

**City of Yelm Staff Report  
Crystal Springs Preliminary Subdivision Public Hearing  
Staff Report & List of Exhibits  
March 8<sup>th</sup>, 2022 2 PM  
Case #: 2021.0054**

**Hearing Examiner Staff Report**

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Exhibit 1: Notice of Public Hearing

Exhibit 2: Notice of Application

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**City of Yelm**  
EST. 1924  
**WASHINGTON**

Case Number: 2021.0054

Applicant: AHBL, Inc  
Sheri Greene  
2215 North 30<sup>th</sup> Street #300  
Tacoma, WA 98403

Request: Subdivide approximately 4.89 acres into 30 single family residential lots

Public Hearing Date: March 8<sup>th</sup>, 2022

Recommendation: Approval with conditions

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## **PROPOSAL**

The applicant proposes to subdivide one parcel equaling approximately 4.89 acres into 30 residential lots for single family dwellings. The property is zoned Moderate Density Residential (R-6), which allows up to 6 dwelling units per gross acre of land.

## **PROPERTY CHARACTERISTICS**

The property is located at 714 Crystal Springs Rd SE, identified by Assessor's Tax Parcel Number 22719210403. The property is currently developed as a single family home with several outbuildings. Surrounding properties to the north and east are zoned Moderate Density Residential and developed as single family homes. The property to the south of the subject site is zoned Open Space/Institutional District and is developed as the Yelm Community Schools bus barn. The property to the east is zoned Industrial and is developed as the City of Yelm Public Services Department. The property is generally flat with less than 5% slopes.

## **NOTICE OF APPLICATION AND PUBLIC HEARING**

Notice of this application was mailed to state and local agencies and property owners within 300 feet of the site on October 20, 2021, as well as published in the Nisqually Valley News in the legal notice section on October 28, 2021.

Comments were received from two property owners in the neighborhood west of the site. The first comment states concerns over traffic, loss of wildlife and vegetation, trash, noise, and congestion that the proposed development would create. The comment specifically expresses

concern over the new development using Woodland Ct SE, currently a cul-de-sac, to access the new homes as children currently use this area to play.

Comments from the second property owner concerned privacy, as this home is adjacent to 3 proposed lots. They requested tall trees or landscaping in the backyards of the new lots to maintain privacy and replace the pine trees that are currently on the lot. The owner also expressed concern over the increased traffic from the development and potential danger to kids playing in the street in the neighborhood to the west.

The capability of current infrastructure to support this project will be discussed below in the concurrency section. Wildlife will be addressed in the critical areas section, the design standards section will discuss landscaping, transportation, and general site planning requirements.

Notice of the date and time of the public hearing before the Hearing Examiner was posted on the City website, mailed to property owners within 300 feet of the site, and mailed to the recipients of the Notice of Application on or before February 25<sup>th</sup>, 2022. Notice of the public hearing was published in the Nisqually Valley News in the legal notice section on Thursday, February 24, 2022.

## **CONCURRENCY**

The intent of the City's concurrency management program, as required by the Growth Management Act, is based on the maintenance of specified levels of service through capacity monitoring, allocation and reservation procedures.

Concurrency describes the situation in which water, sewer and/or transportation facilities are available when the impacts of development occur [Section 18.16.020 YMC].

### **Water**

The level of service for water infrastructure is the ability to provide potable water to the consumer for use and fire protection in accordance with adopted health and environmental regulations [Section 18.16.030 YMC].

Concurrency for subdivisions is met when, at the time of preliminary approval, the planned infrastructure identified in the six-year improvement program and water rights acquisition program of the water system plan are sufficient to provide for the proposed land division.

The State Subdivision Act, Chapter 58.17 RCW, requires that the City of Yelm make a written determination that appropriate provisions are made for potable water supplies as part of the preliminary land division process.

As of October 30, 2021 the City has approximately 147 water connections available for new development, which will provide for 2 to 3 years' worth of growth at historical rates. This connection limit is based on storage capacity and available water rights.

The City has been planning since 1994 for the acquisition of new water rights, which were approved by the Washington State Department of Ecology (ECY) in 2010. This approval was appealed and was upheld by the Pollution Control Hearings Board and by Superior Court, but was overturned by the Washington Supreme Court on October 8, 2015.

The Washington State Legislature adopted the 2018 Streamflow Restoration Act. The act requires the Washington Department of Ecology to issue new water rights to up to 5 pilot projects in order to monitor and report the effectiveness of out of kind mitigation for new water rights.

The City of Yelm was selected as a pilot project, and ECY has indicated that additional water rights are expected in December 2021. The City has been instructed to work on a Report of Examination conveying additional water rights, and is now allowing the approval of preliminary subdivisions as water is expected to be available at the time of new demand.

The City's Water Systems Plan identifies the property as being within the water service area and not currently connected to the City's water sewer system. There are water mains located in Woodland Ct SE, in Crystal Springs Rd SE, and along the southern property line.

The development is required to connect to and extend the main along all new proposed roadways within the subdivision. The improvements required to serve the project will be specifically identified during civil plan review. This satisfies the requirement for concurrency with water infrastructure.

### **Sewer**

Concurrency with sewer infrastructure is achieved pursuant to Section 18.16.050(B)(2) YMC when the project is within an area approved for sewer pursuant to the adopted sewer comprehensive plan for the city and, at the time of preliminary approval, the planned infrastructure identified in the six year improvement program of the sewer system plan are sufficient to provide for the proposed land division and it is reasonable anticipated that the treatment plant has sufficient capacity to provide for the proposed land division.

The City's Sewer Comprehensive Plan identifies the property as being within the sewer service area and is not currently connected to the City's S.T.E.P. sewer system. There are sewer mains located in both Woodland Ct SE and Crystal Springs Rd SE.

The development is required to connect to and extend the main along all new proposed roadways within the subdivision. The improvements required to serve the project will be specifically identified during civil plan review. This satisfies the requirement for concurrency with sewer infrastructure.

### **Transportation**

Concurrency with transportation infrastructure is achieved pursuant to Section 18.16.050(B)(2) YMC when the level of service at concurrency intersections will not drop below accepted levels of service due to new trips associated with the proposed land division unless the planned



improvements identified in the six year transportation improvement program would maintain levels of service.

Frontage improvements are required as part of development. The developer has indicated that frontage improvements along Crystal Springs Rd SE will be installed to the City's adopted neighborhood collector standards and that internal streets will be constructed to adopted local access residential standards.

The applicant submitted a traffic assessment which projected the development will generate 30 new pm peak-hour trips. The majority of traffic is expected to travel to/from the south with access and connection to Yelm Ave. Trip distribution may change when the SR 510 loop to the north is completed.

Finally, Traffic Facility Charges are applied at the time of building permit issuance. These conditions satisfy the requirement for concurrency with transportation infrastructure.

### **Fire Protection**

Concurrency with fire protection is achieved pursuant to Section 18.16.090(C) YMC when the developer makes a contribution to the fire protection facilities as identified in the most current version of the capital facilities plan adopted by the SE Thurston Fire Authority and endorsed by resolution of the Yelm City Council. This fee is subject to change and is collected at the time of building permit issuance. Payment of this fee satisfies the requirement for concurrency with fire protection.

### **School**

Concurrency with school infrastructure is achieved pursuant to Section 18.16.090(B) YMC when the developer makes a contribution to school facilities as identified in the most current version of the capital facilities plan adopted by Yelm Community Schools, and endorsed by resolution of the Yelm City Council. This fee is subject to change and is collected at the time of building permit issuance. Payment of this fee satisfies the requirement for concurrency with school infrastructure.

## **STATE ENVIRONMENTAL POLICY ACT**

The City of Yelm SEPA Responsible Official issued a Determination of Non-Significance (DNS) based on Section 197-11-158 WAC on November 11, 2021. The determination is final and fulfills the City's responsibility for disclosure of potential significant environmental impacts.

Comments were received from the Olympic Region Clear Air Agency (ORCAA) stating that an asbestos survey is required before demolition of any existing structures on the property. ORCAA also stated that if the structure is above a certain size threshold, an ORCAA Demolition Notification must be submitted.

Comments were received from ECY stating standard regulations regarding hazardous waste and toxics reduction, solid waste management, toxics cleanup, and water quality.

Comments were received from a property owner who had commented in the Notice of Application period, expressing the same concerns over traffic, the loss of vegetation and wildlife, and pedestrian safety.

Comments were received from another nearby property owner with similar concerns over mice, rabbits, birds, and other wildlife that may inhabit the property. They also expressed concern over the potential removal of large trees and increased traffic and noise pollution.

Critical areas in the City of Yelm are managed by Chapter 18.21 YMC, and fish and wildlife habitat conservation areas are discussed in Section 18.21.110 YMC. Fish and wildlife habitat conservation areas include areas with which state or federally designated endangered, threatened, and sensitive species have a primary association, and state priority habitats and areas associated with state priority species. Currently, the only species listed under the Endangered Species Act by U.S. Fish and Wildlife that is known to be in the City of Yelm is the Mazama pocket gopher. The applicant provided a Critical Areas report showing the absence of Mazama pocket gophers on the property. The City is recommending that a report showing the absence of all endangered and threatened birds in Washington on the property be required prior to any demolition or construction.

An endangered and threatened bird survey was performed on the 14<sup>th</sup> of December, 2021 by an EnviroVector biologist. The biologist utilized the maps and database information received from the Washington Department of Fish and Wildlife (WDFW) as potential occurrences and habitat locations. Potential habitat requirements were evaluated during the site survey. The entire 4.89-acre property was evaluated on foot.

The bird species list was generated by US Fish and Wildlife Services which identified bird species that are federally listed in the region. This list included the marbled murrelet, the Yellow-billed cuckoo, the Streaked horned lark, and the Northern spotted owl.

No federally-listed bird species under the Endangered Species Act (ESA) or State Priority Species, have been identified on the subject property or within the vicinity of the subject property. No federally-designated Critical Habitat of these bird species occur on the subject property or within the vicinity of the subject property. EnviroVector concluded that it is extremely unlikely for federally listed bird species to occur on the subject property.

## **CRITICAL AREAS**

The Yelm Critical Areas Code, Chapter 18.21 YMC provides protection for wetlands, critical aquifer recharge areas, frequently flooded areas, geologically hazardous areas, and fish and wildlife habitat areas.

### **Aquifer Recharge**

All of Yelm is identified as a critical aquifer recharge area. Compliance with Federal, State, and County water source protection regulations and with the City's adopted stormwater regulations are required to protect the aquifer [Section 18.21.070 (C) YMC].

A stormwater plan meeting the most recent (2019) edition of the Stormwater Management Manual for Western Washington (SWMMWW) will be required at civil plan submission.

### **Fish and Wildlife Habitat Conservation Areas**

The Mazama Pocket Gopher has been listed as a threatened species by the Washington Department of Fish and Wildlife since at least 2008. Yelm has protected this species through the implementation of the Critical Areas Code, Chapter 18.21 YMC. When a development occurs on property suspected to be occupied by the Mazama Pocket Gopher, the Public Services Department has required the applicant prepare a critical areas report which would include mitigation measures if it was determined that pocket gophers would be impacted by the proposed development. The Washington Department of Fish and Wildlife is provided with notice of all threshold determinations issued pursuant to the State Environmental Policy Act and the City consults with the Department when a critical areas report is required.

In April, 2014, the U.S. Fish and Wildlife Service listed the Yelm subspecies of the Mazama Pocket Gopher as threatened under the Endangered Species Act. While the City of Yelm is not responsible for implementation or enforcement of the Endangered Species Act, it consults with the Service and provides notice to applicants that the pocket gopher is a federally protected species and a permit from the U.S. Fish and Wildlife Service may be required.

As part of the application, a gopher reconnaissance was completed by EnviroVector. The report found no indicators for the Mazama Pocket Gopher.

Public comments expressed concern over the potential of endangered and threatened birds nesting on the property. The City will require a Critical Areas Report prepared by a qualified habitat biologist that shows the absence of any endangered and threatened birds in Washington State on the property.

Compliance with Yelm's requirements under the Critical Areas Code does not ensure compliance with the provisions of the Endangered Species Act. The applicant should contact the US Fish and Wildlife Service with any questions about compliance with Federal standards for threatened species if, at any time, evidence of Priority Habitat Species or Mazama Pocket Gopher is found.

### **100-Year Floodplain**

The 2012 National Flood Insurance Rate Map (FIRM) published by FEMA indicates that a small portion of the panhandle of the site is located in the 100-year floodplain. The Base Flood Elevation (BFE) in this area is 332 feet. Development in this area will be subject to Yelm's Critical Areas regulations for frequently flooded areas in Section 18.21.080 YMC. Regulations include that all structures shall be located outside of the floodplain, unless there is no buildable site area out of the floodplain. As there are only 2 access points available for the subdivision

and 2 accesses must be used, it is unavoidable to construct a road through this area. Development in the area shall be constructed using flood resistant materials and methods and practices that minimize flood damage, and fill and grading with the floodplain shall only occur after a determination that the fill or grading will not block side channels, inhibit channel migration, increase the base flood elevation, or be within a channel migration zone.

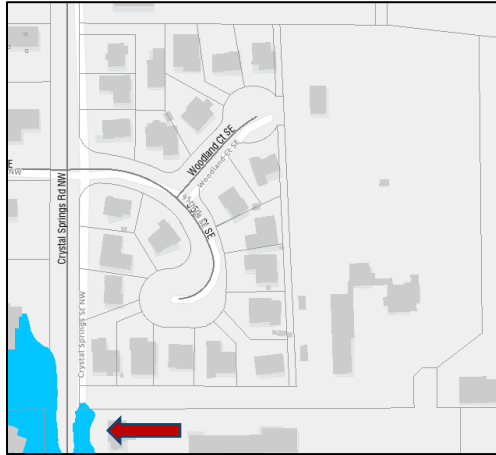


Figure 1. The subject lot with the 2012 100-year floodplain overlaid in blue. Source: FEMA 2012 FIRM

## **DESIGN STANDARDS**

### **Water**

Chapter 13.04 YMC and Chapter 6 of the Development Guidelines establish requirements for connection to the City's water system.

The site is not currently connected to City water service. Connection to City water service is required. Water connections are based on Equivalent Residential Units (875 cubic feet of water consumption per month).

The City implements a cross-connection and backflow control program pursuant to Title 43 RCW and Chapter 248-54 WAC [Section 13.04.220 YMC]. A backflow prevention device is required to protect Yelm's water system from cross-connections from any irrigation systems [Section 13.04.220 (D) YMC].

Fire hydrant locks are required to be installed and paid for by the applicant.

There is a well located on the property. The well must be decommissioned pursuant to ECY standards, and water rights dedicated to the City.

### **Sewer**

Chapter 13.08 YMC and Chapter 7 of the Development Guidelines establish requirements for connection to the City's sewer system.

The property is located in the City of Yelm's S.T.E.P. sewer system service area, and is not connected to the City of Yelm's S.T.E.P. sewer system. Connection to City sewer service is required. Sewer connections are based on Equivalent Residential Unit (875 cubic feet of water consumption per month).

Any onsite septic systems must be abandoned pursuant to Thurston County Health Department standards.

### **Fire Protection**

Fire protection to the buildings must be provided per the International Fire Code. The specific requirements for installation of additional fire hydrants will be determined during civil plan review. The International Building Code (IBC) provides occupancy ratings for different types of uses. The fire coverage system for the proposed use must meet IBC requirements.

Identified in the 2002 City of Yelm Water Comprehensive Plan is a requirement to install fire hydrant locks as part of the City's water conservation and accountability program.

Fire access lanes exceeding 150 ft in length must have appropriate turnaround provisions. The preliminary site plan meets these requirements.

### **Stormwater**

Impervious surfaces create stormwater runoff which, when uncontrolled and untreated can create health, safety, and environmental hazards. The City of Yelm has adopted the most

current (2019) version of the Stormwater Management Manual for Western Washington (SWMMWW), which requires all development to treat and control stormwater.

The applicant has submitted a preliminary stormwater report which includes a conceptual design for the treatment and infiltration of stormwater. The final stormwater plan submitted during civil plan review shall meet the requirements of the most recent SWMMWW.

Stormwater facilities require continued maintenance to ensure they remain in proper working condition. A stormwater maintenance agreement shall be recorded at the time of final plat recording.

### **Lot Size and Setbacks**

The Yelm Unified Development Code does not establish minimum or maximum lot sizes, although it does require standard yard setbacks of 15 feet adjacent to a local access street, 5 feet from side property lines, 15 feet for any flanking yards, 25 feet from the rear property line, and a minimum 20 foot driveway approach.

### **Transportation**

The City of Yelm Development Guidelines and the concurrency requirements of Chapter 18.16 YMC require all new subdivisions to improve street frontages to current City standards.

The developer has indicated that frontage improvements along Crystal Springs Rd SE will be installed to the City's adopted neighborhood collector standards and all internal streets will be constructed to adopted local access residential standards. As the panhandle of the site is only 40 ft wide and minimum street design standards require 58 ft of ROW for a local access street, a modified version of a local access residential street will be acceptable through the panhandle. Removing the 7.5 ft parking lanes on each side and reducing the 6 ft planter strip on the non-sidewalk side to 5 ft will bring the total width necessary for ROW to 40 ft. All other internal streets except the private street must meet the minimum street design standards for a local access.

The applicant proposes one private street. Private streets will not be allowed when the street is connected to 2 public streets, the intersection of the street with another is signalized, the street could be used as a thoroughfare, or it would not be in the best interest of the public due to a threat to the public's safety, health, and welfare [Section 18.52.070(A) YMC]. The location of the proposed private street does not meet any of the above restrictions. Private streets may be allowed if they are established with a permanent tract or easement, used for nine or fewer units with a 30-ft paved surface and 4-ft sidewalk, accessible at all times for emergency and public service vehicle use, will not landlock present or future parcels, and covenants have been approved, recorded, and verified for the City which provide for maintenance [Section 18.52.070(B) YMC]. The applicant has stated that the requirements above will be met.

Chapter 18.52 YMC requires subdivisions of 25 or more housing units provide more than one vehicular access from an arterial or collector street. This requirement is based on the need for emergency services. An access across from the east is not favorable as this property is current

developed as Yelm Public Services and is not identified as a future street connection. The development shows access on Crystal Springs Rd SE and Woodland Ct SE, which was designed as a future street connection.

Chapter 18.52 YMC also requires that no street shall extend for a distance greater than 600 feet without including a provision for at least one intersection, or other traffic calming measure. The preliminary site plan meets this requirement.

### **Parking**

Residential uses require two spaces per dwelling unit. This is typically achieved within a standard driveway approach [Section 18.54.030(A) YMC].

On-street parking is allowed on both sides of local access residential streets.

### **Landscaping**

Section 18.55.020 YMC requires landscaping for all new development. For residential subdivisions, perimeter landscaping is met with a solid wood fence on side and rear yards.

Streetscape landscaping is required as part of street frontage improvements.

The proposed stormwater facility is fully underground. Any above ground stormwater facilities must be landscaped pursuant to Section 18.55.020(E).

Section 18.55.070 YMC requires that the owner/developer of any project requiring subdivision approval shall provide a performance assurance device in order to provide for maintenance of the required landscaping until the tenant or homeowners' association becomes responsible for landscaping maintenance. This performance assurance device shall be 150 percent of the anticipated cost to maintain the landscaping for three years.

### **Open Space**

Section 18.56.010 YMC requires residential developments to include equal to or greater than five percent of the gross area of the development as qualified open space. The applicant has provided a preliminary landscape plan that shows 0.25 acres as open space in Tract A, which is approximately 5.11% of the gross project area. The final landscape plan shall show recreation/open space uses on Tract A pursuant to Section 18.56.020 YMC. Active recreation could be achieved through park or play equipment.

### **Protection of Trees and Vegetation**

Chapter 18.57 requires the protection of trees during development.

Trees with a diameter exceeding 8 inches must be replaced at a 1:1 basis if removed. The preliminary landscape plan shows 51 trees that will be removed and replaced.

### **Mailboxes**

New residential development shall coordinate the US Postal Service for the location of mailboxes. Mailboxes shall be cluster box units (CBU). Placement of CBU mailboxes shall be placed in a location that does not interfere with individual driveway access, or pedestrian pathways.

## **Street Lighting**

Adequate street lighting is necessary to provide safety to pedestrians, vehicles, and homeowners. Street lighting is reviewed at the time of civil plan review in order to assure adequate lighting.

## **Subdivision Name and Addressing**

A subdivision name must be reserved with the Thurston County Auditor's Office prior to submitting for final subdivision approval.

Addressing and street naming within the subdivision will be assigned or approved by the Public Services Department prior to application for final subdivision approval.

## **STAFF RECOMMENDATION**

Section 18.14.050 YMC requires written findings prior to a decision on a preliminary subdivision.

The applicant has established that the proposed subdivision adequately provides for the public health, safety and general welfare and for such open spaces, drainage ways, streets, sanitary wastes, parks and recreation, schools, sidewalks, and, that the public use and interest will be served by the subdivision of the property. The Public Services Department recommends that preliminary subdivision approval is given with the following conditions:

1. A good faith asbestos survey must be conducted on the structure by a certified Asbestos Hazardous Emergency Response Act (AHERA) building inspector, and since the structure is over 120 square feet an ORCAA Demolition Notification must be submitted regardless of the results of the results of the asbestos survey.
2. Prior to demolition of the existing building potentially dangerous or hazardous materials present must be removed.
3. Erosion control measures must be in place prior to any clearing, grading, or construction.
4. The onsite well shall be decommissioned pursuant to Washington State Department of Ecology standards, and any associated water rights dedicated to the City.
5. Any onsite septic systems shall be abandoned per the Thurston County Health Department standards.
6. Stormwater facilities shall be located in separate recorded tracts owned and maintained by the homeowners association. The stormwater system shall be held in common by the Homeowners Association and the homeowner's agreement shall include provisions for the assessment of fees against individual lots for the maintenance and repair of the stormwater facilities. All roof drain runoff shall be infiltrated on each lot utilizing individual drywells.
7. Frontage improvements to City standards are required on Crystal Springs Rd SE along the panhandle.



8. The private street will meet the conditions of Section 18.52.070(B) YMC including permanent establishment by tract or easement and the recording of approved covenants which provide for maintenance.
9. A final landscape plan must be submitted at civil plan submission showing perimeter, streetscape, and stormwater facility landscaping in compliance with Chapter 18.55 YMC.
10. The applicant shall provide a performance assurance device in order to provide for maintenance of the required landscape for this subdivision, until the homeowners association becomes responsible for the landscaping maintenance. The performance assurance device shall be 150 percent of the anticipated cost to maintain the landscaping for three years.
11. The final landscape plan shall show recreation/open space uses on Tract A pursuant to Section 18.56.020 YMC.
12. Mailboxes for the site shall be cluster box units (CBU) and placed on site [Section 18.59.080 YMC]. The civil engineering plans shall include the proposed location and details for mailbox placement.
13. Prior to final subdivision application, a subdivision name must be reserved with the Thurston County Auditor's Office.
14. The civil engineering plans shall include an addressing map for approval by the Building Official.
15. Prior to construction, civil engineering plans shall be submitted to the Public Services Department for review and approval. Civil plans submission shall be consistent with the requirements of the Yelm Development Guidelines and shall include details on all required infrastructure.



**City of Yelm**  
EST. 1924  
**WASHINGTON**

## **Notice of Public Hearing – Yelm Hearing Examiner**

DATE: Tuesday, March 8<sup>th</sup>, 2022 – 2:00 PM

PLACE: Zoom-

<https://us06web.zoom.us/j/83802834906?pwd=K0FzMnRhOFB3U210NkFHZkpva1YzQT09>

PURPOSE: Public Hearing to receive comments regarding the following

1. Crystal Springs, 30-lot Subdivision

Case # 2021.0054. Request to subdivide approximately 4.89 acres into 30 single family lots, located at 714 Crystal Springs Rd. SE. Assessor's Tax Parcel Numbers 227192210403

The City of Yelm Hearing Examiner will hold a public hearing to receive comments on the application listed above. The Hearing Examiner will make a decision on these matters within 10 working days after the hearing.

Testimony may be given at the hearing or through any written comments. Comments must be received by the close of the public hearing. Such written comments may be submitted to the City of Yelm at the address shown above or mailed to: City of Yelm Planning and Building Department, 901 Rhoton Rd. NW, Yelm WA 98597.

Any related documents are available for public review during normal business hours at the City of Yelm, 901 Rhoton Rd. NW, Yelm WA 98597. For additional information, please contact the Planning and Building Department at (360) 458-8496.

It is the City of Yelm's policy to provide reasonable accommodations for people with disabilities. If you are a person with a disability in need of accommodations to conduct business or to participate in government processes or activities, please contact Lori Mossman at 360-458-8402 at least five working days prior to the scheduled event. For information on the Americans with Disabilities Act and the Title VI Statement visit our web page at <http://www.yelmwa.gov/human-resources/>.

**PLEASE DO NOT PUBLISH BELOW THIS LINE**

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Published: Nisqually Valley News, Thursday February 24, 2022

Posted: City of Yelm Website, Thursday February 24, 2022



**City of Yelm**  
EST. 1924  
**WASHINGTON**

## **NOTICE OF APPLICATION**

**Mailed on: October 20, 2021**

PROJECT NAME: Crystal Springs Preliminary Plat

PROJECT LOCATION: 714 Crystal Springs

PROJECT PARCEL NUMBERS: 22719210403

LAND USE CASE NUMBER: 2021.0054

An application submitted by Sheri Greene, 2215 N. 30th Street #300, Tacoma, Washington 98403 for the above referenced project was received by the City of Yelm on 10/14/2021. The City has determined the application to be complete on 10/20/21. The application and any related documents are available for public review during normal business hours at the City of Yelm, 106 2<sup>nd</sup> Street SE, Yelm WA. For additional information, please contact the Public Services Department at (360) 400-5001.

PROJECT DESCRIPTION: 30-lot single family subdivision

ENVIRONMENTAL and OTHER DOCUMENTS SUBMITTED WITH THE APPLICATION: Preliminary civil plans, Geotechnical report, Trip Generation Report, Critical Areas Report, Preliminary Stormwater Report, SEPA Checklist, Title Report

Additional Information or Project Studies Requested by the City: N/A

No preliminary determination of consistency with City development regulations has been made. At minimum, this project will be subject to the following plans and regulations: City of Yelm Comprehensive Plan, Unified Development Code Title 18 YMC, and the Stormwater Management Manual for Western Washington.

The City of Yelm invites your comments early in the review of this proposal. Comments should be directed to Casey Mauck, Community Development Department, 106 2<sup>nd</sup> Street SE, Yelm WA 98597, (360) 400-5001, or via email at [caseym@yelmwa.gov](mailto:caseym@yelmwa.gov).

### **THE 15-DAY PUBLIC COMMENT PERIOD ENDS AT 5:00 PM ON November 4, 2021**

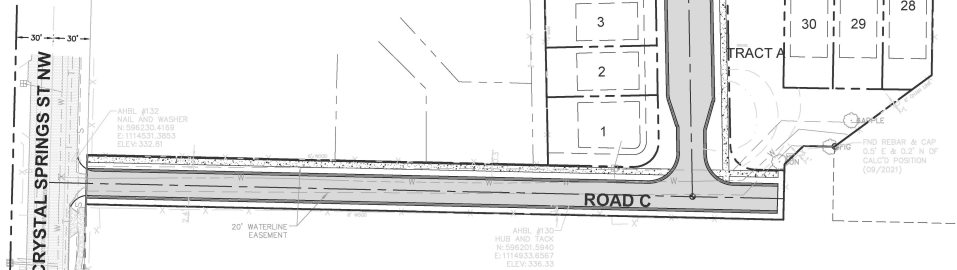
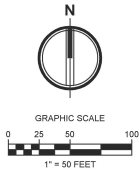
This notice has been provided to appropriate local and state agencies, and property owners within 300 feet of the project site. These recipients will also receive the following items when available or if applicable: Environmental Threshold Determination, Notice of Public Hearing and Notice of Final Decision. If the proposed project requires a City Council decision, it will be mailed to all those who participate in the public hearing and to anyone else requesting the decision in writing. Additionally, there will be a 14-day public comment period if an environmental determination is issued. Opportunities for appeal occur within twenty-one (21) days after the date the notice of decision is issued. City Council decision can be appealed through Superior Court.



Know what's below.  
Call before you dig.

# CRYSTAL SPRINGS PRELIMINARY PLAT

A PORTION OF THE NE 1/4 OF THE NW 1/4 OF SEC. 19, TWN. 17 N., RGE. 02 E. W.M.  
CITY OF YELM, THURSTON COUNTY, WASHINGTON.



## PROJECT SITE

SCALE 1"=50'

## FILL SPECIFICATION

IMPORTED FILL MATERIAL SHALL NOT CONTAIN PETROLEUM PRODUCTS, OR SUBSTANCES WHICH ARE HAZARDOUS, DANGEROUS, TOXIC, OR WHICH OTHERWISE VIOLATE ANY STATE, FEDERAL, OR LOCAL LAW, ORDINANCE, CODE, REGULATION, RULE, ORDER, OR STANDARD.

## UTILITY NOTE

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES THAT HAPPEN DUE TO THE CONTRACTOR'S FAILURE TO LOCATE EXACTLY AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. AHBL ASSUMES NO LIABILITY FOR THE LOCATION OF UNDERGROUND UTILITIES.

## TRENCH NOTE

IF WORKERS ENTER ANY TRENCH OR OTHER EXCAVATION FOUR OR MORE FEET IN DEPTH THAT DOES NOT MEET THE OPEN PIT REQUIREMENTS OF WSDOT SECTION 2-09.3(3)(b), IT SHALL BE SHORED AND CRIBBED. THE CONTRACTOR ALONE SHALL BE RESPONSIBLE FOR WORKER SAFETY AND AHBL ASSUMES NO RESPONSIBILITY. ALL TRENCH SAFETY SYSTEMS SHALL MEET THE REQUIREMENTS OF THE WASHINGTON INDUSTRIAL SAFETY AND HEALTH ACT, CHAPTER 49.17 RCW.

## WETLAND DELINEATION

NO WETLANDS HAVE BEEN DELINEATED ON-SITE OR IMMEDIATELY ADJACENT TO THE PROJECT SITE.

## EARTHWORK QUANTITIES

CUT = 4,700 CU. YDS  
FILL = 1,000 CU. YDS  
NET = 3,800 CU. YDS EXPORT

NOTE:  
THE ABOVE QUANTITIES ARE ESTIMATES ONLY INTENDED FOR THE PERMITTING PROCESS. DO NOT USE FOR BID PURPOSES. THE QUANTITIES DO NOT HAVE STRIPPING, COMPACTION, OR CUT OR FILL ADJUSTMENT FACTORS APPLIED TO THEM, NOR DO THEY ACCOUNT FOR ROADWAY SECTION.

## DEVELOPER

COPPER RIDGE, LLC  
P.O. BOX 73700  
PUYALLUP, WA 98403  
CONTACT: EVAN MANN

## CIVIL ENGINEER

AHBL ENGINEERS, PLANNERS, & SURVEYORS  
2215 NORTH 30TH STREET, SUITE 300  
TACOMA, WA 98403  
PH: (253) 383-2422  
FAX: (253) 383-2572  
CONTACT: MATT WEBER, P.E.

## SURVEYOR

AHBL ENGINEERS, PLANNERS, & SURVEYORS  
2215 NORTH 30TH STREET, SUITE 300  
TACOMA, WA 98403  
PH: (253) 383-2422  
FAX: (253) 383-2572  
CONTACT: DAVE FOLLANSBEE, PLS.

## LEGAL DESCRIPTION

PER CHICAGO TITLE INSURANCE COMPANY ORDER NO. 210046235  
PARCEL 3 OF SHORT SUBDIVISION NO. SS-8036, AS RECORDED NOVEMBER 26, 1991 UNDER AUDITOR'S FILE NO. 9111260271, IN THURSTON COUNTY, WASHINGTON

## VERTICAL DATUM

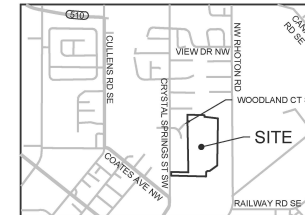
NAVD 1988 VERTICAL DATUM ON ORTHOMETRICALLY CORRECTED GPS OBSERVATIONS USING WSRN AND GEOID 2012A.

## BASIS OF BEARING

NAID 1983/11  
WASHINGTON STATE PLANE SOUTH PROJECTION, BASED ON GPS OBSERVATIONS USING WSRN AND GEOID 2012A. UNITS OF MEASUREMENT ARE US SURVEY FEET.

## SITE DATA

PARCEL NUMBER: 22719210403  
ADDRESS: 714 CRYSTAL SPRINGS ROAD  
SITE AREA: 213,366 SF (4.89 AC.)  
EXISTING ZONING: R-6, RESIDENTIAL



## VICINITY MAP

SCALE: 1" = 1,320' (1/4 MILE)

## LEGEND

EXISTING	DESCRIPTION	PROPOSED
	LIGHT	
	POWER/TELE. POLE	
	GUY WIRE	
	TELEPHONE M-H	
	TELEPHONE RISER	
	CATCH BASIN	
	STORM DRAIN M-H	
	SANITARY SEWER M-H	
	SIGN	
	HYDRANT	
	WATER VALVE	
	WATER METER	
	WIRE FENCE	
	CHAIN LINK FENCE	
	WOOD FENCE	
	CONTOURS	
	STORM DRAIN LINE	
	WATER LINE	
	FIRE SERVICE	
	SANITARY SEWER LINE	
	STANDARD DUTY PAVING	
	NATURAL GAS LINE	
	CONIFER TREE	
	DECIDUOUS TREE	
	CEMENT CONC. PAVEMENT	
	ASPHALT CONC. PAVEMENT	

## SHEET INDEX

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C0.2	EXISTING CONDITIONS
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C2.1	CONCEPT ROAD PLAN & PROFILES
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C3.1	CONCEPT GRADING PLAN
C4.1	CONCEPT STORM PLAN
C5.1	CONCEPT UTILITY PLAN
C6.1	CONCEPT LANDSCAPING, TREE RETENTION & VEGETATION PLAN

## APPLICATION #



TACOMA • SEATTLE • SPOKANE • TRI-CITIES

2215 North 30th Street, Suite 300 Tacoma, WA 98403  
253.383.2422 TEL 253.383.2572 FAX www.ahbl.com WEB

Project Title:

## CRYSTAL SPRINGS PRELIMINARY PLAT

Client:

COPPER RIDGE, LLC

P.O. BOX 73700  
PUYALLUP, WA 98373-0790

EVAN MANN

Project No.

2210633.10

Issue Set & Date:

## PRELIMINARY PLAT

10/07/2021



NOTICE  
I, THE UNDERSIGNED, HAVE REVIEWED THE PRELIMINARY PLAT, AND HEREBY CERTIFY THAT THE SAME IS A TRUE AND CORRECT REPRESENTATION OF THE INFORMATION PROVIDED TO ME BY THE CLIENT, AND THAT I AM A LICENSED SURVEYOR IN THE STATE OF WASHINGTON. I AM NOT PROVIDING ANY GUARANTEE OF THE ACCURACY OF THE INFORMATION PROVIDED TO ME BY THE CLIENT, NOR AM I PROVIDING ANY GUARANTEE OF THE ACCURACY OF THE INFORMATION PROVIDED TO ME BY THE CLIENT.

Revisions:

Sheet Title:

## COVER SHEET

Designed by: MTL Drawn by: TDS Checked by: STK

Sheet No.

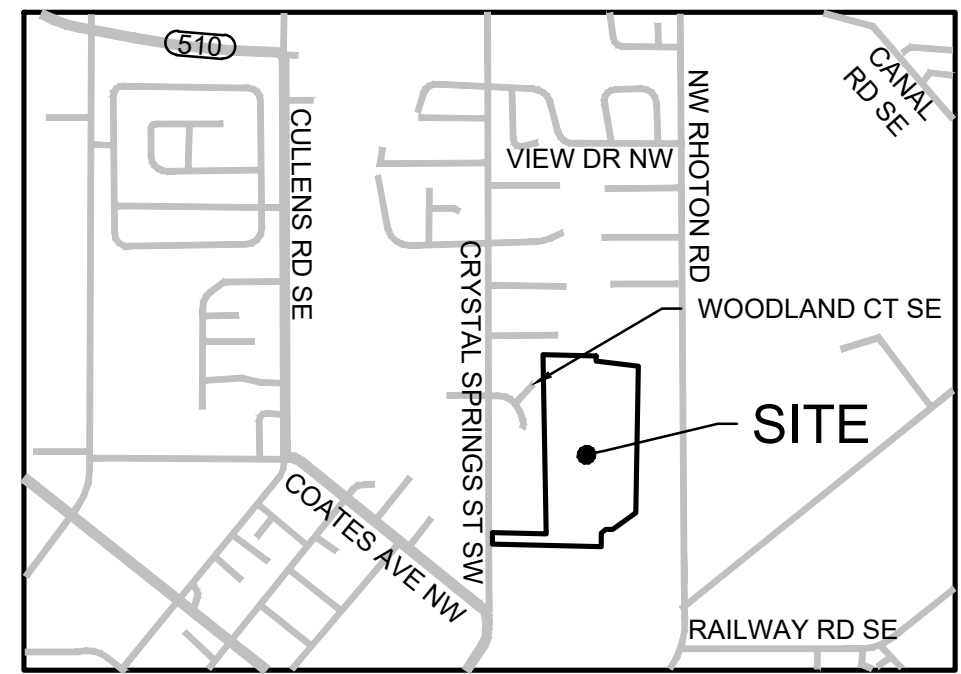
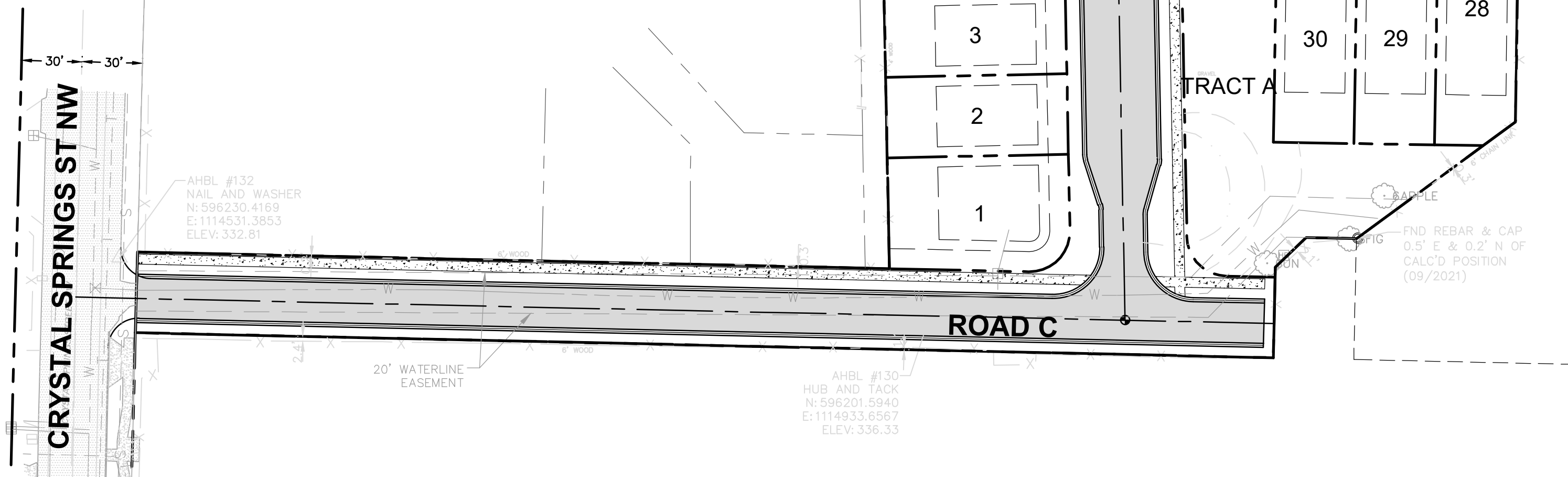
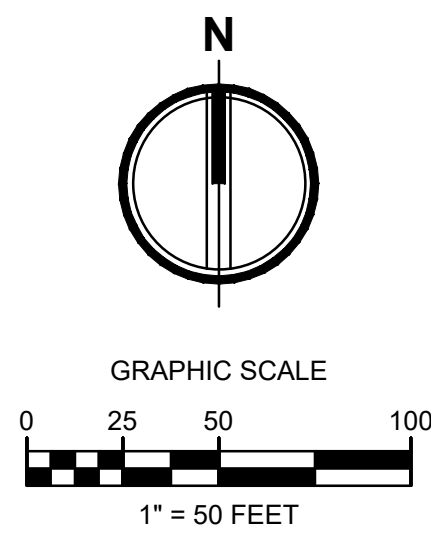
C0.1  
1 of 9 Sheets



Know what's below.  
Call before you dig.

# CRYSTAL SPRINGS PRELIMINARY PLAT

## A PORTION OF THE NE 1/4 OF THE NW 1/4 OF SEC. 19, TWN. 17 N., RGE. 02 E. W.M. CITY OF YELM, THURSTON COUNTY, WASHINGTON.



VICINITY MAP  
SCALE: 1" = 1,320' (1/4 MILE)

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PER CHICAGO TITLE INSURANCE COMPANY ORDER NO.  
210046238

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NOVEMBER 26, 1991 UNDER AUDITOR'S FILE NO. 9111260271.  
IN THURSTON COUNTY, WASHINGTON

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	NATURAL GAS LINE	
	CONIFER TREE	
	DECIDUOUS TREE	
	CEMENT CONC. PAVEMENT	
	ASPHALT CONC. PAVEMENT	

### PROJECT SITE SCALE 1"=50'

### FILL SPECIFICATION

IMPORTED FILL MATERIAL SHALL NOT CONTAIN PETROLEUM PRODUCTS, OR  
SUBSTANCES WHICH ARE HAZARDOUS, DANGEROUS, TOXIC, OR WHICH  
OTHERWISE VIOLATE ANY STATE, FEDERAL, OR LOCAL LAW, ORDINANCE,  
CODE, REGULATION, RULE, ORDER, OR STANDARD.

### UTILITY NOTE

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE  
ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS  
REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT  
LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND  
AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES THAT  
HAPPEN DUE TO THE CONTRACTOR'S FAILURE TO LOCATE EXACTLY AND  
PRESERVE ANY AND ALL UNDERGROUND UTILITIES. AHBL ASSUMES NO  
LIABILITY FOR THE LOCATION OF UNDERGROUND UTILITIES.

### TRENCH NOTE

IF WORKERS ENTER ANY TRENCH OR OTHER EXCAVATION FOUR OR MORE  
FEET IN DEPTH THAT DOES NOT MEET THE OPEN PIT REQUIREMENTS OF  
WSDOT SECTION 2-09.3(2)B, IT SHALL BE SHORED AND CRIBBED. THE  
CONTRACTOR ALONE SHALL BE RESPONSIBLE FOR WORKER SAFETY AND  
AHBL ASSUMES NO RESPONSIBILITY. ALL TRENCH SAFETY SYSTEMS SHALL  
MEET THE REQUIREMENTS OF THE WASHINGTON INDUSTRIAL SAFETY AND  
HEALTH ACT, CHAPTER 49.17 RCW.

### WETLAND DELINEATION

NO WETLANDS HAVE BEEN DELINEATED ON-SITE OR IMMEDIATELY ADJACENT  
TO THE PROJECT SITE.

### EARTHWORK QUANTITIES

CUT = 4,700 CU. YDS  
FILL = 1,000 CU. YDS  
NET = 3,800 CU. YDS EXPORT

NOTE:  
THE ABOVE QUANTITIES ARE ESTIMATES ONLY INTENDED FOR  
THE PERMITTING PROCESS. DO NOT USE FOR BID PURPOSES.  
THE QUANTITIES DO NOT HAVE STRIPPING, COMPACTION, OR  
CUT OR FILL ADJUSTMENT FACTORS APPLIED TO THEM, NOR  
DO THEY ACCOUNT FOR ROADWAY SECTION.

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10/07/2021



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ALTERATION OF THIS DOCUMENT SHALL INVALIDATE THE  
PROFESSIONAL SEAL AND SIGNATURE. PRODUCTION OF  
THIS DOCUMENT DOES NOT DEROGATE FROM RESERVED  
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ADDITION TO THAT PROJECT OR FOR ANY OTHER PROJECT.

Revisions:

Revisions:

Revisions:

Revisions:

Revisions:

Sheet Title:

## COVER SHEET

Designed by: MTL Drawn by: TDS Checked by: STK

Sheet No.

# C0.1

1 of 9 Sheets





**City of Yelm**  
EST. 1924  
**WASHINGTON**

SEPA #: 2021.0054

## **DETERMINATION OF NON-SIGNIFICANCE**

Proponent: AHBL, Inc

Description of Proposal: Crystal Springs Plat

Location of the Proposal: 714 Crystal Springs St NW

Section/Township/Range: Section 19 Township 17 Range 2E Quarter NE NW

Threshold Determination: The City of Yelm as lead agency for this action has determined that this proposal does not have a probable significant adverse impact on the environment. Therefore, an environmental impact statement (EIS) will not be required under RCW 43.21C.030(2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

Mitigating Measures: None

Lead agency: City of Yelm

Responsible Official: Landon Hawes, Planning & Building Manager

Date of Issue: November 11, 2021

Comment Deadline: November 26, 2021

Appeal Deadline: There is no local administrative appeal of a DNS

---

Landon Hawes, Planning & Building Manager

This Determination of Non-Significance (DNS) is issued pursuant to Washington Administrative Code 197-11-340 (2). Comments must be submitted to Casey Mauck, [caseym@yelmwa.gov](mailto:caseym@yelmwa.gov), at City of Yelm, 106 2<sup>nd</sup> St SE, Yelm, WA 98597, by November 26, 2021 at 5:00 P.M. The City of Yelm will not act on this proposal prior November 26, 2021 at 5:00 P.M.

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DO NOT PUBLISH BELOW THIS LINE

Published: Nisqually Valley News, Thursday, November 18, 2021  
Posted in public areas: Thursday, November 11, 2021  
Copies to: All agencies/citizens on SEPA mailing list  
Dept. of Ecology w/checklist



# City of Yelm

Fee	_____
Date Received	_____
By	_____
File No.	_____

## *Community Development* *Department* **ENVIRONMENTAL** **CHECKLIST**

### *Instructions:*

The State Environmental Policy Act (SEPA) requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. The purpose of this checklist is to provide information to help identify impacts from your proposal, to reduce or avoid impacts from the proposal if it can be done, and to help the City decide whether an EIS is required. An environmental impact statement (EIS) must be prepared for any proposal with probable significant adverse impacts on environmental quality.

This environmental checklist asks you to describe some basic information about your proposal. The City will use this checklist to determine whether the environmental impacts of your proposal are significant and require preparation of an EIS. You must answer each question accurately, carefully and to the best of your knowledge. Answer the questions briefly, but give the best description you can. In most cases, you should be able to answer the questions from your own observations or project plans without the need for experts. If you do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply". Complete answers to the questions now may avoid delays later. If the space provided is too small, feel free to attach additional sheets.

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the city staff can assist you.

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. You may be asked to explain your answers or provide additional information for determining if there may be significant adverse impacts.

### **Nonproject Proposals Only:**

Complete both the checklist (even though many questions may be answered "does not apply") and the **Supplemental Sheet for Nonproject Actions** (part D). For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer," and "affected geographic area," respectively.



**CITY OF YELM**

(Update to SEPA Checklist dated 4/28/2006)

**ENVIRONMENTAL CHECKLIST****CITY USE ONLY**FEE: \$150.00

DATE REC'D \_\_\_\_\_

BY: \_\_\_\_\_

FILE NO. \_\_\_\_\_

**A. BACKGROUND**

1. Name of proposed project, if any:

**Crystal Springs Preliminary Plat**

2. Name of applicant:

**Sheri Greene, AHBL**

3. Address, phone number and email address of applicant and of any other contact person:

**Sheri Greene, AHBL**

**2215 N. 30th Street #300**

**Tacoma, WA 98403**

**253-383-2422 sgreene@ahbl.com**

**Evan Mann, Copper Ridge, LLC.**

**PO Box 73790**

**Puyallup, WA 98373**

**253-820-7835 evan@soundbuilthomes.com**

4. Date checklist prepared:

**September 3, 2021**

5. Agency requesting checklist:

**City of Yelm**

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

**Construction will commence upon issuance of site development permit. It is anticipated the site development permit will be issued in Winter 2021/2022.**

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

**No.**

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

**SEPA Checklist, Mazama Pocket Gopher Reconnaissance, Geotechnical Report, Traffic Study**

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.

**No, not to our knowledge**

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

**SEPA Determination, Preliminary Plat Approval, Site Development Permits, Building Permits, and NPDES 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.

**Project proposes construction of 30-lot residential subdivision and associated roadways. Services will include city water and sewer, and private drainage routed to onsite infiltration facilities.**

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. You need not duplicate maps or detailed plans submitted with any permit applications related to this checklist.

**The site is located at 714 Crystal Springs in the City of Yelm, Thurston County, parcel number 22719210403.**

**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)?

**Slopes are generally between 0% and 5%.**

- 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 prime farmland.

**According to the NRCS Soil Survey, site soils consist primarily of Spanaway gravelly sandy loam.**

- d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

**Not to our knowledge.**

- e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

**The project is in preliminary design and provide for 4,000 cy of cut and 3,000 cy of fill, for a net export of 1,000 cy. Any imported material will be similar to existing and from a clean site. Any exported material will be hauled to an approved location. It is expected that earthwork will balance in the final design.**

- f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

**Minimal erosion could occur during project construction. All applicable BMPs will be followed to prevent or minimize such impacts.**

- g. About what percent of the site will be covered with impervious surfaces after project construction such as asphalt or buildings?  
**Less than 25% of the site will be covered by impervious surfaces from the construction of the roadways and sidewalks. Additional impervious for roofs and driveways at the time of home construction.**
- h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:  
**Proposed measures include the use of BMPs to minimize the risk of erosion during construction. A drainage plan will incorporate designs that convey and infiltrate stormwater away from the disturbed areas as much as possible.**

## 2. **Air**

- a. What types of emissions to the air would result from the proposal (i.e., dust, automobile exhaust, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known. **Construction will result in a temporary increase in air pollution, including emissions from equipment and dust from construction activities. Dust controls will include watering soils to prevent blowing of dust. Construction vehicles will be turned off when not in use to help control emissions. Construction activities and equipment will follow the appropriate regulations for controlling emissions to the air. Post-construction emissions would include emissions from vehicle trips associated with the development.**
- b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.  
**There are no known off-site sources of emissions or odors observed that might effect this proposal.**
- c. Proposed measures to reduce or control emissions or other impacts to air, if any:  
**Potential BMPs include using water sprays or other non-toxic dust control methods on unpaved roadways, preventing the tracking out of mud onto public streets, covering soil piles when practical, and minimizing work during periods of high winds. Additionally, to minimize air quality and odor issues caused by tailpipe emissions, BMPs will be used. Such BMPs include maintaining engines of construction equipment while also minimizing the idling of construction equipment.**

Subject to ORCAA regulations

## 3. **Water**

- a. Surface Water
  - 1) Is there any surface water body or wetland on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds)? If yes, describe type and provide names. State what stream or river it flows into?  
**No.**
  - 2) Will the project require any work over, in, or adjacent to (within 300 feet) the described waters? If yes, please describe and attach available plans.  
**Not applicable.**
  - 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.  
**There will be no fill or dredge material as a result of construction activities associated with this proposal.**
  - 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.  
**The project will not require surface water withdrawals or diversions.**

Yelm Creek is roughly 315 feet west of western property line

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

**The project site does not lie within a 100-year floodplain.**

According to 2012 FIRM, west edge of panhandle is in 100-year floodplain. BFE is 332. Subject to Yelm Critical Areas Code 18.21.080

- 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.

**No.**

b. Groundwater:

- 1) Will groundwater be withdrawn, or will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known. Subject to 2019 SWMMWW

**Water will not be withdrawn.**

**All stormwater runoff will be infiltrated onsite. Treatment will be provided where applicable.**

- 2) Describe the underlying aquifer with regard to quality and quantity, sensitivity, protection, recharge areas, etc.

**The site is within an extremely sensitive aquifer area so all stormwater runoff from impervious surfaces will be treated prior to infiltrating onsite.**

- 3) Describe waste material that will be discharged into or onto the ground from septic tanks or other sources, if any (such as domestic sewage; industrial byproducts; agricultural chemicals).

**No waste material will be discharged to the ground. The homes will be served by the City of Yelm STEP collection system and holding tanks will be maintained by the city.**

c. Water Runoff (including storm water):

- 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. Subject to 2019 SWMMWW

**All stormwater from the roadways and driveways will be collected and conveyed to a proprietary treatment device prior to infiltration. The homes will have individual dry wells to infiltrate on lot roof runoff.**

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

**No waste materials will enter ground or surface waters as a result of this proposal.**

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

**The project will provide source control of pollutants by providing treatment of stormwater using a proprietary treatment device meeting ecology approval. All landscape areas will be stabilized. The HOA will operate under a maintenance agreement for Best Management Practices to reduce pollutants entering the storm system.**

4. **Plants**

- a. Check or circle types of vegetation found on the site:

  X   deciduous tree: alder, maple, oak, aspen, other  
  X   evergreen tree: fir, cedar, pine, other  
  X   shrubs  
  X   grasses  
      pasture  
      crops or grains  
      wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other  
      water plants: water lily, eelgrass, milfoil, other  
      other types of vegetation

- b. What kind and amount of vegetation will be removed or altered?  
**Most of the existing vegetation within the project area will be removed.**

1-1 replacement for  
trees with diameter  
exceeding 8" required

- c. List threatened or endangered species known to be on or near the site.  
**None to our knowledge.**

- d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:  
**Landscape design and buffer will be in accordance with the City of Yelm Municipal Code.  
Plans will be submitted to the city for approval.**

5. **Animals**

- a. Circle any birds and animals that have been observed on or near the site or are known to be on or near the site:

birds: hawk, heron, ducks, eagle, songbirds

other: \_\_\_\_\_

mammals: deer, bear, elk, beaver, other: rabbits, mice

fish: bass, salmon, trout, shellfish, other: \_\_\_\_\_

- b. List any priority, threatened or endangered species known to be on or near the site.  
**None to our knowledge. The area is known to be habitat for the Mazama Pocket Gopher. A Pocket Gopher reconnaissance was performed on June 16, 2021 by EnviroVector. No evidence of Pocket Gophers was mapped within six hundred (600) feet of the subject property or found during the June 16, 2021 site visit..**

- c. Is the site part of a migration route? If so, explain.  
**The site is within the Pacific Flyway for Migratory Birds.**

- d. Proposed measures to preserve or enhance wildlife, if any:  
**No impacts are anticipated to wildlife, therefore no special measures are proposed.**

6. **Energy and Natural Resources**

- a. What kinds of energy (electric, natural gas, gasoline, heating oil, wood, solar etc.) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, transportation, etc.  
**The completed project will utilize electricity to provide for heating, cooling and lighting needs.**

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

**No, this proposal will not have an impact on adjacent property's ability to utilize solar energy.**

- 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:

**The project will meet the 2015 Washington State Energy Code (WSEC). Other conservation features, such as LED lighting and low-flow plumbing fixtures, will be determined upon development.**

Subject to 2018 IRC

## 7. Environmental Health

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spills, of hazardous waste, that could occur as a result of this proposal? If so, describe. **There is the potential for construction equipment and personal vehicles to leak fuel, oil or other fluids necessary to operate the equipment/vehicles. This risk is typical of construction activities and vehicle trips associated with the development, and is minimal. The site will provide water quality treatment prior to infiltrating stormwater, further minimizing the risk of impacts.**
- 1) Describe special emergency services that might be required. **No special emergency services will be required other than those normally provided such as police and fire protection.**
- 2) Proposed measures to reduce or control environmental health hazards, if any: **None are anticipated to be required. Specialized erosion and sediment control measures will be implemented if contaminated soils are detected during the construction process. Standard dust control measures will be implemented to mitigate dust emissions resulting from construction activities. Pursuant to State Law, 811 will be contacted prior to any digging activities to prevent damage to on-site utilities.**
- b. Noise
- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment operation, other)? **There are no off-site sources of noise that will impact this proposal. The primary source of noise in the area is generated from vehicular traffic along Crystal Springs Road and neighboring residential developments.**
- 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)? Indicate what hours noise would come from the site. **Temporary, short-term noise impacts typical of construction projects will occur with operation of equipment during construction. Construction activities will be restricted to the hours permitted under the Yelm Municipal Code. Long term noise will be minimal, and will be typical of residential developments.**
- 3) Proposed measures to reduce or control noise impacts, if any: **To mitigate general noise impacts during the construction phase, measures such as locating stationary equipment away from receiving properties, limiting construction hours to the appropriate Yelm ordinance, turn off idling construction equipment, and train construction crews to avoid unnecessarily loud actions near residential areas will be employed.**

Construction BMPs will be followed

## 8. Land and Shoreline Use

- a. What is the current use of the site and adjacent properties? **The site is currently single family residential.**
- b. Has the site been used for mineral excavation, agriculture or forestry? If so, describe. **Not to our knowledge.**

North and west properties are developed residentially, east property is Yelm Public Works, and Southern property is a Yelm Community Schools facility

- c. Describe any structures on the site.  
**There is a single family residence and several outbuildings..**
  - d. Will any structures be demolished? If so, what? **All structures will be demolished.** *City of Yelm demolition permit and ORCAA asbestos survey*
  - e. What is the current comprehensive plan designation of the site?  
**R-6**
  - f. What is the current zoning classification of the site?  
**R-6 Moderate Density Residential District**
  - g. If applicable, what is the current shoreline master program designation of the site?  
**Does not apply.**
  - h. Has any part of the site been classified as a "natural resource", "critical" or "environmentally sensitive" area? If so, specify.  
**The site lies within an extremely sensitive aquifer recharge area.**
  - i. Approximately how many people would reside or work in the completed project?  
**Based on 2.5 persons per household, approximately 75 people will reside in the completed project.**
  - j. Approximately how many people would the completed project displace?  
**There would be no displacements. The existing residents are relocating.**
  - k. Proposed measures to avoid or reduce displacement impacts, if any:  
**Does not apply.**
  - l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:  
**The proposed project is permitted outright in the R6 zone. The project requires approval through the Preliminary Plat process to ensure it is compatible with existing and proposed land uses.**
9. **Housing**
- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.  
**Project proposes 30 units and will likely be middle income.**
  - b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.  
**The existing residence and outbuildings will be demolished.**

- c. Proposed measures to reduce or control housing impacts, if any:  
**No special measures are 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 height of the structures will not exceed the maximum height allowed in the R6 zone. The exterior building materials will likely be wood.**
- b. What views in the immediate vicinity would be altered or obstructed?  
**The site will transition from a single family residence with outbuildings to an attractive residential neighborhood.**
- c. Proposed measures to reduce or control aesthetic impacts, if any:  
**Perimeter landscaping and/or sight obscuring fencing will screen the development.**  
**Subject to 18.55 YMC**

11. **Light and Glare**

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur?  
**Exterior lighting from the houses and street lights will occur after dark, typical of a residential neighborhood.**
- b. Could light or glare from the finished project be a safety hazard or interfere with views?  
**No. Lighting will be directed downward so as not to interfere with views or provide glare.**
- 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 impact the proposal.**
- d. Proposed measures to reduce or control light and glare impacts, if any:  
**Lighting fixtures will be shielded and lighting cast downward to reduce light and glare impacts. All lighting fixtures will meet City requirements for light spill.**

12. **Recreation**

- a. What designated and informal recreational opportunities are in the immediate vicinity? **Brookdale Golf Course is just north of the project site. Ball fields, football field and track are available for public use during non-school hours at Mill Pond Elementary, which abuts the southern boundary of the project. Not accurate - nearest opportunity is Yelm Middle School**
- b. Would the proposed project displace any existing recreational uses? If so, describe.  
  
**No.**
- c. Proposed measures to reduce or control impacts or provide recreation opportunities:  
**5% of the site will be open space with active recreation amenities.**



13. **Historic and Cultural Preservation**

- a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

**There are no known buildings, structures, or sites within the immediate vicinity of the project site that are listed on national, state, or local preservation registers.**

- b. Generally describe any landmarks or evidence of historic, archeological, scientific, or cultural importance known to be on or next to the site.

**None to our knowledge.**

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

**If cultural or archeological objects are found during site preparation work, the Washington State Department of Archaeology and Historic Preservation will be notified, and appropriate measures will be taken.**

14. **Transportation**

- a. Identify sidewalks, trails, public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

**The site will be served by panhandle access road off of Crystal Springs Road and access off of Woodland Court S.E.**

- b. Is site currently served by public transit? By what means? If not, what plans exist for transit service?

**Intercity transit regional system map indicated the nearest transit route in the area is served by Route 94. The nearest stop is located at the intersection of Edwards Street NW and W Yelm Avenue, approximately 0.56 miles southwest.**

- c. How many parking spaces would the completed project have? How many would the project eliminate?

**Each residence will have a garage and driveway parking.**

- d. Will the proposal require any new sidewalks, trails, roads or streets, or improvements to existing sidewalks, trails, roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

**The project will require new roads and road improvements.**

**Streets will be dedicated to the City, and have sidewalks/curb/gutter/street trees**

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

**No.**

- f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

**Vehicular trips and peak volumes are noted in the Traffic Impact Analysis Report prepared by Heath and Associates, dated October 2021. Project trip generation is 22 AM Peak-hour trips and 30 PM Peak-hour trips.**

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

**Traffic impact fees will be paid to mitigate transportation impacts.**

15. **Public Services**

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

**Yes, typical public services including fire, police protection, health care, schools, and utility services will be required for this project.**

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

**An increased tax base will help mitigate impacts.** Fire impact fee and school impact fee required for each dwelling unit

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.

Electricity - Puget Sound Energy  
Water - City of Yelm  
Sanitary Sewer - City of Yelm S.T.E.P.  
Refuse Service - Rural Refuse  
Telephone - Centurylink  
Cable/Internet - Comcast

C. **SIGNATURE**

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

Signature:   
Date Submitted: September 27, 2021





Geotechnical Engineering  
Construction Observation/Testing  
Environmental Services

**GEOTECHNICAL ENGINEERING STUDY  
CRYSTAL SPRINGS  
714 CRYSTAL SPRINGS STREET NORTHWEST  
YELM, WASHINGTON**

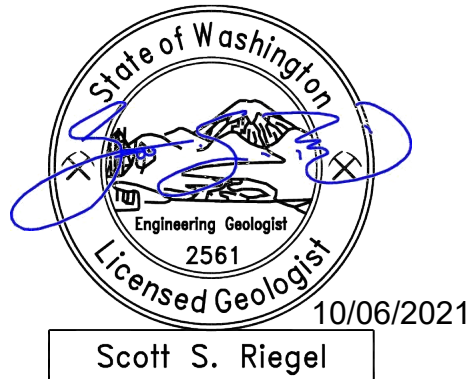
**ES-8113**

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**PREPARED FOR**  
**COPPER RIDGE, LLC**

**October 6, 2021**



---

**Scott S. Riegel, L.G., L.E.G.**  
**Senior Project Manager**

A handwritten signature in blue ink, appearing to read "K. Campbell", is shown above a horizontal line.

---

**Kyle R. Campbell, P.E.**  
**Principal Engineer**

**GEOTECHNICAL ENGINEERING STUDY**  
**CRYSTAL SPRINGS**  
**714 CRYSTAL SPRINGS STREET NORTHWEST**  
**YELM, WASHINGTON**

**ES-8113**

**Earth Solutions NW, LLC**  
**15365 Northeast 90<sup>th</sup> Street, Suite 100**  
**Redmond, Washington 98052**  
**Phone: 425-449-4704 | Fax: 425-449-4711**  
**[www.earthsolutionsnw.com](http://www.earthsolutionsnw.com)**

# Important Information about This Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

**The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.**

## Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

## Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer

will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

*Do not rely on this report if your geotechnical engineer prepared it:*

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.*

## Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

## You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

### Most of the “Findings” Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site’s subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual site-wide subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

### This Report’s Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are not final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

### This Report Could Be Misinterpreted

Other design professionals’ misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals’ plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

### Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note*

*conspicuously that you’ve included the material for information purposes only.* To avoid misunderstanding, you may also want to note that “informational purposes” means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

### Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled “limitations,” many of these provisions indicate where geotechnical engineers’ responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

### Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a “phase-one” or “phase-two” environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

### Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer’s services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, *proper implementation of the geotechnical engineer’s recommendations will not of itself be sufficient to prevent moisture infiltration.* Confront the risk of moisture infiltration by including building-envelope or mold specialists on the design team. *Geotechnical engineers are not building-envelope or mold specialists.*



**GEOPROFESSIONAL  
BUSINESS  
ASSOCIATION**

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October 6, 2021  
ES-8113

Copper Ridge, LLC  
P.O. Box 73790  
Puyallup, Washington 98373

Attention: Mr. Evan Mann

## Earth Solutions NW LLC

Geotechnical Engineering, Construction  
Observation/Testing and Environmental Services

Dear Mr. Mann:

Earth Solutions NW, LLC (ESNW) is pleased to present this report supporting the planned residential development for Yelm, Washington. In our opinion, the proposed residential development is feasible from a geotechnical standpoint. Based on the conditions observed during our fieldwork, the subject site is underlain primarily by recessional outwash deposits that are suitable for infiltration. The proposed structures can be supported on conventional spread and continuous foundations bearing on competent native soil, recompacted native soil, or new structural fill placed directly on competent native soil. In general, competent native soil suitable for support of foundations will likely be encountered at depths of about two to four feet below the existing ground surface (bgs). Where loose or unsuitable soil conditions are exposed at foundation subgrade elevations, compaction of soils to the specifications of structural fill, or overexcavation and replacement with suitable structural fill, will likely be necessary.

This report provides recommendations for foundation subgrade preparation, foundation and retaining wall design parameters, drainage, infiltration recommendations, the suitability of the on-site soils for use as structural fill, and other geotechnical recommendations.

The opportunity to be of service to you is appreciated. If you have any questions regarding the content of this geotechnical engineering study, please call.

Sincerely,

**EARTH SOLUTIONS NW, LLC**

Scott S. Riegel, L.G., L.E.G.  
Senior Project Manager

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### **APPENDICES**

<b>Appendix A</b>	<b>Subsurface Exploration Test Pit Logs</b>
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**GEOTECHNICAL ENGINEERING STUDY  
CRYSTAL SPRINGS  
714 CRYSTAL SPRINGS STREET NORTHWEST  
YELM, WASHINGTON**

**ES-8113**

**INTRODUCTION**

**General**

This report was prepared for the proposed residential development to be constructed at 714 Crystal Springs Street Northwest in Yelm, Washington. The purpose of this study was to provide geotechnical recommendations for the proposed development. Our scope of services for completing this geotechnical engineering study included the following:

- Observing, logging, and sampling test pits for purposes of characterizing site soil and groundwater conditions;
- Laboratory testing of soil samples collected at the test pit locations;
- Engineering analyses and recommendations for the proposed development, and;
- Preparation of this report.

The following documents and resources were reviewed as part of our report preparation:

- Geologic Map of the Centralia Quadrangle, Washington, 1987;
- Conceptual Site Plan, undated;
- Web Soil Survey (WSS) online resource, maintained by the Natural Resources Conservation Service under the United States Department of Agriculture, and;
- Yelm Municipal Code Title 18.21: Critical Areas and Resource Lands.

**Project Description**

Based on review of the referenced plans, the subject site will be redeveloped with up to 30 single-family residences and associated improvements. Grading plans were not available at the time this report was prepared; however, given the low topographic relief on this site, we anticipate grading may include cuts and fills of up to about five feet with deeper excavations required to install underground utilities.

At the time this report was prepared, specific building load values were not available; however, we anticipate the proposed residential structures will consist of relatively lightly loaded wood framing supported on conventional foundations. Based on our experience with similar developments, we estimate wall loads on the order of 1 to 2 kips per linear foot and slab-on-grade loading of 150 pounds per square foot (psf). The feasibility of infiltrating runoff into native soils is being investigated as part of the project plans.

If the above design assumptions are incorrect or change, ESNW should be contacted to review the recommendations in this report. ESNW should review the final design to verify the geotechnical recommendations provided in this report have been incorporated into the plans.

## **SITE CONDITIONS**

### **Surface**

The subject site is located east of Crystal Springs Street Northwest in Yelm, Washington, as illustrated on the Vicinity Map (Plate 1). The site consists of a single tax parcel (Thurston County Parcel Number 22719210403) currently developed with a single-family residence, barn, detached garage, and associated improvements. The majority of the subject site is lightly to moderately vegetated with tall grass, and sparse trees and general landscaping around existing buildings. Topography is relatively level, with less than about five feet of total elevation change across the site.

### **Subsurface**

A representative of ESNW observed, logged, and sampled six test pits, excavated at accessible locations within the proposed development area, on August 31, 2021, using a trackhoe and operator provided by the client. The approximate locations of the test pits are depicted on Plate 2 (Test Pit Location Plan). Please refer to the test pit logs provided in Appendix A for a more detailed description of subsurface conditions. Representative soil samples collected at the test pit locations were analyzed in general accordance with Unified Soil Classification System (USCS) and United States Department of Agriculture (USDA) methods and procedures.

### **Topsoil and Fill**

Topsoil was observed extending to depths of approximately 6 to 12 inches below existing grades. The topsoil thickness is variable and vegetation roots often extend below the topsoil zone into the underlying weathered native soil. The topsoil was characterized by dark brown color and fine organic material. Topsoil is not suitable for use as structural fill nor should it be mixed with material to be used as structural fill. Topsoil or otherwise unsuitable material can be used in landscape areas if desired.

Fill was not encountered within the test pits; however, fill is likely present near the existing structures to some degree. If fill is encountered during construction, ESNW should be consulted to verify the suitability for support of the proposed structures and/or reuse as structural fill.

## **Native Soil**

Underlying the topsoil, native soils consisted primarily of medium dense to dense poorly and well-graded gravel with variable sand (USCS: GP and GW respectively). The native soils were generally encountered in a damp to moist condition and extended to the maximum exploration depth of 13 feet below ground surface (bgs). We encountered scattered large cobbles and small boulders at the test pit locations.

## **Geologic Setting**

The referenced geologic map resource identifies recessional outwash, specifically Vashon drift gravel (Qdvg), across the site and surrounding areas. The referenced WSS resource identifies Spanaway gravelly sandy loam (Map Unit Symbols: 110 and 111) across the site and surrounding areas. Spanaway gravelly loam was formed in outwash plains. Based on our field observations, native soils on site are generally consistent with the geologic setting outlined in this section.

## **Groundwater**

Groundwater was not encountered, at the time of our exploration (August 31, 2021). Groundwater seepage rates and elevations fluctuate depending on many factors, including precipitation duration and intensity, the time of year, and soil conditions. In general, groundwater flow rates are higher during the wetter, winter, spring, and early summer months.

## **Geologically Hazardous Areas**

As part of this report, the subject property was evaluated for the presence of geologically hazardous areas in general accordance with the applicable Yelm municipal code. Based on our investigation, the site does not lie within or is immediately adjacent to geologically hazardous areas.

## **DISCUSSION AND RECOMMENDATIONS**

### **General**

In our opinion, the proposed residential structures can be supported on conventional spread and continuous foundations bearing on undisturbed competent native soil, recompacted native soil or new structural fill placed directly on competent native soil. Competent soils suitable for support of foundations are anticipated to be exposed at depths of about two to four feet below existing grades across the majority of the site. Slab-on-grade floors should be supported on competent native soil, re-compacted native soil, or new structural fill. Organic material exposed at subgrade elevations must be removed below design elevation and grades restored with structural fill. Where loose, organic or other unsuitable materials are encountered at or below the footing subgrade elevation, the material should be removed and replaced with structural fill, as necessary.

This study has been prepared for the exclusive use of Copper Ridge, LLC and their representatives. No warranty, expressed or implied, is made. This study has been prepared in a manner consistent with the level of care and skill ordinarily exercised by other members of the profession currently practicing under similar conditions in this area.

### **Site Preparation and Earthwork**

Site preparation activities will consist of installing temporary erosion control measures and performing clearing and site stripping. Grading activities will likely consist of cuts and fills on the order five feet with the deeper cuts associated with stormwater facilities and utility excavations.

### **Temporary Erosion Control**

Temporary construction entrances and drive lanes, consisting of at least six inches of quarry spalls, should be considered in order to minimize off-site soil tracking and to provide a temporary road surface. Temporary slopes and stockpiles should be covered when not in use. Silt fencing should be installed along the margins of the property. Temporary infiltration swales and galleries can be considered for control of stormwater. Erosion control measures should conform to the applicable Washington State Department of Ecology and City of Yelm/Thurston County standards.

### **In-Situ Soils**

The majority of the soils encountered during our subsurface exploration have a low to moderate sensitivity to moisture and were generally in a damp to moist condition at the time of the exploration on August 2021. Soils encountered during site excavations that are excessively over the optimum moisture content will require aeration or treatment prior to placement and compaction. Conversely, soils that are substantially below the optimum moisture content will require moisture conditioning through the addition of water prior to use as structural fill. An ESNW representative should determine the suitability of in-situ soils for use as structural fill at the time of construction.

### **Wet Season Grading**

If grading takes place during the wet season surface water could collect and degrade site soils if not properly controlled. The contractor should establish temporary drainage control measures, such as swales and ponds, prior to extended wet weather. ESNW should be consulted during construction to provide temporary drainage control recommendations.

### **Structural Fill**

Structural fill is defined as compacted soil placed in foundation, slab-on-grade, and roadway areas. Fills placed to construct permanent slopes and throughout retaining wall and utility trench backfill areas are considered structural fill as well. Soils placed in structural areas should be placed in loose lifts of 12 inches or less and compacted to a relative compaction of 95 percent, based on the laboratory maximum dry density as determined by the Modified Proctor Method (ASTM D1557). More stringent compaction specifications may be required for utility trench backfill zones depending on the responsible utility district or jurisdiction.

## **Excavations and Slopes**

The Federal Occupation Safety and Health Administration (OSHA) and the Washington Industrial Safety and Health Act (WISHA) provide soil classification in terms of temporary slope inclinations. Soils that exhibit a high compressive strength are allowed steeper temporary slope inclinations than are soils that exhibit lower strength characteristics.

Based on the soil conditions encountered at the test pit locations, site soils are classified as Type C by OSHA. New fill should also be considered Type C soil. Temporary slopes over four feet in height in Type C soils must be sloped no steeper than (1.5H:1V). Steeper temporary slopes may be feasible and should be evaluated by ESNW during construction. Where encountered, the presence of groundwater seepage may cause caving of temporary slopes. ESNW should observe site excavations to confirm soil types and allowable slope inclinations. If the recommended temporary slope inclinations cannot be achieved, temporary shoring may be necessary to support excavations, particularly utility trench excavations.

Permanent slopes should be planted with vegetation to enhance stability and to minimize erosion and should maintain a gradient of 2H:1V or flatter. An ESNW representative should observe temporary and permanent slopes to confirm the slope inclinations are suitable for the exposed soil conditions. Supplementary recommendations with respect to excavations and slopes may be provided as conditions warrant.

## **Foundations**

The proposed residential structures can be supported on conventional spread and continuous footings bearing on undisturbed competent native soil, recompacted native soil, or new structural fill placed directly on competent native soil. Based on the soil conditions encountered at the test sites, competent soils suitable for support of foundations are anticipated to be exposed at depths of about two to four feet below existing grades across the majority of the site. Where loose or unsuitable soil conditions are observed at foundation subgrade elevations, compaction of the soils to the specifications of structural fill, or overexcavation and replacement with granular structural fill will be necessary. Organic material exposed at foundation subgrade elevations must be removed and grades restored with structural fill.

Provided the structures will be supported as described above, the following parameters can be used for design of the new foundations:

- Allowable soil bearing capacity 2,500 psf
- Passive earth pressure 300 pcf (equivalent fluid)
- Coefficient of friction 0.40

A one-third increase in the allowable soil bearing capacity can be assumed for short-term wind and seismic loading conditions.

With structural loading as expected, total settlement in the range of 1.0 inch is anticipated, with differential settlement of about 0.5 inch. The majority of the settlements should occur during construction, as dead loads are applied.

### **Seismic Design Considerations**

The 2018 International Building Code (2018 IBC) recognizes the most recent edition of the Minimum Design Loads for Buildings and Other Structures manual (ASCE 7-16) for seismic design, specifically with respect to earthquake loads. Based on the soil conditions encountered at the test pit locations, the parameters and values provided below are recommended for seismic design per the 2018 IBC.

Parameter	Value
Site Class	D*
Mapped short period spectral response acceleration, $S_s$ (g)	1.291
Mapped 1-second period spectral response acceleration, $S_1$ (g)	0.466
Short period site coefficient, $F_a$	1
Long period site coefficient, $F_v$	1.88 <sup>†</sup>
Adjusted short period spectral response acceleration, $S_{MS}$ (g)	1.291
Adjusted 1-second period spectral response acceleration, $S_{M1}$ (g)	0.876 <sup>†</sup>
Design short period spectral response acceleration, $S_{DS}$ (g)	0.861
Design 1-second period spectral response acceleration, $S_{D1}$ (g)	0.584 <sup>†</sup>

\* Assumes medium dense native soil conditions, encountered to a maximum depth of 13 feet bgs during the August 2021 field exploration, remain medium dense or better to at least 100 feet bgs.

† Values assume  $F_v$  may be determined using linear interpolation per Table 11.4-2 in ASCE 7-16.

As indicated in the table footnote, several of the seismic design values provided above are dependent on the assumption that site-specific ground motion analysis (per Section 11.4.8 of ASCE 7-16) will not be required for the subject project. ESNW recommends the validity of this assumption be confirmed at the earliest available opportunity during the planning and early design stages of the project. Further discussion between the project structural engineer, the project owner, and ESNW may be prudent to determine the possible impacts to the structural design due to increased earthquake load requirements under the 2018 IBC. ESNW can provide additional consulting services to aid with design efforts, including supplementary geotechnical and geophysical investigation, upon request.

Liquefaction is a phenomenon where saturated or loose soil suddenly loses internal strength and behaves as a fluid. This behavior is in response to increased pore water pressures resulting from an earthquake or another intense ground shaking. In our opinion, site susceptibility to liquefaction may be considered low. The depth of the local groundwater table and the gradation and relatively dense characteristics of the native soil were the primary bases for this opinion.

### **Slab-on-Grade Floors**

Slab-on-grade floors for the proposed residential structures should be supported on a firm and unyielding subgrade. Unstable or yielding areas of the subgrade should be recompacted, or overexcavated and replaced with suitable structural fill, prior to construction of the slab.

A capillary break consisting of a minimum of four inches of free-draining crushed rock or gravel should be placed below the slab. The free-draining material should have a fines content of 5 percent or less (percent passing the Number 200 sieve, based on the minus three-quarter-inch fraction). In areas where slab moisture is undesirable, installation of a vapor barrier below the slab should be considered. If a vapor barrier is to be utilized, it should be a material specifically designed for use as a vapor barrier and should be installed in accordance with the specifications of the manufacturer.

### **Retaining Walls**

Retaining walls must be designed to resist earth pressures and applicable surcharge loads. The following parameters can be used for retaining wall design:

- Active earth pressure (unrestrained condition) 35 pcf
- At-rest earth pressure (restrained condition) 55 pcf
- Traffic surcharge (passenger vehicles) 70 psf (rectangular distribution)
- Passive earth pressure 300 pcf
- Coefficient of friction 0.40
- Seismic surcharge  $8H^*$

\* Where  $H$  equals the retained height.

Additional surcharge loading from adjacent foundations, sloped backfill, retaining walls, or other loads should be included in the retaining wall design. Drainage should be provided behind retaining walls such that hydrostatic pressures do not develop. If drainage is not provided, hydrostatic pressures should be included in the wall design.



Retaining walls should be backfilled with at least 18 inches of free-draining material or suitable sheet drainage that extends along the height of the wall. The upper one foot of the wall backfill can consist of a less permeable soil, if desired. A perforated drain pipe should be placed along the base of the wall and connected to an approved discharge location. A typical retaining wall drainage detail is provided on Plate 3.

### **Drainage**

Based on our field observations, the native soils generally consisted of well-drained, poorly to well-graded gravels with slightly variable sand contents. Because of the generally well-drained nature of the native gravels, significant groundwater is not anticipated to be encountered within shallow site excavations. ESNW should be consulted during preliminary grading to identify areas of seepage (if present) and provide recommendations to reduce the potential for instability related to seepage effects.

Finish grades must be designed to direct surface drain water away from structures and slopes. The grade adjacent to buildings should be sloped away from the buildings at a gradient of at least 2 percent for a horizontal distance of at least 10 feet or more as setbacks allow. Water must not be allowed to pond adjacent to structures or slopes. Based on our field observations, it may be feasible to eliminate foundation drains, provided clean, well-drained deposits are exposed at footing subgrade elevation. However, confirmation should be provided by ESNW at the time of construction. A typical foundation drain detail is provided on Plate 4.

### **Infiltration Evaluation**

We conducted in-situ pilot infiltration tests (PITs) at the two areas proposed for infiltration within the overall development. The PITs were completed at test pit locations TP-1 and TP-4 within native soils about 8 to 10 feet below existing grades. As indicated in the *Subsurface* section of this report, native soils encountered during our fieldwork were characterized primarily as Spanaway gravels with variable sand content. Based upon the results of USDA textural analyses performed on representative soil samples, native soils may also be classified chiefly as extremely gravelly coarse sand. Irrespective of gravel content, fines contents within the native gravels were generally less than one percent.

### **Test Method**

The bottom of each PIT area was set at the approximate design facility bottom as recommended in the Method 1 Field Test Methods section of Appendix III-A. Water was metered into each PIT area using a pump fed hose to develop a constant head of about one foot. The hydraulic head was maintained until the water truck was emptied (3,800-gallon capacity), and measurements of flow for each test area was monitored by our field staff. Upon completion of the constant head soaking period, the water source was removed and each test area was allowed to drain. Upon drained conditions, the test pits were advanced to the limits of the excavator to determine soil stratigraphy and check for groundwater.

## Test Results

Our testing yielded measured (unfactored) infiltration rates of between 90 and 180 inches per hour (iph). The correction factors below were applied to the measured rates.

Correction Factor	Value
Test Method	0.5
Geometry	0.9*
Plugging	0.9

\* This value is estimated based on typical pond geometry and uses information collected during the testing.

The total correction factor applied to the measured infiltration rates was 0.4. The resulting long-term (design) infiltration rate is 36 iph. These rates were calculated using the lowest measured infiltration rate.

## Soil Types and Site Variability

We conducted USDA textural analyses of representative soil samples collected at the PIT areas. On this basis, the majority of the native soil within the proposed areas consist of extremely gravelly coarse sand. The samples collected at the tested locations indicated consistent soil types across the site, with low variability.

## Restrictive Layer

On this site, the restrictive layer is groundwater, as the alluvial sand and gravel persisted to the maximum exploration depth at each location. The groundwater was not identified on this site at the test pit locations during our fieldwork.

## Summary and Recommendations

From a geotechnical standpoint, it is our opinion that the native gravels are suitable for infiltration. The low soil variability consisting of a consistent thick layer of sand and gravel and low fines contents within the gravels are the basis of this conclusion. Based on the results of our PIT program, a long-term infiltration rate of 36 iph may be used for the current infiltration trench design that will expose coarse gravel soils. Successful performance of the infiltration systems requires that the base of the facility (receptor soils) exposed sandy soils similar to those encountered at the test depth. The minimum vertical separation and corresponding trench base elevations detailed in the referenced groundwater summary should be incorporated into facility designs. ESNW should review final designs to confirm the recommendations provided in this letter report are incorporated. ESNW should be retained to observe construction of the infiltration facility areas during grading to confirm conditions are as anticipated. This site is identified as a highly susceptible critical aquifer recharge area per YMC section 18.21.070 and will require performance standards within this section to be met as part of the project design.

### **Utility Support and Trench Backfill**

In our opinion, the soils observed at the test pit locations are generally suitable for support of utilities. The native soils observed at the test pit locations are likely suitable for use as structural backfill in the utility trench excavations. Utility trench backfill should be placed and compacted to the specifications of structural fill provided in this report, or to the applicable requirements of presiding jurisdiction. Native sands and gravels used as backfill should be appropriately moisture conditioned through the addition of water to mitigate the settlement potential.

Native soils proposed for use as utility trench backfill should contain aggregate of six inches in diameter or less. Caving of the trench sidewalls should be expected and will require temporary shoring to ensure safety is maintained during utility installation.

### **Pavement Sections**

The performance of site pavements is largely related to the condition of the underlying subgrade. To ensure adequate pavement performance, the subgrade should be in a firm and unyielding condition when subjected to proofrolling with a loaded dump truck. Structural fill in pavement areas should be compacted to the specifications detailed in the *Site Preparation and Earthwork* section of this report. It is possible that soft, wet, or otherwise unsuitable subgrade areas may still exist after base grading activities. Areas of unsuitable or yielding subgrade conditions may require remedial measures such as overexcavation and replacement with structural fill or thicker crushed rock sections prior to pavement.

For relatively lightly loaded pavements subjected to automobiles and occasional truck traffic, the following sections can be considered for preliminary design:

- Two inches of hot mix asphalt (HMA) placed over four inches of CRB, or;
- Two inches of HMA placed over three inches of asphalt treated base (ATB).

Heavier traffic areas generally require thicker pavement sections depending on site usage, pavement life expectancy, and site traffic. For preliminary design purposes, the following pavement sections for occasional truck traffic areas can be considered:

- Three inches of HMA placed over six inches of crushed rock base (CRB), or;
- Three inches of HMA placed over four-and-one-half inches of ATB.

The HMA, CRB and ATB materials should conform to WSDOT specifications. Thurston County/City of Yelm minimum pavement requirements may supersede our recommendations and may require thicker pavement sections.

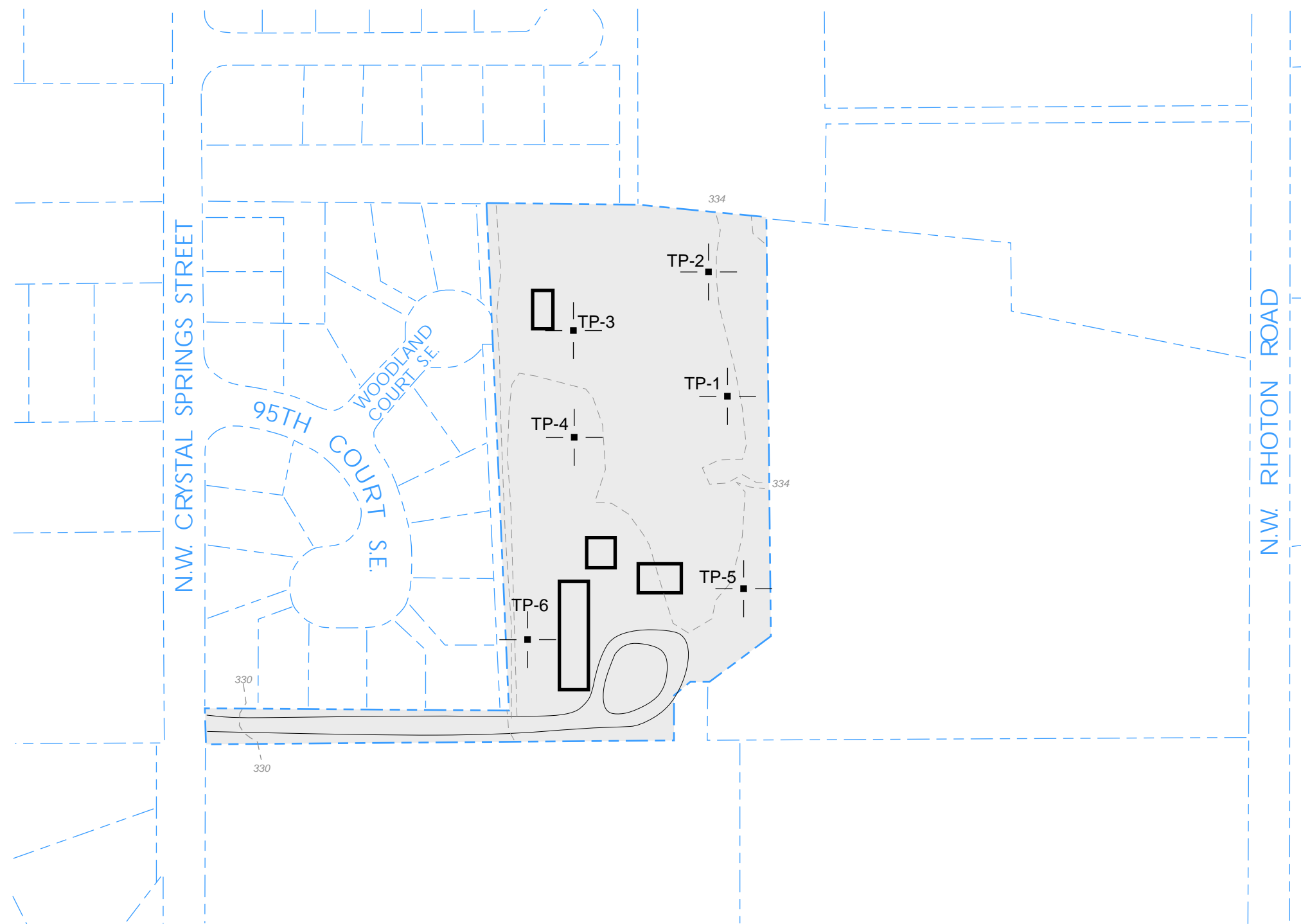
### **LIMITATIONS**

The recommendations and conclusions provided in this geotechnical engineering study are professional opinions consistent with the level of care and skill that is typical of other members in the profession currently practicing under similar conditions in this area. A warranty is not expressed or implied. Variations in the soil and groundwater conditions observed at the test pit locations may exist and may not become evident until construction. ESNW should reevaluate the conclusions in this geotechnical engineering study if variations are encountered.

### **Additional Services**

ESNW should have an opportunity to review the final design with respect to the geotechnical recommendations provided in this report. ESNW should also be retained to provide testing and consultation services during construction.



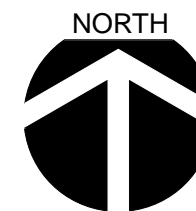


### LEGEND

TP-1 | ■ | Approximate Location of  
ESNW Test Pit, Proj. No.  
ES-8113, Aug. 2021

■ Subject Site

□ Existing Building



1"=150' 0 75 150  
Scale in Feet

NOTE: The graphics shown on this plate are not intended for design purposes or precise scale measurements, but only to illustrate the approximate test locations relative to the approximate locations of existing and / or proposed site features. The information illustrated is largely based on data provided by the client at the time of our study. ESNW cannot be responsible for subsequent design changes or interpretation of the data by others.

NOTE: This plate may contain areas of color. ESNW cannot be responsible for any subsequent misinterpretation of the information resulting from black & white reproductions of this plate.

Test Pit Location Plan  
Crystal Springs  
Yelm, Washington

Earth Solutions NW<sup>LLC</sup>  
Geotechnical Engineering, Construction  
Observation/Testing and Environmental Services



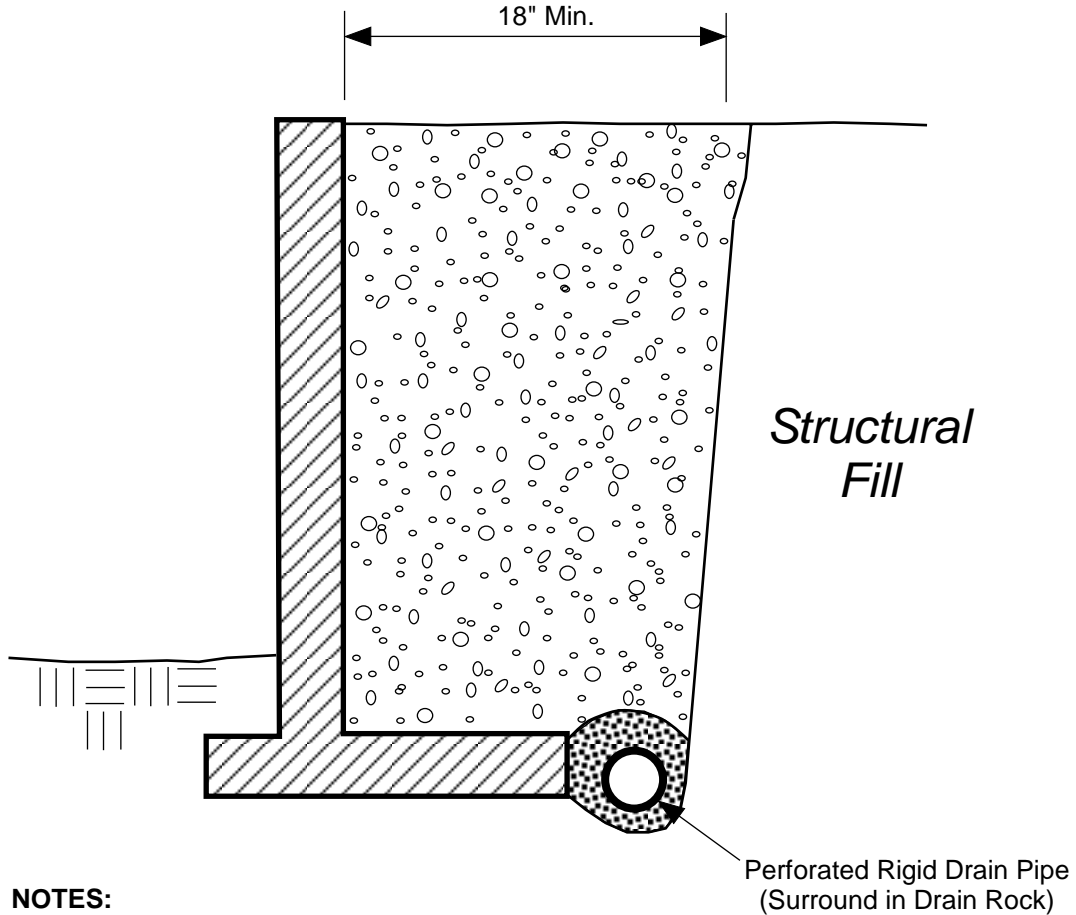
Drwn. By  
MRS

Checked By  
SKH

Date  
09/20/2021

Proj. No.  
8113

Plate  
2

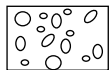


**NOTES:**

- Free-draining Backfill should consist of soil having less than 5 percent fines. Percent passing No. 4 sieve should be 25 to 75 percent.
- Sheet Drain may be feasible in lieu of Free-draining Backfill, per ESNW recommendations.
- Drain Pipe should consist of perforated, rigid PVC Pipe surrounded with 1-inch Drain Rock.

SCHEMATIC ONLY - NOT TO SCALE  
NOT A CONSTRUCTION DRAWING


**LEGEND:**

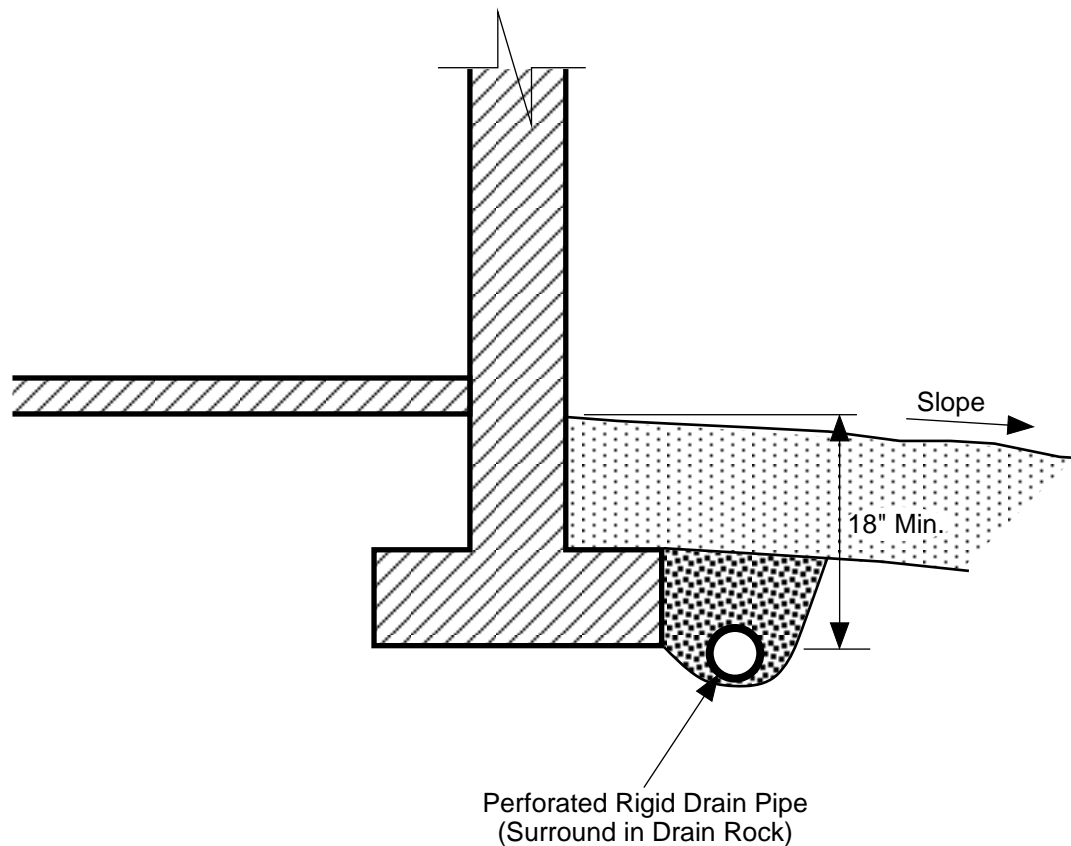


Free-draining Structural Backfill



1-inch Drain Rock

 <div style="display: inline-block; vertical-align: middle;"> <p style="font-size: 1.2em; margin: 0;">Earth Solutions NW<sub>LLC</sub></p> <p style="font-size: 0.8em; margin: 0;">Geotechnical Engineering, Construction Observation/Testing and Environmental Services</p> </div>		
<p style="font-weight: bold; margin: 0;">Retaining Wall Drainage Detail</p> <p style="font-weight: bold; margin: 0;">Crystal Springs</p> <p style="font-weight: bold; margin: 0;">Yelm, Washington</p>		
Drwn. CAM	Date 10/06/2021	Proj. No. 8113
Checked SSR	Date Oct. 2021	Plate 3

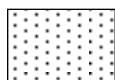


**NOTES:**

- Do NOT tie roof downspouts to Footing Drain.
- Surface Seal to consist of 12" of less permeable, suitable soil. Slope away from building.

SCHEMATIC ONLY - NOT TO SCALE  
NOT A CONSTRUCTION DRAWING


**LEGEND:**



Surface Seal: native soil or other low-permeability material.



1-inch Drain Rock

		<b>Earth Solutions NW<sub>LLC</sub></b> Geotechnical Engineering, Construction Observation/Testing and Environmental Services	
<b>Footing Drain Detail</b> <b>Crystal Springs</b> <b>Yelm, Washington</b>			
Drwn. CAM	Date 10/06/2021	Proj. No.	8113
Checked SSR	Date Oct. 2021	Plate	4



**EnviroVector**

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Olympia, WA 98502

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24 August 2021

Evan Mann  
Soundbuilt Homes  
PO BOX 73790  
Puyallup, WA 98373

Reference: 714 Crystal Springs Road

Subject: Mazama Pocket Gopher Screening to Satisfy the City of Yelm Permitting Requirements

Dear, Evan Mann:

At your request, this report has been prepared to satisfy the City of Yelm requirements for Mazama pocket gopher screenings on the subject property (**Table 1; Figure 1**).

**Table 1. Parcels Comprising Subject Property**

No#	Property Address	Parcel Number	Map Coordinates	Property Size (Acres)
1	714 Crystal Springs Rd SE, Yelm, WA	22719210403	Section 19 Township 17 Range 2E	4.89
1 Parcel	Total Size			4.89 acres

The permitting jurisdiction is the City of Yelm.

## **1.0 INTRODUCTION**

The Mazama pocket gopher is a Federally Threatened species protected under the Endangered Species Act (ESA) and the City of Yelm requirements. Mazama pocket gopher screenings were performed by a qualified biologist certified by the US Fish and Wildlife Service (USFWS) for the purpose of satisfying City of Yelm requirements for a Mazama pocket gopher screening.

The City has determined that a Mazama pocket gopher screening is necessary to comply with the City of Yelm requirements and the ESA.

## **1.2 Screening Date**

The Mazama pocket gopher screening was performed on 16 June 2021.

## 2.0 METHODOLOGY

The screening was performed within the USFWS prescribed survey window (June 1 through October 31) also in compliance with Thurston County (2021) Site Inspection Protocol and Procedures: Mazama Pocket Gopher.

In compliance with the Thurston County (2021) Site Inspection Protocol and Procedures: Mazama Pocket Gopher:

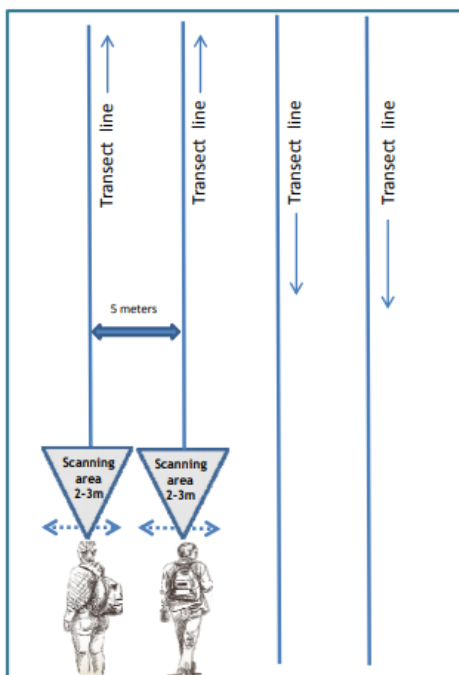
- The study has occurred during the prescribed work window of June 1 to October 31.
- A qualified biologist performed the screenings that has been trained and certified by the USFWS.
- The entire property was evaluated.
- The areas of the property covered under the screening survey is illustrated in **Figure 2**.
- The ground was easily visible.

The site evaluation was performed utilizing USFWS recommended protocol for one (1) surveyor (**Insert 1**). The search pattern had been performed along five (5) meter transects, including brushy and treed areas, examined for any evidence of mounding activity created by the Mazama pocket gopher.

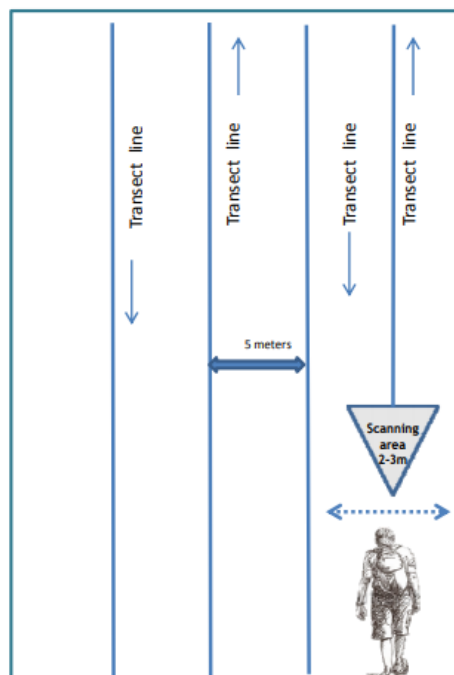
The site evaluation was conducted utilizing USFWS recommended protocol for one (1) surveyor (**Insert 1**). The search pattern had been performed along five (5) meter transects, including brushy and treed areas, examined for any evidence of mounding activity created by the Mazama pocket gopher.

### Insert 1. Transect Illustrations

Protocol for two or more surveyors



Protocol for an individual surveyor



The detailed field methodology follows the Thurston County (2021) Site Inspection Protocol and Procedures: Mazama Pocket Gopher as follows:

1. The survey crew orients themselves with the layout of the property using aerial maps and strategizes their route for walking through the property.
2. Start GPS to record survey route.
3. Walk the survey transects methodically, slowly walking a straight line and scanning an area approximately 2-3 meters to the left and right as you walk, looking for mounds. Transects should be no more than five (5) meters apart when conducted by a single individual.
4. If the survey is performed by a team, walk together in parallel lines approximately five (5) meters apart while you are scanning left to right for mounds.
5. At each mound found, stop and identify it as a MPG or mole mound. If it is a MPG mound, identify it as a singular mound or a group (3 mounds or more) on a data sheet to be submitted to the County.
6. Record all positive MPG mounds, likely MPG mounds, and MPG mound groups in a GPS unit that provides a date, time, georeferenced point, and other required information in County GPS data instruction for each MPG mound. Submit GPS data in a form acceptable to the County.
7. Photograph all MPG mounds or MPG mound groups. At a minimum, photograph MPG mounds or MPG mound groups representative of MPG detections on site.
8. Photos of mounds should include one that has identifiable landscape features for reference. In order to accurately depict the presence of gopher activity on a specific property, the following series of photos should be submitted to the County:
  - a. At least one up-close photo to depict mound characteristics
  - b. At least one photo depicting groups of mounds as a whole (when groups are encountered).
  - c. At least one photo depicting gopher mounds with recognizable landscape features in the background, at each location where mounds are detected on a property
  - d. Photos can be taken with the GPS unit or a separate, camera, preferably a camera with locational features (latitude, longitude)
  - e. Photo point description or noteworthy landscape or other features to aid in relocation. Additional photos to be considered
  - f. The approximate building footprint location from at least two cardinal directions.
  - g. Landscape photos to depict habitat type and in some cases to indicate why not all portions of a property require gopher screening.
9. Describe and/or quantify what portion and proportion of the property was screened, and record your survey route and any MPG mounds found on either an aerial or parcel map.
10. If MPG mounds are observed on a site, that day's survey effort should continue until the entire site is screened and all mounds present identified, but additional site visits are not required.

Soils known to be associated with the Mazama pocket gopher are listed in **Insert 2**.

## Insert 2. Mazama pocket gopher soils

Table 1. Soils known to be associated with Mazama pocket gopher occupancy.

Mazama Pocket Gopher Preference	Soil Type
<p>More Preferred</p> <p>(formerly High and Medium Preference Soils)</p>	<p>Nisqually loamy fine sand, 0 to 3 percent slopes</p> <p>Nisqually loamy fine sand, 3 to 15 percent slopes</p> <p>Spanaway-Nisqually complex, 2 to 10 percent slopes</p> <p>Cagey loamy sand</p> <p>Indianola loamy sand, 0 to 3 percent slopes</p> <p>Spanaway gravelly sandy loam, 0 to 3 percent slopes</p> <p>Spanaway gravelly sandy loam, 3 to 15% slopes</p>
<p>Less Preferred</p> <p>(formerly Low Preference Soils)</p>	<p>Alderwood gravelly sandy loam, 0 to 3 percent slopes</p> <p>Alderwood gravelly sandy loam, 3 to 15 percent slopes</p> <p>Everett very gravelly sandy loam, 0 to 3 percent slopes</p> <p>Everett very gravelly sandy loam, 3 to 15 percent slopes</p> <p>Indianola loamy sand, 3 to 15 percent slopes</p> <p>Kapowsin silt loam, 3 to 15 percent slopes</p> <p>McKenna gravelly silt loam, 0 to 5 percent slopes</p> <p>Norma fine sandy loam</p> <p>Norma silt loam</p> <p>Spana gravelly loam</p> <p>Spanaway stony sandy loam, 0 to 3 percent slopes</p> <p>Spanaway stony sandy loam, 3 to 15 percent slopes</p> <p>Yelm fine sandy loam, 0 to 3 percent slopes</p> <p>Yelm fine sandy loam, 3 to 15 percent slopes</p>

### 3.0 BACKGROUND INFORMATION

#### 3.1 Thurston County Geodatabase Soils

Two (2) soil types are mapped on the subject property, Spanaway gravelly sandy loam, 0 to 3% slopes% (More preferred gopher soil) and Spanaway gravelly sandy loam, 3 to 15% (More preferred gopher soil), by the Thurston County Geodatabase (**Appendix B & C, Table 1**).

**Table 1. Summary of Soil Preference**

Soil Unit	Gopher Soil	Preference	Comments
Spanaway gravelly sandy loam, 0 to 3% slopes	Yes	More preferred	Along on eastern and western portions of the property
Spanaway gravelly sandy loam, 3 to 15% slopes	Yes	More preferred	Located in north-south strip on property

#### 3.2 WDFW PHS Database

No Mazama pocket gopher occurrences are mapped on or within six hundred (600) feet of subject property by the Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) database (**Appendix D**).

Chinook (*Oncorhynchus tshawytscha*), Chum (*Oncorhynchus keta*), Cutthroat (*Oncorhynchus clarki*), Coho (*Oncorhynchus kisutch*), Sockeye (*Oncorhynchus nerka*), Steelhead (*Oncorhynchus mykiss*), and Pink Salmon (*Oncorhynchus gorbuscha*) are mapped in a stream approximately three hundred (300) feet southwest of the subject property.

Big eared bat (*Corynorhinus townsendii*) and Yuma myotis (*Myotis yumanensis*) have been mapped in the Township where the subject property is located.

### 4.0 FIELD RESULTS

#### 4.1 Mazama Pocket Gopher Site Evaluation

No mounds characteristic of that created by the Mazama pocket gopher have been identified on the subject property during the 16 June 2021 site screening. The entire site consists of a flat, open mowed field of lawn grasses, non-native lawn weeds. The northern portion of the subject property consists of unmaintained sheds and a barn. The southern portion of the subject property includes a gravel driveway, two (2) unmaintained barns, manmade pond, and a single-family residence (**Figure 2; Appendix A**).

The subject property is surrounded by high intensity land uses, discouraging Mazama pocket gopher migration onto the property from surrounding land (**Figure 3**).-Neighboring properties to the north and west of the subject property consist of high-intensity residential development (**Figure 3; Appendix A, Photos 1, 21, & 22**). High-intensity commercial development occurs south and east of the subject property (**Figure 3; Appendix A, Photos 2, 12, & 19**). Mole mounds were identified on the northern property boundary (**Appendix A, Photos 14-17**).

Mounds created by the Mazama pocket gopher: 1) are crescent or oddly-shaped, 2) contain a plugged tunnel opening that extends diagonally underground from the mound edge, 3) exhibit a fine texture, and are 4) typically in a scattered distribution.

Mole mounds have centrally-located tunnel entrances that extend vertically below the surface, blocky texture, an in-line distribution pattern, and have a conical shape.

**Table 2. Summary of Results**

Site Visit	Date of Visit	Gopher Occurrence Observed	Comments
1	16 June 2021	No	No mounds characteristic of that created by the Mazama pocket gopher have been identified on the subject property

## **4.2 Mazama Pocket Gopher Habitat Evaluation**

The subject property consists of flat grassy areas dominated by European pasture grasses and “More Preferred” soils, which are mapped throughout the entire subject property. However, the property is isolated by surrounding high intensity land uses. Neighboring properties to the north and west of the subject property consist of high-intensity residential development, and a daily use gravel road extending through the property (**Figure 3; Appendix A, Photos 1, 21, & 22**). High-intensity commercial development occurs south and east of the subject property (**Figure 3; Appendix A, Photos 2, 12, & 19**).

## 5.0 CONCLUSION

This Mazama pocket gopher summary report was prepared to satisfy the City of Yelm Mazama pocket gopher screening requirements and to comply with the City of Yelm requirements.

The entire subject property was evaluated for the Mazama pocket gopher on 16 June 2021 following the Thurston County (2021) Site Inspection Protocol and Procedures: Mazama Pocket Gopher. The site evaluation was performed within the prescribed survey window (June 1 through October 31).

The subject property is isolated by surrounding high intensity land uses. Neighboring properties to the north and west of the subject property consist of high-intensity residential development, and a daily use gravel road going through the property (**Figure 3; Appendix A, Photos 1, 21, & 22**). High intensity commercial development occurs south and east of the subject property (**Figure 3; Appendix A, Photos 2, 12, & 19**). The subject property contains two (2) soils listed by the Thurston County Geodatabase as “More preferred” by the Mazama pocket gopher; however, no gopher occurrence is mapped within six hundred (600) feet of the subject property or found during the 16 June 2021 site visit (**Appendix D**).

No mounds characteristic of the Mazama pocket gopher have been identified on the subject property. No gopher migration onto the property is likely because of high-intensity land uses surrounding the property.

If you have any questions or require further services, you can contact me at (360) 790-1559.

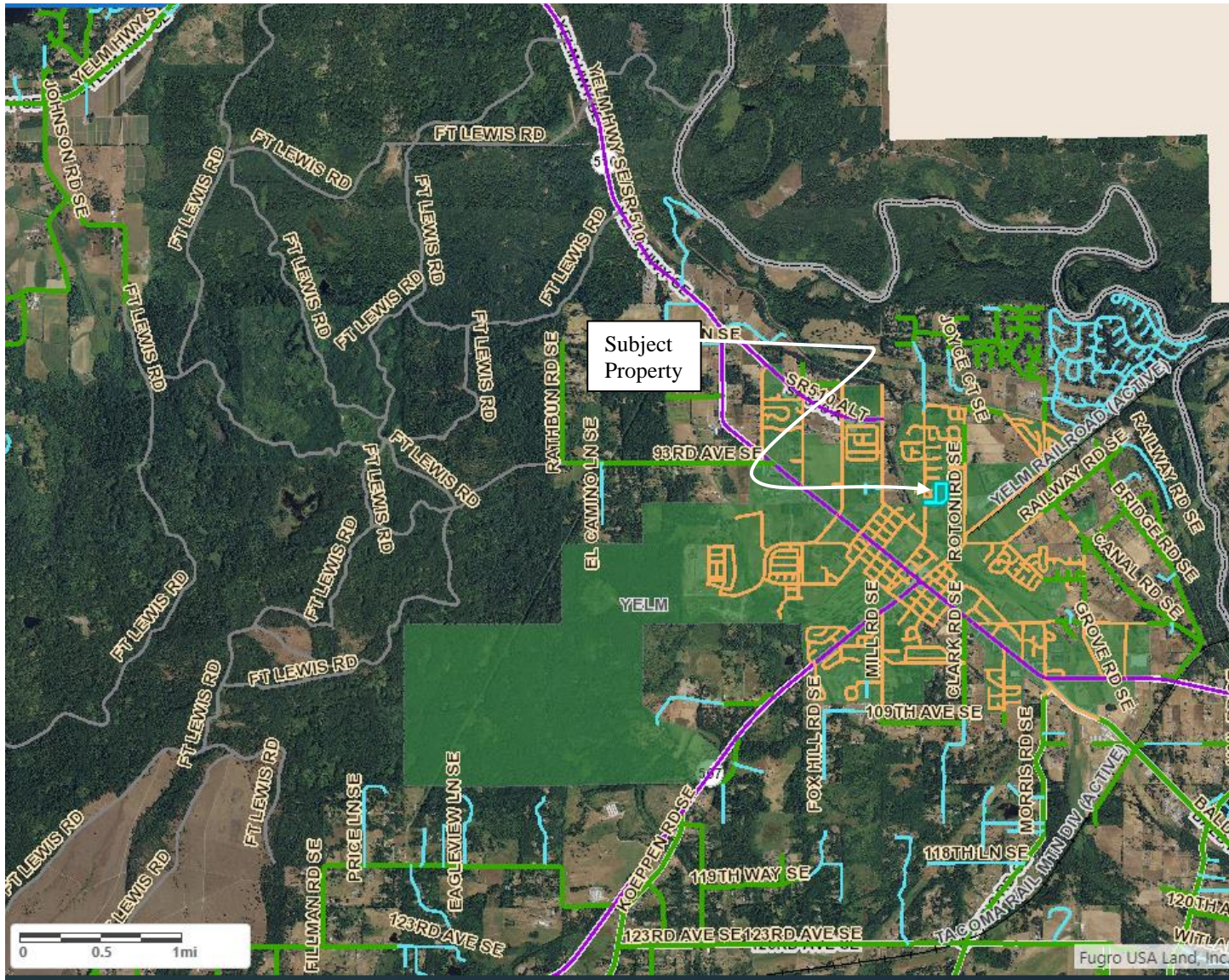
Sincerely,



Curtis Wambach, M.S.  
Senior Biologist and Principal  
EnviroVector

## Figures



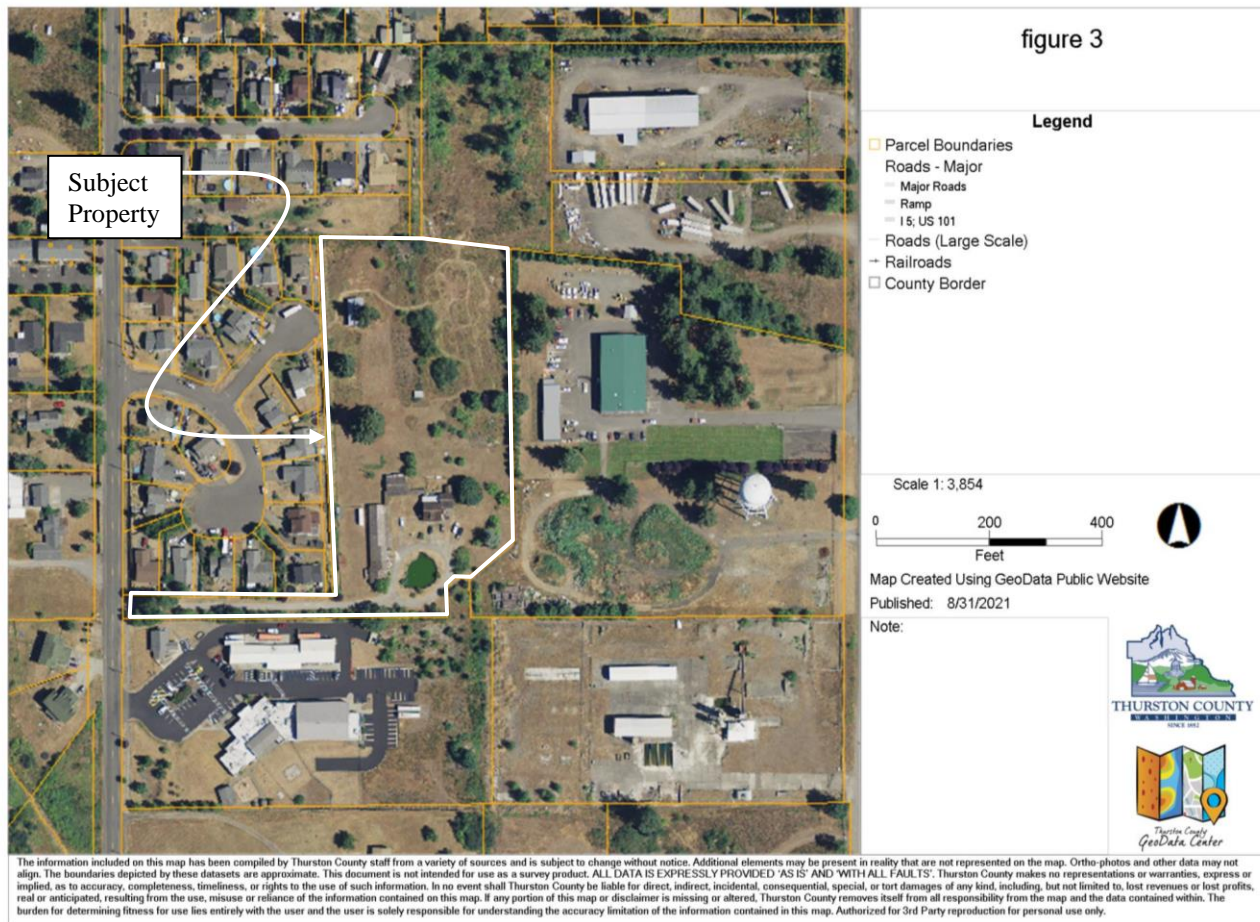


### Figure 1 Vicinity Map



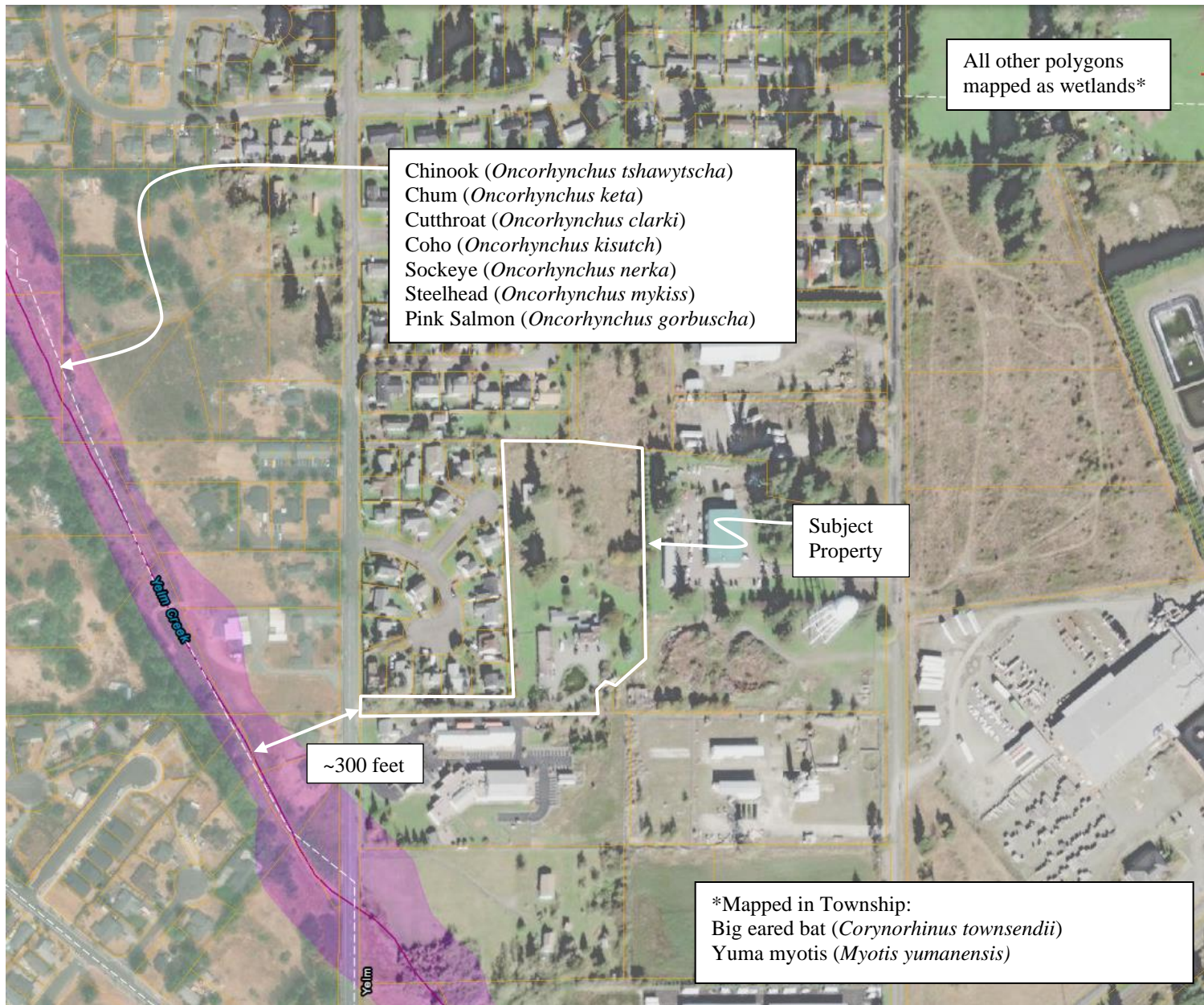


**Figure 2 Subject Property**



**Figure 3 Subject Property**







CRYSTAL SPRINGS  
TRAFFIC ASSESSMENT

*YELM, WA*



10/1/2021

Prepared for: Evan Mann  
Soundbuilt Homes

October 2021





Date: October 1, 2021

To: Evan Mann  
Soundbuilt Homes  
evan@soundbuilthomes.com

From: Aaron Van Aken, PE, PTOE

Subject: Crystal Springs – Yelm Traffic Assessment

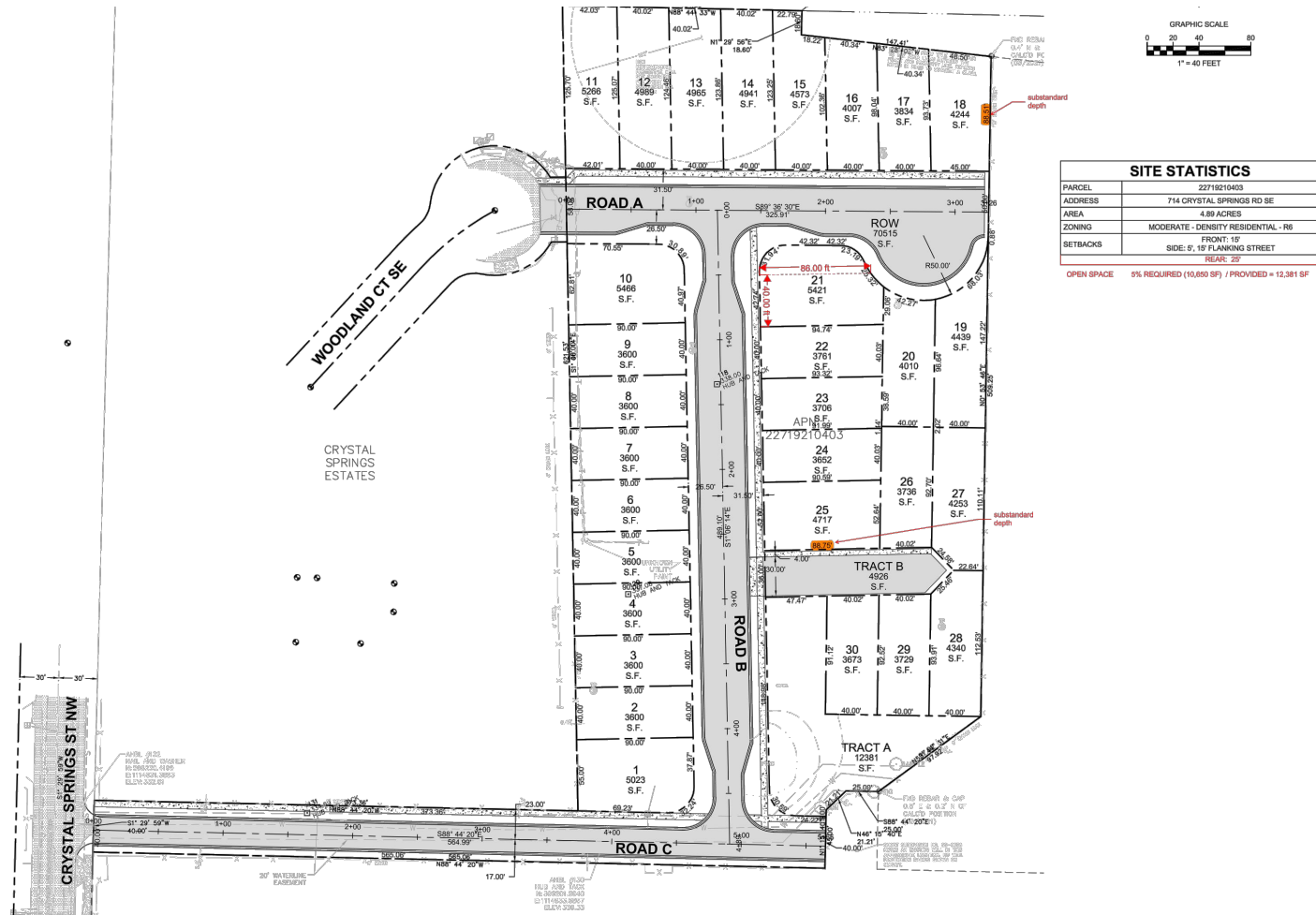
The intent of this assessment serves to provide trip generation analysis for the proposed development of 30 single-family units in the city of Yelm. The subject site is located on 4.89-acre parcel #: 22719210403. A description of the project summary is provided below.

### **Proposed Project**

Crystal Springs is a proposed residential development consisting of 30 new single-family residential dwelling units. The subject site is located east of Crystal Springs Street NW and north of Yelm Avenue SE. Two points of access would serve the subject property: an access extending east from Crystal Springs Street NE on the southern property limits and a connection into an existing cul-de-sac, Woodland Ct SE. Currently, on-site three structures exist which are to be demolished prior to new construction. Shown below is an aerial image outlining the subject parcel's boundaries. A conceptual site plan illustrating the overall configuration and access is shown in Figure 2.

**Figure 1: Aerial Vicinity**





## Transit Service

A review of the Intercity Transit regional system map indicates the nearest transit route in the area is served via Route 94. Service is provided from the Olympia Transit Center to the Yelm Walmart from the hours of 5:40 AM to 8:45 PM. The nearest stop with respect to the subject site is located at the intersection of Edwards Street NW and W Yelm Avenue (~0.56 miles southwest walking distance), offering approximately 30-60-minute headways during peak travel times. Weekend service is also provided. Refer to the Intercity Transit route schedule for more detailed information.

## Trip Generation

Trip generation is defined by the number of vehicular movements that enter or exit a site during a particular timeframe such as a specific peak hour or an entire day. Trip generation estimates are based on data from the ITE *Trip Generation Manual*, 10th Edition. Crystal Springs Plat is composed of 30 single-family dwelling units. For analysis purposes, the proposed Crystal Springs land use code is *LUC 210 – Single-Family Detached Housing*. Attached to this document are excerpts from the ITE manual for the utilized land use. Table 1 below summarizes the estimated trip volumes using average rates.

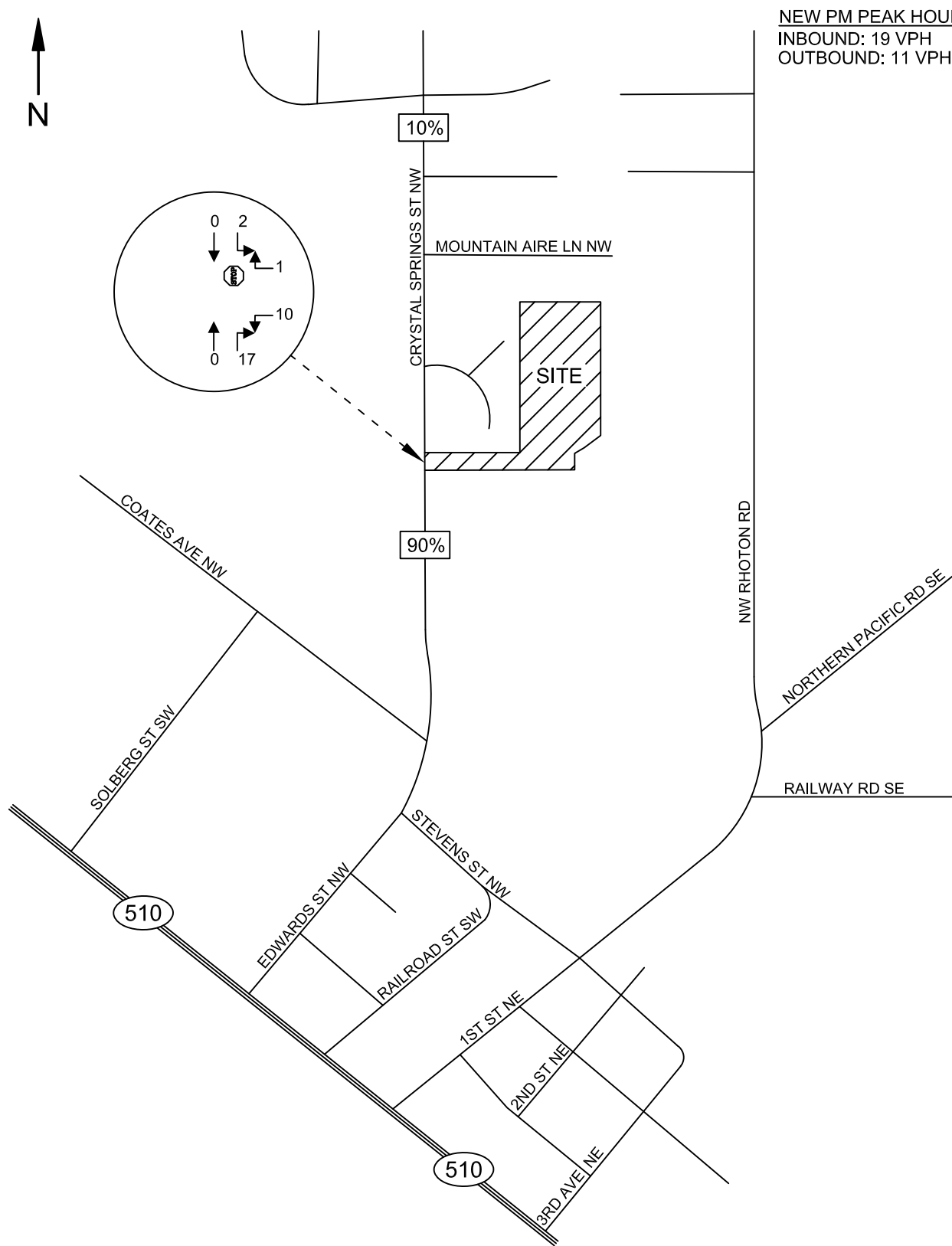
**Table 1: Project Trip Generation**

Land Use	Dwelling Units	AWDT	AM Peak-Hour Trips			PM Peak-Hour Trips		
			In	Out	Total	In	Out	Total
Single-Family	30	283	5	17	22	19	11	30

The proposed development of 30 single-family units is estimated to generate 22 AM and 30 PM peak hour trips, respectively.

Figure 3 on the following page highlights the project's trip distribution and assignment using project trips. The main access point by way of Crystal Springs Street NW is used to illustrate all PM peak hour trips to and from the site. The majority of traffic is expected to travel to/from the south with access and connection to Yelm Avenue. Trip distribution may change when the SR 510 loop to the north gets extended and completed in its construction.





**HEATH & ASSOCIATES**  
 TRAFFIC AND CIVIL ENGINEERING

**CRYSTAL SPRINGS**  
 PM PEAK HOUR TRIP DISTRIBUTION & ASSIGNMENT  
 FIGURE 3

## Conclusion

Crystal Springs Plat proposes for the construction of 30 new residential dwelling units in the city of Yelm. The subject property is located on a 4.89-acre site within tax parcel #: 22719210403. Access to and from the site would be provided via two new roadway connections. One driveway, extending east from Crystal Springs Street NW and the second access will be achieved by way of Woodland Ct SE, an existing cul-de-sac. Based on ITE data, the project is estimated to generate 283 average weekday daily trips with 22 trips occurring in the AM peak hour and 30 trips in the PM peak hour.

The project would be subject to City of Yelm Transportation Facilities Charge which are assessed at a cost of \$1,497.00 per new PM peak hour trip. An estimated fee is therefore as follows:

30 new PM peak hour trips x \$1,497.00/trip = \$44,910.00. Credit may be received for the removal of the existing on-site structure(s).

Exact fees and calculations will be determined by the City with current fee schedules at the time of building permit issuance.

Please call if you require anything further.

Sincerely,



Aaron Van Aken, P.E., PTOE

# Single-Family Detached Housing (210)

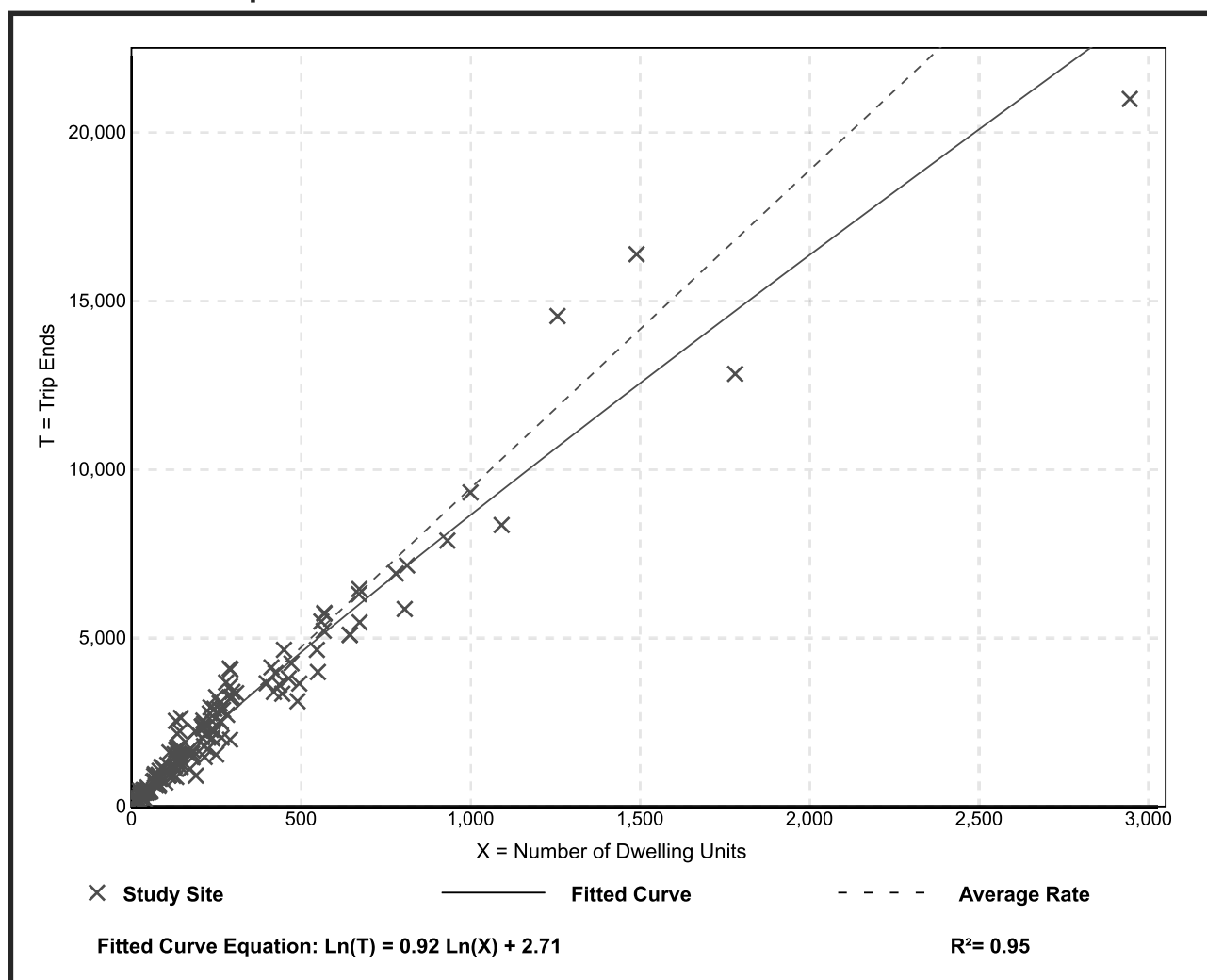
Vehicle Trip Ends vs: Dwelling Units  
On a: Weekday

Setting/Location: General Urban/Suburban  
Number of Studies: 159  
Avg. Num. of Dwelling Units: 264  
Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.44	4.81 - 19.39	2.10

## Data Plot and Equation



Trip Generation Manual, 10th Edition • Institute of Transportation Engineers

## Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 173

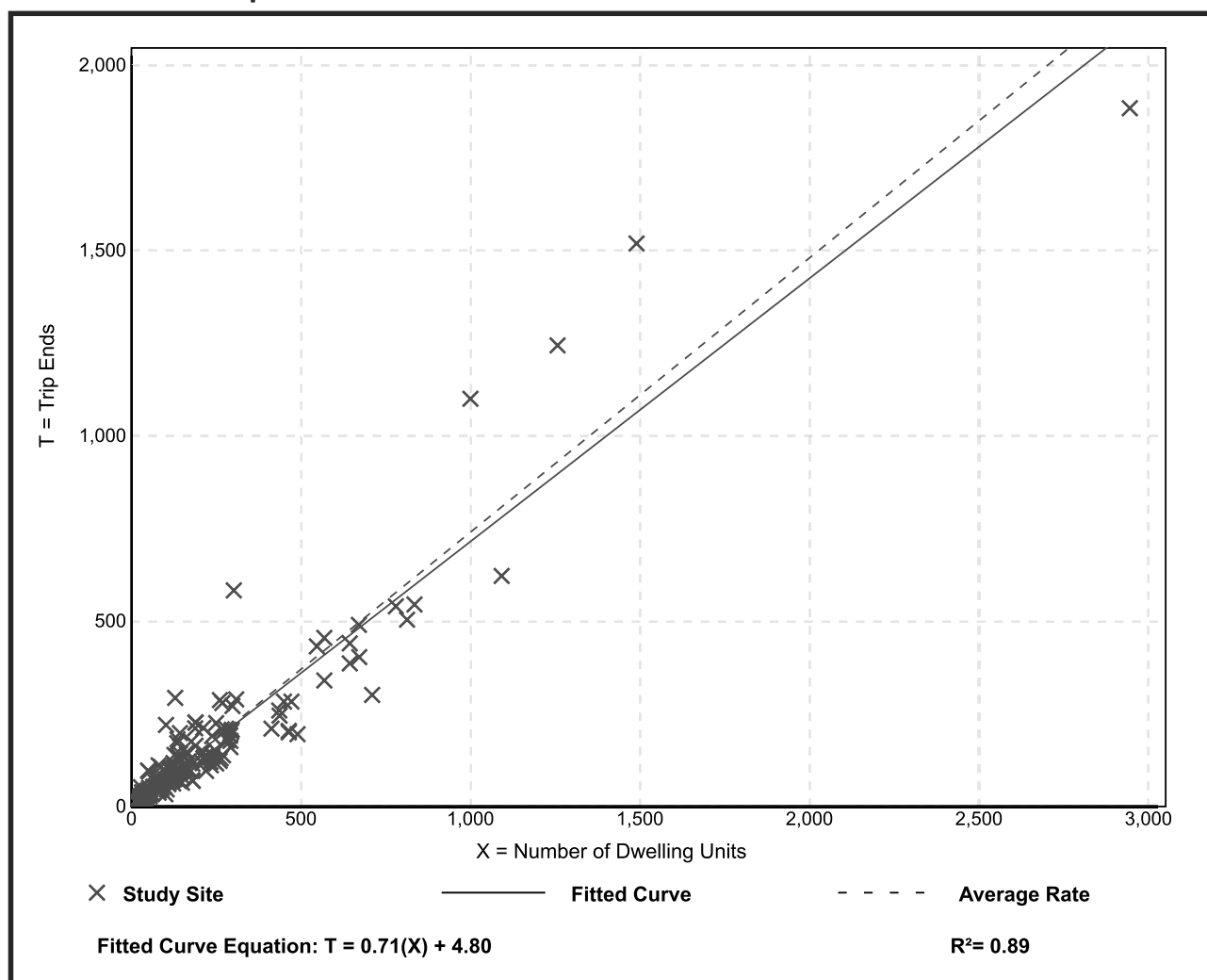
Avg. Num. of Dwelling Units: 219

Directional Distribution: 25% entering, 75% exiting

### Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.74	0.33 - 2.27	0.27

### Data Plot and Equation



Trip Generation Manual, 10th Edition • Institute of Transportation Engineers

# Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 190

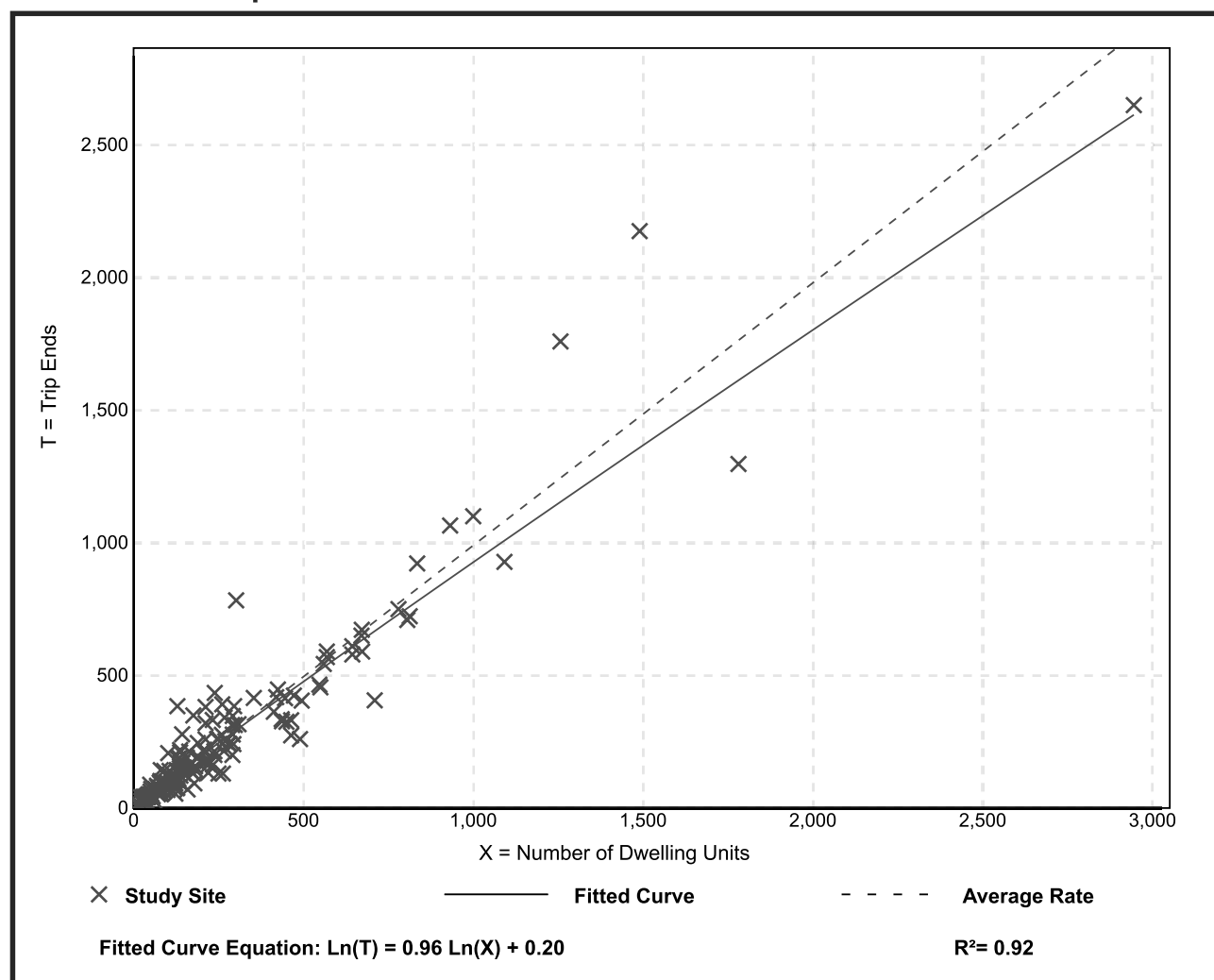
Avg. Num. of Dwelling Units: 242

Directional Distribution: 63% entering, 37% exiting

## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.99	0.44 - 2.98	0.31

## Data Plot and Equation



Trip Generation Manual, 10th Edition • Institute of Transportation Engineers



## ***Stormwater Report***

*PREPARED FOR:*

Mr. Evan Mann  
Copper Ridge LLC  
PO Box 73790  
Puyallup, WA 98373-0790

*PROJECT:*

Crystal Springs Preliminary Plat  
Yelm, Washington  
2210633.10

*PREPARED BY:*

Quinten Foster  
Project Engineer

*REVIEWED BY:*

J. Matthew Weber, PE  
Principal

*DATE:*

October 2021

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Crystal Springs Preliminary Plat  
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*PREPARED BY:*

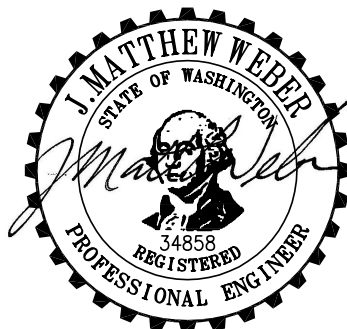
Quinten Foster  
Project Engineer

*REVIEWED BY:*

J. Matthew Weber, PE  
Principal

*DATE:*

October 2021



**10/06/2021**

I hereby state that this [Stormwater Report](#) for [Crystal Springs Preliminary Plat](#) has been prepared by me or under my supervision and meets the standard of care and expertise that is usual and customary in this community for professional engineers. I understand that [City of Yelm](#) does not and will not assume liability for the sufficiency, suitability, or performance of drainage facilities prepared by me.

## ***Table of Contents***

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## ***Appendices***

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### **Appendix A**

#### **Exhibits**

- A-1..... Vicinity Map
- A-2..... NRCS Soil Map
- A-3..... Developed Basin Map
- A-4..... FEMA 100-Year Flood Plain Map

### **Appendix B**

#### **Conveyance Calculations**

- B-1..... WWHM Report

### **Appendix C**

#### **Geotechnical Report**

Earth Solutions NW, LLC, October 6, 2021

## 1.0 Project Overview

The following hydrology report summarizes the storm drainage analysis and design for a 30-lot development located at 714 NW Crystal Springs Road in Yelm, Thurston County, Washington. The land is currently a 4.89-acre property. The project includes the addition of 30 residential lots for single-family homes, a new roadway and sidewalks, sewer, water services, and stormwater facilities to treat and dispose of the project's stormwater. The proposed roadway features and utilities will be extended from NW Crystal Springs Road, as well as connecting to Woodland Court SE.

No offsite road improvements will be required, other than frontage improvements along the panhandle at NW Crystal Springs Road.

The 4.89-acre site is located in Section 19, Township 17 North, Range 02 East, W. M. The Thurston County tax parcel number associated with the project is 22719210403.

The increased stormwater runoff resulting from the addition of impervious area will be treated and retained in accordance with the most recent Washington State Department of Ecology (DOE) *Stormwater Management Manual for Western Washington (SMMWW)*.

## 2.0 Summary of Minimum Requirements

This project is subject to the *SMMWW* and is a new development that will add more than 10,000 square feet of impervious surfaces; therefore, all Minimum Requirements (MR) apply to this project.

### 2.1 MR 1 – Preparation of Stormwater Site Plans

This report and the project plans represent the Stormwater Site Plan for this project and satisfy MR 1.

### 2.2 MR 2 - Construction Stormwater Pollution Prevention

A Construction Stormwater Pollution Prevention Plan will be prepared with final engineering.

### 2.3 MR 3 – Source Control of Pollution

Pollution source control will be provided for the site by separating roof runoff from pollution generating surfaces. The residential roads should be maintained and cleaned of debris, garbage, and sediment, as required.

The Construction SWPPP, addressing MR 3, will be prepared with final engineering.

### 2.4 MR 4 – Preservation of Natural Drainage Systems and Outfalls

The project proposes to infiltrate all stormwater runoff, so all runoff will be retained in the developed condition. There are no natural drainage systems or outfalls to preserve.

### 2.5 MR 5 – Onsite Stormwater Control

This project will meet the Low Impact Development (LID) Performance Standard. The onsite soils have a high infiltration capacity, and all runoff will be retained onsite through treatment systems and infiltration facilities. The LID Performance Standard will be met by infiltrating all stormwater runoff from the site. Refer to Section 10.0 for facility sizing.

## **2.6 MR 6 – Runoff Treatment**

Over 5,000 square feet of pollution generating impervious surface (PGIS) will be added as part of these improvements; therefore, runoff treatment is required for this site. Stormwater from the roadways will be conveyed to stormwater treatment filters before being infiltrated. There are two distinct basins conveying stormwater to separate treatment systems and infiltration trenches. Final treatment system sizing will be completed with final engineering.

## **2.7 MR 7 – Flow Control**

The project exceeds the thresholds for new development projects and must provide flow control. Proposed flow control is achieved with the use of infiltration trenches that will infiltrate 100 percent of runoff. Refer to Section 10.0 for facility sizing.

## **2.8 MR 8 – Wetlands Protection**

To our knowledge, no wetlands are located on or adjacent to the site.

## **2.9 MR 9 – Basin/Watershed Planning**

To our knowledge, no basin plans exist for the site. All of Yelm is within a critical aquifer recharge area. Treatment of stormwater prior to infiltration is proposed via media filter manholes. Final sizing of the treatment system will be done with final engineering.

## **2.10 MR 10 – Operation and Maintenance**

The stormwater system for the roadway improvements will be publicly owned and maintained. The City of Yelm shall be responsible for the operation and maintenance of the public stormwater facilities. An Operation and Maintenance Plan consisting of maintenance checklists for stormwater management will be prepared with final engineering. Operation and maintenance for drainage facilities constructed for each lot shall be the responsibility of the individual owners.

## **3.0 Existing Conditions**

The site is presently covered with grass and a few deciduous trees, along with an existing building on the south end of the site, with slopes ranging from 0 to 5 percent. Presently, it appears the site runs off to the south and down the current access road to NW Crystal Springs Road.

## **4.0 Soils Reports**

Site soils are identified by the Natural Resources Conservation Service (NRCS) Web Soil Survey as Spanaway gravelly sandy loam, a Type A soil. This soil is characterized as very deep, somewhat excessively drained.

Earth Solutions NW conducted a site investigation to confirm subsurface soil conditions and establish a design infiltration rate. Soil test holes were dug in the vicinity of the proposed infiltration basins of the project and observations confirm that the soil types match the SCS soil description. A soil log map showing the location of the test holes is included in the geotechnical report. The report recommends a design infiltration rate of 20 inches per hour. Please see Appendix C for the complete Earth Solutions NW report.

## **5.0 Wells**

An existing well is present at the northern edge of the site. The well will be decommissioned according to City of Yelm and Washington Department of Health standards.

Each lot will be served by the City of Yelm STEP collection system. The holding tank will be maintained by the City and pumped on a regular basis. Domestic water will be provided by the City of Yelm water distribution system.

## **6.0 Fuel Tanks**

No fuel tanks were observed at the project site.

## **7.0 Sub-Basin Description**

Site topography contributes zero acres of offsite storm runoff.

There are two separate basins in the developed conditions. Each basin has an independent treatment and infiltration system. The impervious areas used for determining flow control and water treatment do not include individual lots. On-lot runoff will be collected and infiltrated in individual drywells. Refer to Appendix A-3 for the Developed Basin Map. Drywell sizing will be provided with final engineering.

## **8.0 Analysis of the 100-Year Flood**

Federal Emergency Management Agency (FEMA) mapping does not indicate flooding in the immediate area. Refer to the exhibit in Appendix A-4.

## **9.0 Aesthetic Considerations for Facilities**

The proposed stormwater infiltration facilities will be underground and have minimal impact to the aesthetics of the site.

## **10.0 Facility Sizing and Downstream Analysis**

The stormwater system was sized and analyzed using the latest edition of the Western Washington Hydrology Model (WWHM) continuous modeling software. As previously described, conservative infiltration rates of 20 inches per hour were used for the design calculations.

### **10.1 Conveyance**

Conveyance sizing will be completed with final engineering.

### **10.2 Treatment**

Basic treatment will be provided via media filter cartridge manholes/catch basins. Final sizing will be completed with final engineering.

### **10.3 Flow Control**

Flow control will be provided by infiltration trenches. Each basin will have a single trench.

Basin A will have a 4.0-foot deep trench with a bottom area of 1,240 square feet that will be constructed in the open space in Tract A. The trench will be 20 feet wide and 62 feet long.

Basin B will have a 4.0-foot deep trench with a bottom area of 200 square feet that will be constructed on the south side of NW Crystal Springs Road. The trench will be 3 feet wide and 66 feet long.

### Infiltration Basin Summary

Basin	Pervious Area (ac)	Impervious Area (ac)	Trench Dimensions (ft x ft)	Percent Infiltrated
A	0.34	1.21	20 x 62	100
B	0.14	0.19	3 x 66	100

The two infiltration basins were sized in accordance with the *SMMWW* and exceed the required storage volumes.

#### 10.4 Roof Runoff

Stormwater for the roof area of the homes will be infiltrated in individual drywells. The drywells will be sized in accordance with *SMMWW* Volume 3, Chapter 3, Section 3.1.1 - BMP T5.10A Downspout Full Infiltration System. Refer to Appendix B-1 for the roof downspout system detail.

#### 11.0 Covenants Dedications, Easements

The storm facilities for the right-of-way improvements shall be publicly owned and maintained. A maintenance agreement should be executed to ensure future maintenance of the facilities. The on-lot systems will be privately owned and maintained and therefore do not require covenants, dedications, or easements.

#### 12.0 Property Owners Association Articles of Incorporation

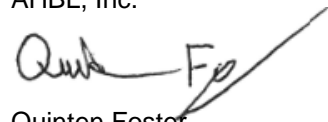
Not applicable.

#### 13.0 Conclusion

The proposed project involves site improvements associated with a 30-lot development. The project includes clearing, grading, erosion control, utility improvements, and stormwater management facilities. The site, as proposed, will meet the requirements of the most recent Department of Ecology *Stormwater Management Manual for Western Washington (SMMWW)*. This report and associated plans have been prepared within the guidelines established by the City of Yelm for stormwater management.

This analysis is based on data and records either supplied to or obtained by AHBL. These documents are referenced within the text of the analysis. The analysis has been prepared using procedures and practices within the standard accepted practices of the industry.

AHBL, Inc.



Quinten Foster  
Project Engineer

QF/lsk

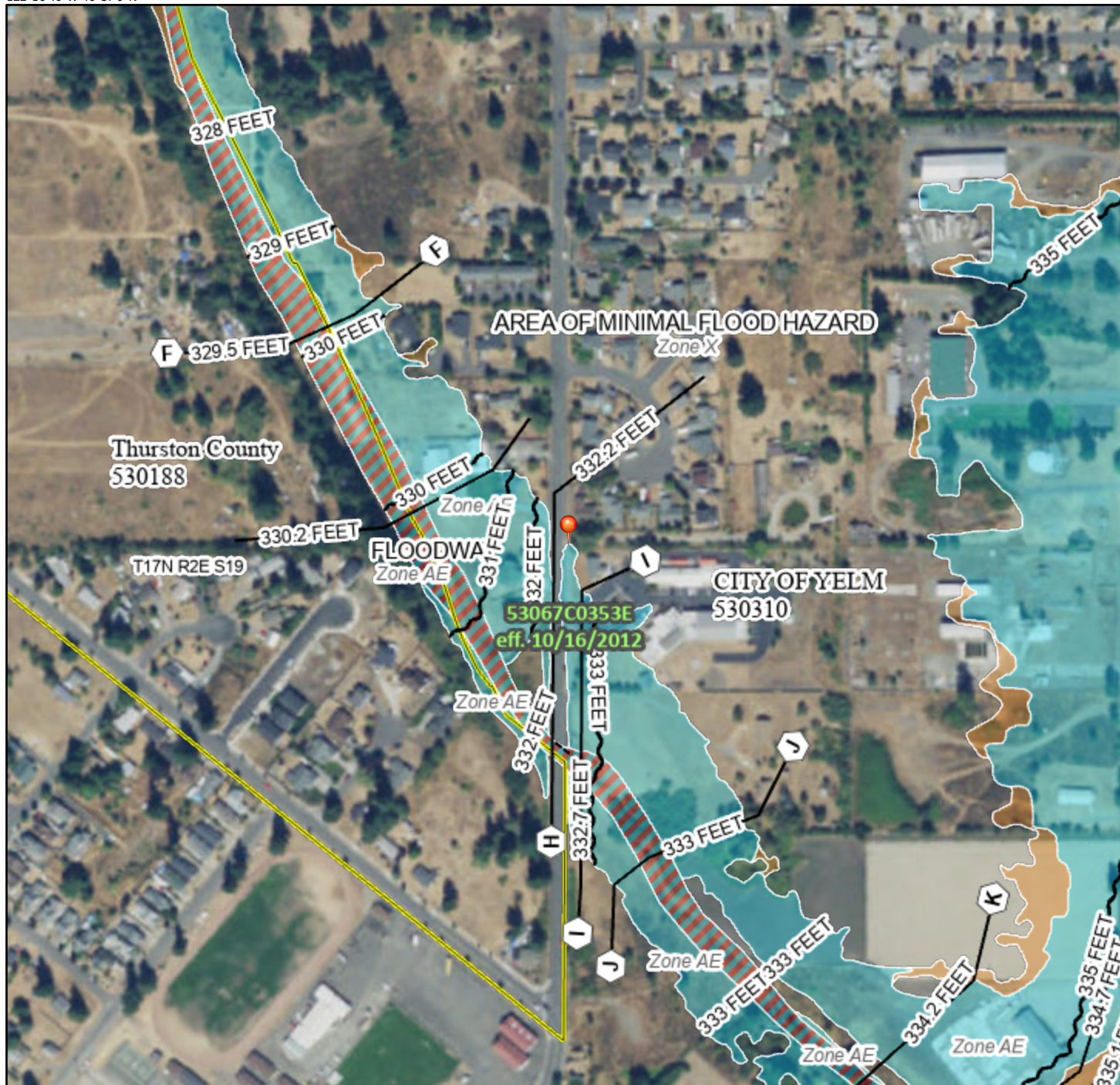
October 2021

Q:\2021\2210633\WORDPROC\Reports\20211006 Rpt (Storm) 2210633.10.docx

# National Flood Hazard Layer FIRMette



122°36'40"W 46°57'9"N



0 250 500 1,000 1,500 2,000 Feet 1:6,000

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
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
MAP PANELS		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped



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 10/21/2021 at 1:46 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.



## Casey Mauck

---

**From:** Savannah N <savannah.noriega@gmail.com>  
**Sent:** Sunday, October 24, 2021 5:28 PM  
**To:** Casey Mauck  
**Subject:** [External]Crystal springs preliminary plot comments

Hello I am emailing about the new plot of houses on crystal springs road. Our house is in 95th court (15740) And will back up to about 3 new houses in the new development based on the map we were sent in the mail. My concern is privacy, we moved to the house we did in the first place because we needed privacy in our backyard. We would love to see the development company put some tall trees or landscaping in the new houses backyard so that we still can maintain some level of privacy in ours and to replace the the very old pine trees in the back that have a family of snowy owls that live in them. The developers have to understand this is a massive change for our community and some of us are very upset. Our small neighborhood privacy and our traffic level is going to be GREATLY affected and definitely more dangerous for our children to play like they are used to. We all need to see some compromise in some way even if it is small.

Thank you,  
Savannah Noriega

## Casey Mauck

---

**From:** Daedra Smith <daedra.d.smith@gmail.com>  
**Sent:** Monday, October 25, 2021 10:59 AM  
**To:** Casey Mauck  
**Subject:** [External]Proposal for development on 714 Crystal Springs Road

Hi, Casey:

As concerned citizens and neighbors, we were first notified of this proposal only on Friday, 22 October. The City of Yelm has received a proposal to build 30 homes on a small piece of land located directly behind our small private street (Crystal Springs Estates neighborhood) and cul-de-sac at 95th Ave and Woodland Ct SE.

We feel that this action has not been taken in a neighborly way, and also that their development plans overstrip the means of a small, close-knit town and most especially one-lane roads. Our small community cannot support this type of development and the additional pressure is unwelcome.

The construction traffic, the wear on infrastructure, the congestion of added resident traffic on Edwards, Stephens, Crystal Springs, and Cullens Rd. as well as unsafe conditions (speeding, left turns onto a typically clear/slow road would now become dangerous), the environmental impact and loss of wildlife/plants/trees, the noise, the trash, rain and mud runoff, etc. would all reduce our quality of life, our health, our safety, and enjoyment that we have invested in here for our families. To break this proposal down:

- 30 homes = 4-6 persons per home = 120 – 180 additional people living in a neighborhood of crowded homes on only ten acres added to a one-lane road.
- 30 homes = approximately 2-3 cars per home = 60 – 90 additional cars traveling several times per day on Crystal Springs Road, a one-lane road currently used by local traffic with very minimal congestion (if ever) or accidents would suddenly become dangerous.

The proposed transition of private Crystal Springs Estates street/cul-de-sac as a main through way for their construction and new homes/traffic which would turn Woodland Ct SE where children play and neighbors congregate to become a busy street with speeding and traffic violations and other dangerous infractions that impose upon our peace, quiet, safety, health, and property value. We recently purchased our home here because we loved the small town community of Yelm, the peace, quiet, privacy, and beauty of a more rural life. If people wanted to live in a big city or town (like Lacey) they would move there not here. People live in Yelm, stay in Yelm, and/or move to Yelm for a reason and it is not big-city or big-town life.

The residents who live along Crystal Springs Road, Edwards, Stephens, and in our small community of Crystal Springs Estates need to be included in the presentation of information which should include environmental impact studies including protected species of plants, trees, and wildlife; traffic safety studies; alternative routes that this company/companies have investigated to mitigate disruption of the residents' lives who actually live here and are affected in all ways by their construction. We are taxpayers, homeowners, and have the best interests of our community and our families at stake. A developer who has proposed 30 homes with exponential additions of dangerous traffic, congestion, noise, rain/mud runoff, unnecessary noise, crowding, etc. does not have our best interest in mind and plainly does not care about us.



In addition, forcing 30 homes on ten acres does not take into account several other large parcels of flat cleared land that can support additional homes constructed in a sensible and responsible manner. This proposal does not consider the true culture of our town.

The City of Yelm currently does not have the infrastructure to support the residents it already has. Yelm Ave alone, as well as Stephens and Edwards cannot support the traffic on a daily basis for rush hour, or for re-routing from accidents on I-5. Even the addition of the 510 Extension Loop will not alleviate much, as has been the common sentiment of Yelm residents. There is a constant aggressive force to make a small town support major traffic, through ways, and additional homes and this is not the answer to those problems.

Thank you for your time. I would appreciate a prompt response as well as what action we as tax paying citizens and directly affected residents can do. We all need to be included in the planning process, compromises, and any discussions as affected parties.

Best regards,

Daedra Smith & Kris Olsen  
15730 Woodland Ct SE  
Yelm, WA 98597  
636.236.4193



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300  
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

November 23, 2021

Casey Mauck, SEPA Contact  
City of Yelm  
106 2<sup>nd</sup> Street SE  
Yelm, WA 98597

Dear Casey Mauck:

Thank you for the opportunity to comment on the determination of nonsignificance for the Crystal Springs Plat Project (2021.0054) located at 714 Crystal Springs Road Northwest as proposed by AHBL, Inc. The Department of Ecology (Ecology) reviewed the environmental checklist and has the following comment(s):

**HAZARDOUS WASTE & TOXICS REDUCTION: Tara Davis (360) 407-6275**

Demolition

The applicant proposes to demolish an existing structure(s). In addition to any required asbestos abatement procedures, the applicant should ensure that any other potentially dangerous or hazardous materials present, such as PCB-containing lamp ballasts, fluorescent lamps, and wall thermostats containing mercury, are removed prior to demolition. Also, be aware that PCBs are increasingly being found in caulking and paint. It is important that these materials and wastes are removed and appropriately managed prior to demolition. It is equally important that demolition debris is also safely managed, especially if it contains painted wood or concrete, treated wood, or other possibly dangerous materials.

Please review the "Dangerous Waste Rules for Demolition, Construction, and Renovation Wastes," on Ecology's website at: <https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Dangerous-waste-guidance/Common-dangerous-waste/Construction-and-demolition>. The applicant may also contact Robert Rieck with Ecology's Hazardous Waste and Toxics Reduction program (HWTR) at (360) 407-6751 for more information about safely handling dangerous wastes and demolition debris

New construction

Construction waste is usually left over from construction work sites. New construction creates dangerous waste from treated wood, paint, solvents, glue, roofing tars, and other materials. These must be designated and disposed of properly under the Dangerous Waste Regulations. Choose less hazardous materials and find safer alternatives, when possible.

**SOLID WASTE MANAGEMENT: Derek Rockett (360) 407-6287**

The applicant proposes to demolish an existing structure(s). In addition to any required asbestos abatement procedures, the applicant should ensure that any other potentially dangerous or hazardous materials present are removed prior to demolition. It is important that these materials and wastes are removed and appropriately managed prior to demolition. It is equally important that demolition debris is also safely managed, especially if it contains painted wood or concrete, treated wood, or other possibly dangerous materials. Please review the "Dangerous Waste Rules for Demolition, Construction, and Renovation Wastes," on Ecology's website at: Construction & Demolition Guidance. All removed debris resulting from this project must be disposed of at an approved site. All grading and filling of land must utilize only clean fill. All other materials may be considered solid waste and permit approval may be required from your local jurisdictional health department prior to filling. Contact the local jurisdictional health department for proper management of these materials.

**TOXICS CLEANUP: Thomas Middleton (360) 407-7263**

If contamination is suspected, discovered, or occurs during the proposed SEPA action, testing of the potentially contaminated media must be conducted. If contamination of soil or groundwater is readily apparent, or is revealed by testing, Ecology must be notified. Contact the Environmental Report Tracking System Coordinator for the Southwest Regional Office (SWRO) at (360) 407-6300. For assistance and information about subsequent cleanup and to identify the type of testing that will be required, contact Thomas Middleton with the SWRO, Toxics Cleanup Program at (360) 407-7263.

**WATER QUALITY/WATERSHED RESOURCES UNIT:  
Greg Bengé (360) 690-4787**

Erosion control measures must be in place prior to any clearing, grading, or construction. These control measures must be effective to prevent stormwater runoff from carrying soil and other pollutants into surface water or stormdrains that lead to waters of the state. Sand, silt, clay particles, and soil will damage aquatic habitat and are considered to be pollutants.

Any discharge of sediment-laden runoff or other pollutants to waters of the state is in violation of Chapter 90.48 RCW, Water Pollution Control, and WAC 173-201A, Water Quality Standards for Surface Waters of the State of Washington, and is subject to enforcement action.

Construction Stormwater General Permit:

The following construction activities require coverage under the Construction Stormwater General Permit:

1. Clearing, grading and/or excavation that results in the disturbance of one or more acres **and** discharges stormwater to surface waters of the State; and
2. Clearing, grading and/or excavation on sites smaller than one acre that are part of a larger common plan of development or sale, if the common plan of development or sale will ultimately disturb one acre or more **and** discharge stormwater to surface waters of the State.
  - a) This includes forest practices (including, but not limited to, class IV conversions) that are part of a construction activity that will result in the disturbance of one or more acres, **and** discharge to surface waters of the State; and

3. Any size construction activity discharging stormwater to waters of the State that Ecology:
  - a) Determines to be a significant contributor of pollutants to waters of the State of Washington.
  - b) Reasonably expects to cause a violation of any water quality standard.

If there are known soil/ground water contaminants present on-site, additional information (including, but not limited to: temporary erosion and sediment control plans; stormwater pollution prevention plan; list of known contaminants with concentrations and depths found; a site map depicting the sample location(s); and additional studies/reports regarding contaminant(s)) will be required to be submitted. For additional information on contaminated construction sites, please contact Carol Serdar at [Carol.Serdar@ecy.wa.gov](mailto:Carol.Serdar@ecy.wa.gov), or by phone at (360) 742-9751.

Additionally, sites that discharge to segments of waterbodies listed as impaired by the State of Washington under Section 303(d) of the Clean Water Act for turbidity, fine sediment, high pH, or phosphorous, or to waterbodies covered by a TMDL may need to meet additional sampling and record keeping requirements. See condition S8 of the Construction Stormwater General Permit for a description of these requirements. To see if your site discharges to a TMDL or 303(d)-listed waterbody, use Ecology's Water Quality Atlas at: <https://fortress.wa.gov/ecy/waterqualityatlas/StartPage.aspx>.

The applicant may apply online or obtain an application from Ecology's website at: [http://www.ecy.wa.gov/programs/wq/stormwater/construction/- Application](http://www.ecy.wa.gov/programs/wq/stormwater/construction/-Application). Construction site operators must apply for a permit at least 60 days prior to discharging stormwater from construction activities and must submit it on or before the date of the first public notice.

Ecology's comments are based upon information provided by the lead agency. As such, they may not constitute an exhaustive list of the various authorizations that must be obtained or legal requirements that must be fulfilled in order to carry out the proposed action.

If you have any questions or would like to respond to these comments, please contact the appropriate reviewing staff listed above.

Department of Ecology  
Southwest Regional Office

(GMP:202105983)

cc: Tara Davis, HWTR  
Derek Rockett, SWM  
Thomas Middleton, TCP  
Greg Bengel, WQ

24 November 2021

To Whom It May Concern:

We would like to address deficiencies in the SEPA checklist and application submitted by the developer for the Crystal Springs Plat at 714 Crystal Springs Rd., Yelm, WA 98597, Case # 2021.0054. We would also like to have the City respond in regard to their Comprehensive Plan alignment with the GMA with respect to this development and the below points.

Please see below comments and submit to the Hearing Examiner for his impartial consideration of the case. Thank you.

Regards,

Daedra Smith & Kristopher Olsen

15730 Woodland Ct SE

Yelm, WA 98597

[daedra.d.smith@gmail.com](mailto:daedra.d.smith@gmail.com)

636.236.4193

For zoning:

- 1) Per Yelm's Comprehensive Plan Land Use Policy 3.3:  
4 single-family units per acre (assumed medium density) or 6 single-family units per acre (assumed high density) - The 5-acre property is zoned for medium density residential, encroaching on industrial. Medium density is defined as 6 multi-family units per acre. Would that not be 4 single-family units per acre instead of the proposed 6 units? 6 single-family homes per acre is "high density."
- 2) The Growth Management Act Planning Parameters of Yelm's Comprehensive Plan states that one of the goals is to reduce sprawl, conserve wildlife habitats, retain open spaces and environmental preservation. The property proposed for development includes older growth trees and open spaces which are likely refuges and homes to wildlife, endangered and otherwise. What assurances will be provided to adhere to Yelm's Comprehensive Plan and to the GMA?
- 3) Is this development within the projected growth of Yelm as per the Comprehensive Plan? How does this projected growth meet requirements for the GMA?
- 4) Is this development considered part of a sustainable community (defined as "Provide for current needs while not compromising future needs," Land Use Goal 2.1)? Is this considered a Smart Growth, Low-Impact Development, or built on Green/LEED standards?
- 5) Per Land Use Policy 11.1 – Plan at the neighborhood level to increase housing density and preserve neighborhood character and quality of life at the same time. How are you ensuring

that the quality of life and neighborhood character of the existing residents of Crystal Springs Estates as well as Crystal Springs Rd residents are not negatively impacted by this rushed development?

#### **RESPONSE TO SEPA CHECKLIST OF DEVELOPER**

**Applicant's answers to questions marked as "N/A" prove to be inadequate/insufficient according to below State regulation. City of Yelm is out of compliance in directing applicants to fill out the SEPA form with, "Do not know," and "Does not apply."**

RCW 43.21C.460

Environmental checklist—Authority of lead agency—Limitations of section.

(1) The lead agency for an environmental review under this chapter utilizing an environmental checklist developed by the department of ecology pursuant to RCW 43.21C.110 may identify within the checklist provided to applicants instances where questions on the checklist are adequately covered by a locally adopted ordinance, development regulation, land use plan, or other legal authority.

**(2) If a lead agency identifies an instance as described in subsection (1) of this section, it still must consider whether the action has an impact on the particular element or elements of the environment in question.**

**(3) In instances where the locally adopted ordinance, development regulation, land use plan, or other legal authority provide the necessary information to answer a specific question, the lead agency must explain how the proposed project satisfies the underlying local legal authority.**

(4) If the lead agency identifies instances where questions on the checklist are adequately covered by a locally adopted ordinance, development regulation, land use plan, or other legal authority, an applicant may still provide answers to any questions on the checklist.

**(5) Nothing in this section authorizes a lead agency to ignore or delete a question on the checklist.**

(6) Nothing in this section changes the standard for whether an environmental impact statement is required for an action that may have a probable significant, adverse environmental impact pursuant to RCW 43.21C.030.

(7) Nothing in this section affects the appeal provisions provided in this chapter.

(8) Nothing in this section modifies existing rules for determining the lead agency, as defined in WAC 197-11-922 through 197-11-948, nor does it modify agency procedures for complying with the state environmental policy act when an agency other than a local government is serving as the lead agency.

#### **RESPONSE TO SEPA CHECKLIST OF DEVELOPER**

Section A Background #11 of SEPA checklist does not adequately describe the size of the project and site. The plat of proposed land to be developed is 4.89 acres for 30 homes for the R-6 zoning area which is more than what is allowed for the acreage and zoning classification.

Section A Background #12 of SEPA checklist does not describe the boundaries of the project as required.

Section B.1.F of SEPA does not specify where they anticipate “minimal erosion” to occur. Any erosion that impacts the existing residences of Crystal Springs Estates must be discussed with residents and notification provided of plans in place to prevent damage to homes and properties.

Section 3.a.1 does not adequately address the question regarding location to a body of water/stream/creek, protected wetlands, etc. The entrance to the existing property is less than 300 feet from Yelm Creek and its associated wetlands and buffers. This is required by Yelm City Code:

<https://www.codepublishing.com/WA/Yelm/html/Yelm18/Yelm1821.html#18.21.010>

Section 3.a.2 provides an answer of “not applicable” which is not an adequate response according to RCW 43.21C.460 State environmental policy. Construction, transport of materials, and vehicles will occur within 300 feet of the protected Yelm Creek and associated wetlands/riparian habitat areas.

<https://www.codepublishing.com/WA/Yelm/html/Yelm18/Yelm1821.html>

Section 3.a.5 provides an answer that the proposed development does not lie within a 100-year flood zone. The property located directly adjacent to the proposed site on the eastern property line, which is city municipal property, is approximately 75% classified as within a FEMA flood zone.

Section 4.b states that most vegetation will be removed from the site, and that 1:1 replacement of trees will occur for trees with diameter greater than 8 inches. This answer is inadequate and requires additional detail to be provided. Replacement of the types of trees is not specified, and the 1:1 replacement must adhere to like-for-like with evergreen species replaced by the same species of trees to avoid disrupting natural habitat and aesthetic of the area.

Section 5.a states that only songbirds, mice, and rabbits have been observed on the site. The developer has not provided any unbiased reports or collections of studies/data by wildlife biologists or other UNPAID experts. Local residents have repeatedly observed protected species of birds including owls, hawks, eagles, woodpeckers, etc on and near this property. The WA Department of Fish & Wildlife must provide adequate complete studies to provide evidence to support their statement.

Section 5.b states that no threatened or endangered species are known to be on or near the site.

- Applicant has not contacted an unbiased (UNPAID) authority (WDFW or Dept of Ecology) to request subject matter expert testimony in regard to impact of development on local environment, sensitive animal or habitat species.
- Yelm City Code “Critical Areas and Resource Lands” 18.21 specifies that the WA Department of Ecology and WA Department of Fish and Wildlife shall be consulted prior to any activities or construction taking place for a new development near wetlands, critical habitats, and buffer zones. Fish and wildlife habitat conservation areas require an assessment to be performed. In addition, bald eagles have been observed and have been known to have nesting and breeding sites next to Yelm Creek along Crystal Springs Rd. across from Crystal Springs Estates neighborhood.
- The proposed development is within a critical protected area which is habitat for the following 2 species of bats, which are essential to insect control and crucial plant pollination:
  - Townsend’s Big-eared bat
  - Yuma myotis

- See <https://geodataservices.wdfw.wa.gov/hp/phs/>
- These bat species use coniferous forests (large pine trees), riparian communities (creeks, rivers, wetlands), and open prairies for food sources and habitat (nesting, breeding, roosting)
- The proposed development not only plans to remove all vegetation from the land which provides imperative habitat for native species which includes the bats but has not specified how they will protect native species and replace native habitat which includes specifically coniferous trees.
- The developer has not provided evidence of provisions for wildlife corridors for native wildlife including protected species in the area.
- Washington State Bat Conservation Plan <https://wdfw.wa.gov/publications/01504>

Section 5.c the developer acknowledges that this property is located within the Pacific Flyway for Migratory Birds.

Section 5.d the developer contradicts their acknowledgement of the migratory flyway for important bird species and states that no special measures are proposed, and no impacts will occur to wildlife. Large existing coniferous trees are imperative to migratory bird species and existing bat and other wildlife species. Demolition and removal of large trees which currently exist as important wildlife habitat have a direct impact on migratory birds as well as local year-round animals.

Section 10.a (Aesthetics) does not adequately address the question posed. The developer provided an answer that the height of the structures will not exceed the maximum height allowed in the R-6 zone. The SEPA checklist requires that the tallest height of any proposed structures be provided in this section.

Section 10.b (Aesthetics) does not provide an adequate response to the question. "What views in the immediate vicinity will be altered or obstructed?" The developer answers that the single-family home will transition to "an attractive residential neighborhood" which is subjective and does not provide an inclusive response to the question. The developer needs to provide details to surrounding residents on how they will impact our existing quality of life which includes obstructed or altered views from existing homes.

Section 10.c (Aesthetics) does not provide sufficient detail in how the developer will provide measures to reduce or control aesthetic impacts. What type of landscaping? Native plants, locally sourced rocks and materials? What type of fencing?

Section 11.b does not provide an adequate response in regard to interference from lighting. The current lighting/aesthetic is typical of a rural setting, in which nighttime is typically dark and unlit. The lighting from streetlights and homes will add glare and light pollution to a currently unpolluted view of the night skies. The developer claims that "all lighting will be directed downward so as not to interfere with views or provide glare." How will this be achieved? What are their measures, including the HOA regulations of the proposed community, that will ensure this occurs? How will the developer maintain the existing aesthetic of a rural community in regard to reducing/controlling light pollution from 30 homes to mitigate effects on surrounding residents?

Section 12.c states that 5% of the proposed development will be open space with active recreation amenities? What are these amenities? There are no specific amenities mentioned that will be provided.



Section 14.a states that the development will be served by the access from Crystal Springs Rd and Woodland Ct. SE. The developer has not provided any additional research of other routes of ingress/egress available such as access from Rhoton Rd. on the eastern side of this property in order to avoid directly disrupting the lives and quality of living by existing residents of Crystal Springs Estates.

Section 14.g does not provide adequate response to any proposed measures to reduce or control transportation impacts. The developer simply replies they are paying transportation fees. Details must be provided of how the new development will be installed in such a way to not negatively impact the existing residents of Woodland Ct. SE. A very significant and large impact will affect all residents of Woodland Ct. SE and 95<sup>th</sup> Ct. Currently Crystal Springs Estates is a quiet and private neighborhood with zero through-traffic. There are no traffic safety hazards to pedestrians or children. Residents on Woodland Ct. SE must back out of their driveways in order to access the street, and the through-traffic of the proposed subdivision will negatively and adversely affect all existing residents, pedestrians, and children. The through-traffic proposed will impose safety hazards and dangers to residents' vehicles, children, and to other pedestrians who currently use the street. What measures are proposed to ensure all safety and mitigate dangers to the public? There are no details provided.

## Casey Mauck

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**From:** Daedra Smith <daedra.d.smith@gmail.com>  
**Sent:** Thursday, November 11, 2021 3:14 PM  
**To:** Casey Mauck; savannah.noriega@gmail.com; steffenburney@yahoo.com; Kristopher Olsen  
**Subject:** [External]Re: City of Yelm Determination of Non-Significance Crystal Springs Plat 2021.0054

Casey - In addition to my previous email, I meant to also inquire how the city and the developer have investigated alternate entries/exits for this new neighborhood in order to mitigate the choke points of traffics which we all know will occur, as Crystal Springs Road will only have one way access to our current neighborhood. Morning and afternoon/evening traffic will become a true nightmare when added to the new school which was built at the corner of Crystal Springs Road and Cullens Road. I doubt that this traffic has been assessed properly. Therefore the city and the developer need to investigate alternate routes into and out of the proposed neighborhood rather than forcing the burden of traffic and poor planning on the existing residents. Proper studies need to be performed and alternate routes on the opposite side of the new neighborhood must be looked at.

Thank you,

Daedra Smith

On Thu, Nov 11, 2021 at 3:01 PM Daedra Smith <[daedra.d.smith@gmail.com](mailto:daedra.d.smith@gmail.com)> wrote:  
Hi, Casey:

It doesn't seem like the concerns of the residents have been taken into consideration during the previous comment period, including our concerns for safety in our neighborhood, traffic, construction flow, etc. Can you please advise?

How will the tax paying residents and citizens of this town be treated with respect during construction and traffic flow including impeding speeding and blockage of our property? Safety of pedestrians in the Crystal Springs cul-de-sac and 95th St.?

Also, we would like to find out how we can have the council properly address these legitimate concerns with us before they provide any permitting for construction or demolition. This includes adequate traffic safety studies (real physical studies and not using statistical analysis only as a model) and proper environmental and protected animal and bird species studies performed by qualified personnel. It is well known that protected bird species (owls, hawks, woodpeckers, eagles, etc) use the large pine trees on this property including for breeding and nesting. No documentation has been provided whatsoever in regards to proper scientific studies performed by qualified personnel during breeding season or nesting season of these areas which exist within the Pacific Migratory flyway. Perhaps a consultation with the Audubon Society and/or Sierra Club would shed some light on this subject, as the previous department and documentation used by the developer is lacking.

Thank you,

Daedra Smith 15730 Woodland Ct SE, Yelm, WA 98597

On Wed, Nov 10, 2021 at 10:52 AM Casey Mauck <[CaseyM@yelmwa.gov](mailto:CaseyM@yelmwa.gov)> wrote:

[Click here](#) to view the Determination of Non-Significance for Crystal Springs Plat, City of Yelm Case # 2021.0054.

Please contact me if you have any questions.

**Casey Mauck**

Pronouns: she/her/hers

Assistant Planner

[CaseyM@yelmwa.gov](mailto:CaseyM@yelmwa.gov) | 360.400.5001

[www.yelmwa.gov](http://www.yelmwa.gov)



## Casey Mauck

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**From:** Lauren Whybrew <lauren.whybrew@orcaa.org>  
**Sent:** Monday, November 15, 2021 12:51 PM  
**To:** Casey Mauck  
**Cc:** Rob Wyland  
**Subject:** [External]ORCAA Comment of SEPA# 202105983

Good Afternoon,

I recently reviewed a notice regarding the [Crystal Springs Plat](#) (File No. 2021.0054), located at 714 Crystal Springs Rd NW in Yelm, WA , WA. The environmental checklist proposes to demolish the existing single family residence and associated outbuildings. Olympic Region Clean Air Agency (ORCAA) has the following comments for the applicant:

ORCAA regulations require an asbestos survey for all demolition projects. Demolition projects by definition also include renovations performed to load-bearing structural members on the current building as part of a remodel.

Prior to any demolition project, the following must be completed:

- A good faith asbestos survey must be conducted on the structure by a certified Asbestos Hazardous Emergency Response Act (AHERA) building inspector;
- If asbestos is found during the survey, an ORCAA Asbestos Removal Notification must be completed and all asbestos containing material must be properly removed prior to the demolition; and,
- If the structure is 120 sq. ft. or greater, an ORCAA Demolition Notification must be submitted regardless of the results of the asbestos survey. There is a mandatory 14-day waiting period after ORCAA receives notification, so we recommend the applicant complete the Demolition Notification promptly after receiving the survey.

*\*These requirements are specific to ORCAA and are not synonymous with any city or county permitting jurisdiction requirements*

### Helpful Links:

A list of certified asbestos contractors is available at [https://www.orcaa.org/wp-content/uploads/2020/01/Asbestos\\_Contractors\\_Jan2020.pdf](https://www.orcaa.org/wp-content/uploads/2020/01/Asbestos_Contractors_Jan2020.pdf)

The Demolition Notification form is available at <https://www.orcaa.org/asbestos-demolition-programs/demolition-notification/>

If applicable, the Contractor Asbestos Removal Application is available at <https://www.orcaa.org/asbestos-demolition-programs/contractor-asbestos/>

**If you have any questions or concerns regarding the process, please contact Robert Wyland by email at [robert.wyland@orcaa.org](mailto:robert.wyland@orcaa.org) or by calling our main office at 360-539-7610.**

Thank you,

**Lauren Whybrew, Engineer I**

**Olympic Region Clean Air Agency - "Clean Air is Everyone's Business!"**

2940 Limited Lane NW · Olympia WA 98502 · [www.orcaa.org](http://www.orcaa.org)

**(360) 539-7610** ext. 107 · 1-800-422-5623

*Please take notice that any records or communications with ORCAA are subject to public disclosure under the Public Records Act (RCW 42.56) unless exempt under applicable law.*

*Please consider the environment before printing this email. Thank you.*

## Casey Mauck

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**From:** R J <RJP490@msn.com>  
**Sent:** Friday, November 26, 2021 2:22 PM  
**To:** Casey Mauck  
**Subject:** [External]New Development in Yelm off Crystal Springs Rd. NW

Dear Casey Mauck,

It has come to my attention from fellow neighbors, Deadra Smith and Kris Olsen, who live in Crystal Springs Estate (CSE), that another housing development is being considered in our already bursting neighborhoods.

My family and I live on Crystal Springs Rd. NW and 92<sup>nd</sup> Way SE. Yes, this development is south of us but ultimately will affect our commute since the new housing will be adjoined with CSE causing more traffic issues in that community and on Crystal Springs Rd. NW. We already have issues with noisy, speeding vehicles on our road, and, with adding yet another community, this will cause more problems with noise pollution.

According to Section 5.a, it states that only songbirds, mice and rabbits inhabit this area. This new housing project will prohibit these animals from living in their natural habitat, along with the migratory path of larger birds that have made their homes in the trees on this proposed land development. I have noticed in recent years more birds flying overhead ranging from woodpeckers, bald eagles, falcons and hawks. By removing any or all 90 ft. or greater pine and other conifer trees, you remove their nesting areas. They will have to find other places to go, thus rousting out neighboring birds from their own places of refuge due to animal dominance. In the last couple of years, I have also been witness to more wildlife, such as deer. Their homes are being removed due to the creation of more housing. When all the land is taken, where are they supposed to live?? What about foxes and other predatory animals? Where are they to go with so much development going on in Yelm? Extensive studies need to be done to really determine the efficacy of doing this kind of building.

I appreciate your reading my concerns and hope you will take my and other people's into consideration.

Regards,  
Marie Posey  
15725 92nd Way SE

**EnviroVector**

1441 West Bay Drive, Suite 301  
Olympia, WA 98502

Phone: (360) 790-1559

Email: [curtis@envirovector.com](mailto:curtis@envirovector.com)

2



17 January 2022

SoundBuilt Homes  
Evan Mann  
PO Box 73790  
Puyallup, WA 98373

Reference: 714 Crystal Springs  
Subject: Endangered & Threatened birds to Subject Property

Dear client:

At your request, this letter has been prepared to address public comments regarding Endangered and Threatened birds in proximity to the subject property.

## 1.0 INTRODUCTION

### 1.1 Purpose

The City of Yelm requested an evaluation of potential endangered and threatened birds on the subject property. No Endangered or Threatened birds were thought to occur on the subject property or in the immediate vicinity during the gopher screening. Thereby, no evaluation of Endangered or Threatened birds was performed at that time. This study evaluates the potential of Endangered or Threatened bird species occurring on the subject property.

### 1.2 Property Location

The subject property is located at 714 Crystal Springs Rd SE, City of Yelm, WA (**Table 1**).

**Table 1 Parcels Comprising Subject Property**

No#	Property Address	Parcel Number	Map Coordinates	Property Size (Acres)
1	714 Crystal Springs Rd SE	22719210403	Section 19, Township 17 North, Range 02 east	4.89
1 Parcels	Total Size			4.89 acres

### 1.3 Permitting Jurisdiction

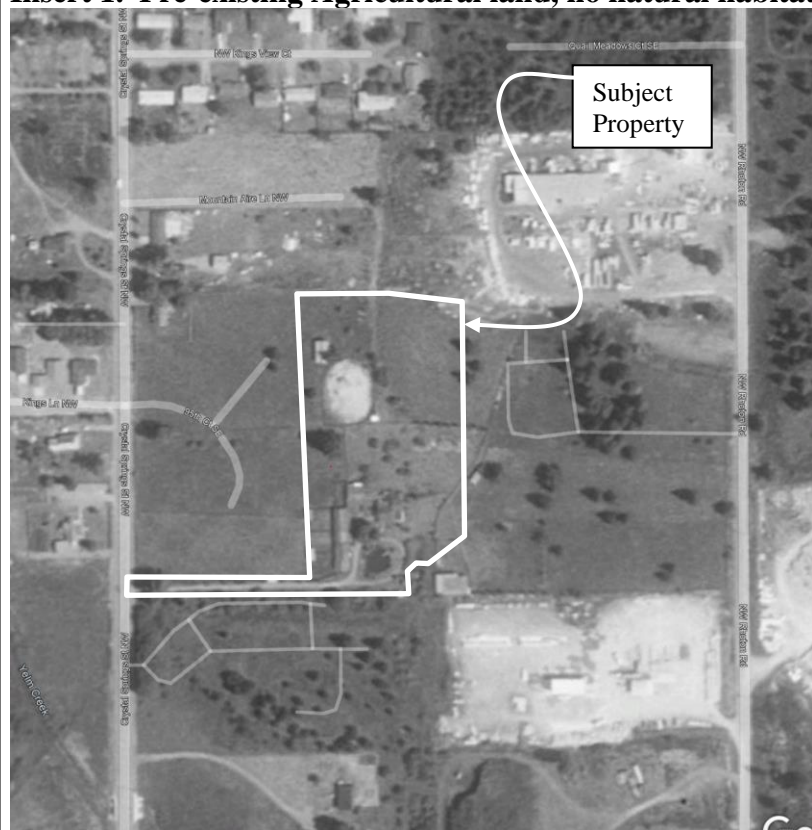
Permitting jurisdiction is City of Yelm.

### 1.4 Property Description

The subject property consists of a relatively flat 4.89-acre single-family residential parcel, located in an urban area surrounded by high intensity development. The entrance to the property is from Crystal Springs Street NW along straight gravel driveway leading to the southern portion with circular driveway around a manmade pond that is located in front of the residence (**Appendix A, Photo 1**). One external building is west of the house and the other is located west parallel to the circular driveway (**Appendix A, Photos 1 & 10**).

The subject property consists of historical agricultural land that is currently used as a single-family residence. **Insert 1** shows pre-existing agricultural use on the subject property and in the vicinity of the subject property in 1990. Remnant agricultural buildings occur on the site as a testament of these historical land use activities (**Appendix A, Photos 1, 6, & 9**). Primary vegetation on the site consists of European pasture/lawn grasses and non-native invasive weeds, such as Himalayan blackberry (*Rubus Armeniacus*) and Scotch broom (*Cytisus Scoparius*), which provide minimal habitat value for wildlife.

**Insert 1. Pre-existing Agricultural land, no natural habitat**





## 2.0 METHODOLOGY

### 2.1 Background Review

Background information was reviewed prior to the field evaluation and includes the following:

- Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) Database (**Appendix B**)
- Washington Department of Fish and Wildlife (WDFW) IPaC List (**Appendix C**)

### 2.2 Field Investigation

An endangered and threatened bird survey was performed on 14 December 2021 by an EnviroVector biologist. The biologist utilized the maps and database information received from WDFW as potential occurrences and habitat locations. Potential habitat requirements were evaluated during site survey. The entire 4.89-acre subject property has been evaluated on foot. Equipment included Trimble Geo 7x with sub-foot accuracy, Garmin Montana 680t, portable camera, binoculars, and field notebook.

## 3.0 BACKGROUND INFORMATION

### 3.1 WDFW PHS Database

No priority habitats or species are mapped on the subject property. Wetlands associated with Yelm Creek have been mapped approximately three hundred thirty (~330) feet southwest of the subject property (**Appendix B**). Salmonids have been mapped in Yelm Creek approximately six hundred (~600) feet southwest or approximately three hundred (~300) feet west of the subject property by the WDFW Priority Habitats and Species (PHS) database (**Appendix B**).

Yuma myotis (*Myotis yumanensis*) and Townsend's Big-eared Bat (*Corynorhinus rafinesquii*) are mapped in the township.

### 3.2 USFWS IPaC List

The IPaC, generated by the US Fish and Wildlife Service (USFWS), identifies bird species that are Federally listed in the region (**Table 2; Appendix C**).

**Table 2. Federally listed Species in Yelm, WA**

Common Name	Scientific Name	Federal Listing Status	Jurisdiction	Critical Habitat In Vicinity
BIRDS				
Marbled murrelet	<i>Brachyrhamphus marmoratus</i>	T	USFWS	No
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	T	USFWS	No
Streaked horned lark	<i>Eremophila alpestris strigata</i>	T	USFWS	No
Northern spotted owl	<i>Strix occidentalis caurina</i>	T	USFWS	No

## 4.0 FIELD RESULTS

### 4.1 Site Evaluation

No Federally-listed bird species under the Endangered Species Act (ESA) or State Priority Species, including bird species listed in the region by the USFWS IPaC, have been identified on the subject property or within the Vicinity of the subject property. No Federally-designated Critical Habitat of these bird species occur on the subject property or within the vicinity of the subject property. No Federally-designated Primary Constituent Elements (PCEs) of their habitat have been identified on the subject property or within the vicinity of the subject property.

Federally-listed bird species included in this report are listed in **Table 2**.

#### 4.1.1 Marbled Murrelet Habitat

No marbled murrelet or its habitat or Federally-designated Critical Habitat occurs on the subject property or within the vicinity of the subject property.

The marbled murrelet is a marine bird that spends majority of time foraging in large lakes and marine waters. However, the marbled murrelet comes inland up to seventy (70) miles to nest old growth forests. These dense shady forests are generally characterized by large trees with large branches or deformities that are used as nest platforms.

The USFWS considers PCEs to be those specific elements of the physical or biological features that provide for a species' life-history processes and are essential to the conservation of the species. For the marbled murrelet, those life-history processes associated with terrestrial habitat are specifically related to nesting. Areas essential for successful nesting, the USFWS focused on two (2) primary constituent elements:

- Individual trees with potential nesting platforms, and

- Forested areas within 0.8 kilometer (0.5 mile) of individual trees with potential nesting platforms, and a canopy height of at least one-half ( $\geq 1/2$ ) the site-potential tree height.

This includes all such forests, regardless of contiguity. These Primary Constituent Elements were considered essential to provide and support suitable nesting habitat for successful reproduction of the Marbled murrelet. Within the boundaries of designated Critical Habitat, only those areas that contain one (1) or both (2) Primary Constituent Elements are, by definition, Critical Habitat. Areas without any Primary Constituent Elements are excluded by definition.

Potential nest trees are large trees, preferably old growth, generally more than eighty-one (81) centimeters (32 inches) diameter at breast height with the presence of potential platforms or deformities, such as large or forked limbs, broken tops, dwarf mistletoe infections, witches' brooms, or other formations providing platforms of sufficient size to support adult marbled murrelets. The nesting period extends from approximately April 1 to September 15 (WDFW, 1991).

No marbled murrelet nesting trees are located on the subject property or within the Vicinity of the Subject property.

The marbled murrelet is extremely unlikely to occur on the subject property or within the vicinity of the subject property.

#### **4.1.2 Yellow-billed Cuckoo Habitat**

No yellow-billed cuckoos or its habitat were identified on subject property. This species is found in dense willow-cottonwood forests and marshy bottomlands with scattered thickets of willows, none of which occur on the subject property. Yellow billed cuckoo PCEs of habitat includes riparian willow-cottonwood wetlands that are two hundred or more ( $\geq 200$ ) acres in size. No PCEs of habitat occur on the subject property or within the vicinity of the subject property. However, small riparian wetlands may occur on Yelm Creek, located approximately six hundred feet southwest of the subject property. However, habitat essential for the occurrence of the yellow billed cuckoo is unlikely in Yelm Creek. No streaked horned lark Critical Habitat has been designated in Thurston County. The nearest Critical Habitat occurs near Ocean Shores, WA approximately west of the Action Area.

Occurrence of the yellow billed cuckoo on the subject property is extremely unlikely.

#### **4.1.3 Streaked Horned Lark Habitat**

No streaked horned larks were identified on the subject property during the site evaluation. The USFWS Streaked Horned Lark Recovery Plan states that sites used by larks are generally found in open (*i.e.*, flat, treeless) landscapes of greater than or equal to three hundred acres ( $\geq 300$  acres) in size, which is also a PCE of its habitat. The species may utilize smaller patches of grassland if the individual birds have "visual" access to large open grasslands or open water areas. No habitat for the streaked horned lark occurs on the subject property. No Critical Habitat for this species occurs within Thurston County.

The streaked horned lark is extremely unlikely to occur on the subject property.

#### 4.1.4 Northern Spotted Owl Habitat

No northern spotted owl or its habitat were identified on the subject property during the site evaluation. The USFWS Northern Spotted Owl Recovery Plan states that spotted owls generally rely on mature and old-growth forests because these habitats contain the structures and characteristics required for nesting, roosting, and foraging. No old growth forests required for the habitancy of the northern spotted owl occurs on the subject property or in the vicinity of the subject property.

PCEs for nesting habitat include tree stands with moderate to high canopy cover (60 to over 80 percent); a multilayered, multispecies canopy with large overstory trees greater than 30 in (76 cm) dbh; a high incidence of large trees with various deformities (*e.g.*, large cavities, broken tops, mistletoe infections, and other evidence of decadence); large snags; large accumulations of fallen trees and other woody debris on the ground; and sufficient open space below the canopy for northern spotted owls to fly.

No PCEs of nesting habitat occurs on the subject property or within the vicinity of the subject property.

The foraging habitat PCEs for the ecological zones within the geographical range of the northern spotted owl are generally the following:

- (a) West Cascades/Coast Ranges of Oregon and Washington
  - (i) Stands of nesting and roosting habitat; additionally, owls may use younger forests with some structural characteristics (legacy features) of old forests, hardwood forest patches, and edges between old forest and hardwoods.
  - (ii) Moderate to high canopy cover (60 to over 80 percent).
  - (iii) A diversity of tree diameters and heights.
  - (iv) Increasing density of trees greater than or equal to thirty-one ( $\geq 31$ ) in (80 cm) dbh increases foraging habitat quality (especially above 12 trees per ac (30 trees per ha)).
  - (v) Increasing density of trees twenty (20) to thirty-one (31) in (51 to 80 cm) dbh increases foraging habitat quality (especially above twenty-four ( $>24$ ) trees per ac (60 trees per ha)).
  - (vi) Increasing snag basal area, snag volume (the product of snag diameter, height, estimated top diameter, and including a taper function, and density of snags greater than twenty ( $>20$ ) in (50 cm) dbh all contribute to increasing foraging habitat quality, especially above four ( $>4$ ) snags per ac (10 snags per ha).
  - (vii) Large accumulations of fallen trees and other woody debris on the ground; and
  - (viii) Sufficient open space below the canopy for northern spotted owls to fly

No PCEs of foraging habitat occur on the subject property or within the vicinity of the subject property.

The northern spotted owl is extremely unlikely to occur on the subject property based on their range and habitat requirements.

#### 4.1.5 Species Identified During Onsite Evaluation

Bird species identified on the subject property during the site evaluation are listed in **Table 3 (Appendix A, Photos 13-17)**. None of these birds are Federally-listed under the ESA or state priority species.

**Table 3. Species Identified Onsite Evaluation**

Common Name	Scientific Name	Listing Status	Habitat
American Crow	<i>Corvus brachyrhynchos</i>	N/A	Urban & rural areas. Nests 15-60 ft in crotch of trees
Anna's Hummingbird	<i>Calypte anna</i>	N/A	Urban & suburban areas, open woodland & coastal shrub
Black-capped Chickadee	<i>Poecile atricapilus</i>	N/A	Urban & rural Open woods, deciduous groves. Nests in dead trees & branches
European starling	<i>Sturnus vulgaris</i>	N/A	Urban & rural, open groves & fields. Nests in natural hollow
Red-breasted Sapsucker	<i>Sphyrapicus ruber</i>	N/A	Coniferous and deciduous groves. Nests in cavity 50-60' above ground
Song sparrow	<i>Melospiza melodia</i>	N/A	Thickets, brush, roadsides, woodland edges
Western Scrub jay	<i>Aphelocoma californica</i>	N/A	Urban & suburban areas

## 5.0 CONCLUSION

EnviroVector preformed a site evaluation on 14 December 2021 to identify potential Federally-listed bird species under the ESA. Although bird activity was observed, no Federally endangered or threatened, or State priority species were identified on the subject property during the site evaluation. No protected bird species were identified on the site or in the vicinity of the site by the WDFW PHS database. It is extremely unlikely for Federally listed bird species to occur on the subject property.

If you have any questions or require further services, you can contact me at (360) 790-1559.

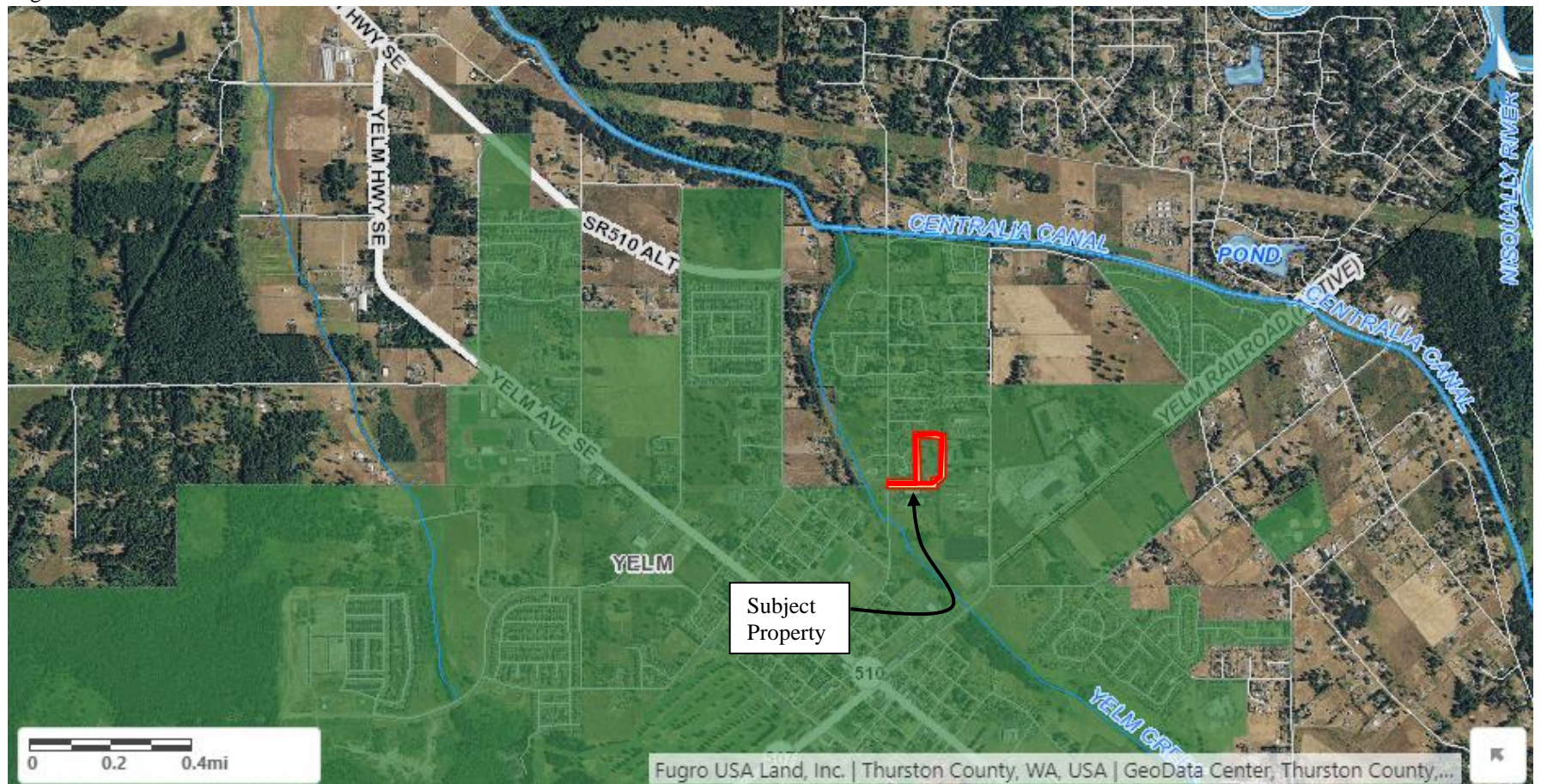
Sincerely,

A handwritten signature in black ink, appearing to read "Curtis Wambach". The signature is fluid and cursive, with the first name "Curtis" being more legible than the last name "Wambach".

Curtis Wambach, M.S.  
Senior Biologist and Principal  
EnviroVector

## FIGURES





**Figure 1 Vicinity Map**





**Figure 2 Subject Property**

# **APPENDIX A**

## **Photo Documentation**



## Site Visit (14 December 2021)



Photo 1. Front of residence, pond with driveway surrounding



Photo 2. Medium trees utilized by small birds and woodpeckers



Photo 3. Trees in northern portion



Photo 4. Landscaping on southeastern property



Photo 5. View offsite north of property  
Bird Study



Photo 6. Abandon hay pavilion in northern portion





Photo 7. Only a couple of trees on property



Photo 8. Neighborhood on western property boundary



Photo 9. Barn on west property boundary



Photo 10. Shop near driveway



Photo 11. American crows foraging lawn



Photo 12. American crows on neighboring property's roof





Photo 13. Red-breasted sapsucker



Photo 14. American Goldfinch



Photo 15. Western Scrub-jay in tree.



Photo 16. Western Scrub-jay



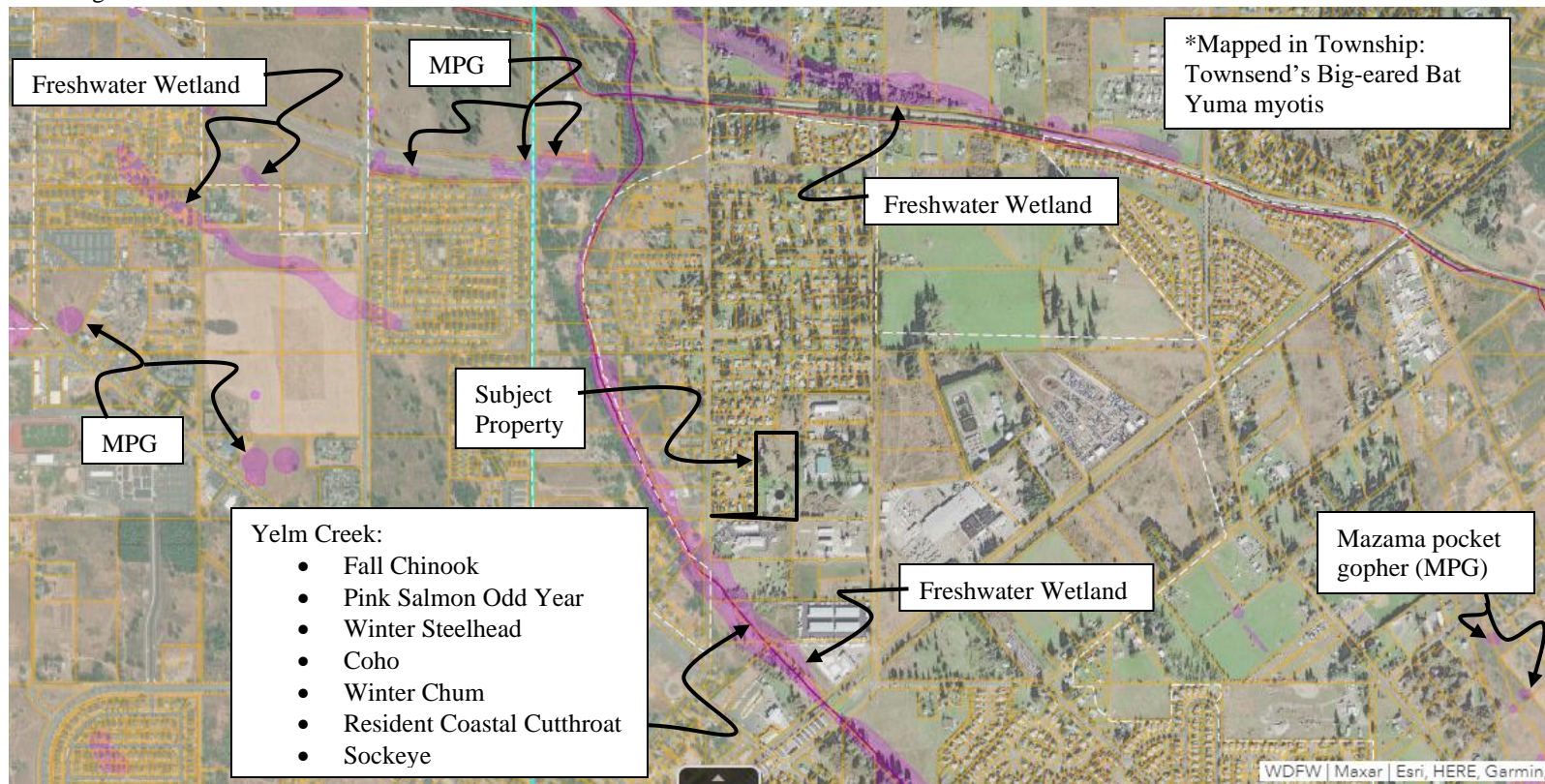
Photo 17. Large tree with crows to starlings to chickadees

# **APPENDIX B**

## **WDFW**

### **Priority Habitat Species (PHS)**





# **APPENDIX C**

## **WDFW**

### **IPaC List**

## Listed Birds

### Birds

NAME	STATUS
Marbled Murrelet <i>Brachyramphus marmoratus</i>	Threatened
Streaked Horned Lark <i>Eremophila alpestris strigata</i> Wherever found	Threatened
Yellow-billed Cuckoo <i>Coccyzus americanus</i>	Threatened