2023 and prepared by Heath and Associates. The traffic study reviews the development of a 25,480 square-foot church and a 3000 square-foot fast casual restaurant. Additionally, 14 electric vehicle (EV) charging stations are proposed for the site (four of which would be associated with the Church). Completion of the project is estimated for 2026. Scoping comments were provided to the Consultant in July of 2023 for the proposed project.

The project site is located on the northwesterly corner of the Barksdale Avenue/ DuPont-Steilacoom Road intersection. Access is proposed from Barksdale Avenue (full access) and DuPont-Steilacoom Road (right-turn in and out). The site plan was previously reviewed in early 2020 and traffic comments were submitted at that time; as noted in the scoping comments, it appears that the majority of those comments were included in the current proposal. The proposal reviewed in the TIA could potentially generate 360 net new weekday trips and 43 net new trips during the weekday PM peak hour; 329 net new Sunday peak hour trips are estimated which is when the primary impact would occur from the project. This Sunday peak period is expected to occur in the late morning hours.

Several scoping comments were relayed to the Consultant for inclusion in the TIA, all of which were addressed. These comments included the following:

- Use of the ITE average trip rates rather than the fitted curve equations.
- Revision of the trip generation for the 3000 square foot retail building to represent a higher trip-generating use, as appropriate.
- Revisions of the trip generation data provided for the EV charging stalls to reflect the weighted average of all of the data points.
- Revisions of the trip assignment to reflect use of the average trip rates (and

the different land use for the 3000 square foot building).

- Revisions to the trip assignment to reflect the future modifications to the Barksdale/DuPont-Steilacoom Road intersection as a three-legged/all-way stop condition and the presence of the new interchange.
- Analysis of the weekday PM peak hour and Sunday peak for the Barksdale/DuPont-Steilacoom Road intersection (with and without project) and the site accesses for the future conditions.
- Use of the future weekday PM peak hour volumes provided by the City for the Barksdale/DuPont-Steilacoom Road intersection based on recent work completed in the Old Fort Lake (Founder's Ridge) EIS. The Applicant provided Sunday peak volumes for existing conditions that were modified to reflect future geometric conditions.
- Review of the adequacy of the (eastbound) left-turn storage on Barksdale Avenue at DuPont Steilacoom Road for the future weekday and Sunday peak conditions for both adequate length and any blockage of the site access.

General Comments:

The analysis was prepared by a consultant fully qualified and experienced in the preparation of analyses of this nature, and conforms to the City's guidelines and includes all the necessary information to complete the review. The study summarized the existing and future conditions in the vicinity, along with the impacts of the project. All identified critical intersections impacted by the project were included in the analysis. A 2.0% annual growth rate was applied to these volumes for future conditions as appropriate (no pipeline trips were necessary/ available for the Sunday analysis.)

Specific Comments:

My specific comments with respect to the analysis are as follows:

1. **Page 10, Figure 3** – Existing Sunday peak hour volumes were collected and correctly shown per the field data collected.
2. **Page 11, Section 4.2/Project Trip Generation** – the land use for the 3000 square-foot building was revised from strip retail (as noted in the initial scoping) to a fast casual restaurant. The Consultant noted that the Saturday peak hour generator was applied for the Sunday peak hour. Both of these changes are acceptable.
3. **Page 12, Table 1** – the project trip generation is correctly shown. The total trips changed (slightly higher) from the values shown on the scoping document due to the use of the weighted averages for the EV stations and use of a restaurant rather than retail for the 3000 square-foot building. Pass-by trips were applied to the restaurant use and are acceptable.
4. **Page 14, Figure 4** – the weekday PM peak hour trip assignment was shown for two scenarios. The first scenario assumes that the site access to DuPont-Steilacoom Road is limited to right-turns in and out, and the second scenario

assumes full access. (*Note: once the new interchange is completed, full access at this driveway may be allowed*.) One minor error was noted in Scenario 2 for the eastbound left-turn onto DuPont-Steilacoom Road from the site access, i.e., two pass-by trips were not shown. Otherwise, all other values were properly shown.

5. **Pages 15-18, Figures 5-8** – the Sunday peak hour trip assignment and future weekday and Sunday peak hour volumes are all correctly shown. More specifically, the Consultant correctly showed on Figure 6 the re-assignment of traffic movements at the Barksdale/DuPont-Steilacoom Road intersection associated with the opening of the new interchange.
6. **Page 19, Table 2** – the level of service (LOS) analyses for the future conditions (with and without the project) indicate that the Barksdale/DuPont-Steilacoom Road intersection should operate at level of service (LOS) "B" or better under either scenario during the weekday PM peak hour and Sunday peak period for the Church. (*Note: this assumes the new configuration and intersection control upon completion of the interchange*.) The accesses are also expected to operate at LOS "B" for either scenario.
7. **Page 20, Section 4.6** – adequate sight distance is expected, but as noted, should be verified on the final site plans.
8. **Pages 21 and 22, Queueing Analysis** – the 95th percentile queue is expected to exceed the existing turn storage for the eastbound left-turn movement on Barksdale at DuPont-Steilacoom Road. The Consultant has suggested increasing the storage length to at least 60 feet (up to 75 feet) as allowable within the existing cross-section and pavement width in order to avoid blockages.
9. **Page 22, Left Turn Warrant Analysis** – based on the WSDOT nomographs, left-turn storage would not be warranted for either site access for either scenario. Having stated that, should full access be allowed in the future along DuPont-Steilacoom Road, the cross-section is sufficient to provide a two-way left-turn lane to serve the access, and should be assumed.
10. **Pages 23 and 24, Conclusions & Mitigation** – impacts associated with the project are fairly limited, especially during the weekday hours. The primary impacts will occur on Sunday morning, as is typical with most churches. As noted above, the Consultant had recommended increasing the storage length of the left-turn lane on Barksdale Avenue at its intersection with DuPont-Steilacoom Road. I concur with this recommendation.
11. **Appendix, Traffic Counts** – no comments.
12. **Appendix, Forecast 2026 Weekday PM Peak Hour** – no comments.
13. **Appendix, Electric Vehicle Parking** – no comments.
14. **Appendix, Trip Generation Summary** – the values as shown are correct.
15. **Appendix, LOS Worksheets (all cases)** – all level of service calculations were checked and were correctly presented in the findings. One minor oversight which would have very limited bearing on the results was not including an exclusive northbound left-turn lane on DuPont-Steilacoom Road at the site access for Scenario 2 (per comment #9, above).
16. **Appendix, Left Turn Lane Warrants** – no comments.

Final Comments

The proposed project is for the development of a Church and a small casual restaurant. EV charging stations would also be provided. The main impacts associated with the project would occur on Sunday morning when Church services occur. The restaurant will be the main attractor during the weekday PM peak hour with limited Church activity during this same time period. The project will have its greatest impacts at the Barksdale Avenue/DuPont-Steilacoom Road intersection. Traffic volumes at this intersection are expected to drop considerably upon completion of the new interchange to the north and operating level of service conditions are expected to be good. The information in the TIA is acceptable as presented and addresses the items that were requested; no additional information or re-submittal of the TIA is needed. Mitigation has been recommended below and involves some minor channelization on the west leg of the Barksdale Avenue/DuPont-Steilacoom Road intersection.

Mitigation

Based on the information presented for the proposed uses, limited impacts are expected. One mitigation measure has been recommended, as follows:

- Modification/extension of the eastbound left-turn lane on Barksdale Avenue at its intersection with DuPont-Steilacoom Road to a length of 60 feet (current length is approximately 40 feet).

Please let me know if you have any questions with respect to the above information or if you'd like to discuss in more detail.

Exhibit 6.c

From: Janet Howald
To: Lisa Klein
Cc: Christine Shilley
Subject: [EXTERNAL] FW: Champions Centre Submittal Reviews
Date: Wednesday, February 21, 2024 9:35:40 AM
Attachments: image001.png

Hi Lisa,

Building comments are below.

Thanks.

Janet Howald
Administrative Specialist|Public Services Department
City of DuPont

Direct 253.912.5232
City Hall 253.964.8121
Jhowald@dupontwa.gov

From: Ray Shipman <RShipman@dupontwa.gov>
Sent: Wednesday, February 21, 2024 9:33 AM
To: Mike Turner <MTurner@dupontwa.gov>; Christine Shilley <PermitTech@dupontwa.gov>; Dom Miller (dmiller@g-o.com) <dmiller@g-o.com>; Geri Reinart (greinart@msn.com) <greinart@msn.com>
Cc: Barbara Kincaid <bkincaid@dupontwa.gov>; Janet Howald <JHowald@dupontwa.gov>
Subject: RE: Champions Centre Submittal Reviews

I have no comments

Ray Shipman CBO/CFM
Building Official | City of DuPont
Direct (253) 912-5216 | 1700 Civic Drive, DuPont, WA 98327

From: Mike Turner <MTurner@dupontwa.gov>
Sent: Wednesday, February 21, 2024 8:18 AM
To: Christine Shilley <PermitTech@dupontwa.gov>; Ray Shipman <RShipman@dupontwa.gov>; Dom Miller (dmiller@g-o.com) <dmiller@g-o.com>; Geri Reinart (greinart@msn.com) <greinart@msn.com>
Cc: Barbara Kincaid <bkincaid@dupontwa.gov>; Janet Howald <JHowald@dupontwa.gov>
Subject: RE: Champions Centre Submittal Reviews

Hi,

Fire has no comments on this submittal.

Thanks,
Mike

From: Christine Shilley <PermitTech@dupontwa.gov>
Sent: Tuesday, February 20, 2024 8:53 AM
To: Ray Shipman <RShipman@dupontwa.gov>; Mike Turner <MTurner@dupontwa.gov>; Dom Miller (dmiller@g-o.com) <dmiller@g-o.com>; Geri Reinart (greinart@msn.com) <greinart@msn.com>
Cc: Barbara Kincaid <bkincaid@dupontwa.gov>; Janet Howald <JHowald@dupontwa.gov>
Subject: RE: Champions Centre Submittal Reviews

Good morning everyone,

Friendly reminder that Barb asked that everyone completed their reviews of the Champions Centre submittal materials by tomorrow.

I reinstated the link to the files, just in case you need to download them: https://app.box.com/s/2tbdrdu3kiulnyp1bha65m1gyr6b2hrt.

Thank you,

Chris

Chris Shilley | Permit Technician | City of DuPont | Direct (253) 912-5217

From: Christine Shilley
Sent: Tuesday, February 6, 2024 3:58 PM
To: Ray Shipman <RShipman@DupontWA.GOV>; Mike Turner <MTurner@DupontWA.GOV>; Dom Miller (dmiller@g-o.com) <dmiller@g-o.com>; Geri Reinart (greinart@msn.com) <greinart@msn.com>
Cc: Barbara Kincaid <bkincaid@DupontWA.GOV>; Janet Howald <JHowald@DupontWA.GOV>
Subject: Champions Centre Submittal Reviews

Hi everyone,

Barb asked that I send you the Champions Centre submittal materials for review. She has asked that you complete your reviews by **2/21**.

Click here to view the submittal files. Note: I will remove the link to these files in one week so please download them before then.

Thank you,

Chris

Chris Shilley | Permit Technician | City of DuPont | Direct (253) 912-5217
DuPont City Hall | 1700 Civic Drive, DuPont, WA 98327
Open Monday – Thursday 9 AM – 4 PM & Friday by Appointment

Exhibit 6.d

Gray & Osborne, Inc.
CONSULTING ENGINEERS

February 22, 2024

Ms. Barbara Kincaid
Public Services Director
City of DuPont
1700 Civic Drive
DuPont, Washington 98327

SUBJECT: LAND USE APPLICATION REVIEW, CHAMPIONS CENTRE
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON
G&O #24220.00 TASK 01

Dear Ms. Kincaid:

On February 6, 2024, Gray & Osborne, Inc. received a submittal packet regarding the above-subject project. The packet included the following:

- Cover Letter by Leroy Surveyors & Engineers, Inc. dated December 20, 2023;

Section 1 (All Applications)

- Exhibit 1.a: Title Report by Fidelity National Title dated December 11, 2023;
- Exhibit 1.b: Environmental Checklist (SEPA) dated November 13, 2023;

Section 2 (Land Use Application – Site Plan Review)

- Exhibit 2.a: City of DuPont Land Use Application dated October 2, 2023;
- Exhibit 2.b: Overall Site Plan including vicinity map by Leroy Surveyors & Engineers, Inc. (nine sheets dated December 8, 2023);
- Exhibit 2.c: Landscape Plans by ARW Landscape Design (four sheets dated December 5, 2023;
- Exhibit 2.d: Grading Plans by Leroy Surveyors & Engineers, Inc. (five sheets dated December 8, 2023);
- Exhibit 2.e: Storm Drainage and Utility Plan by Leroy Surveyors & Engineers, Inc. (five sheets dated December 8, 2023);
- Exhibit 2.f: Preliminary Stormwater Report management and calculations by Leroy Surveyors & Engineers, Inc. dated September 2023;

- Exhibit 2.g: Architectural Elevations/Modulation Plans by Elevation Home Designs (five sheets dated November 15, 2023);
- Exhibit 2.h: Refuse Enclosure Plan by Leroy Surveyors & Engineers, Inc. (one sheet dated October 31, 2023);
- Exhibit 2.i: Traffic Impact Analysis Report by Heath & Associates dated September 1, 2023;
- Exhibit 2.j: Letter of Sewer Availability by Pierce County Planning & Public Works dated December 7, 2023;
- Exhibit 2.k: Letter of Water Availability. City of DuPont Water Availability Form;
- Exhibit 2.l: Landscape Plan Review Memo by Greenforest Incorporated dated December 4, 2023;
- Exhibit 2.m: CSWPPP Report. Stormwater Pollution Prevention Plan SWPPP by Leroy Surveyors & Engineers, Inc. dated September 2023;
- Exhibit 2.n: Maintenance and Source Control Manual by Leroy Surveyors & Engineers, Inc. dated September 2023;

Section 3 (Land Use Application – Critical Area Permit & Tree Modification Permit)

- Exhibit 3.a: City of DuPont Land Use Application dated October 2, 2023;
- Exhibit 3.b: Arborist Report by Greenforest Incorporated dated September 6, 2023;
- Exhibit 3.c: Geotechnical Soil Observation Report by Leroy Surveyors & Engineers, Inc. dated August 24, 2023;
- Exhibit 3.d: Critical Area Report by Grette Associates LLC dated July 2019;
- Exhibit 3.e: Buffer Mitigation Plan by Grette Associates LLC dated December 4, 2023;
- Exhibit 3.f: Habitat Management Plan by Grette Associates LLC dated December 4, 2023;
- Exhibit 3.g: Biologist Submittal Narrative Memo by Grette Associates LLC dated December 4, 2023;
- Exhibit 3.h: Type III Modification Letter by Leroy Surveyors & Engineers, Inc. dated December 20, 2023;
- Exhibit 3.i: Legal Memo regarding Tree Modification by Dille Law PLLC dated December 20, 2023;
- Exhibit 3.j: Cultural Resource Study by Drayton Archaeology dated August 15, 2023;
- Exhibit 3.k: Tree Retention Plan by Leroy Surveyors & Engineers, Inc. (one sheet dated November 15, 2023);

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Section 4 (Boundary Line Adjustment Lot Line Elimination Application)

- Exhibit 4.a: City of DuPont Boundary Line Adjustment Lot Line Elimination Application dated December 15, 2023;
- Exhibit 4.b: Boundary Line Adjustment by Leroy Surveyors & Engineers, Inc. (five sheets dated December 18, 2023);
- Exhibit 4.c: Lot Closures by Leroy Surveyors & Engineers, Inc.;

Section 5 (Response to Pre-Application Meeting comments)

- Exhibit 5.a: Technical Response letter for Planning Department Pre-Application meeting comments, PLNG2023-002 Dated June 2, 2023 by Leroy Surveyors & Engineers, Inc. dated December 19, 2023;
- Exhibit 5.b: Parking Calculation Plan by Leroy Surveyors & Engineers, Inc. (one sheet dated November 14, 2023);
- Exhibit 5.c: City of Public Works Response Data; and
- Exhibit 5.d: Easements encumbering the property.

The proposed development appears to include a religious assembly building, a future retail building, parking lots, drive aisles and utilities at the northwest corner of Barksdale Avenue and DuPont – Steilacoom Road.

We have reviewed this information for compliance with the current City of DuPont Public Works Standards (City Standards), codes, policies, and the DuPont Municipal Code (DMC), and have the following comments:

GENERAL

1. The site plan should reflect all easements, site restrictions and encumbrances from any recorded documents and a current title report.

2. Any existing easements or portions of thereof, not utilized shall be removed or amended. Documentation shall be provided as part of the project closeout requirements.

3. Regarding frontage improvements:

   A. Per City Standard 2.23.2, all frontage improvements shall be made across full frontage of property from centerline to right-of-way line. A right-of-way permit will be required for the construction of the improvements within the right-of-way.

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B. The WSDOT I-5 Mounts Road to Steilacoom-DuPont Road project is currently under construction, which includes a roundabout on DuPont-Steilacoom Road north of the project site and revisions to the Barksdale Avenue/DuPont Steilacoom Road intersection. The Applicant should contact the WSDOT project management team to obtain project information to incorporate into the right-of-way design.

C. The existing improvements on Barksdale Avenue frontage of the project site include roll curb and a 4-foot-wide sidewalk with no planter strip. These improvements do not meet current City of DuPont Standards, and would have to be replaced with development of the property. Current City Standards require roadway widening and/or surfacing, 6-inch vertical curb and gutter, a 5-foot-wide planter strip, 5-foot-wide sidewalk, roadway drainage, and street lighting. The sidewalk could be routed behind the large oak trees in the right-of-way to preserve the trees. The improvements should extend to the west end of the property frontage.

D. On the corner of the subject property, the curb ramps will be required to be replaced in accordance with current City and ADA Standards. In addition, the existing curb ramps both across Barksdale Avenue and across DuPont-Steilacoom Road will be required to be replaced.

E. The frontage improvements along DuPont-Steilacoom Road must incorporate sidewalk, curb, gutter, roadway drainage, bike lane, channelization, signage, street lighting, and landscaping from the north end of the proposed driveway to the WSDOT I-5 Mounts Road to Steilacoom-DuPont Road project currently under construction.

4. The site plan shall include an analysis of sight distance triangles to verify that safe stopping and turning movements to and from the site at each driveway approach and at the Barksdale Avenue/DuPont-Steilacoom Road intersection.

5. A parking lot lighting plan, which includes a photometric exhibit showing the lighting levels within the parking lot, will be required to demonstrate that parking areas are lit in accordance with City code requirements. Lighting shall conform to the requirements of DMC 25.70.070(12).

6. Per DMC 25.70.060(10)(c), all on-site service areas (i.e., loading zones, dumpster, transformer, utility vaults, etc.) shall be located in an area not visible from a public street or open space.

7. The Applicant shall furnish meter sizing calculations for domestic and fire water services. The sprinkler system design, including confirmation of the provided sizing for the fire line components shall be reviewed and approved by the City Building Department and Fire Department as part of the building permit process. Each fire line connection to a City water main will require a double detector check valve assembly (DDCVA) in an underground vault and a Fire Department Connection (FDC) within 50 feet of a fire hydrant. The double detector check valve assemblies (DDCVA) shall be located in underground vaults outside of the building to allow direct access by City staff.

8. All water mains and appurtenances to be owned and operated by the City, up to and including water meters, backflow assembly vaults, and fire hydrants, shall be located in 15-foot-wide easements dedicated to the City. The easements shall be dedicated to the City following construction and prior to final acceptance of this project.

9. A minimum of one fire hydrant per 1,250 gallons per minute of required fire flow shall be provided within 150 feet of the proposed building. The Applicant shall confirm the required fire flow with the City Fire Department and identify the existing and proposed fire hydrants to meet this requirement. A fire hydrant within 50 feet of the FDC for the building will not count towards the required hydrants for fire flow.

10. The City Fire Department shall confirm that the number and location of existing and proposed fire hydrants on or near the project site are adequate for purposes of providing the required fire flow for the proposed building.

11. The site plan must include supplemental turning movement exhibits to demonstrate that the City Fire Department's large apparatus can navigate the site, including in and out of the site accesses, and accessibility to FDCs and hydrants. The design vehicle used shall be identified.

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12. The City's current Stormwater System Development Charge (SDC) will apply to the proposed development.

13. The project activities shall comply with the requirements of the Washington State Department of Ecology National Pollutant Discharge Elimination System (NPDES) general permit for stormwater discharges associated with construction activity.

14. Prior to final approval of the project, as-builts and Geographic Information System (GIS) documentation will be required, in accordance with City of DuPont Municipal Code Chapter 24.10 and Ordinance No. 97-559.

SECTION 1 (ALL APPLICATIONS)

TITLE REPORT

15. All easements identified in the Title Report shall be delineated and labeled on the plans (i.e., width, type, and recording number). Easement callouts should include the numbers corresponding with the Title Report Exception Numbers.

SEPA CHECKLIST

16. Item B.4.d. should include reference to the Buffer Mitigation Plan.

17. Item B.4.e. should state the invasive species as identified in the Buffer Mitigation Plan and Habitat Management Plan.

18. Item C. Signature must be completed by the Applicant's representative or the preparer of the SEPA Checklist.

SECTION 2 (SITE PLAN REVIEW)

LAND USE APPLICATION

We have no comments on the Land Use Application at this time.

OVERALL SITE PLAN

19. Add the City of DuPont Approval block to the upper right corner of all sheets submitted for City review and approval for construction.

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20. Add the General Notes (Street Construction) listed in City Standard 11.1 to the Plans.

21. Add a Survey sheet demonstrating existing conditions and items that are proposed to be removed.

22. Show the City of DuPont/Pierce County line on DuPont-Steilacoom Road.

23. Add a Channelization and Signage Plan incorporating onsite and offsite improvements, which include the crosswalk and centerline along Barksdale Avenue and DuPont-Steilacoom Road. The Plan must identify the existing and proposed pavement markings and signage adjacent to and on the site. The bicycle lane on DuPont-Steilacoom Road must meet current MUTCD Standards and provide connectivity with the channelization at the WSDOT future roundabout to the north.

24. The parking lot must comply with the requirements of DMC 25.70.030 Parking areas.

25. The plans shall include a Temporary Erosion and Sediment Control (TESC) Plan. Include the Erosion/Sedimentation Control Notes and Construction Sequence listed in City Standards 11.2 to the Sheets.

26. Add road cross section details for Barksdale Avenue and DuPont-Steilacoom Road.

27. The plans propose to deed the revised Parcel C of the proposed Boundary Line Adjustment to the City. The City should evaluate acceptance of the wetland on 17.17 acres of the revised Parcel C.

28. Add a detail for the 4-foot concrete block wall along the westerly side of the property.

29. City Standard Details shall be utilized where applicable. All relevant City standard details for street, storm drainage, and water construction shall be provided in the plan set submitted for construction review.

LANDSCAPE PLANS

30. There are existing City landscape and irrigation improvements on the Barksdale Avenue and DuPont-Steilacoom Road frontage of this property. Maintenance of these improvements, if retained, would become the

Applicant's responsibility. The Applicant would be responsible for abandoning and/or reconfiguring these improvements to serve the site. Add a note to this effect to the plans.

31. The rights-of-way lines of Barksdale Avenue and DuPont-Steilacoom Road should be shown and labeled.

32. Landscaping must be provided for the median on Barksdale Avenue.

33. Sheet L1.1:

    A. Indicates an automatic irrigation system. A separate water service connection, water meter, and backflow assembly located in a 15-foot-wide easement dedicated to the City is required. Irrigation Plans must be provided for review and approval.

    B. The project information (area, landscape area required, and landscape provided) is inconsistent with Sheet 01 Overall Site Plan. The Applicant should resolve this discrepancy.

34. The City should determine the landscaping and buffer screening requirements at the existing Pierce County Sanitary Sewer Station off of DuPont-Steilacoom Road. It appears landscaping should extend to the reduced wetland buffer on the northerly side of the building.

35. The irrigation water usage of 6.13 gallons per square foot and water conservation statement on Sheet L1.1. comply with the requirements of DMC 25.90.040 and appears to be sufficient for purposes of land use approval.

36. Clearances, in accordance with City Standards, must be reviewed for compliance during construction review. A minimum 3-foot clearance and level area is required around fire hydrants.

GRADING PLANS

37. DuPont-Steilacoom Road is classified as a Minor Arterial. Per City Standard 3.1.1.1., driveways directly giving access onto arterials will be denied if alternative access is available. A Public Works Standards Variance will be required to construct the driveway access to DuPont-Steilacoom Road.

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38. The two driveway approach accesses to Barksdale Avenue and DuPont-Steilacoom Road appears to serve both parcels. A formal written agreement specifying the shared driveway use and maintenance requirements shall be submitted for review and approval of City prior to issuance of a building permit for either lots.

39. A driveway approach as a pedestrian walkway is not consistent with current City Standards. Add a pedestrian walkway behind the proposed driveway approach to DuPont-Steilacoom Road. Label the proposed grade of the approach.

40. Provide a City Standard concrete sidewalk and driveway approach for the Pierce County Sanitary Sewer Station off of DuPont-Steilacoom Road.

41. Per City Standard 3.1.2.1, driveways that serve any use other than detached dwelling units may not be located closer than 150 feet to any street intersection or to any other driveway, whether on or off the subject property. A Public Works Standards Variance will be required to construct the driveway access to Barksdale Avenue. It appears that the left turn lane will need to be extended on Barksdale Avenue and modifications of the road may be required to accommodate the lane extension.

42. An existing sanitary sewer manhole is shown within the proposed driveway approach off of Barksdale Avenue. The manhole location at the grade break between the sidewalk and the driveway approach does not appear to be feasible for construction. If the manhole is placed within the sidewalk, the lid will need to be replaced with a slip-resistant manhole cover. The Applicant must coordinate with Pierce County for requirements.

43. The dimensions of the parking lot stalls and access aisles must comply with City of DuPont Ordinance No. 03-752. A 26-foot aisle width through the parking lot is required. Label the aisle width to demonstrate compliance.

STORM DRAINAGE AND UTILITY PLANS

44. For the existing 84-inch storm pipe through the site, the existing storm easement shall be confirmed and shown on the plans.

45. Label the existing structures (e.g. concrete pad, concrete wingwalls, chainlink fence) at the northerly end of the 84-inch stormwater outlet. Energy dissipation provisions and/or restoration will be required at the outfall to the wetland. Show and label upstream information for the 84-inch storm pipe.

46. The revised access road for Parcel C as shown on the pre-application plans, north of the Pierce County Sanitary Sewer Station, was removed from the plans. If the City agrees to accept Parcel C, an ingress and egress easement dedicated to the City through the site will be required for access from the right-of-way to the maintenance access road. Alternatively, the previously proposed access road could be installed.

47. The proposed fire service connection to the Religious Assembly building crosses the existing 84-inch storm pipe. Water service lines are subject to the City Standard 5-foot maximum and 3-foot minimum depth requirements.

48. Add profiles of the water, storm, and sewer systems.

49. Provide flow arrows at catch basins and as necessary to demonstrate direction of storm conveyance.

50. The 17,255 SF parking lot on Parcel B is served by a single grated catch basin. A second grated catch basin is recommended to provide redundancy in the event that the first catch basin is clogged or in some other way impaired.

51. Infiltration of rooftop areas shall be utilized where feasible.

52. Add the General Notes (Water System) listed in City Standard 11.3 to the Sheets.

53. Based on City records, there is an existing 12-inch stub out with a 12-inch gate valve off of the 12-inch water main along DuPont-Steilacoom Road to the revised Parcel B south of the Pierce County Sanitary Sewer station. It appears the stub out can be incorporated into the loop through the project site rather than tapping the main across Station Drive.

54. A 5-foot horizontal separation is required between all water facilities and other underground facilities. CB #14 does not meet this requirement.

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55. Drains to daylight or to the onsite storm system shall be provided for the water service vaults and meter boxes as required per City Standard Details.

56. For the eating and drinking establishment building:

    A. Add a City Standard fire water service connection, DDCVA, and FDC. Identify the sizes.

    B. Add a City Standard domestic water service connection and DDCVA. Identify the sizes.

57. Show and label all proposed easements. Include the width and purpose.

DRAINAGE REPORT

58. Per the DOE Manual, a minimum of two test pits are required per infiltration trench location. Figure 2 of the Geotechnical Soil Report shows 1 test pit at Infiltration Trench #1 and none at Infiltration Trench #2. Additional test pits should be provided or the Geologist provides supplemental documentation that determines the conditions are relatively uniform and the borings/test pits omitted will not influence the design or successful operation of the BMP.

59. The report must address roadway drainage along Barksdale Avenue and DuPont-Steilacoom Road.

60. Roadway drainage along the DuPont-Steilacoom Road frontage of project site conveys stormwater runoff to the wetland via a conveyance system through revised Parcel B. Minimum Requirement #8 should address wetland protection requirements.

61. The dispersion trench located on Parcel C and shown on Sheet C4 must be described in the stormwater report narrative. It appears that this is a diversion for the existing City stormwater system through the proposed development. Sizing of the dispersion trench must be provided.

62. As a commercial development, the project must provide enhanced treatment for stormwater runoff. The PerkFilter is not approved for enhanced treatment by Ecology.

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63. Details for the infiltration trenches, filter cartridge structures, and all other stormwater elements must be provided. The detail for the filter units should note the treatment flow for each unit, the maximum anticipated flow through each unit, and the peak bypass flow that the unit can pass.

64. The report must address conveyance from the infiltration facilities in the event that they should overflow. Identify a non-erosive overflow channel leading to a stabilized watercourse.

65. The CPEP within each infiltration trench should be perforated.

66. Infiltration Trench 1 appears to have two unconnected and unidentified pipes running alongside the center pipe. Clarify the intended construction.

67. A Temporary Erosion and Sediment Control (TESC) Plan shall be prepared for the project.

68. Conveyance sizing calculations must be provided in the final submittal.

69. Following construction and prior to final acceptance of this project, the Applicant will be required to execute an Agreement for Inspection and Maintenance of Privately Maintained Storm Drainage Facilities. The Agreement should be provided after construction of the storm drainage system to reflect "as-built" conditions.

ARCHITECTURAL PLANS

We have no comments on the Architectural Plans at this time.

REFUSE ENCLOSURE PLAN

70. The submitted Sheet R1, as approved October 31, 2023 by LeMay, Inc., for the two proposed trash enclosure locations (one at each of the two buildings) appears to be sufficient for purposes of land use approval.

71. The recycle and refuse enclosures shall be in accordance with DMC 25.100 Recycling and are subject to the Design provisions of DMC 25.100.050. Provisions for enclosures include sized for both general refuse and recycling DMC 25.100.050(3), concrete surfacing with a concrete apron DMC 25.100.050(4), and a 3-foot wide pedestrian opening for gated enclosures DMC 25.100.050(5).

TRAFFIC IMPACT ANALYSIS

72. The Transportation Impact Analysis comments should be provided to the City by Ms. Geralyn Reinart, P.E.

SANITARY SEWER DOCUMENTATION

73. The submitted letter from Pierce County Utilities appears to be sufficient for purposes of land use approval.

74. Documentation of Pierce County Public Works and Utilities approval of the sanitary sewer system for this project will be required prior to issuance of a civil construction permit. A Pierce County sewer permit shall be issued before the DuPont civil construction permit and building permit for the project may be issued.

WATER AVAILABILITY

75. The submitted Water Availability Form for this project, which indicates a Proposed Water Usage of 2,365 gallons per day, is sufficient for purposes of land use approval.

76. A completed City "Flow and Pressure for Fire Suppression Design" form is attached for use by the Applicant.

LANSCAPE PLAN REVIEW MEMORANDUM

We have no comments on the Landscape Plan Review Memorandum at this time.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

77. The Stormwater Pollution Prevention Plan (SWPPP) appears to be sufficient for purposes of land use approval.

78. A final updated version must be provided prior to issuance of a civil construction permit.

MAINTENANCE AND SOURCE CONTROL MANUAL

79. The Maintenance and Source Control Manual appears to be sufficient for purposes of land use approval.

80. Prior to issuance of a civil construction permit, a final updated version shall be provided

SECTION 3 (CRITICAL AREA AND TREE MODIFICATION)

LAND USE APPLICATION

We have no comments on the Land Application at this time.

ARBORIST REPORT

We have no comments on the Arborist Report at this time.

GEOTECHNICAL SOIL REPORT

81. The project must comply with the recommendations as provided in the Geotechnical Soil Observation Report.

CRITICAL AREA REPORT

We have no comments on the Critical Area Report at this time.

BUFFER MITIGATION PLAN

82. The project must comply with the Native Revegetation Plan, Maintenance recommendations, and Monitoring and Contingency plan as identified in the Buffer Mitigation Plan.

HABITAT MANAGEMENT PLAN

83. The project must comply with the Stormwater Outfall Mitigation Measures and Stream Buffer Enhancement as identified in the Habitat Management Plan.

BIOLOGIST MEMORANDUM

We have no comments on the Biologist Submittal Narrative Memorandum at this time.

TYPE III MODIFICATION LETTER

We have no comments on the Type III Modification letter at this time.

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LEGAL MEMORANDUM

We have no comments on the Legal Memorandum regarding Tree Modification at this time.

CULTURAL RESOURCE STUDY

84. The project must comply with the recommended procedures outlined in the Inadvertent Discovery Protocol, if cultural materials are encountered during project activities, as provided in the Cultural Resource Study.

TREE RETENTION PLAN

We have no comments on the Tree Retention Plan at this time.

SECTION 4 (BOUNDARY LINE ADJUSTMENT)

85. Review of the Boundary Line Adjustment Application, drawings, and lot closure will be provided under separate cover.

SECTION 5 (PRE-APPLICATION MEETING)

We have no comments on the Pre-Application Meeting documents.

Thank you for the opportunity to provide these comments. Please contact the undersigned if you have any questions or comments regarding this review.

Sincerely,

GRAY & OSBORNE, INC.

Dominic J. Miller, P.E.

DJM/sp
Encl.

cc: Mr. Shukri Shurabi, P.E., City Engineer, City of DuPont
Ms. Janet Howald, Administrative Specialist, City of DuPont
Mr. Ray Shipman, Building Official, City of DuPont
Mr. Mike Turner, Fire Marshal, City of DuPont

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CITY OF DUPONT

FLOW AND PRESSURE FOR FIRE SUPPRESSION DESIGN

Project Name: **Champions Centre**
Project Location: **Barksdale Avenue and DuPont-Steliacoom Road**
Developer's Engineer: **Leroy Surveyors & Engineers**

Date: **May 19, 2017**

Minimum Fire Flow per Ordinance No 10-905:_____
(see note 1)
Required Fire Flow per I.F.C. 2009: _____

Location Information:

Nearest Street Intersection: **Barksdale Avenue and DuPont-Steliacoom Road**
Model Node Location: **100' NW along Barksdale Avenue**
Model Node ID: **J-190**

2017 Water System Model Results (see notes 2, 3 and 4, and 5 below):

Static Pressure: **55 psi**
Fire Flow: **2,266 gpm**
Residual Pressure: **29 psi**

Fire Suppression System Design Criteria (see note 6 below):

Static Pressure: **45 psi**
Fire Flow: **2,039 gpm**
Residual Pressure: **29 psi**

Notes:

1. Actual fire flow will be based on building construction type and building square footage with credits for fire sprinklers.

2. The 2017 Water System Model results are based on available fire flow during projected 2031 Maximum Day Demand conditions as discussed in the 2011 Water System Plan.

3. Available fire suppression storage is based on the criteria presented in the 2011 Water System Plan, which is defined as 4,000 gpm for 4 hours, or 960,000 gallons.

4. Pipe velocities are limited to 10 feet/second in pipes used for fire flow runs.

5. Four of the six pumps at the Bell Hill booster station were assumed to be operational during fire flow conditions: one 15 HP pump, two 20 HP pumps, and one 50 HP pump.

6. The model results have been adjusted per City policy. The policy reduces the model results as follows:

    - static pressure is reduced by 10 psi
    - available fire flow is reduced by 10% at a minimum allowable pressure of 20 psi

cc: Public Works Department
Building Department
Fire Department

Exhibit 6.e

SUF
SOUND URBAN FORESTRY, LLC

Appraisals ~ Site Planning ~ Urban Landscape Design and Management
Environmental Education ~ Tree Risk Assessment

3/11/2024

AHBL
Lisa Klein, Associate Principal
2215 North 30th St, Ste. 200
Tacoma, WA 98403

Cc: City of DuPont, Barbara Kincaid, Director of Public Services

Re: City of DuPont Champions Centre Application Peer Review, PLNG 2023-011

Ms. Klein:

Upon your request, I have conducted a review of the submitted materials you have provided associated with the Champions Centre project in DuPont, Washington. As part of the land use application, the applicant has included a Type III Tree Modification. I have been asked to determine whether the proposed modification follows the City's municipal code as outlined in Chapter 25.10. The following presents my comments.

Exhibit 3.b Arborist Report, 9-6-2023

The report presents a clear and accurate description of the proposed developing parcels and existing vegetation. The tree inspections are acceptable and the inventories, tree descriptions and references to DMC 25.10 definitions are accurate. I also concur with the finding that six of the landmark sized trees are hazards.

What is missing within the report is a clear statement as to whether the Tree Retention Plan meets, exceeds or is deficient in meeting the tree retention requirements as stated in DMC 25.120.030. The report mentions trees retention calculations and presents the numbers of landmark oak and non-oak trees and which are to be retained but it does not specifically address whether this satisfies the City's code.

The report states that Tree #119 is a landmark tree that is to be retained but will not be counted in the retention calculations as it is within ROW and considered a street tree. However, the LeRoy Tree Retention Plan does not show this tree and the table indicates that it is a landmark tree not to be retained.

The report presents within Attachment 3 that Tree #120 is an offsite significant tree to be retained. However, the LeRoy Tree Retention Plan does not show this tree and is listed in the table as a significant tree not to be retained.

Exhibit 3.h Type III Modification Letter 12-20-2023

This document states that 75 Oregon white oak trees will be planted to mitigate the proposed removals of 3 landmark oaks. These trees are indicated to be 4-8' on the landscape plans. They will be very small in caliper and I question whether they meet the City's landscape code.

Landscape Plans 12-5-2023

There is no irrigation plan as part of the submitted set. This needs to be provided.

Grading Plans

Grading is shown to occur within the north end of the Landmark Oak Tree Protection Area and extends into the area beyond the tree protection fencing. Fencing needs to be located *between* the proposed grading and the retained trees. There should always be protection fencing between all equipment and the trees to be retained.

There is no legend or tree protection fencing detail within the grading plans. Neither is there any timeline for when the fencing is to be installed. These items need to be included. Additionally, it should be stated that the fencing installation will be approved by the project arborist prior to ANY land disturbance. This should be provided in writing to the City's building inspector assigned to the project.

Maintenance and Source Control Manual 9-2023

The language presented in Section 6 regarding tree pruning is not acceptable. I request that the project arborist review this section and provide edits that reflect current arboriculture standards.

Regarding the removal of danger, hazard and diseased trees, the report to be submitted to the City should be developed by a Certified Arborist that is tree risk assessment qualified. A landscape architect or professional forester is not suitable for this determination. I also recommend removing the stipulation that allows the landowner to remove trees of imminent threat without consultation with the City.

Professionally Submitted,

Kevin M. McFarland, Principal
Consulting Urban Forester
ISA Certified Arborist PN-0373 & Tree Risk Assessment Qualified
Sound Urban Forestry, LLC
P.O. Box 489
Tahuya, WA 98588
360-870-2511

Exhibit 6.f

April 16, 2024

Lisa Klein
AHBL, Inc.
2215 North 30th Street, Suite 300
Tacoma, WA 98403

RE: Peer Review of Champions Center Development Critical Areas for the City of Dupont (PLNG2023-002).

Dear Lisa:

Ecological Land Services, Inc. (ELS) has been contracted through AHBL, Inc. to conduct a review of the critical areas submittal for the Champions Center Development for the City of DuPont Washington. The documents supplied to ELS for the review include:

- *Mustard Seed Legacy Development, LLC, Critical Areas Report*, prepared by Grette Associates, LLC, dated July 2019.
- *Mustard Seed Legacy Development, LLC, Buffer Mitigation Plan*, prepared by Grette Associates, LLC, dated December 2023.
- *Mustard Seed Legacy Development, LLC, Habitat Management Plan*, prepared by Grette Associates, LLC, dated December 2023.
- Technical Memorandum, *Champions Center Development (PLNG2023-002) Critical Areas Submittal Narrative*, prepared by Grette Associates, LLC, dated December 4, 2023.

ELS biologists reviewed these documents and conducted a site visit on March 2024 to review the wetland boundary delineation and site conditions to confirm the discussions in these documents.

Critical Areas Report

Wetland Delineation

The City of *Dupont Municipal Code* (DMC) *Section 25.105.050(1)(a)(i)* specifies that the identification and delineation of wetland boundaries shall be done in accordance with approved federal wetland delineation manual and applicable regional supplement. All areas within the city meeting the wetland designation criteria in that procedure are hereby designated critical areas and are subject to the provisions of this chapter. As required, the delineation was conducted in accordance with the 1987 U.S. Army Corps of Engineers *Federal Wetland Delineation Manual* and the 2010 U.S. Army Corps of Engineers *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0*). The delineation of Bell Marsh was conducted in April 2019, which is approaching the 5-year deadline at the end of this month. ELS reviewed site conditions on March 20, 2024, and while flags were not observed, the wetland boundary does not appear to have changed because the wetland is confined to a well-defined depression. Therefore, the wetland delineation is confirmed.

Wetland Categorization

DMC Section 25.105.050(1)(a)(ii) specifies wetland categorization using the Washington State Department of Ecology wetland rating system, as set forth in the Washington State Wetland Rating System for Western Washington: 2014 Update (Ecology Publication No. 04-06-029, or as revised and approved by Ecology), which contains definitions, methods, and criteria for determining a wetland's categorization as a Category I, II, III, or IV.

The wetland categorization was conducted in accordance with the DMC requirements. The categorization form presented in the Critical Area Report has some inconsistencies that require revision and changes to the category and the standard buffer widths. The following sections present the sections where inconsistencies were noted by function and specific questions that require additional assessment.

Depressional and Flats Wetlands: Water Quality Functions

The scores for water quality functions as determined in the wetland rating form completed by Grette Associates differs from the data collected within the wetland and what is presented in the queried database figures and specifically the soil map for Pierce County, Washington. The following questions from the rating form must be corrected to accurately reflect the scores for water quality function.

D 1.2: The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definition). The answer to this question was No for which the wetland scored 0 points. Data collected and presented in the critical areas report documents the presence of organic soil (SP 1 and 2). Additionally, the soil map unit is Dupont muck according to the NRCS soil survey. Based on the condition of the soil along with the organic soil type mapped within the wetland, this question should be answered yes and a score of 4 added, which brings the score to 9.

D 1.4: Characteristics of seasonal ponding or inundation. The rating form included in the critical areas report marks seasonal ponding in less than 1/4 of the total wetland area for which the score is 0. The figure documenting the hydroperiods within Bell Marsh shows three separate hydroperiods including permanently inundated, seasonally inundated, and permanently flowing stream. The mapping indicates that the seasonally inundated encompasses at least 1/4 of the total wetland area and perhaps at least 1/2 of the total wetland area. The score for this question would therefore increase from 0 on the rating form to at least 2 and perhaps 4 points, which would increase the potential for water quality functions to moderate or high.

Depressional and Flats Wetlands: Hydrologic Functions

Overall, ELS agrees with the scores for hydrologic functions but there is information missing that would result in a more accurate determination of the wetland rating. It does not appear that the score will change in one direction or the other but having the most accurate information would be beneficial.

D 4.3: Contribution of unit to storage in the watershed. It is unclear if the answer presented on the rating form is correct because the contributing basin was not added to the wetland rating figures. ELS recommends that the contributing basin is accurately reflected on the rating forms to confirm the current answer of 3 points.

Habitat Functions

H 1.4 Interspersion of habitats. The rating form reports that the interspersion of habitats is 2 or moderate but because the figures and H 1.1 show 3 vegetation communities occurring within the wetland, the score should be 3 points. This change in score does not affect the overall score for habitat functions.

H 2.0 Does the landscape have the potential to support habitat at the site? H 2.1 and H 2.2 specify calculations to support the mapping and percentages of accessible and undisturbed habitat and development area. The map provided appears to map the various areas correctly, it is difficult to discern how much area each of the features (accessible habitat, accessible/moderate-low habitat, low-moderate intensity development, and high intensity development) covers within 1 km of Bell Marsh. These calculations should be provided to verify the answers to this rating question.

Buffer Mitigation Plan

The buffer mitigation plan proposes to reduce the wetland buffer from 100 feet to 75 feet that will include enhancement of the buffer. The proposed enhancement will compensate for the reduction of the buffer by 25 percent through removal of invasive species and installation of native trees and shrubs. The buffer has been identified as degraded because of "…significant patches of Himalayan blackberry and English ivy…"

- The buffer mitigation/enhancement plan meets the DMC requirements and adequately improves the function of the buffer and provides additional protection to the wetland. However, there is a discrepancy in the plant numbers outlined in the report. In Section 6.2 Native Plant Installation on page 8 of the Buffer Mitigation Plan, the number of plants to be installed within the enhancement and temporary impact areas are combined for a total of 186 trees and 976 shrubs. They are then separated out in the same paragraph with 13 trees and 66 shrubs in the temporary impact areas and 173 trees and 910 shrubs in the enhancement area. These numbers are accurate in the paragraph describing the plan and Table 4 is accurate for the temporary impact area. However, Table 5 only shows 457 shrubs to be installed within the enhancement area along with the 173 trees. Table 5 needs to be updated to reflect the previously described number of shrubs and trees to be installed in the enhancement area.

- Plant tables with the correct number of shrubs and trees should be added to the buffer mitigation plan drawing so that the proper plant list can be provided to the landscapers. Having the plant tables on the drawings helps the landscapers as well as general contractors to understand the goal of the project in terms of the extent of the planting areas and the species to be installed without having to refer back to the report.

Habitat Management Plan

The Habitat Management Plan (HMP) was prepared to address impacts to the stream buffer and the unmapped stand of oaks. In addition to the stream associated with Bell Marsh, there is a small stand of large Oregon white oaks (*Quercus garryana*) trees mapped within the northwest portion of the subject property (Grette Associates 2019). As this stand of oaks is described in the separately provided Arborist Report prepared by Greenforest, the oak stand is no longer discussed in this document.

Stream
The stream is identified as a natural water feature and meets the criteria for a Type F water for which a 100-foot buffer is required per *DMC Section 25.105.050(2)(g)* from the ordinary high water mark. The required buffer has been applied to the onsite segment of the stream, which does not extend beyond the wetland buffer except at the south end, where reduction is proposed to accommodate stormwater features.

The stream and wetland buffers overlap with the wetland buffer being the primary critical area buffer because it extends beyond the stream buffer. The wetland buffer mitigation plan as proposed covers the areas of stream buffer impacts for stormwater features necessary for the project. The stream buffer impacts are called out separately in the HMP where the stream buffer extends beyond the wetland buffer. The stream buffer impacts are mostly temporary because of grading and filling for installation of stormwater dispersion trench and permanent impacts are necessary to compensate for improvement of the existing access road, which also affects the wetland buffer. The HMP and buffer mitigation as described in the Buffer Mitigation Plan will adequately compensate for the temporary and permanent impacts and provide improved protection for the onsite critical areas. The comments made regarding the wetland buffer enhancement apply to the stream buffer enhancement as well.

Summary and Conclusions
Review of the documents for the Champions Centre discovered some inconsistencies with the critical areas report, buffer mitigation plan, and habitat management plan. These inconsistencies require additional assessment of the wetland rating and updates to the buffer mitigation plan to reflect the plant totals for full enhancement of buffer functions.

- **Wetland Categorization**-The wetland rating form requires the following corrections to accurately reflect the wetland category, which may affect the required buffers.
  - *Water quality function*.
    - **D 1.2**: Revise rating to reflect the Dupont muck soil map unit and the soil data collected during the field delineation.
    - **D 1.4**: Revise rating to reflect the extent of the three mapped hydroperiods.
  - *Hydrologic function.*
    - **D 4.3**: Add the contributing basin to the figure to support the answer given in question
  - *Habitat function.*
    - **H 1.4**: Revise rating to reflect the three vegetation classes mapped within the wetland unit.
    - **H 2.0**: Include the calculations for the various mapping to confirm the percentages of accessible habitat (H 2.1) and undisturbed habitat (H 2.2).

- **Buffer Mitigation Plan**-The buffer mitigation meets the requirements of the DMC because it will provide improved protection for the onsite critical areas through removal of invasive plants and installation of native trees and shrubs. Minor revisions are necessary to show the accurate plant totals.
  - Table 5 and the discussion of plant totals do not match. Revise the planting table so that it reflects the shrub total in the written discussion.
  - Add the plant tables to the enhancement plan drawings so that it represents a complete plan to be used by future contractors and landscapers.

- **Habitat Management Plan**-The HMP meets the requirement of the DMC because it proposes a reduction of no more than 25 percent and enhancement is proposed to compensate for the reduction. In addition, permanent and temporary impacts will be compensated for in the enhancement plan.
    - The planting plan revisions discussed for the Buffer Mitigation Plan should also be revised in the HMP to accurately reflect the plant totals.
    - Revise Section 3.2 of the HMP to address the onsite stand of large oak in the northwest corner of the subject property.

This concludes the review of the critical areas documents prepared for the Champions Centre proposed in the city of DuPont. If there are any questions regarding the comments and requested report revisions, please let me know.

Sincerely,

Joanne Bartlett, SPWS
Professional Biologist

Exhibit 6.g

CITY OF DUPONT

Department of Community Development
1700 Civic Drive, DuPont, WA 98327
Telephone: (253) 964-8121
www.dupontwa.gov

sent to applicant on 5/10/2024

April 19, 2024

Sent via email only to: wgarrison@lseinc.com

Champions Centre (Applicant)
Wendy Garrison (Agent)
LeRoy Surveyors & Engineers, Inc.
P.O. Box 740, Puyallup, WA 98371

Subject: Request for revisions to Champions Centre applications for Site Plan Review (PLNG2023-010), Critical Areas/Tree Modification (PLNG2023-011), Boundary Line Adjustment/Lot Line Elimination (PLNG2023-012), and SEPA Environmental Review (PLNG 2023-013)

Dear Ms. Garrison:

We are writing to request revisions to continue the review of your application for Site Plan Review, Tree Modification, Critical Areas, Boundary Line Adjustment/Lot Line Elimination, and SEPA Environmental Review for the Champions Centre proposal. In order to move forward with the review, we request the following applications and associated materials be revised as specified below:

Planning Department Comments

1. Site Plan Sheet 2 of 9 (and others) depicts the future parcel line associated with the boundary line adjustment. The new parcel line abuts a future proposed wall, however the wall height at that location is not provided. The City defines a structure as follows:

   "DMC 25.10.190.165 "Structure" means anything constructed or erected, the use of which requires location on the ground or attachment to something having location on the ground, but not including fences and walls less than six feet in height."

   Provide the height of the wall at the closest point to the new/proposed parcel line. If the height of the wall is six feet or greater, provide the required building setback from the new/proposed boundary line.

2. The landscape plans depict landscaping around part but not all of the Pierce County Sanitary Sewer Pump Station. **Additional moderate buffer landscaping shall be provided between the Pump Station and the public right of way. The screening will need to wrap around the building to screen the view from traffic heading westbound on DuPont Steilacoom Road.**

3. The landscape plans indicate a 10-foot-wide moderate landscape buffer located along the north property boundary that is adjacent and to and shared with a residential use. The parking lot orientation would allow for vehicular lights to shine north into the residential property. Revisions are needed to shield the residential property from light and glare impacts. The revisions could include re-orientation of the parking spaces to an east/west configuration, the addition of a screen wall or solid board fence and/or

the planting of additional shrubs and trees to provide the needed buffering and protection from light spill and glare. **Revise the plans to protect the adjacent residential property from impacts related to vehicular light spill and glare.**

Other Comments

See the enclosed comments from other City Depts. and City peer review consultants. These comments shall be addressed in your resubmittal plans and response letter.

1. Traffic Impact Analysis – See Geri Reinhart's memorandum dated Feb. 20, 2024. There are no revisions required, however we are providing the comment memorandum for your information.
2. Building Comments – see Ray Shipman's email dated Feb. 21, 2024
3. Fire Marshal Comments – see Mike Turner's email dated Feb. 21, 2024
4. Site Plan Review –Gray & Osborne letter dated Feb. 22, 2024
5. Boundary Line Adjustment – Gray & Osborne letter dated Feb. 23, 2024.
6. Tree Retention Modification Request – Sound Urban Forestry letter dated March 11, 2024.
7. Critical Areas – See Ecological Land Services letter dated April 16, 2024.

If you have any questions, please call me at 253-912-5393, or email me at bkincaid@dupontwa.gov.

Sincerely,

Barb Kincaid, AICP
Director of Community Development

Cc: File No. PLNG2023-010-011-012-013
Lisa Klein, AHBL, Inc. (representing the City of DuPont)

Geralyn Reinart, P.E.
831 Sprague Street
Edmonds, WA. 98020
(425) 530-0664
Traffic & Transportation Engineering Services

MEMORANDUM

February 20, 2024

TO: Barbara Kincaid, AICP
Public Services Director

FROM: Geralyn Reinart, P.E.

SUBJECT: Champions Centre Development (PLNG2023-022) – Review of September 2023 Traffic Impact Analysis

The following summarizes my review of the traffic impact analysis (TIA) for the proposed Champions Centre Development dated September 1, 2023 and prepared by Heath and Associates. The traffic study reviews the development of a 25,480 square-foot church and a 3000 square-foot fast casual restaurant. Additionally, 14 electric vehicle (EV) charging stations are proposed for the site (four of which would be associated with the Church). Completion of the project is estimated for 2026. Scoping comments were provided to the Consultant in July of 2023 for the proposed project.

The project site is located on the northwesterly corner of the Barksdale Avenue/ DuPont-Steilacoom Road intersection. Access is proposed from Barksdale Avenue (full access) and DuPont-Steilacoom Road (right-turn in and out). The site plan was previously reviewed in early 2020 and traffic comments were submitted at that time; as noted in the scoping comments, it appears that the majority of those comments were included in the current proposal. The proposal reviewed in the TIA could potentially generate 360 net new weekday trips and 43 net new trips during the weekday PM peak hour; 329 net new Sunday peak hour trips are estimated which is when the primary impact would occur from the project. This Sunday peak period is expected to occur in the late morning hours.

Several scoping comments were relayed to the Consultant for inclusion in the TIA, all of which were addressed. These comments included the following:

- Use of the ITE average trip rates rather than the fitted curve equations.
- Revision of the trip generation for the 3000 square foot retail building to represent a higher trip-generating use, as appropriate.
- Revisions of the trip generation data provided for the EV charging stalls to reflect the weighted average of all of the data points.
- Revisions of the trip assignment to reflect use of the average trip rates (and

the different land use for the 3000 square foot building).

- Revisions to the trip assignment to reflect the future modifications to the Barksdale/DuPont-Steilacoom Road intersection as a three-legged/all-way stop condition and the presence of the new interchange.
- Analysis of the weekday PM peak hour and Sunday peak for the Barksdale/DuPont-Steilacoom Road intersection (with and without project) and the site accesses for the future conditions.
- Use of the future weekday PM peak hour volumes provided by the City for the Barksdale/DuPont-Steilacoom Road intersection based on recent work completed in the Old Fort Lake (Founder's Ridge) EIS. The Applicant provided Sunday peak volumes for existing conditions that were modified to reflect future geometric conditions.
- Review of the adequacy of the (eastbound) left-turn storage on Barksdale Avenue at DuPont Steilacoom Road for the future weekday and Sunday peak conditions for both adequate length and any blockage of the site access.

General Comments:

The analysis was prepared by a consultant fully qualified and experienced in the preparation of analyses of this nature, and conforms to the City's guidelines and includes all the necessary information to complete the review. The study summarized the existing and future conditions in the vicinity, along with the impacts of the project. All identified critical intersections impacted by the project were included in the analysis. A 2.0% annual growth rate was applied to these volumes for future conditions as appropriate (no pipeline trips were necessary/ available for the Sunday analysis.)

Specific Comments:

My specific comments with respect to the analysis are as follows:

1. **Page 10, Figure 3** – Existing Sunday peak hour volumes were collected and correctly shown per the field data collected.
2. **Page 11, Section 4.2/Project Trip Generation** – the land use for the 3000 square-foot building was revised from strip retail (as noted in the initial scoping) to a fast casual restaurant. The Consultant noted that the Saturday peak hour generator was applied for the Sunday peak hour. Both of these changes are acceptable.
3. **Page 12, Table 1** – the project trip generation is correctly shown. The total trips changed (slightly higher) from the values shown on the scoping document due to the use of the weighted averages for the EV stations and use of a restaurant rather than retail for the 3000 square-foot building. Pass-by trips were applied to the restaurant use and are acceptable.
4. **Page 14, Figure 4** – the weekday PM peak hour trip assignment was shown for two scenarios. The first scenario assumes that the site access to DuPont-Steilacoom Road is limited to right-turns in and out, and the second scenario

assumes full access. (*Note: once the new interchange is completed, full access at this driveway may be allowed*.) One minor error was noted in Scenario 2 for the eastbound left-turn onto DuPont-Steilacoom Road from the site access, i.e., two pass-by trips were not shown. Otherwise, all other values were properly shown.

5. **Pages 15-18, Figures 5-8** – the Sunday peak hour trip assignment and future weekday and Sunday peak hour volumes are all correctly shown. More specifically, the Consultant correctly showed on Figure 6 the re-assignment of traffic movements at the Barksdale/DuPont-Steilacoom Road intersection associated with the opening of the new interchange.
6. **Page 19, Table 2** – the level of service (LOS) analyses for the future conditions (with and without the project) indicate that the Barksdale/DuPont-Steilacoom Road intersection should operate at level of service (LOS) "B" or better under either scenario during the weekday PM peak hour and Sunday peak period for the Church. (*Note: this assumes the new configuration and intersection control upon completion of the interchange*.) The accesses are also expected to operate at LOS "B" for either scenario.
7. **Page 20, Section 4.6** – adequate sight distance is expected, but as noted, should be verified on the final site plans.
8. **Pages 21 and 22, Queueing Analysis** – the 95th percentile queue is expected to exceed the existing turn storage for the eastbound left-turn movement on Barksdale at DuPont-Steilacoom Road. The Consultant has suggested increasing the storage length to at least 60 feet (up to 75 feet) as allowable within the existing cross-section and pavement width in order to avoid blockages.
9. **Page 22, Left Turn Warrant Analysis** – based on the WSDOT nomographs, left-turn storage would not be warranted for either site access for either scenario. Having stated that, should full access be allowed in the future along DuPont-Steilacoom Road, the cross-section is sufficient to provide a two-way left-turn lane to serve the access, and should be assumed.
10. **Pages 23 and 24, Conclusions & Mitigation** – impacts associated with the project are fairly limited, especially during the weekday hours. The primary impacts will occur on Sunday morning, as is typical with most churches. As noted above, the Consultant had recommended increasing the storage length of the left-turn lane on Barksdale Avenue at its intersection with DuPont-Steilacoom Road. I concur with this recommendation.
11. **Appendix, Traffic Counts** – no comments.
12. **Appendix, Forecast 2026 Weekday PM Peak Hour** – no comments.
13. **Appendix, Electric Vehicle Parking** – no comments.
14. **Appendix, Trip Generation Summary** – the values as shown are correct.
15. **Appendix, LOS Worksheets (all cases)** – all level of service calculations were checked and were correctly presented in the findings. One minor oversight which would have very limited bearing on the results was not including an exclusive northbound left-turn lane on DuPont-Steilacoom Road at the site access for Scenario 2 (per comment #9, above).
16. **Appendix, Left Turn Lane Warrants** – no comments.

Final Comments

The proposed project is for the development of a Church and a small casual restaurant. EV charging stations would also be provided. The main impacts associated with the project would occur on Sunday morning when Church services occur. The restaurant will be the main attractor during the weekday PM peak hour with limited Church activity during this same time period. The project will have its greatest impacts at the Barksdale Avenue/DuPont-Steilacoom Road intersection. Traffic volumes at this intersection are expected to drop considerably upon completion of the new interchange to the north and operating level of service conditions are expected to be good. The information in the TIA is acceptable as presented and addresses the items that were requested; no additional information or re-submittal of the TIA is needed. Mitigation has been recommended below and involves some minor channelization on the west leg of the Barksdale Avenue/DuPont-Steilacoom Road intersection.

Mitigation

Based on the information presented for the proposed uses, limited impacts are expected. One mitigation measure has been recommended, as follows:

- Modification/extension of the eastbound left-turn lane on Barksdale Avenue at its intersection with DuPont-Steilacoom Road to a length of 60 feet (current length is approximately 40 feet).

Please let me know if you have any questions with respect to the above information or if you'd like to discuss in more detail.

From: Janet Howald
To: Lisa Klein
Cc: Christine Shilley
Subject: [EXTERNAL] FW: Champions Centre Submittal Reviews
Date: Wednesday, February 21, 2024 9:35:40 AM
Attachments: image001.png

Hi Lisa,

Building comments are below.

Thanks.

Janet Howald
Administrative Specialist|Public Services Department
City of DuPont

Direct 253.912.5232
City Hall 253.964.8121
Jhowald@dupontwa.gov

From: Ray Shipman <RShipman@dupontwa.gov>
Sent: Wednesday, February 21, 2024 9:33 AM
To: Mike Turner <MTurner@dupontwa.gov>; Christine Shilley <PermitTech@dupontwa.gov>; Dom Miller (dmiller@g-o.com) <dmiller@g-o.com>; Geri Reinart (greinart@msn.com) <greinart@msn.com>
Cc: Barbara Kincaid <bkincaid@dupontwa.gov>; Janet Howald <JHowald@dupontwa.gov>
Subject: RE: Champions Centre Submittal Reviews

I have no comments

Ray Shipman CBO/CFM
Building Official | City of DuPont
Direct (253) 912-5216 | 1700 Civic Drive, DuPont, WA 98327

From: Mike Turner <MTurner@dupontwa.gov>
Sent: Wednesday, February 21, 2024 8:18 AM
To: Christine Shilley <PermitTech@dupontwa.gov>; Ray Shipman <RShipman@dupontwa.gov>; Dom Miller (dmiller@g-o.com) <dmiller@g-o.com>; Geri Reinart (greinart@msn.com) <greinart@msn.com>
Cc: Barbara Kincaid <bkincaid@dupontwa.gov>; Janet Howald <JHowald@dupontwa.gov>
Subject: RE: Champions Centre Submittal Reviews

Hi,

Fire has no comments on this submittal.

Thanks,
Mike

From: Christine Shilley <PermitTech@dupontwa.gov>
Sent: Tuesday, February 20, 2024 8:53 AM
To: Ray Shipman <RShipman@dupontwa.gov>; Mike Turner <MTurner@dupontwa.gov>; Dom Miller (dmiller@g-o.com) <dmiller@g-o.com>; Geri Reinart (greinart@msn.com) <greinart@msn.com>
Cc: Barbara Kincaid <bkincaid@dupontwa.gov>; Janet Howald <JHowald@dupontwa.gov>
Subject: RE: Champions Centre Submittal Reviews

Good morning everyone,

Friendly reminder that Barb asked that everyone completed their reviews of the Champions Centre submittal materials by tomorrow.

I reinstated the link to the files, just in case you need to download them: https://app.box.com/s/2tbdrdu3kiulnyp1bha65m1gyr6b2hrt.

Thank you,

Chris

Chris Shilley | Permit Technician | City of DuPont | Direct (253) 912-5217

From: Christine Shilley
Sent: Tuesday, February 6, 2024 3:58 PM
To: Ray Shipman <RShipman@DupontWA.GOV>; Mike Turner <MTurner@DupontWA.GOV>; Dom Miller (dmiller@g-o.com) <dmiller@g-o.com>; Geri Reinart (greinart@msn.com) <greinart@msn.com>
Cc: Barbara Kincaid <bkincaid@DupontWA.GOV>; Janet Howald <JHowald@DupontWA.GOV>
Subject: Champions Centre Submittal Reviews

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Click here to view the submittal files. Note: I will remove the link to these files in one week so please download them before then.

Thank you,

Chris

Chris Shilley | Permit Technician | City of DuPont | Direct (253) 912-5217
DuPont City Hall | 1700 Civic Drive, DuPont, WA 98327
Open Monday – Thursday 9 AM – 4 PM & Friday by Appointment

From:	Janet Howald
To:	Lisa Klein
Cc:	Christine Shilley
Subject:	[EXTERNAL] FW: Champions Centre Submittal Reviews
Date:	Wednesday, February 21, 2024 8:20:05 AM
Attachments:	image001.png

Good morning Lisa,

Please see Fire comments below.

Thank you,

Janet Howald
Administrative Specialist | Public Services Department
City of DuPont

Direct 253.912.5232
City Hall 253.964.8121
Jhowald@dupontwa.gov

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Sent: Wednesday, February 21, 2024 8:18 AM
To: Christine Shilley <PermitTech@dupontwa.gov>; Ray Shipman <RShipman@dupontwa.gov>; Dom Miller (dmiller@g-o.com) <dmiller@g-o.com>; Geri Reinart (greinart@msn.com) <greinart@msn.com>
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Cc: Barbara Kincaid <bkincaid@dupontwa.gov>; Janet Howald <JHowald@dupontwa.gov>
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Chris

Chris Shilley | Permit Technician | City of DuPont | Direct (253) 912-5217

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Sent: Tuesday, February 6, 2024 3:58 PM
To: Ray Shipman <RShipman@DupontWA.GOV>; Mike Turner <MTurner@DupontWA.GOV>; Dom Miller (dmiller@g-o.com) <dmiller@g-o.com>; Geri Reinart (greinart@msn.com) <greinart@msn.com>
Cc: Barbara Kincaid <bkincaid@DupontWA.GOV>; Janet Howald <JHowald@DupontWA.GOV>
Subject: Champions Centre Submittal Reviews

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Chris

Chris Shilley | Permit Technician | City of DuPont | Direct (253) 912-5217
DuPont City Hall | 1700 Civic Drive, DuPont, WA 98327
Open Monday – Thursday 9 AM – 4 PM & Friday by Appointment

Gray & Osborne, Inc.
CONSULTING ENGINEERS

February 22, 2024

Ms. Barbara Kincaid
Public Services Director
City of DuPont
1700 Civic Drive
DuPont, Washington 98327

SUBJECT: LAND USE APPLICATION REVIEW, CHAMPIONS CENTRE
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON
G&O #24220.00 TASK 01

Dear Ms. Kincaid:

On February 6, 2024, Gray & Osborne, Inc. received a submittal packet regarding the above-subject project. The packet included the following:

- Cover Letter by Leroy Surveyors & Engineers, Inc. dated December 20, 2023;

Section 1 (All Applications)

- Exhibit 1.a: Title Report by Fidelity National Title dated December 11, 2023;
- Exhibit 1.b: Environmental Checklist (SEPA) dated November 13, 2023;

Section 2 (Land Use Application – Site Plan Review)

- Exhibit 2.a: City of DuPont Land Use Application dated October 2, 2023;
- Exhibit 2.b: Overall Site Plan including vicinity map by Leroy Surveyors & Engineers, Inc. (nine sheets dated December 8, 2023);
- Exhibit 2.c: Landscape Plans by ARW Landscape Design (four sheets dated December 5, 2023;
- Exhibit 2.d: Grading Plans by Leroy Surveyors & Engineers, Inc. (five sheets dated December 8, 2023);
- Exhibit 2.e: Storm Drainage and Utility Plan by Leroy Surveyors & Engineers, Inc. (five sheets dated December 8, 2023);
- Exhibit 2.f: Preliminary Stormwater Report management and calculations by Leroy Surveyors & Engineers, Inc. dated September 2023;

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- Exhibit 2.g: Architectural Elevations/Modulation Plans by Elevation Home Designs (five sheets dated November 15, 2023);
- Exhibit 2.h: Refuse Enclosure Plan by Leroy Surveyors & Engineers, Inc. (one sheet dated October 31, 2023);
- Exhibit 2.i: Traffic Impact Analysis Report by Heath & Associates dated September 1, 2023;
- Exhibit 2.j: Letter of Sewer Availability by Pierce County Planning & Public Works dated December 7, 2023;
- Exhibit 2.k: Letter of Water Availability. City of DuPont Water Availability Form;
- Exhibit 2.l: Landscape Plan Review Memo by Greenforest Incorporated dated December 4, 2023;
- Exhibit 2.m: CSWPPP Report. Stormwater Pollution Prevention Plan SWPPP by Leroy Surveyors & Engineers, Inc. dated September 2023;
- Exhibit 2.n: Maintenance and Source Control Manual by Leroy Surveyors & Engineers, Inc. dated September 2023;

Section 3 (Land Use Application – Critical Area Permit & Tree Modification Permit)

- Exhibit 3.a: City of DuPont Land Use Application dated October 2, 2023;
- Exhibit 3.b: Arborist Report by Greenforest Incorporated dated September 6, 2023;
- Exhibit 3.c: Geotechnical Soil Observation Report by Leroy Surveyors & Engineers, Inc. dated August 24, 2023;
- Exhibit 3.d: Critical Area Report by Grette Associates LLC dated July 2019;
- Exhibit 3.e: Buffer Mitigation Plan by Grette Associates LLC dated December 4, 2023;
- Exhibit 3.f: Habitat Management Plan by Grette Associates LLC dated December 4, 2023;
- Exhibit 3.g: Biologist Submittal Narrative Memo by Grette Associates LLC dated December 4, 2023;
- Exhibit 3.h: Type III Modification Letter by Leroy Surveyors & Engineers, Inc. dated December 20, 2023;
- Exhibit 3.i: Legal Memo regarding Tree Modification by Dille Law PLLC dated December 20, 2023;
- Exhibit 3.j: Cultural Resource Study by Drayton Archaeology dated August 15, 2023;
- Exhibit 3.k: Tree Retention Plan by Leroy Surveyors & Engineers, Inc. (one sheet dated November 15, 2023);

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Section 4 (Boundary Line Adjustment Lot Line Elimination Application)

- Exhibit 4.a: City of DuPont Boundary Line Adjustment Lot Line Elimination Application dated December 15, 2023;
- Exhibit 4.b: Boundary Line Adjustment by Leroy Surveyors & Engineers, Inc. (five sheets dated December 18, 2023);
- Exhibit 4.c: Lot Closures by Leroy Surveyors & Engineers, Inc.;

Section 5 (Response to Pre-Application Meeting comments)

- Exhibit 5.a: Technical Response letter for Planning Department Pre-Application meeting comments, PLNG2023-002 Dated June 2, 2023 by Leroy Surveyors & Engineers, Inc. dated December 19, 2023;
- Exhibit 5.b: Parking Calculation Plan by Leroy Surveyors & Engineers, Inc. (one sheet dated November 14, 2023);
- Exhibit 5.c: City of Public Works Response Data; and
- Exhibit 5.d: Easements encumbering the property.

The proposed development appears to include a religious assembly building, a future retail building, parking lots, drive aisles and utilities at the northwest corner of Barksdale Avenue and DuPont – Steilacoom Road.

We have reviewed this information for compliance with the current City of DuPont Public Works Standards (City Standards), codes, policies, and the DuPont Municipal Code (DMC), and have the following comments:

GENERAL

1. The site plan should reflect all easements, site restrictions and encumbrances from any recorded documents and a current title report.

2. Any existing easements or portions of thereof, not utilized shall be removed or amended. Documentation shall be provided as part of the project closeout requirements.

3. Regarding frontage improvements:

   A. Per City Standard 2.23.2, all frontage improvements shall be made across full frontage of property from centerline to right-of-way line. A right-of-way permit will be required for the construction of the improvements within the right-of-way.

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B. The WSDOT I-5 Mounts Road to Steilacoom-DuPont Road project is currently under construction, which includes a roundabout on DuPont-Steilacoom Road north of the project site and revisions to the Barksdale Avenue/DuPont Steilacoom Road intersection. The Applicant should contact the WSDOT project management team to obtain project information to incorporate into the right-of-way design.

C. The existing improvements on Barksdale Avenue frontage of the project site include roll curb and a 4-foot-wide sidewalk with no planter strip. These improvements do not meet current City of DuPont Standards, and would have to be replaced with development of the property. Current City Standards require roadway widening and/or surfacing, 6-inch vertical curb and gutter, a 5-foot-wide planter strip, 5-foot-wide sidewalk, roadway drainage, and street lighting. The sidewalk could be routed behind the large oak trees in the right-of-way to preserve the trees. The improvements should extend to the west end of the property frontage.

D. On the corner of the subject property, the curb ramps will be required to be replaced in accordance with current City and ADA Standards. In addition, the existing curb ramps both across Barksdale Avenue and across DuPont-Steilacoom Road will be required to be replaced.

E. The frontage improvements along DuPont-Steilacoom Road must incorporate sidewalk, curb, gutter, roadway drainage, bike lane, channelization, signage, street lighting, and landscaping from the north end of the proposed driveway to the WSDOT I-5 Mounts Road to Steilacoom-DuPont Road project currently under construction.

4. The site plan shall include an analysis of sight distance triangles to verify that safe stopping and turning movements to and from the site at each driveway approach and at the Barksdale Avenue/DuPont-Steilacoom Road intersection.

5. A parking lot lighting plan, which includes a photometric exhibit showing the lighting levels within the parking lot, will be required to demonstrate that parking areas are lit in accordance with City code requirements. Lighting shall conform to the requirements of DMC 25.70.070(12).

6. Per DMC 25.70.060(10)(c), all on-site service areas (i.e., loading zones, dumpster, transformer, utility vaults, etc.) shall be located in an area not visible from a public street or open space.

7. The Applicant shall furnish meter sizing calculations for domestic and fire water services. The sprinkler system design, including confirmation of the provided sizing for the fire line components shall be reviewed and approved by the City Building Department and Fire Department as part of the building permit process. Each fire line connection to a City water main will require a double detector check valve assembly (DDCVA) in an underground vault and a Fire Department Connection (FDC) within 50 feet of a fire hydrant. The double detector check valve assemblies (DDCVA) shall be located in underground vaults outside of the building to allow direct access by City staff.

8. All water mains and appurtenances to be owned and operated by the City, up to and including water meters, backflow assembly vaults, and fire hydrants, shall be located in 15-foot-wide easements dedicated to the City. The easements shall be dedicated to the City following construction and prior to final acceptance of this project.

9. A minimum of one fire hydrant per 1,250 gallons per minute of required fire flow shall be provided within 150 feet of the proposed building. The Applicant shall confirm the required fire flow with the City Fire Department and identify the existing and proposed fire hydrants to meet this requirement. A fire hydrant within 50 feet of the FDC for the building will not count towards the required hydrants for fire flow.

10. The City Fire Department shall confirm that the number and location of existing and proposed fire hydrants on or near the project site are adequate for purposes of providing the required fire flow for the proposed building.

11. The site plan must include supplemental turning movement exhibits to demonstrate that the City Fire Department's large apparatus can navigate the site, including in and out of the site accesses, and accessibility to FDCs and hydrants. The design vehicle used shall be identified.

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12. The City's current Stormwater System Development Charge (SDC) will apply to the proposed development.

13. The project activities shall comply with the requirements of the Washington State Department of Ecology National Pollutant Discharge Elimination System (NPDES) general permit for stormwater discharges associated with construction activity.

14. Prior to final approval of the project, as-builts and Geographic Information System (GIS) documentation will be required, in accordance with City of DuPont Municipal Code Chapter 24.10 and Ordinance No. 97-559.

SECTION 1 (ALL APPLICATIONS)

TITLE REPORT

15. All easements identified in the Title Report shall be delineated and labeled on the plans (i.e., width, type, and recording number). Easement callouts should include the numbers corresponding with the Title Report Exception Numbers.

SEPA CHECKLIST

16. Item B.4.d. should include reference to the Buffer Mitigation Plan.

17. Item B.4.e. should state the invasive species as identified in the Buffer Mitigation Plan and Habitat Management Plan.

18. Item C. Signature must be completed by the Applicant's representative or the preparer of the SEPA Checklist.

SECTION 2 (SITE PLAN REVIEW)

LAND USE APPLICATION

We have no comments on the Land Use Application at this time.

OVERALL SITE PLAN

19. Add the City of DuPont Approval block to the upper right corner of all sheets submitted for City review and approval for construction.

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20. Add the General Notes (Street Construction) listed in City Standard 11.1 to the Plans.

21. Add a Survey sheet demonstrating existing conditions and items that are proposed to be removed.

22. Show the City of DuPont/Pierce County line on DuPont-Steilacoom Road.

23. Add a Channelization and Signage Plan incorporating onsite and offsite improvements, which include the crosswalk and centerline along Barksdale Avenue and DuPont-Steilacoom Road. The Plan must identify the existing and proposed pavement markings and signage adjacent to and on the site. The bicycle lane on DuPont-Steilacoom Road must meet current MUTCD Standards and provide connectivity with the channelization at the WSDOT future roundabout to the north.

24. The parking lot must comply with the requirements of DMC 25.70.030 Parking areas.

25. The plans shall include a Temporary Erosion and Sediment Control (TESC) Plan. Include the Erosion/Sedimentation Control Notes and Construction Sequence listed in City Standards 11.2 to the Sheets.

26. Add road cross section details for Barksdale Avenue and DuPont-Steilacoom Road.

27. The plans propose to deed the revised Parcel C of the proposed Boundary Line Adjustment to the City. The City should evaluate acceptance of the wetland on 17.17 acres of the revised Parcel C.

28. Add a detail for the 4-foot concrete block wall along the westerly side of the property.

29. City Standard Details shall be utilized where applicable. All relevant City standard details for street, storm drainage, and water construction shall be provided in the plan set submitted for construction review.

LANDSCAPE PLANS

30. There are existing City landscape and irrigation improvements on the Barksdale Avenue and DuPont-Steilacoom Road frontage of this property. Maintenance of these improvements, if retained, would become the

Applicant's responsibility. The Applicant would be responsible for abandoning and/or reconfiguring these improvements to serve the site. Add a note to this effect to the plans.

31. The rights-of-way lines of Barksdale Avenue and DuPont-Steilacoom Road should be shown and labeled.

32. Landscaping must be provided for the median on Barksdale Avenue.

33. Sheet L1.1:

    A. Indicates an automatic irrigation system. A separate water service connection, water meter, and backflow assembly located in a 15-foot-wide easement dedicated to the City is required. Irrigation Plans must be provided for review and approval.

    B. The project information (area, landscape area required, and landscape provided) is inconsistent with Sheet 01 Overall Site Plan. The Applicant should resolve this discrepancy.

34. The City should determine the landscaping and buffer screening requirements at the existing Pierce County Sanitary Sewer Station off of DuPont-Steilacoom Road. It appears landscaping should extend to the reduced wetland buffer on the northerly side of the building.

35. The irrigation water usage of 6.13 gallons per square foot and water conservation statement on Sheet L1.1. comply with the requirements of DMC 25.90.040 and appears to be sufficient for purposes of land use approval.

36. Clearances, in accordance with City Standards, must be reviewed for compliance during construction review. A minimum 3-foot clearance and level area is required around fire hydrants.

GRADING PLANS

37. DuPont-Steilacoom Road is classified as a Minor Arterial. Per City Standard 3.1.1.1., driveways directly giving access onto arterials will be denied if alternative access is available. A Public Works Standards Variance will be required to construct the driveway access to DuPont-Steilacoom Road.

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38. The two driveway approach accesses to Barksdale Avenue and DuPont-Steilacoom Road appears to serve both parcels. A formal written agreement specifying the shared driveway use and maintenance requirements shall be submitted for review and approval of City prior to issuance of a building permit for either lots.

39. A driveway approach as a pedestrian walkway is not consistent with current City Standards. Add a pedestrian walkway behind the proposed driveway approach to DuPont-Steilacoom Road. Label the proposed grade of the approach.

40. Provide a City Standard concrete sidewalk and driveway approach for the Pierce County Sanitary Sewer Station off of DuPont-Steilacoom Road.

41. Per City Standard 3.1.2.1, driveways that serve any use other than detached dwelling units may not be located closer than 150 feet to any street intersection or to any other driveway, whether on or off the subject property. A Public Works Standards Variance will be required to construct the driveway access to Barksdale Avenue. It appears that the left turn lane will need to be extended on Barksdale Avenue and modifications of the road may be required to accommodate the lane extension.

42. An existing sanitary sewer manhole is shown within the proposed driveway approach off of Barksdale Avenue. The manhole location at the grade break between the sidewalk and the driveway approach does not appear to be feasible for construction. If the manhole is placed within the sidewalk, the lid will need to be replaced with a slip-resistant manhole cover. The Applicant must coordinate with Pierce County for requirements.

43. The dimensions of the parking lot stalls and access aisles must comply with City of DuPont Ordinance No. 03-752. A 26-foot aisle width through the parking lot is required. Label the aisle width to demonstrate compliance.

STORM DRAINAGE AND UTILITY PLANS

44. For the existing 84-inch storm pipe through the site, the existing storm easement shall be confirmed and shown on the plans.

45. Label the existing structures (e.g. concrete pad, concrete wingwalls, chainlink fence) at the northerly end of the 84-inch stormwater outlet. Energy dissipation provisions and/or restoration will be required at the outfall to the wetland. Show and label upstream information for the 84-inch storm pipe.

46. The revised access road for Parcel C as shown on the pre-application plans, north of the Pierce County Sanitary Sewer Station, was removed from the plans. If the City agrees to accept Parcel C, an ingress and egress easement dedicated to the City through the site will be required for access from the right-of-way to the maintenance access road. Alternatively, the previously proposed access road could be installed.

47. The proposed fire service connection to the Religious Assembly building crosses the existing 84-inch storm pipe. Water service lines are subject to the City Standard 5-foot maximum and 3-foot minimum depth requirements.

48. Add profiles of the water, storm, and sewer systems.

49. Provide flow arrows at catch basins and as necessary to demonstrate direction of storm conveyance.

50. The 17,255 SF parking lot on Parcel B is served by a single grated catch basin. A second grated catch basin is recommended to provide redundancy in the event that the first catch basin is clogged or in some other way impaired.

51. Infiltration of rooftop areas shall be utilized where feasible.

52. Add the General Notes (Water System) listed in City Standard 11.3 to the Sheets.

53. Based on City records, there is an existing 12-inch stub out with a 12-inch gate valve off of the 12-inch water main along DuPont-Steilacoom Road to the revised Parcel B south of the Pierce County Sanitary Sewer station. It appears the stub out can be incorporated into the loop through the project site rather than tapping the main across Station Drive.

54. A 5-foot horizontal separation is required between all water facilities and other underground facilities. CB #14 does not meet this requirement.

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55. Drains to daylight or to the onsite storm system shall be provided for the water service vaults and meter boxes as required per City Standard Details.

56. For the eating and drinking establishment building:

    A. Add a City Standard fire water service connection, DDCVA, and FDC. Identify the sizes.

    B. Add a City Standard domestic water service connection and DDCVA. Identify the sizes.

57. Show and label all proposed easements. Include the width and purpose.

DRAINAGE REPORT

58. Per the DOE Manual, a minimum of two test pits are required per infiltration trench location. Figure 2 of the Geotechnical Soil Report shows 1 test pit at Infiltration Trench #1 and none at Infiltration Trench #2. Additional test pits should be provided or the Geologist provides supplemental documentation that determines the conditions are relatively uniform and the borings/test pits omitted will not influence the design or successful operation of the BMP.

59. The report must address roadway drainage along Barksdale Avenue and DuPont-Steilacoom Road.

60. Roadway drainage along the DuPont-Steilacoom Road frontage of project site conveys stormwater runoff to the wetland via a conveyance system through revised Parcel B. Minimum Requirement #8 should address wetland protection requirements.

61. The dispersion trench located on Parcel C and shown on Sheet C4 must be described in the stormwater report narrative. It appears that this is a diversion for the existing City stormwater system through the proposed development. Sizing of the dispersion trench must be provided.

62. As a commercial development, the project must provide enhanced treatment for stormwater runoff. The PerkFilter is not approved for enhanced treatment by Ecology.

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63. Details for the infiltration trenches, filter cartridge structures, and all other stormwater elements must be provided. The detail for the filter units should note the treatment flow for each unit, the maximum anticipated flow through each unit, and the peak bypass flow that the unit can pass.

64. The report must address conveyance from the infiltration facilities in the event that they should overflow. Identify a non-erosive overflow channel leading to a stabilized watercourse.

65. The CPEP within each infiltration trench should be perforated.

66. Infiltration Trench 1 appears to have two unconnected and unidentified pipes running alongside the center pipe. Clarify the intended construction.

67. A Temporary Erosion and Sediment Control (TESC) Plan shall be prepared for the project.

68. Conveyance sizing calculations must be provided in the final submittal.

69. Following construction and prior to final acceptance of this project, the Applicant will be required to execute an Agreement for Inspection and Maintenance of Privately Maintained Storm Drainage Facilities. The Agreement should be provided after construction of the storm drainage system to reflect "as-built" conditions.

ARCHITECTURAL PLANS

We have no comments on the Architectural Plans at this time.

REFUSE ENCLOSURE PLAN

70. The submitted Sheet R1, as approved October 31, 2023 by LeMay, Inc., for the two proposed trash enclosure locations (one at each of the two buildings) appears to be sufficient for purposes of land use approval.

71. The recycle and refuse enclosures shall be in accordance with DMC 25.100 Recycling and are subject to the Design provisions of DMC 25.100.050. Provisions for enclosures include sized for both general refuse and recycling DMC 25.100.050(3), concrete surfacing with a concrete apron DMC 25.100.050(4), and a 3-foot wide pedestrian opening for gated enclosures DMC 25.100.050(5).

TRAFFIC IMPACT ANALYSIS

72. The Transportation Impact Analysis comments should be provided to the City by Ms. Geralyn Reinart, P.E.

SANITARY SEWER DOCUMENTATION

73. The submitted letter from Pierce County Utilities appears to be sufficient for purposes of land use approval.

74. Documentation of Pierce County Public Works and Utilities approval of the sanitary sewer system for this project will be required prior to issuance of a civil construction permit. A Pierce County sewer permit shall be issued before the DuPont civil construction permit and building permit for the project may be issued.

WATER AVAILABILITY

75. The submitted Water Availability Form for this project, which indicates a Proposed Water Usage of 2,365 gallons per day, is sufficient for purposes of land use approval.

76. A completed City "Flow and Pressure for Fire Suppression Design" form is attached for use by the Applicant.

LANSCAPE PLAN REVIEW MEMORANDUM

We have no comments on the Landscape Plan Review Memorandum at this time.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

77. The Stormwater Pollution Prevention Plan (SWPPP) appears to be sufficient for purposes of land use approval.

78. A final updated version must be provided prior to issuance of a civil construction permit.

MAINTENANCE AND SOURCE CONTROL MANUAL

79. The Maintenance and Source Control Manual appears to be sufficient for purposes of land use approval.

80. Prior to issuance of a civil construction permit, a final updated version shall be provided

SECTION 3 (CRITICAL AREA AND TREE MODIFICATION)

LAND USE APPLICATION

We have no comments on the Land Application at this time.

ARBORIST REPORT

We have no comments on the Arborist Report at this time.

GEOTECHNICAL SOIL REPORT

81. The project must comply with the recommendations as provided in the Geotechnical Soil Observation Report.

CRITICAL AREA REPORT

We have no comments on the Critical Area Report at this time.

BUFFER MITIGATION PLAN

82. The project must comply with the Native Revegetation Plan, Maintenance recommendations, and Monitoring and Contingency plan as identified in the Buffer Mitigation Plan.

HABITAT MANAGEMENT PLAN

83. The project must comply with the Stormwater Outfall Mitigation Measures and Stream Buffer Enhancement as identified in the Habitat Management Plan.

BIOLOGIST MEMORANDUM

We have no comments on the Biologist Submittal Narrative Memorandum at this time.

TYPE III MODIFICATION LETTER

We have no comments on the Type III Modification letter at this time.

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LEGAL MEMORANDUM

We have no comments on the Legal Memorandum regarding Tree Modification at this time.

CULTURAL RESOURCE STUDY

84. The project must comply with the recommended procedures outlined in the Inadvertent Discovery Protocol, if cultural materials are encountered during project activities, as provided in the Cultural Resource Study.

TREE RETENTION PLAN

We have no comments on the Tree Retention Plan at this time.

SECTION 4 (BOUNDARY LINE ADJUSTMENT)

85. Review of the Boundary Line Adjustment Application, drawings, and lot closure will be provided under separate cover.

SECTION 5 (PRE-APPLICATION MEETING)

We have no comments on the Pre-Application Meeting documents.

Thank you for the opportunity to provide these comments. Please contact the undersigned if you have any questions or comments regarding this review.

Sincerely,

GRAY & OSBORNE, INC.

Dominic J. Miller, P.E.

DJM/sp
Encl.

cc: Mr. Shukri Shurabi, P.E., City Engineer, City of DuPont
Ms. Janet Howald, Administrative Specialist, City of DuPont
Mr. Ray Shipman, Building Official, City of DuPont
Mr. Mike Turner, Fire Marshal, City of DuPont

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CITY OF DUPONT

FLOW AND PRESSURE FOR FIRE SUPPRESSION DESIGN

Project Name: **Champions Centre**
Project Location: **Barksdale Avenue and DuPont-Steliacoom Road**
Developer's Engineer: **Leroy Surveyors & Engineers**

Date: **May 19, 2017**

Minimum Fire Flow per Ordinance No 10-905:_____
(see note 1)
Required Fire Flow per I.F.C. 2009: _____

Location Information:

Nearest Street Intersection: **Barksdale Avenue and DuPont-Steliacoom Road**
Model Node Location: **100' NW along Barksdale Avenue**
Model Node ID: **J-190**

2017 Water System Model Results (see notes 2, 3 and 4, and 5 below):

Static Pressure: **55 psi**
Fire Flow: **2,266 gpm**
Residual Pressure: **29 psi**

Fire Suppression System Design Criteria (see note 6 below):

Static Pressure: **45 psi**
Fire Flow: **2,039 gpm**
Residual Pressure: **29 psi**

Notes:

1. Actual fire flow will be based on building construction type and building square footage with credits for fire sprinklers.

2. The 2017 Water System Model results are based on available fire flow during projected 2031 Maximum Day Demand conditions as discussed in the 2011 Water System Plan.

3. Available fire suppression storage is based on the criteria presented in the 2011 Water System Plan, which is defined as 4,000 gpm for 4 hours, or 960,000 gallons.

4. Pipe velocities are limited to 10 feet/second in pipes used for fire flow runs.

5. Four of the six pumps at the Bell Hill booster station were assumed to be operational during fire flow conditions: one 15 HP pump, two 20 HP pumps, and one 50 HP pump.

6. The model results have been adjusted per City policy. The policy reduces the model results as follows:

    - static pressure is reduced by 10 psi
    - available fire flow is reduced by 10% at a minimum allowable pressure of 20 psi

cc: Public Works Department
Building Department
Fire Department

Gray & Osborne, Inc.
CONSULTING ENGINEERS

February 23, 2024

Ms. Barbara Kincaid
Public Services Director
City of DuPont
1700 Civic Drive
DuPont, Washington 98327

SUBJECT: CHAMPIONS CENTRE BOUNDARY LINE ADJUSTMENT
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON
G&O #24220.00 TASK 01

Dear Ms. Kincaid:

On February 6, 2024, Gray & Osborne, Inc. received a submittal packet regarding the above-subject project. The packet included the following:

- Cover Letter by Leroy Surveyors & Engineers, Inc. dated December 20, 2023;
- Exhibit 1.a: Title Report by Fidelity National Title dated December 11, 2023;
- Exhibit 4.a: City of DuPont Boundary Line Adjustment Lot Line Elimination Application dated December 15, 2023;
- Exhibit 4.b: Boundary Line Adjustment by Leroy Surveyors & Engineers, Inc. (five sheets dated December 18, 2023);
- Exhibit 4.c: Lot Closures by Leroy Surveyors & Engineers, Inc.

We have reviewed the Boundary Line Adjustment (BLA) information provided for compliance with City of DuPont Municipal Code 24.07 and City Standards, and have the following comments:

GENERAL

1. Upon recording of the BLA, the applicant shall submit final drawings and G.I.S. AutoCAD files in accordance with the City of DuPont G.I.S. Ordinance 97-559.

2. Upon recording of the BLA, the new lot corners shall be established in accordance with provisions of the DMC 24.07.060 Control Monuments.

BOUNDARY LINE ADJUSTMENT DRAWINGS

3. On all sheets:

   A. Add the City File No. with the number supplied by the City.

   B. Revise the owner information block to indicate Pierce County for the sewer system provider.

4. Per DMC 24.07.040(a)(3), the location and dimensions of all structures/improvements existing upon the affected lots and the distance between structure/improvements and the proposed lot/boundary lines shall be shown (e.g. Pierce County Sanitary Sewer building and fencing, power poles, stormwater outfall concrete pad, concrete wingwalls, and fencing).

5. Per DMC 24.07.040(b)(2), a note shall be placed on the drawings that reads as follows: "This boundary line adjustment is not a plat, replat, or subdivision. Approval of a boundary line adjustment is not a guarantee that future permits will be granted for any structure or development within a lot affected by a boundary line adjustment." Revise the Approval Notes on Sheet 1.

6. Per DMC 24.07.040(b)(3), a note shall be placed on the drawings that reads as follows: "This survey complies with all standards and guidelines of the "Survey Recording Act" Chapter 58.09 RCW and Chapter 332-130 WAC."

7. Easement callouts should include the numbers corresponding with the Title Report Exception Numbers as provided on Sheet 4.

8. Any existing easements, or portions of thereof, to be removed should be noted.

9. If the dedication of Revised Parcel C is accepted by the City, access and easements to the parcel must be provided to the City. The BLA should not be approved by the City until provisions, as acceptable to the City, have been addressed by the Applicant for access to the Revised Parcel C.

10. Prior to approval of the BLA, an easement for the 84-inch storm drainage pipe through Revised Parcel A should be provided, recorded, and the Pierce County recording no. added to the drawings.

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11. In the owner information block, the number of adjusted lots stated on Sheets 1, 2, 4, and 5 indicates 2 and Sheet 3 indicates 4 to 3. This discrepancy should be resolved.

12. Bell Marsh should be labeled.

13. On Sheet 1, labels to identify Parcel A1, A2, and A3 should be added.

14. On Sheets 2 and 3, the note which indicates "see Sheet 1 of 4 for line and curve tables" should be revised to Sheet 1 of 5.

15. On Sheet 4, the Exceptions should reflect the most current Title Report as submitted with this application. The date of Title Report stated should be revised.

16. On Sheet 4, the numbering of the Exception Nos. 13, 14, and 15 are in error.

LOT CLOSURES

We have no comments on the Lot Closures at this time.

Thank you for the opportunity to provide these comments. Please contact the undersigned if you have any questions or comments regarding this review.

Sincerely,

GRAY & OSBORNE, INC.

Dominic J. Miller, P.E.

DJM/sp

cc: Mr. Shukri Shurabi, P.E., City Engineer, City of DuPont
Ms. Janet Howald, Administrative Specialist, City of DuPont
Mr. Ray Shipman, Building Official, City of DuPont

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SUF
SOUND URBAN FORESTRY, LLC

Appraisals ~ Site Planning ~ Urban Landscape Design and Management
Environmental Education ~ Tree Risk Assessment

3/11/2024

AHBL
Lisa Klein, Associate Principal
2215 North 30th St, Ste. 200
Tacoma, WA 98403

Cc: City of DuPont, Barbara Kincaid, Director of Public Services

Re: City of DuPont Champions Centre Application Peer Review, PLNG 2023-011

Ms. Klein:

Upon your request, I have conducted a review of the submitted materials you have provided associated with the Champions Centre project in DuPont, Washington. As part of the land use application, the applicant has included a Type III Tree Modification. I have been asked to determine whether the proposed modification follows the City's municipal code as outlined in Chapter 25.10. The following presents my comments.

Exhibit 3.b Arborist Report, 9-6-2023

The report presents a clear and accurate description of the proposed developing parcels and existing vegetation. The tree inspections are acceptable and the inventories, tree descriptions and references to DMC 25.10 definitions are accurate. I also concur with the finding that six of the landmark sized trees are hazards.

What is missing within the report is a clear statement as to whether the Tree Retention Plan meets, exceeds or is deficient in meeting the tree retention requirements as stated in DMC 25.120.030. The report mentions trees retention calculations and presents the numbers of landmark oak and non-oak trees and which are to be retained but it does not specifically address whether this satisfies the City's code.

The report states that Tree #119 is a landmark tree that is to be retained but will not be counted in the retention calculations as it is within ROW and considered a street tree. However, the LeRoy Tree Retention Plan does not show this tree and the table indicates that it is a landmark tree not to be retained.

The report presents within Attachment 3 that Tree #120 is an offsite significant tree to be retained. However, the LeRoy Tree Retention Plan does not show this tree and is listed in the table as a significant tree not to be retained.

Exhibit 3.h Type III Modification Letter 12-20-2023

This document states that 75 Oregon white oak trees will be planted to mitigate the proposed removals of 3 landmark oaks. These trees are indicated to be 4-8' on the landscape plans. They will be very small in caliper and I question whether they meet the City's landscape code.

Landscape Plans 12-5-2023

There is no irrigation plan as part of the submitted set. This needs to be provided.

Grading Plans

Grading is shown to occur within the north end of the Landmark Oak Tree Protection Area and extends into the area beyond the tree protection fencing. Fencing needs to be located *between* the proposed grading and the retained trees. There should always be protection fencing between all equipment and the trees to be retained.

There is no legend or tree protection fencing detail within the grading plans. Neither is there any timeline for when the fencing is to be installed. These items need to be included. Additionally, it should be stated that the fencing installation will be approved by the project arborist prior to ANY land disturbance. This should be provided in writing to the City's building inspector assigned to the project.

Maintenance and Source Control Manual 9-2023

The language presented in Section 6 regarding tree pruning is not acceptable. I request that the project arborist review this section and provide edits that reflect current arboriculture standards.

Regarding the removal of danger, hazard and diseased trees, the report to be submitted to the City should be developed by a Certified Arborist that is tree risk assessment qualified. A landscape architect or professional forester is not suitable for this determination. I also recommend removing the stipulation that allows the landowner to remove trees of imminent threat without consultation with the City.

Professionally Submitted,

Kevin M. McFarland, Principal
Consulting Urban Forester
ISA Certified Arborist PN-0373 & Tree Risk Assessment Qualified
Sound Urban Forestry, LLC
P.O. Box 489
Tahuya, WA 98588
360-870-2511

Ecological Land Services

April 16, 2024

Lisa Klein
AHBL, Inc.
2215 North 30th Street, Suite 300
Tacoma, WA 98403

RE: Peer Review of Champions Center Development Critical Areas for the City of Dupont (PLNG2023-002).

Dear Lisa:

Ecological Land Services, Inc. (ELS) has been contracted through AHBL, Inc. to conduct a review of the critical areas submittal for the Champions Center Development for the City of DuPont Washington. The documents supplied to ELS for the review include:

- *Mustard Seed Legacy Development, LLC, Critical Areas Report*, prepared by Grette Associates, LLC, dated July 2019.
- *Mustard Seed Legacy Development, LLC, Buffer Mitigation Plan*, prepared by Grette Associates, LLC, dated December 2023.
- *Mustard Seed Legacy Development, LLC, Habitat Management Plan*, prepared by Grette Associates, LLC, dated December 2023.
- Technical Memorandum, *Champions Center Development (PLNG2023-002) Critical Areas Submittal Narrative*, prepared by Grette Associates, LLC, dated December 4, 2023.

ELS biologists reviewed these documents and conducted a site visit on March 2024 to review the wetland boundary delineation and site conditions to confirm the discussions in these documents.

Critical Areas Report

Wetland Delineation

The City of *Dupont Municipal Code* (DMC) *Section 25.105.050(1)(a)(i)* specifies that the identification and delineation of wetland boundaries shall be done in accordance with approved federal wetland delineation manual and applicable regional supplement. All areas within the city meeting the wetland designation criteria in that procedure are hereby designated critical areas and are subject to the provisions of this chapter. As required, the delineation was conducted in accordance with the 1987 U.S. Army Corps of Engineers *Federal Wetland Delineation Manual* and the 2010 U.S. Army Corps of Engineers *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0*). The delineation of Bell Marsh was conducted in April 2019, which is approaching the 5-year deadline at the end of this month. ELS reviewed site conditions on March 20, 2024, and while flags were not observed, the wetland boundary does not appear to have changed because the wetland is confined to a well-defined depression. Therefore, the wetland delineation is confirmed.

Wetland Categorization

DMC Section 25.105.050(1)(a)(ii) specifies wetland categorization using the Washington State Department of Ecology wetland rating system, as set forth in the Washington State Wetland Rating System for Western Washington: 2014 Update (Ecology Publication No. 04-06-029, or as revised and approved by Ecology), which contains definitions, methods, and criteria for determining a wetland's categorization as a Category I, II, III, or IV.

The wetland categorization was conducted in accordance with the DMC requirements. The categorization form presented in the Critical Area Report has some inconsistencies that require revision and changes to the category and the standard buffer widths. The following sections present the sections where inconsistencies were noted by function and specific questions that require additional assessment.

Depressional and Flats Wetlands: Water Quality Functions

The scores for water quality functions as determined in the wetland rating form completed by Grette Associates differs from the data collected within the wetland and what is presented in the queried database figures and specifically the soil map for Pierce County, Washington. The following questions from the rating form must be corrected to accurately reflect the scores for water quality function.

D 1.2: The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definition). The answer to this question was No for which the wetland scored 0 points. Data collected and presented in the critical areas report documents the presence of organic soil (SP 1 and 2). Additionally, the soil map unit is Dupont muck according to the NRCS soil survey. Based on the condition of the soil along with the organic soil type mapped within the wetland, this question should be answered yes and a score of 4 added, which brings the score to 9.

D 1.4: Characteristics of seasonal ponding or inundation. The rating form included in the critical areas report marks seasonal ponding in less than 1/4 of the total wetland area for which the score is 0. The figure documenting the hydroperiods within Bell Marsh shows three separate hydroperiods including permanently inundated, seasonally inundated, and permanently flowing stream. The mapping indicates that the seasonally inundated encompasses at least 1/4 of the total wetland area and perhaps at least 1/2 of the total wetland area. The score for this question would therefore increase from 0 on the rating form to at least 2 and perhaps 4 points, which would increase the potential for water quality functions to moderate or high.

Depressional and Flats Wetlands: Hydrologic Functions

Overall, ELS agrees with the scores for hydrologic functions but there is information missing that would result in a more accurate determination of the wetland rating. It does not appear that the score will change in one direction or the other but having the most accurate information would be beneficial.

D 4.3: Contribution of unit to storage in the watershed. It is unclear if the answer presented on the rating form is correct because the contributing basin was not added to the wetland rating figures. ELS recommends that the contributing basin is accurately reflected on the rating forms to confirm the current answer of 3 points.

Habitat Functions

H 1.4 Interspersion of habitats. The rating form reports that the interspersion of habitats is 2 or moderate but because the figures and H 1.1 show 3 vegetation communities occurring within the wetland, the score should be 3 points. This change in score does not affect the overall score for habitat functions.

H 2.0 Does the landscape have the potential to support habitat at the site? H 2.1 and H 2.2 specify calculations to support the mapping and percentages of accessible and undisturbed habitat and development area. The map provided appears to map the various areas correctly, it is difficult to discern how much area each of the features (accessible habitat, accessible/moderate-low habitat, low-moderate intensity development, and high intensity development) covers within 1 km of Bell Marsh. These calculations should be provided to verify the answers to this rating question.

Buffer Mitigation Plan

The buffer mitigation plan proposes to reduce the wetland buffer from 100 feet to 75 feet that will include enhancement of the buffer. The proposed enhancement will compensate for the reduction of the buffer by 25 percent through removal of invasive species and installation of native trees and shrubs. The buffer has been identified as degraded because of "…significant patches of Himalayan blackberry and English ivy…"

- The buffer mitigation/enhancement plan meets the DMC requirements and adequately improves the function of the buffer and provides additional protection to the wetland. However, there is a discrepancy in the plant numbers outlined in the report. In Section 6.2 Native Plant Installation on page 8 of the Buffer Mitigation Plan, the number of plants to be installed within the enhancement and temporary impact areas are combined for a total of 186 trees and 976 shrubs. They are then separated out in the same paragraph with 13 trees and 66 shrubs in the temporary impact areas and 173 trees and 910 shrubs in the enhancement area. These numbers are accurate in the paragraph describing the plan and Table 4 is accurate for the temporary impact area. However, Table 5 only shows 457 shrubs to be installed within the enhancement area along with the 173 trees. Table 5 needs to be updated to reflect the previously described number of shrubs and trees to be installed in the enhancement area.

- Plant tables with the correct number of shrubs and trees should be added to the buffer mitigation plan drawing so that the proper plant list can be provided to the landscapers. Having the plant tables on the drawings helps the landscapers as well as general contractors to understand the goal of the project in terms of the extent of the planting areas and the species to be installed without having to refer back to the report.

Habitat Management Plan

The Habitat Management Plan (HMP) was prepared to address impacts to the stream buffer and the unmapped stand of oaks. In addition to the stream associated with Bell Marsh, there is a small stand of large Oregon white oaks (*Quercus garryana*) trees mapped within the northwest portion of the subject property (Grette Associates 2019). As this stand of oaks is described in the separately provided Arborist Report prepared by Greenforest, the oak stand is no longer discussed in this document.

Stream
The stream is identified as a natural water feature and meets the criteria for a Type F water for which a 100-foot buffer is required per *DMC Section 25.105.050(2)(g)* from the ordinary high water mark. The required buffer has been applied to the onsite segment of the stream, which does not extend beyond the wetland buffer except at the south end, where reduction is proposed to accommodate stormwater features.

The stream and wetland buffers overlap with the wetland buffer being the primary critical area buffer because it extends beyond the stream buffer. The wetland buffer mitigation plan as proposed covers the areas of stream buffer impacts for stormwater features necessary for the project. The stream buffer impacts are called out separately in the HMP where the stream buffer extends beyond the wetland buffer. The stream buffer impacts are mostly temporary because of grading and filling for installation of stormwater dispersion trench and permanent impacts are necessary to compensate for improvement of the existing access road, which also affects the wetland buffer. The HMP and buffer mitigation as described in the Buffer Mitigation Plan will adequately compensate for the temporary and permanent impacts and provide improved protection for the onsite critical areas. The comments made regarding the wetland buffer enhancement apply to the stream buffer enhancement as well.

Summary and Conclusions
Review of the documents for the Champions Centre discovered some inconsistencies with the critical areas report, buffer mitigation plan, and habitat management plan. These inconsistencies require additional assessment of the wetland rating and updates to the buffer mitigation plan to reflect the plant totals for full enhancement of buffer functions.

- **Wetland Categorization**-The wetland rating form requires the following corrections to accurately reflect the wetland category, which may affect the required buffers.
  - *Water quality function*.
    - **D 1.2**: Revise rating to reflect the Dupont muck soil map unit and the soil data collected during the field delineation.
    - **D 1.4**: Revise rating to reflect the extent of the three mapped hydroperiods.
  - *Hydrologic function.*
    - **D 4.3**: Add the contributing basin to the figure to support the answer given in question
  - *Habitat function.*
    - **H 1.4**: Revise rating to reflect the three vegetation classes mapped within the wetland unit.
    - **H 2.0**: Include the calculations for the various mapping to confirm the percentages of accessible habitat (H 2.1) and undisturbed habitat (H 2.2).

- **Buffer Mitigation Plan**-The buffer mitigation meets the requirements of the DMC because it will provide improved protection for the onsite critical areas through removal of invasive plants and installation of native trees and shrubs. Minor revisions are necessary to show the accurate plant totals.
  - Table 5 and the discussion of plant totals do not match. Revise the planting table so that it reflects the shrub total in the written discussion.
  - Add the plant tables to the enhancement plan drawings so that it represents a complete plan to be used by future contractors and landscapers.

- **Habitat Management Plan**-The HMP meets the requirement of the DMC because it proposes a reduction of no more than 25 percent and enhancement is proposed to compensate for the reduction. In addition, permanent and temporary impacts will be compensated for in the enhancement plan.
    - The planting plan revisions discussed for the Buffer Mitigation Plan should also be revised in the HMP to accurately reflect the plant totals.
    - Revise Section 3.2 of the HMP to address the onsite stand of large oak in the northwest corner of the subject property.

This concludes the review of the critical areas documents prepared for the Champions Centre proposed in the city of DuPont. If there are any questions regarding the comments and requested report revisions, please let me know.

Sincerely,

Joanne Bartlett, SPWS
Professional Biologist

Exhibit 6.h

Ecological Land Services

January 26, 2025

Patrick Kelly
AHBL, Inc.
2215 North 30th Street, Suite 300
Tacoma, WA 98403

RE: Peer Review of Champions Center Development Critical Areas for the City of Dupont (PLNG2023-002).

Dear Patrick:

Ecological Land Services, Inc. (ELS) has been contracted through AHBL, Inc. to conduct a review of the critical areas submittal for the Champions Center Development for the City of DuPont Washington. This review was completed for the revised documents prepared by Grette Associates for the Mustard Seed Legacy Development, which were received by the City of DuPont on December 11, 2024. The revised documents supplied to ELS for the review include:

- *Mustard Seed Legacy Development, LLC, Critical Areas Report*, prepared by Grette Associates, LLC, dated July 2019, Revised May 2024.
- *Mustard Seed Legacy Development, LLC, Buffer Mitigation Plan*, prepared by Grette Associates, LLC, dated December 2023, Revised May 2024.
- *Mustard Seed Legacy Development, LLC, Habitat Management Plan*, prepared by Grette Associates, LLC, dated December 2023, Revised May 2024.

Critical Areas Report

Wetland Delineation

The City of *Dupont Municipal Code* (DMC) *Section 25.105.050(1)(a)(i)* specifies that the identification and delineation of wetland boundaries shall be done in accordance with approved federal wetland delineation manual and applicable regional supplement. All areas within the city meeting the wetland designation criteria in that procedure are hereby designated critical areas and are subject to the provisions of this chapter. As required, the delineation was conducted in accordance with the 1987 U.S. Army Corps of Engineers *Federal Wetland Delineation Manual* and the 2010 U.S. Army Corps of Engineers *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0*). The delineation of Bell Marsh was conducted in April 2019, which is approaching the 5-year deadline at the end of this month. ELS reviewed site conditions on March 20, 2024, and while flags were not observed, the wetland boundary does not appear to have changed because the wetland is confined to a well-defined depression. Therefore, the wetland delineation is confirmed.

Wetland Categorization

DMC Section 25.105.050(1)(a)(ii) specifies wetland categorization using the Washington State Department of Ecology wetland rating system, as set forth in the Washington State Wetland Rating System for Western Washington: 2014 Update (Ecology Publication No. 04-06-029, or as revised

and approved by Ecology), which contains definitions, methods, and criteria for determining a wetland's categorization as a Category I, II, III, or IV.

The wetland categorization was conducted in accordance with the DMC requirements. The categorization form presented in the Critical Area Report has some inconsistencies that require revision and changes to the category and the standard buffer widths. The following sections present the sections where inconsistencies were noted by function and specific questions that require additional assessment.

Depressional and Flats Wetlands: Water Quality Functions

The scores for water quality functions as determined in the wetland rating form completed by Grette Associates differs from the data collected within the wetland and what is presented in the queried database figures and specifically the soil map for Pierce County, Washington. The following questions from the rating form must be corrected to accurately reflect the scores for water quality function.

D 1.2: The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definition). The answer to this question was No for which the wetland scored 0 points. Data collected and presented in the critical areas report documents the presence of organic soil (SP 1 and 2). Additionally, the soil map unit is Dupont muck according to the NRCS soil survey. Based on the condition of the soil along with the organic soil type mapped within the wetland, this question should be answered yes and a score of 4 added, which brings the score to 9.

The wetland rating form was revised to reflect the presence of organic soil mapped within the wetland unit. This comment is fully satisfied.

D 1.4: Characteristics of seasonal ponding or inundation. The rating form included in the critical areas report marks seasonal ponding in less than 1/4 of the total wetland area for which the score is 0. The figure documenting the hydroperiods within Bell Marsh shows three separate hydroperiods including permanently inundated, seasonally inundated, and permanently flowing stream. The mapping indicates that the seasonally inundated encompasses at least 1/4 of the total wetland area and perhaps at least 1/2 of the total wetland area. The score for this question would therefore increase from 0 on the rating form to at least 2 and perhaps 4 points, which would increase the potential for water quality functions to moderate or high.

The wetland rating form was revised per this review comment to reflect the correct extent of the seasonally ponded hydroperiod. The wetland now scores 13 points and rates High for water quality functions. This comment is fully satisfied.

Depressional and Flats Wetlands: Hydrologic Functions

Overall, ELS agrees with the scores for hydrologic functions but there is information missing that would result in a more accurate determination of the wetland rating. It does not appear that the score will change in one direction or the other but having the most accurate information would be beneficial.

D 4.3: Contribution of unit to storage in the watershed. It is unclear if the answer presented on the rating form is correct because the contributing basin was not added to the wetland rating

figures. ELS recommends that the contributing basin is accurately reflected on the rating forms to confirm the current answer of 3 points.

The wetland rating figures were updated to include the contributing basin and ELS concurs with the score on the rating form; this comment has been satisfied.

Habitat Functions

H 1.4 Interspersion of habitats. The rating form reports that the interspersion of habitats is 2 or moderate but because the figures and H 1.1 show 3 vegetation communities occurring within the wetland, the score should be 3 points. This change in score does not affect the overall score for habitat functions.

The rating form was revised to reflect the 3 vegetation communities in H 1.1 and H 1.4. ELS concurs with the scores for H 1.4 on the rating form; this comment has been satisfied.

H 2.0 Does the landscape have the potential to support habitat at the site? H 2.1 and H 2.2 specify calculations to support the mapping and percentages of accessible and undisturbed habitat and development area. The map provided appears to map the various areas correctly, it is difficult to discern how much area each of the features (accessible habitat, accessible/moderate-low habitat, low-moderate intensity development, and high intensity development) covers within 1 km of Bell Marsh. These calculations should be provided to verify the answers to this rating question.

The calculations were partially revised in the rating form however, they are not included in their entirety, i.e., the equation is included but only the final score is provided for H 2.1 and there is no calculation appearing in H 2.2 to confirm the score. However, while ELS concurs with the score for H 2.0, it would be extremely helpful to reviewers confirm the answers by including the percentages of each area on the 1 km offset on the rating figure and providing the full equations in H 2.1 and H 2.2 on the rating form. ELS concurs with the answers on the rating form; this comment is satisfied.

Buffer Mitigation Plan

The buffer mitigation plan proposes to reduce the wetland buffer from 100 feet to 75 feet that will include enhancement of the buffer. The proposed enhancement will compensate for the reduction of the buffer by 25 percent through removal of invasive species and installation of native trees and shrubs. The buffer has been identified as degraded because of "…significant patches of Himalayan blackberry and English ivy…"

- The buffer mitigation/enhancement plan meets the DMC requirements and adequately improves the function of the buffer and provides additional protection to the wetland. However, there is a discrepancy in the plant numbers outlined in the report. In Section 6.2 Native Plant Installation on page 8 of the Buffer Mitigation Plan, the number of plants to be installed within the enhancement and temporary impact areas are combined for a total of 186 trees and 976 shrubs. They are then separated out in the same paragraph with 13 trees and 66 shrubs in the temporary impact areas and 173 trees and 910 shrubs in the enhancement area. These numbers are accurate in the paragraph describing the plan and Table 4 is accurate for the temporary impact area. However, Table 5 only shows 457 shrubs to be installed within the enhancement area along with the 173 trees. Table 5 needs to be

updated to reflect the previously described number of shrubs and trees to be installed in the enhancement area.

The plant tables in the buffer mitigation have been updated per the ELS comments. This comment is satisfied.

- Plant tables with the correct number of shrubs and trees should be added to the buffer mitigation plan drawing so that the proper plant list can be provided to the landscapers. Having the plant tables on the drawings helps the landscapers as well as general contractors to understand the goal of the project in terms of the extent of the planting areas and the species to be installed without having to refer back to the report.

The plant tables have been added to the buffer mitigation plan figures in the revised report, per Els comments. This comment is satisfied.

Habitat Management Plan

The Habitat Management Plan (HMP) was prepared to address impacts to the stream buffer and the unmapped stand of oaks. In addition to the stream associated with Bell Marsh, there is a small stand of large Oregon white oaks (*Quercus garryana*) trees mapped within the northwest portion of the subject property (Grette Associates 2019). As this stand of oaks is described in the separately provided Arborist Report prepared by Greenforest, the oak stand is no longer discussed in this document.

A discussion of the stand of Oregon white oaks has been included in the HMP per the ELS comment. This comment is satisfied.

Stream

The stream is identified as a natural water feature and meets the criteria for a Type F water for which a 100-foot buffer is required per *DMC Section 25.105.050(2)(g)* from the ordinary high water mark. The required buffer has been applied to the onsite segment of the stream, which does not extend beyond the wetland buffer except at the south end, where reduction is proposed to accommodate stormwater features.

The stream and wetland buffers overlap with the wetland buffer being the primary critical area buffer because it extends beyond the stream buffer. The wetland buffer mitigation plan as proposed covers the areas of stream buffer impacts for stormwater features necessary for the project. The stream buffer impacts are called out separately in the HMP where the stream buffer extends beyond the wetland buffer. The stream buffer impacts are mostly temporary because of grading and filling for installation of stormwater dispersion trench and permanent impacts are necessary to compensate for improvement of the existing access road, which also affects the wetland buffer. The HMP and buffer mitigation as described in the Buffer Mitigation Plan will adequately compensate for the temporary and permanent impacts and provide improved protection for the onsite critical areas. The comments made regarding the wetland buffer enhancement apply to the stream buffer enhancement as well.

The plant list comments made for the buffer mitigation plan applied to the HMP and a discussion of the stand of Oregon white oaks has been included in the HMP per the ELS comment. This comment is satisfied.

Summary and Conclusions

Review of the documents for the Champions Centre discovered some inconsistencies with the critical areas report, buffer mitigation plan, and habitat management plan. These inconsistencies require additional assessment of the wetland rating and updates to the buffer mitigation plan to reflect the plant totals for full enhancement of buffer functions.

- **Wetland Categorization**-The wetland rating form requires the following corrections to accurately reflect the wetland category, which may affect the required buffers.
  - *Water quality function*.
    - **D 1.2**: Revise rating to reflect the Dupont muck soil map unit and the soil data collected during the field delineation. This comment was addressed, and ELS concurs with the updated rating form.
    - **D 1.4**: Revise rating to reflect the extent of the three mapped hydroperiods. This comment was addressed, and ELS concurs with the updated rating form.
  - *Hydrologic function.*
    - **D 4.3**: Add the contributing basin to the figure to support the answer given in question. The contributing basin map was added to the rating figure set and ELS concurs with the mapping.
  - *Habitat function.*
    - **H 1.4**: Revise rating to reflect the three vegetation classes mapped within the wetland unit. This comment was addressed, and ELS concurs with the updated rating form.
    - **H 2.0**: Include the calculations for the various mapping to confirm the percentages of accessible habitat (H 2.1) and undisturbed habitat (H 2.2). This comment was addressed, and ELS concurs with the updated rating form.

ELS concurs with the rating of Bell Marsh as a Category II wetland system based on the revisions to the rating form and figures.

- **Buffer Mitigation Plan**-The buffer mitigation meets the requirements of the DMC because it will provide improved protection for the onsite critical areas through removal of invasive plants and installation of native trees and shrubs. Minor revisions are necessary to show the accurate plant totals.
    - Table 5 and the discussion of plant totals do not match. Revise the planting table so that it reflects the shrub total in the written discussion. This comment was addressed, and ELS concurs with the updated plant numbers.
    - Add the plant tables to the enhancement plan drawings so that it represents a complete plan to be used by future contractors and landscapers. The plant table has been added to the buffer mitigation plan figure; this comment is satisfied.

- **Habitat Management Plan**-The HMP meets the requirement of the DMC because it proposes a reduction of no more than 25 percent and enhancement is proposed to compensate for the reduction. In addition, permanent and temporary impacts will be compensated for in the enhancement plan.
    - The planting plan revisions discussed for the Buffer Mitigation Plan should also be revised in the HMP to accurately reflect the plant totals. This comment was addressed and ELS concurs with the updated plant numbers.

- Revise Section 3.2 of the HMP to address the onsite stand of large oak in the northwest corner of the subject property. The HMP was revised to reflect the presence of the oak stand in the northwest corner. This comment is satisfied.

In conclusion, the requested revisions and additions were fully addressed in the revised documents prepared in May 2024 and received by the city of DuPont on December 11, 2024. However, ELS has additional comments regarding the resubmitted documents.

1. **Rating Form:** The equations in H 2.0 should be fully filled out using the percentages of areas on the 1 km offset figure in order to confirm the accuracy of the answers. Additionally, it would be helpful to have the percentages of each area listed on the 1 km offset figure.
2. **Wetland Category:** ELS concurs with the final rating scores for the Bell Marsh as a Category II wetland. I would like to point out that there is an error on the summary table (page 1) of the rating form that does not affect the score. Bell Marsh habitat score should be 6 instead of 7 because the scores for habitat are M, L, H.
3. **Re-submitted Documentation**: It would have been very helpful to have an overview of the changes and the pages those changes in each of the submitted reports occurred in a separate document to make the re-review of the project documents much easier.

This concludes the review of the revised critical areas documents prepared for the Champions Centre proposed in the city of DuPont. If there are any questions regarding the comments and concurrence with the resubmitted documents, please let me know.

Sincerely,

Joanne Bartlett

Joanne Bartlett, SPWS
Professional Biologist

Exhibit 6.i

From: Ray Shipman
To: Barbara Kincaid
Cc: Patrick Kelly; Christine Shilley; Janet Howald; Mike Turner
Subject: [EXTERNAL] RE: RE: Champion"s Center application
Date: Wednesday, January 29, 2025 1:24:37 PM

Barb,
I have reviewed the re-submittals. There are no building plans attached as of yet, but I do have one comment for when they are submitted.

Provide an architectural or engineered designed energy code compliant plan set with worksheet when submitting building plans.

Ray Shipman | Building Official | CBO / CFM
City of DuPont | Washington
1700 Civic Drive, DuPont, WA 98327
Office: 253-912-5216

From: Barbara Kincaid <bkincaid@dupontwa.gov>
Sent: Monday, January 27, 2025 4:00 PM
To: Ray Shipman <RShipman@dupontwa.gov>; Mike Turner <MTurner@dupontwa.gov>
Cc: Patrick Kelly <pkelly@AHBL.com>; Christine Shilley <PermitTech@dupontwa.gov>; Janet Howald <JHowald@dupontwa.gov>
Subject: RE: Champion's Center application

Hi Ray and Mike,

We are reviewing resubmittal information for the Champion Center project. This is the proposed church at Barksdale and DuPont Steilacoom Rd. The file number is PLNG2023-010 and you previously provided comments last Feb. The applicant responded to our request for more information with new information submitted on 12/11/24. Please take a moment to look at resubmittals so we can incorporate any comments you may have during this round of review.

Sincerely,
Barb

Barb Kincaid
Director of Public Services
City of DuPont
253.912.5393

Exhibit 6.j

From: Mike Turner
To: Barbara Kincaid; Ray Shipman
Cc: Patrick Kelly; Christine Shilley; Janet Howald
Subject: [EXTERNAL] RE: RE: Champion"s Center application
Date: Friday, January 31, 2025 6:59:16 AM

Hi Barb,

I have reviewed the resubmittal information for the Champion Center project and have no further comments. Hydrants, FDC and Fire Truck access looks good. No Parking Fire Lane signs shall be needed.

Thanks,
Mike

From: Barbara Kincaid <bkincaid@dupontwa.gov>
Sent: Monday, January 27, 2025 4:00 PM
To: Ray Shipman <RShipman@dupontwa.gov>; Mike Turner <MTurner@dupontwa.gov>
Cc: Patrick Kelly <pkelly@AHBL.com>; Christine Shilley <PermitTech@dupontwa.gov>; Janet Howald <JHowald@dupontwa.gov>
Subject: RE: Champion's Center application

Hi Ray and Mike,

We are reviewing resubmittal information for the Champion Center project. This is the proposed church at Barksdale and DuPont Steilacoom Rd. The file number is PLNG2023-010 and you previously provided comments last Feb. The applicant responded to our request for more information with new information submitted on 12/11/24. Please take a moment to look at resubmittals so we can incorporate any comments you may have during this round of review.

Sincerely,
Barb

Barb Kincaid
Director of Public Services
City of DuPont
253.912.5393

Exhibit 6.k

SUF
SOUND URBAN FORESTRY, LLC

Appraisals ~ Site Planning ~ Urban Landscape Design and Management
Environmental Education ~ Tree Risk Assessment ~ Diagnosis

2/17/2025

AHBL, Inc.
Patrick Kelly, Senior Project Manager
2215 North 30th St, Ste. 200
Tacoma, WA 98403

Cc: City of DuPont, Barbara Kincaid, Director of Public Services

Re: City of DuPont Champions Centre Resubmittal Review, PLNG 2023-011

Mr. Kelly:

Upon the request of AHBL and the City of DuPont, I have conducted a review of the resubmitted materials you have provided associated with the Champions Centre project in DuPont, Washington. This is a follow-up to my initial review in March of 2024 The following presents my comments.

Arborist's Letter & Associated Plans/Documents

- I am satisfied with the information supporting that the Tree Retention Plan meets/exceeds the tree retention requirements as stated in DMC 25.120.030.
- The LeRoy Tree Retention Plan has corrected the mislabeling of Trees #119 & #120.
- Exhibit 3.h, Type III Modification Letter, provides greater detail regarding the Oregon white oak. The heights and calipers are acceptable.
- The LeRoy grading plan has made acceptable modifications to the grading within the tree protection areas. The details and timelines for installation have been provided and are satisfactory.
- The Maintenance & Source Control Manual 9-2023 Section 6 has been edited per my request.
- The irrigation plans as part of the landscape plans, Sheet IR1.1 present lateral lines and Hunter MP rotator spray heads being installed within the protection areas of the landmark and significant trees. No trenching or underground installation of lateral lines, spray heads or any other irrigation hardware should be allowed within those areas. I am requesting that all trenching and/or digging be prohibited within identified tree protection areas. Additionally, no equipment should be allowed within these areas. Irrigation lines or heads can be placed above ground and all spray heads will be installed so that they do not spray any water against the trunks of any retained oaks. The irrigation notes on Sheet IR1.3 should clearly state these guidelines.

Professionally Submitted,

Kevin M. McFarland, Principal
Consulting Urban Forester
ISA Certified Arborist PN-0373 & Tree Risk Assessment Qualified
Sound Urban Forestry, LLC
P.O. Box 489
Tahuya, WA 98588
360-870-2511

CITY OF DUPONT

Department of Community Development
1700 Civic Drive, DuPont, WA 98327
Telephone: (253) 964-8121
www.dupontwa.gov

March 5, 2025

Sent via email only to: wgarrison@lseinc.com

Champions Centre (Applicant)
Wendy Garrison (Agent)
LeRoy Surveyors & Engineers, Inc.
P.O. Box 740, Puyallup, WA 98371

Subject: Request for revisions to Champions Centre application for Site Plan Review (PLNG2023-010)

Dear Ms. Garrison:

We are writing to request revisions to continue the review of your application for Site Plan Review. We have no further comments on the Tree Modification, Critical Areas, Boundary Line Adjustment/Lot Line Elimination, and SEPA Environmental Review applications for the Champions Centre proposal. In order to move forward with the review, we request the materials be revised as specified below:

Civil Engineering Comments

AHBL reviewed the project civil plans submitted with the December 11, 2024, revised application submittal, for consistency with the February 22, 2024 comments provided by Gray & Osborne (attached) for the December 27, 2023 plan submittal. You may contact Dan Osier, Senior Engineer, at dosier@ahbl.com with any questions on these comments.

G&O Comment #4: The site plan shall include an analysis of sight distance triangles to verify safe stopping and turning movements to and from the site at each driveway approach and at the Barksdale Avenue/DuPont-Steilacoom Road intersection.

AHBL Review:

1. The stopping sight distance shown on the Stopping Sight Distance Plan (SSD-1) for DuPont Steilacoom Road should be revised to the appropriate value in City Standard Table 2.5-1.
2. Per City Standard Section 2.12.1, the required object design height is 0.5 feet, rather than the 2.0 feet used on SSD-1. Unless the City standards were waived to allow the AASHTO requirement of 2.0 feet, the plan should be revised to use the required 0.5 feet.
3. The driver sightlines should be shown as straight lines rather than following the lane.
4. The plan should be revised to indicate the existing road grades and the SSDs adjusted per the values in City Standard Section 2.12.2 if applicable.
5. Per General Note #4 of the Land Use Application Review letter, provide a sight distance analysis for the Barksdale Avenue/DuPont-Steilacoom Road intersection.

G&O Comment #11: The site plan must include supplemental turning movement exhibits to demonstrate that the City Fire Department's large apparatus can navigate the site, including in and out of the site accesses, and to the FDCs and hydrants. The design vehicle used shall be identified.

AHBL Review: Entering truck movements may not overrun the Steilacoom-Dupont Road city curb, as shown on the plan. Please revise the plans to eliminate the overrun.

G&O Comment #25: The project shall include a Temporary Erosion and Sediment Control (TESC) Plan. Include the Erosion/Sedimentation Control Notes and Construction Sequence listed in City Standards 11.2 to the sheets.

AHBL Review: TESC plan, notes, and sequence not included, however, these items can be addressed through a project condition of approval to be included in the plan check drawings.

G&O Comment #37: Driveways directly giving access onto arterials will be denied if alternative access is available. A Public Works Standards Variance will be required to construct the driveway access to DuPont-Steilacoom Road.

AHBL Review: The Public Works variance request was not found in the resubmittal package.

G&O Comment #45: Label the existing structures (e.g. concrete pad, concrete wingwalls, chain-link fence) at the northerly end of the 84-inch stormwater outlet. Energy dissipation provisions and/or restoration will be required at the outfall to the wetland. Show and label upstream information for the 84-inch storm pipe.

AHBL Review: The structures are labeled, however, no energy dissipation provisions or depiction/labeling of upstream information provided.

G&O Comment #48: Add profiles of the water, storm, and sewer system.

AHBL Review: No profiles are shown. However, these details will be addressed as a project condition of approval to include in the plan check drawings.

G&O Comment #55: Drains to daylight or to the onsite storm system shall be provided for the water service vaults and meter boxes as required per City Standard Details

AHBL Review: This information is not shown on the plans.

G&O Comment #61: The dispersion trench located on Parcel C and shown on Sheet C4 must be described in the stormwater report narrative. It appears this this is a diversion for the existing City stormwater system through the proposed development. Sizing of the dispersion trench must be provided.

AHBL Review: Sizing of the dispersion trench is not included.

G&O Comment #64: The stormwater report must address conveyance from the infiltration facilities in the event they should overflow. Identify a non-erosive overflow channel leading to a stabilized watercourse.

AHBL Review: This information is shown on the plans, but not addressed in the report.

There are no further comments from Planning, Fire, or Building.

If you have any questions, please call me at 253-912-5393, or email me at bkincaid@dupontwa.gov.

Sincerely,

Barb Kincaid, AICP
Director of Community Development

Cc: File No. PLNG2023-010-011-012-013
Patrick Kelly, AHBL, Inc. (representing the City of DuPont)

Att: G&O Civil Engineering Review, February 22, 2024

Exhibit 6.m

DO

Dan Osier

To Patrick Kelly

Cc William Fierst

Thu 11:22 AM

Filed by Newforma

Follow up. Start by Thursday, February 27, 2025. Due by Thursday, February 27, 2025.
You replied to this message on 2/28/2025 10:23 AM.
This message is part of a tracked conversation. Click here to find all related messages or to open the original flagged message.

Hi Pat

Here are my comments on the sight distance analysis:

1. The stopping sight distance shown on the Stopping Sight Distance Plan (SSD-1) for DuPont Steilacoom Road should be revised to the appropriate value in City Standard Table 2.5-1.
2. Per City Standard Section 2.12.1, the required object design height is 0.5 feet, rather than the 2.0 feet used on SSD-1. Unless the City standards were waived to allow the AASHTO requirement of 2.0 feet, the plan should be revised to use the required 0.5 feet.
3. The driver sightlines should be shown as straight lines rather than following the lane.
4. The plan should be revised to indicate the existing road grades and the SSDs adjusted per the values in City Standard Section 2.12.2 if applicable.
5. Per General Note #4 of the Land Use Application Review letter, provide a sight distance analysis for the Barksdale Avenue/DuPont-Steilacoom Road intersection.

Dan Osier, PE | Senior Engineer
AHBL, Inc. | TACOMA · SEATTLE · SPOKANE · TRI-CITIES
253.383.2422 TEL | 253.284.0213 DIRECT | dosier@ahbl.com EMAIL | Send us a file.

Career Opportunities available | Learn more today!

Exhibit 6.n

Geralyn Reinart, P.E.
831 Sprague Street
Edmonds, WA. 98020
(425) 530-0064
Traffic & Transportation Engineering Services

MEMORANDUM

June 17, 2025

TO: Barbara Kincaid,
Community Development Director

FROM: Geralyn Reinart, P.E.

SUBJECT: Champions Centre, PLNG 2023-022;
Transportation Concurrency

I have received your request for review of '*Transportation Concurrency*' for the proposed Champions Centre development located on the northwesterly corner of the Barksdale Avenue/DuPont-Steilacoom Road intersection as required by *DMC 25.115*. This request is assumed per the payment of the Applicant's fee for concurrency.

Based on my review of the traffic impact analysis prepared by Heath and Associates dated September 1, 2023 for the proposed Church and small restaurant, adequate capacity is (or will be) available on the major facilities in the vicinity to support the additional trips associated with this project, and the level of development that would be generated by it. The project will have limited traffic impacts on the adjacent streets during the weekday peak hours and its development will not result in any level of service deficiencies; as such, I recommend that the project be issued a 'certificate of concurrency'.

Please let me know if you have any questions.

Exhibit 6.o

From: Joanne Bartlett
To: Patrick Kelly
Subject: [EXTERNAL] RE: Champions Centre, DuPont resubmittal documents for review
Date: Thursday, August 7, 2025 4:11:13 PM
Attachments: image002.png
image003.png
image004.png
image005.png
image012.png
image013.png
image014.png
image015.png
image016.png
image017.png
image018.png
image019.png
image007.png
image008.png

Hi Pat,
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Sent: Thursday, August 7, 2025 10:39 AM
To: Joanne Bartlett <Joanne@eco-land.com>
Subject: RE: Champions Centre, DuPont resubmittal documents for review

Hello Joanne –
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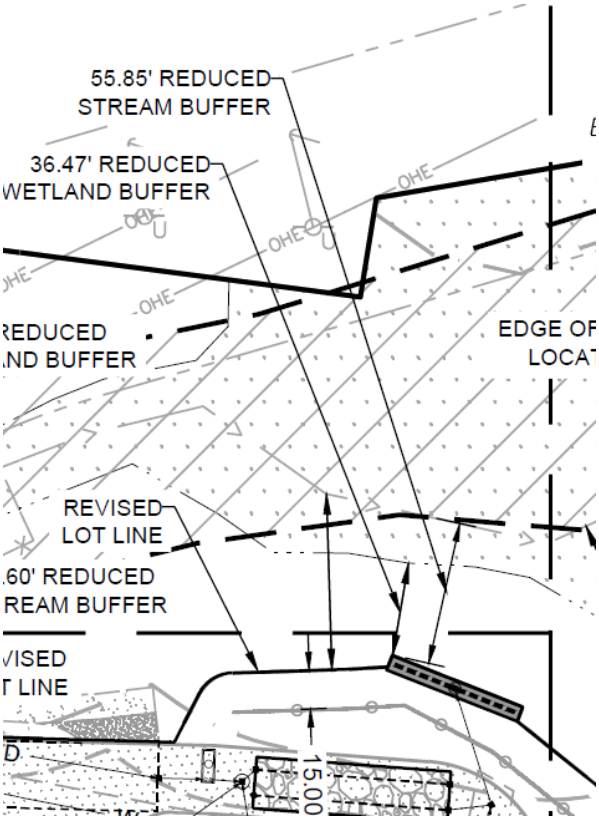

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Hello Joanne –

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Exhibit 6.p

From: Joanne Bartlett
To: Patrick Kelly
Subject: [EXTERNAL] RE: Champions Centre, DuPont resubmittal documents for review
Date: Thursday, October 30, 2025 8:48:59 AM
Attachments: image001.png
image002.png
image003.png
image004.png
image005.png
image007.png
image015.png
image016.png
image018.png
image019.png
image020.png
image021.png
image022.png
image006.png
image008.png

HI Pat,
Yes I think the buffer mitigation plan is sufficient to mitigate for the wetland buffer impacts.
Thanks
Joanne

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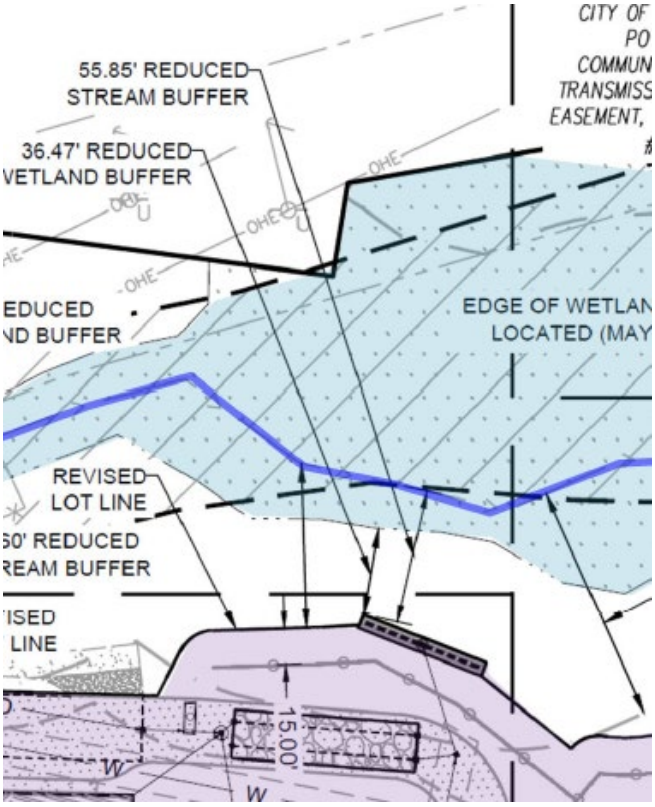
To: Joanne Bartlett <Joanne@eco-land.com>
Subject: RE: Champions Centre, DuPont resubmittal documents for review

Joanne –
As I stated below, the stream buffer is reduced at the point below to 55’ and generally widens to 100’ thereafter (normally required stream buffer)
Taking a closer look at this, the wetland buffer is also reduced at this point, to 36’, and widens to 75’ (100’ normally required for class II wetland)

The attached illustrates this – shaded blue being the wetland boundary, the solid blue line being the stream, and the purple shaded area as the development. The white area between the stream/wetland and the purple development area is the buffer.



I am assuming so, but would you still agree the proposed enhancements continue to be adequate to compensate for the reduced wetland buffer as well?

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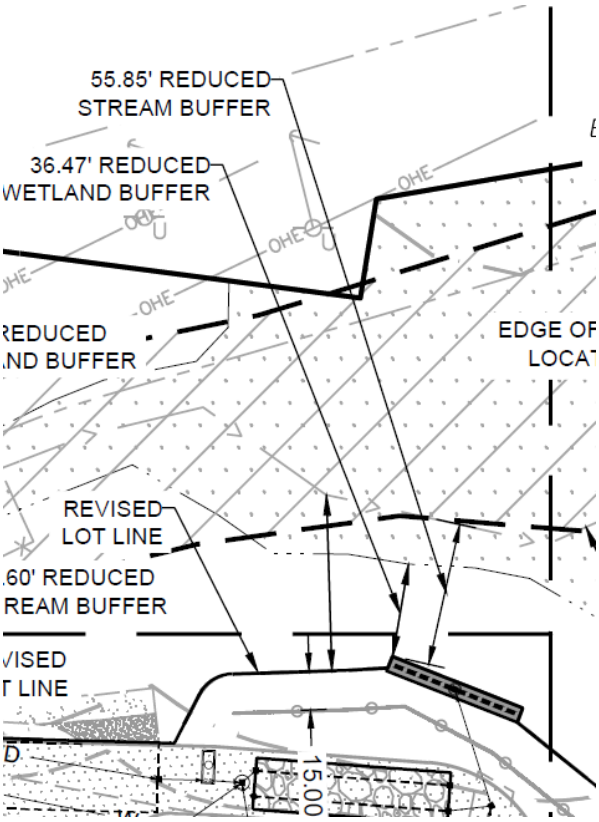

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