
CHAMBERS DEVELOPMENT

PARCEL NOS. 222007000125
222007000100
222007120050

CHELAN COUNTY, WASHINGTON

GEOLOGICALLY HAZARDOUS AREA EVALUATION

MAY 2022
REVISED NOVEMBER 2023
REVISED FEBRUARY 2024

Consultants:

MUNSON ENGINEERS, INC.
610 North Chelan Avenue
Wenatchee, WA 98801
Austin Harper, PE
(509) 663-0544

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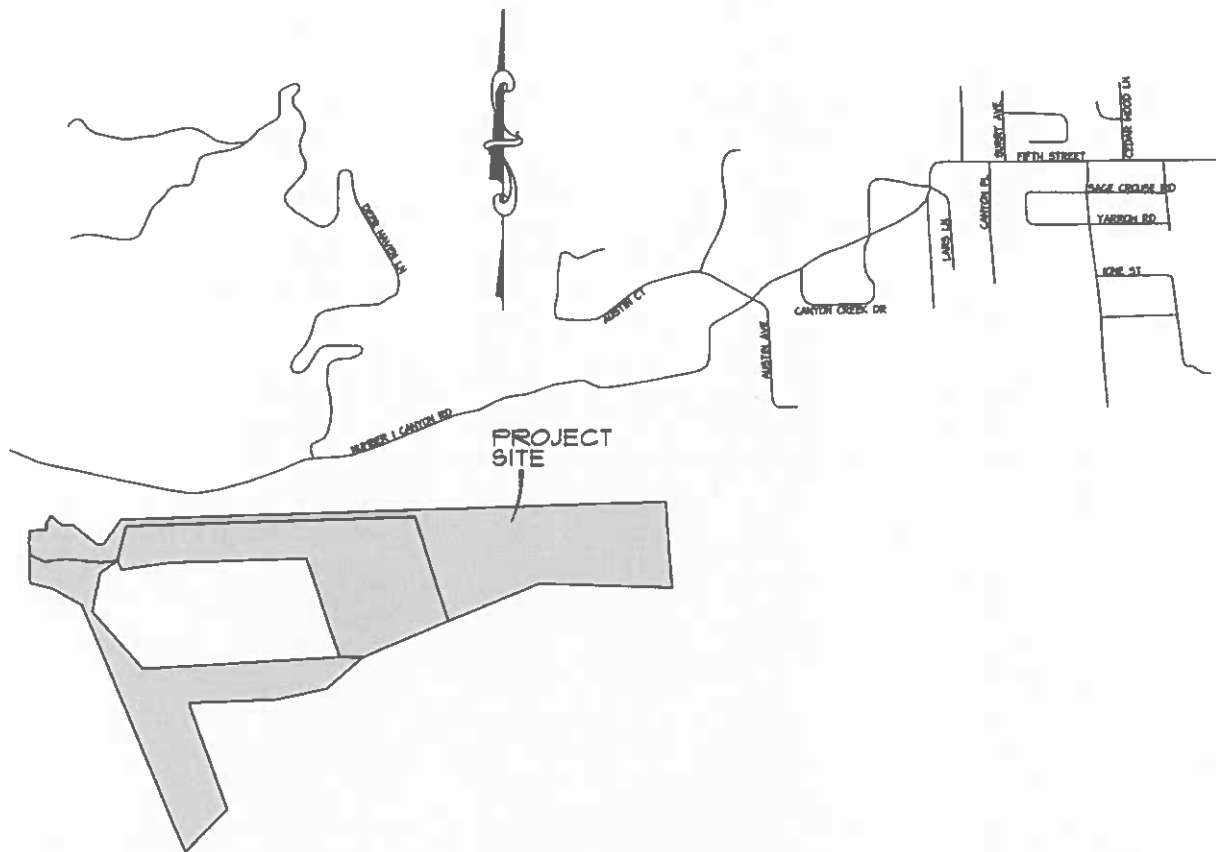
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INTRODUCTION



Vicinity Map

At the request of Chelan County Community Development, a geologically hazardous area evaluation was conducted for a 66.28-acre site comprised of three parcels located at the westerly end of Number 1 Canyon Road in Chelan County. The site is 2.1 miles west of the intersection of Fifth Street and Western Avenue in Chelan County. The site will be used for the construction of residential structures, driveways, and various utilities. The site may be subdivided in the future. Lot access will be provided by a single driveway connecting to Number 1 Canyon Road.

The evaluation is for the purpose of compliance with Chelan County Code Chapter 11.86 Geologically Hazardous Areas Overlay District (GHOD). Code Section 11.86.020 Classification lists suspected risks as subsection (A) *Erosion hazard areas identified by the U.S. Department of Agriculture Soil Conservation Service Chelan County Soil Survey Manual as having a "severe" erosion hazard due to soil composition and slopes found onsite.*

The report is prepared in advance of a building permit submittal. It evaluates the property in terms of erosion hazard as a result of the soil types found onsite and the proposed developments. Information regarding soils in the area of interest came from the Department of Agriculture Natural Resources Conservation Service. Site topography

was acquired by visual observation and online resources. Site reconnaissance was conducted by a site visit.

This report is not a comprehensive geology, hydrology, geotechnical or engineering report. It is a report to evaluate compliance with Chelan County Code Section 11.86.020. That code section requires that the site be classified as one of the three classifications: 1) Known or Suspected Risk; 2) No Risk; or 3) Unknown Risk.

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1-EXISTING CONDITIONS

Topography

The 66.28-acre site is comprised of three parcels located at unassigned addresses on the southerly side of Number 1 Canyon Road. The site is 2.1 miles west of the intersection of Fifth Street and Western Avenue in Chelan County. A shared driveway south of Number 1 Canyon Road provides access to the site. The driveway rises at an average slope of 10.7 percent for a distance of 700 feet to the region of the site being developed. The driveway continues to climb the hillside to the south beyond the area being developed. Portions of the site have been graded to create flat building locations with 2H:1V cut and fill slopes. The natural hillside surrounding the graded portion of the site east of the existing driveway rises at a gradient of 45 percent for a distance of 30 feet where the slope meets the southerly boundary. The slope continues to the south across an adjacent parcel (Figure 1.1). East of the graded portion of the site, the hillside slopes upward to the south at a 50 percent grade (Figure 1.2). The slope continues up the hillside for several hundred feet and spans to the east for a distance of 1400 feet. There the landscape transitions into a natural drainage channel that descends to the north. At the point where the southerly boundary line of the northerly parcel crosses the drainage channel, the depth of the channel is approximately 80 feet with side slopes of 26 percent. The easterly side of the channel continues to rise beyond the westerly boundary line of the northerly parcel. The easterly region of the northerly parcel can be characterized as having a steep, jagged landscape with several natural drainage ways crossing the parcel from south to north. Traversing along the northerly boundary of the northerly parcel, the largest valley crossing the site has an approximate depth of 160 feet with the easterly slope rising at an average gradient of 22 percent. The ridge east of the drainage channel has an average upward slope of 27 percent to the south. The southerly parcel rises to the southeast at an approximate slope of 40 percent for 2100 feet. The slope continues to rise beyond the southerly boundary line.



Figure 1.1 Hillside south of proposed building location



Figure 1.2 Slope east of proposed building area

Drainage Patterns

The site has natural drainage patterns that shed runoff to the north. The site has multiple natural drainage channels that are tributary to the flows within the stream south of Number 1 Canyon Road. Runoff may concentrate before leaving the site.

Soils

The U. S. Department of Agriculture Natural Resources Conservation Service classifies soil types and identifies their properties and characteristics. The soil survey mapped the location of the proposal and identified a single soil type. The soil is classified as Cowiche silt loam, 45 to 65 percent slopes.

Cowiche silt loam, 45 to 65 percent slopes is a well-drained, medium textured soil that formed in material weathered from schist, gneiss, loess, or sandstone. These soils are on the sides and tops of ridges on uplands. Typically, the surface layer is grayish-brown and brown silt loam 22 inches thick. Below this layer is pale-brown heavy silt loam and yellowish-brown sandy clay loam 28 inches thick. The substratum is a multicolored

sandy loam or loamy sand 10 inches thick. Schist bedrock underlies these soils at a depth of 60 inches. The soil is well drained. Runoff is very rapid and the hazard of water erosion is very high. The water table depth is in excess of 80 inches below the soil surface. The available water capacity is high (about 10.0 inches). The soil is classified within hydrologic group C.

Soil information is shown in Appendix 1.

Geotechnical Information

The Chumstick geologic formation underlying the site formed in the Eocene epoch as continental sedimentary deposits and conglomerate. Terraced deposits covered the site in the Pleistocene epoch. The underlying soil is Cowiche silt loam.

Ground Cover

The preponderance of the site is covered in brush and a multitude of coniferous trees. A portion of the site has been cleared of native vegetation and graded for future building locations.

Adjacent Areas

The site is within the Chelan County RR10 (Rural Residential/Resource 10) zone. The parcels that make up the site range in area from 20.07 acres to 25.59 acres. Adjacent properties range from 1.11 acres to 228.6 acres. Properties north and west of the site are residential in use. Adjacent properties south and east of the site are undeveloped. An adjacent property is shown in Figure 1.3 below.



Figure 1.3 Single-family home on adjacent property to the north

Existing Development

There are no existing structures onsite.

Existing Stormwater Facilities

No storm water facility has been developed on the site. If runoff occurs, it will sheet flow off the site to the north and onto adjacent properties. Some features of the site may allow runoff to concentrate before leaving the site.

Site Observation

In the current condition, the property shows no signs of erosion. The areas that have been cleared or are naturally bare of vegetation show no signs of erosive activity. There are no signs of erosion in the area observed near the building sites (Figures 1.4 and 1.5 below).



Figure 1.4 Cut slope south of proposed building location



Figure 1.5 Fill slope north of proposed building location

2-PRESENCE OF CRITICAL AREAS

Chapter 11.86.020 of the Chelan County Code lists known or suspected risk areas that require preparation of a geologic site assessment. 11.86.020 (A) identifies, "*Erosion hazard areas identified by the U.S. Department of Agriculture Soil Conservation Service Chelan County Soil Survey Manual as having a "severe" erosion hazard.*"

Erosion Hazard

There are no signs of erosive soil or topographical variations that show signs of erosion, however, the steep slopes found onsite will allow runoff to reach erosive velocities. Any areas disturbed during construction should be stabilized with vegetation or other standard erosion control methods as soon as possible. Silt fencing should be placed along the downstream perimeter of all disturbed areas and maintained as necessary.

If erosion ever became a problem onsite, the following performance standards shall be applied according to Chelan County Code Chapter 11.86.060:

(A) Construction methods should be used which minimize risks to structures and do not increase the risk to the site, or to adjacent properties and their structures, from the geologic hazard. Development shall not increase instability or create a hazard to the site or adjacent properties, or result in a significant increase in sedimentation or erosion.

(B) Site planning should minimize disruption of existing topography and vegetation, and should incorporate opportunities for phased clearing.

(C) Disturbed areas shall be replanted within one year of project completion, in accordance with an approved revegetation plan, and be appropriately bonded for.

(D) Impervious surface coverage shall be minimized.

(E) Excavation and grading shall be minimized. A clearing and grading schedule shall consider limitations based upon seasonal weather conditions.

(F) Detailed drainage plans may be required for projects affecting areas of geologic hazard. These plans shall indicate the effect the project may have on the hazard areas and adjacent properties and mitigating measures, with stormwater detention standards based upon the technical studies required under this document.

(G) Any limitations to site disturbance, such as clearing restrictions, imposed as a condition of development approval should be marked in the field and approved by the county prior to undertaking the project.

(H) A monitoring program should be prepared for construction activities occurring in geologic hazard areas and be marked on the face of the building permit.

(I) All authorized clearing for roads, utilities, etc., should be limited to the minimum necessary to accomplish engineering design. Alternatives should meet the following requirements:

(i) Clearing, grading or filling of sloped sites containing erosion hazard areas shall be limited by weather conditions and an approved erosion control plan.

(ii) The face of cut and fill on slopes shall be prepared and maintained to control against erosion.

(J) An erosion control plan shall be submitted by the applicant for a development, prior to approval of the proposal. Temporary erosion and sedimentation controls shall be utilized during construction and until a permanent control measure is achieved. Further, to minimize blowing soil during development, appropriate water and/or mulch material should be applied to any areas without a vegetative cover.

The site was reviewed in accordance with Chelan County Code Chapter 11.86 "GEOLOGICALLY HAZARDOUS AREAS OVERLAY DISTRICT (GHOD)." The relevant sections of the Known or Suspected Risk classification were evaluated. Future developments including home construction are at no risk pursuant to the language of the code as long as standard erosion control practices are employed throughout the construction process. Therefore, the proper classification for the geologically hazardous area is "No Risk". The code designates this classification as "(2) *No Risk. Areas classified initially as geologically hazardous areas with a known or suspected risk or unknown risk may, upon further study, actually pose no risk to development or to the public health and safety. Where the administrator can determine that no risk from the geologically hazardous area is present, based upon geotechnical reports or best available science, these areas shall be classified geologically hazardous areas to be of no risk.*" In accordance with the definitions and provisions of Chapter 11.86, the site is not a Geologically Hazardous Area.

APPENDIX

LIST OF APPENDIX DOCUMENTS

**APPENDIX 1 NATURAL RESOURCES CONSERVATION SERVICE
SOIL MAP**

APPENDIX 1

Natural Resources Conservation Service Soil Survey Map and Soil Data

Soil Map—Chelan County Area, Washington (Parts of Chelan and Kittitas Counties)



MAP LEGEND

Area of Interest (AOI)		Area of Interest (AOI)		Soil Area	
Soils		Soil Map Unit Polygons		Stony Spot	
		Soil Map Unit Lines		Very Stony Spot	
		Soil Map Unit Points		Wet Spot	
		Special Point Features		Other	
		Water Features		Special Line Features	
		Blowout		Streams and Canals	
		Borrow Pit		Transportation	
		Clay Spot		Rails	
		Closed Depression		Interstate Highways	
		Gravel Pit		US Routes	
		Gravelly Spot		Major Roads	
		Landfill		Local Roads	
		Lava Flow		Background	
		Marsh or swamp		Aerial Photography	
		Mine or Quarry			
		Miscellaneous Water			
		Perennial Water			
		Rock Outcrop			
		Saline Spot			
		Sandy Spot			
		Severely Eroded Spot			
		Sinkhole			
		Slide or Slip			
		Sodic Spot			

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Chelan County Area, Washington (Parts of Chelan and Kittitas Counties)
Survey Area Data: Version 17, Aug 23, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Nov 21, 2021—Nov 23, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CwF	Cowiche silt loam, 45 to 65 percent slopes	93.7	100.0%
Totals for Area of Interest		93.7	100.0%

Chelan County Area, Washington (Parts of Chelan and Kittitas Counties)

CwF—Cowiche silt loam, 45 to 65 percent slopes

Map Unit Setting

National map unit symbol: 2g9r

Elevation: 1,000 to 4,800 feet

Mean annual precipitation: 9 to 12 inches

Mean annual air temperature: 48 to 50 degrees F

Frost-free period: 135 to 185 days

Farmland classification: Not prime farmland

Map Unit Composition

Cowiche and similar soils: 100 percent

*Estimates are based on observations, descriptions, and transects of
the mapunit.*

Description of Cowiche

Setting

Landform: Hillslopes

Parent material: Residuum weathered from metamorphic and
sedimentary rock with loess

Typical profile

H1 - 0 to 8 inches: silt loam

H2 - 8 to 22 inches: silt loam

H3 - 22 to 36 inches: silt loam

H4 - 36 to 50 inches: sandy clay loam

H5 - 50 to 60 inches: sandy loam

Properties and qualities

Slope: 45 to 65 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water

(Ksat): Moderately high (0.20 to 0.57 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0
mmhos/cm)

Available water supply, 0 to 60 inches: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: C

Ecological site: R008XY103WA - COOL LOAMY 10-16 PZ

Hydric soil rating: No

Data Source Information

Soil Survey Area: Chelan County Area, Washington (Parts of Chelan and
Kittitas Counties)

Survey Area Data: Version 17, Aug 23, 2021

REPORT ADDENDUM NOVEMBER 2023

This addendum is based on review comments provided by Chelan County Community Development and recent inspection of the site. Some sections of the original report have been revised and are included in this addendum.

Recent Site Observation

The site was observed on November 9th, 2023. Portions of the site, primarily the fill slopes on the southerly side of the disturbed area on parcels 222007000100 and 222007120050, have demonstrated signs of erosion. This erosion occurred prior to slope stabilization practices that were recently employed within these areas. It was also observed that work on the site was halted before the area in question could be graded in a way that prevents runoff from migrating down the slope. The building pad on the parcels mentioned above should be graded to prevent runoff from leaving the disturbed area. Runoff generated on the building pad appears to be the primary cause of the incisions created on these slopes. Incisions appear to have propagated near the ridge where the building pad transitions to fill slope. Further erosion protection measures are recommended and are summarized in the *Geological Hazards and Recommendations* portion of this addendum.

Steep Slopes

A portion of the site directly east of the disturbed area on parcel 222007120050 appears to be partially comprised of steep slopes (greater than 40 percent). Based on visual observation and online resources, slopes in this area range between 40 and 45 percent. The slope exceeds 40 percent at a point approximately 180 feet southeast of the southerly cut slope. Ground cover in areas where slopes exceed 40 percent are comprised of coniferous trees, brush, and various grasses (heavily vegetated). The steep slopes southeast of the disturbed area on parcel 222007120050 do not show any visible signs of erosive activity, rock movement, or debris flow.

Disturbed Areas

Disturbed areas on parcels 222007000100, 222007000125, and 222007120050 were observed on September 29th, 2023 and again on November 9th, 2023. Cut and fill slopes surrounding the building pads on the parcels mentioned above appear to be stable. No signs of erosive activity were observed at the time of site visitation. Natural slopes south of the cut slope on parcel 222007000125 appear to be less than 20 percent, well vegetated, and without any signs of erosive activity.

Updated Drainage Patterns

The site has natural drainage patterns that shed runoff to the north. The site has multiple natural drainage channels that are tributary to the flows within the stream south of Number 1 Canyon Road. Runoff may concentrate before leaving the site. The three observed drainage channels onsite are on parcels 222007000100, 222007000125, and 222007120050. The drainage channel on 222007000125 is intercepted by an existing driveway and developments on the parcel directly north of the subject property. The grading that has occurred on the subject property has very little impact on any contribution to the stream. Future stormwater mitigation efforts should consider the drainage area between the existing development on the neighboring parcel and the subject property (approximately 5 acres of undeveloped hillside). An aerial image of the drainage area is shown below as Figure 1. The second and third drainage channels observed to be within parcel 222007120050 and 222007000100 are at the easterly end of the site. No grading has occurred in this area. Any future developments that may impact the drainage channels on these parcels will need to be mitigated at the time of development and considered in future stormwater mitigation plans.



Figure 1 Drainage area between existing developments and onsite grading

Updated Geotechnical Information

The Quaternary Alluvium formation underlying the site formed in the Quaternary period as Quaternary unconsolidated or semi-consolidated alluvial clay, silt, sand, gravel, and (or) cobble deposits per the Washington State Department of Natural Resources Geology Portal. Hillslopes and alluvial fans covered the site in the Holocene epoch of the Quaternary period (Department of the Interior United States Geologic Survey). The underlying soil is Cowiche silt loam.

Updated Ground Cover

The preponderance of the site is covered in brush and a multitude of coniferous trees. A portion of the site has been cleared of native vegetation and graded for future building locations. The Washington State Department of Fish and Wildlife identifies Shrubsteppe as a habitat feature of the property. Shrubsteppe is defined as grassy plains with sagebrush and other woody shrubs.

Geological Hazards and Recommendations

The potential geological hazards observed onsite include erosion hazard and steep slopes. The portion of the site demonstrating steep slopes is approximately 180 feet southeast of the disturbed area. The slopes are heavily vegetated and do not show any signs of erosion, rock movement, or debris flow at the time of observance.

The natural slopes onsite and the cut slopes at all three disturbed areas appear to be stable and without any substantial erosion. Photographs of the cut slopes at all three disturbed areas are shown below as Figures 2,3, & 4. Some erosion was observed along the northerly face of the fill slope of the building pad on parcels 222007120050 and 222007000100. The areas that have shown signs of erosion have been partially stabilized by the use of straw ground cover (Figures 5 and 6 below). The ground cover that has been employed will reduce the effect of rain droplet impact on the surface and slow runoff that migrates to the slope from upstream sources.

It is recommended that this building pad be graded in a way that prevents runoff generated upstream of the slope to migrate down the face of the slope. Concentrated runoff that flows across the building pad and down the slope is the cause for the rills and deep incisions that have occurred. Rills that propagated at the ridge line allow for further concentration of runoff. It is also recommended that straw wattles be placed along the northerly fill slope if further deterioration of the slope is observed during the course of the project. Silt fence should also be securely installed at the base of the hillside and maintained throughout the course of the project to prevent sediment from leaving the site. Any other slopes that are demonstrating signs of erosive behavior should be stabilized by the use of straw ground cover or wattles. It is also recommended that silt fence be securely installed along the ridge of the northerly fill slope until the site is properly graded to reduce runoff velocity and prevent upstream

sedimentation from flowing down the slope on potentially offsite. Silt fence should be securely installed downstream of any current or future disturbed areas.

Conclusion

Considering that grading was halted before any form of temporary stormwater control could be realized and the site was without any substantial form of erosion control for nearly two years, the bare slopes appear to be in good condition. Due to the stop work order that was issued, the building pad created on parcels 222007120050 and 222007000100 was left graded in a way that allows runoff generated on the pad and upstream of the pad to flow down the southerly fill slope. This appears to have created incisions (rills) where the pad transitions to fill slope, causing runoff to concentrate. It is concluded that if erosion control measures are maintained throughout the course of the project and grading is completed in a way that eliminates upstream runoff from deteriorating existing cut/fill slopes, the risk of erosion can be greatly reduced.



Figure 2 — Cut slope south of building pad on Parcel 222007120050



Figure 3 Cut slope southwest of building pad on Parcel 222007000125



Figure 4 Cut slope south of building pad on Parcel 222007000100



Figure 5 Straw ground cover on southerly fill slope



Figure 6 Straw ground cover on southerly fill slope

REPORT ADDENDUM FEBRUARY 2024

This addendum is written to address the proposed disturbed areas within Chelan County parcel 222007120050 and the westerly region of parcel 222007000100. Proposed improvements include grading a portion of parcel 222007120050 to construct a driveway providing access to a future homesite. The westerly region of parcel 222007000100 will be graded and developed as a future residence. Some sections of the original report have been revised and are included in this addendum. A map of the proposed disturbed areas prepared by Grette Associates is shown as Figure 7 below.

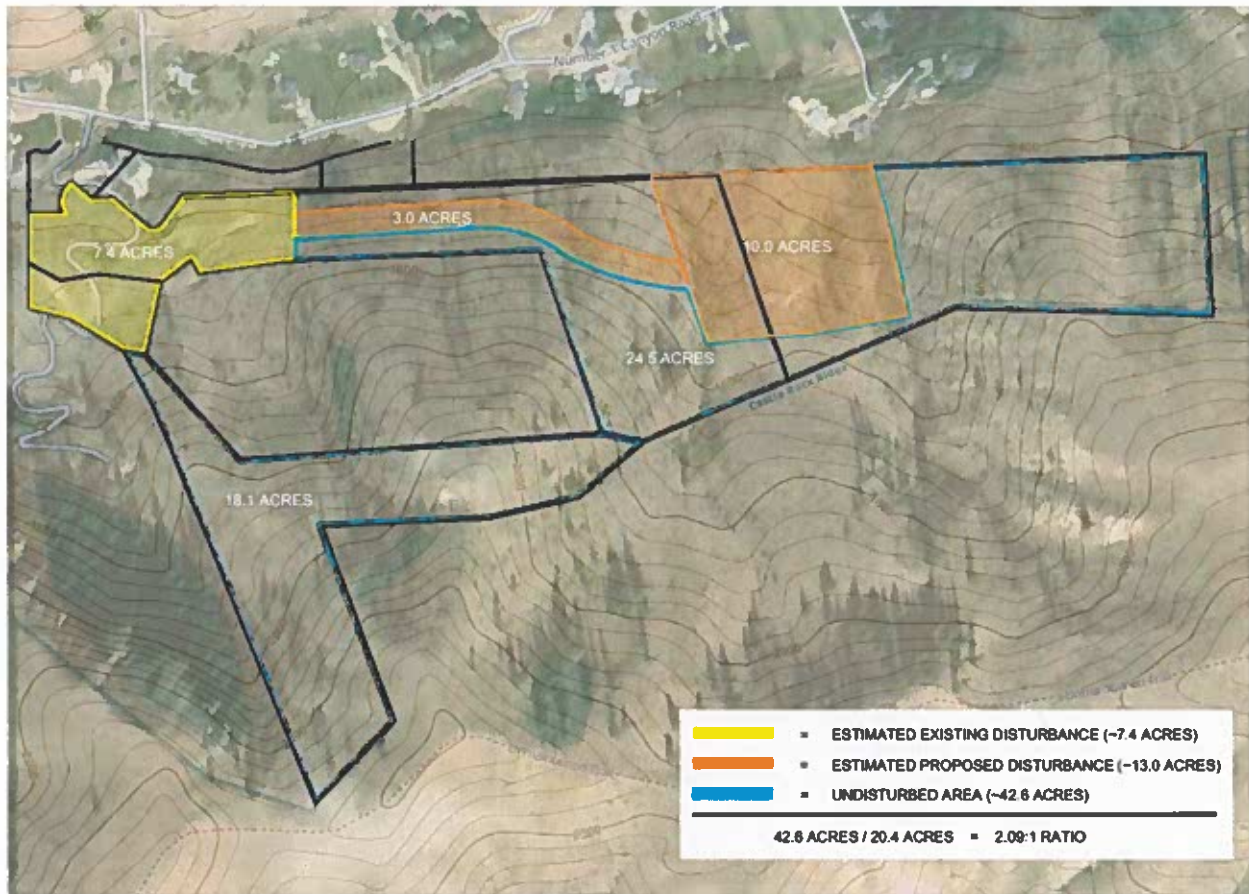


Figure 7 Existing and proposed land disturbance areas

Recent Site Observation

The proposed disturbed areas encompassed within the westerly end of parcel 222007000100 and a portion of 222007120050 were observed on February 23rd, 2024. These areas are currently undisturbed and with moderate ground cover (shrubsteppe). The portions of the site that demonstrate steep slopes and/or are sparsely vegetated do not show any obvious signs of erosive activity. No rilling or soil mobilization from water

or wind erosion was observed. Photos of the proposed disturbed area in the current condition can be seen in Figures 8,9, & 10 below.



Figure 8 Drainage channel and area to be disturbed



Figure 9 Proposed disturbed area in vicinity of proposed home site



Figure 1 Proposed disturbed area in vicinity of proposed driveway

Steep Slopes

The majority of the proposed disturbed areas within parcel 222007120050 and the easterly end of 222007000100 appear to be partially comprised of steep slopes (greater than 40 percent). Based on visual observation and online resources, slopes in this area range between 40 and 45 percent. Ground cover in areas where slopes exceed 40 percent are comprised of coniferous trees, brush, and various grasses (moderately vegetated). The steep slopes within the proposed disturbed area on parcel 222007120050 and 222007000100 do not show any visible signs of erosive activity, rock movement, or debris flow.

Updated Drainage Patterns

A natural drainage channel bisects parcel 222007120050 approximately 200 feet west of the easterly boundary. Future grading and driveway construction may impact this drainage channel and should be considered in the development of future drainage plans. The drainage area of the intercepted drainage channel is shown as Figure 10 below. The proposed disturbed areas slope downward to the north at an approximate gradient of 40 percent.

Updated Ground Cover

The preponderance of the site is covered in brush and a multitude of coniferous trees. locations. The Washington State Department of Fish and Wildlife identifies Shrubsteppe as a habitat feature of the property. Shrubsteppe is defined as grassy plains with sagebrush and other woody shrubs. None of the proposed disturbed areas have been cleared within the vicinity of the proposed access corridor or homesite.

Updated Geotechnical Information

The Quaternary Alluvium formation underlying the site formed in the Quaternary period as Quaternary unconsolidated or semi-consolidated alluvial clay, silt, sand, gravel, and (or) cobble deposits per the Washington State Department of Natural Resources Geology Portal. Hillslopes and alluvial fans covered the site in the Holocene epoch of the Quaternary period (Department of the Interior United States Geologic Survey). The underlying soil is Cowiche silt loam.

Geological Hazards and Recommendations

The potential geological hazards observed onsite include erosion hazard and steep slopes. The regions of parcels 222007120050 and 222007000100 encompassing the proposed disturbance both exhibit steep slopes. No visible signs of erosion were observed in the current condition.

It is recommended that future disturbances are conducted in a way that prevent runoff generated upstream of proposed cut/fill slopes to migrate or concentrate down the face of the slopes. Runoff concentration and flow down proposed slopes may cause erosive action to occur. Silt fence should also be securely installed at the downstream boundaries of future disturbed areas and maintained throughout the course of the project to prevent sediment from leaving the site. Erosion control measures should be employed and consistently maintained throughout the course of any future land disturbing activities.

Conclusion

It is concluded that if erosion control measures are maintained throughout the course of the project and grading is completed in a way that eliminates upstream runoff from deteriorating future cut/fill slopes, the risk of erosion can be mitigated.

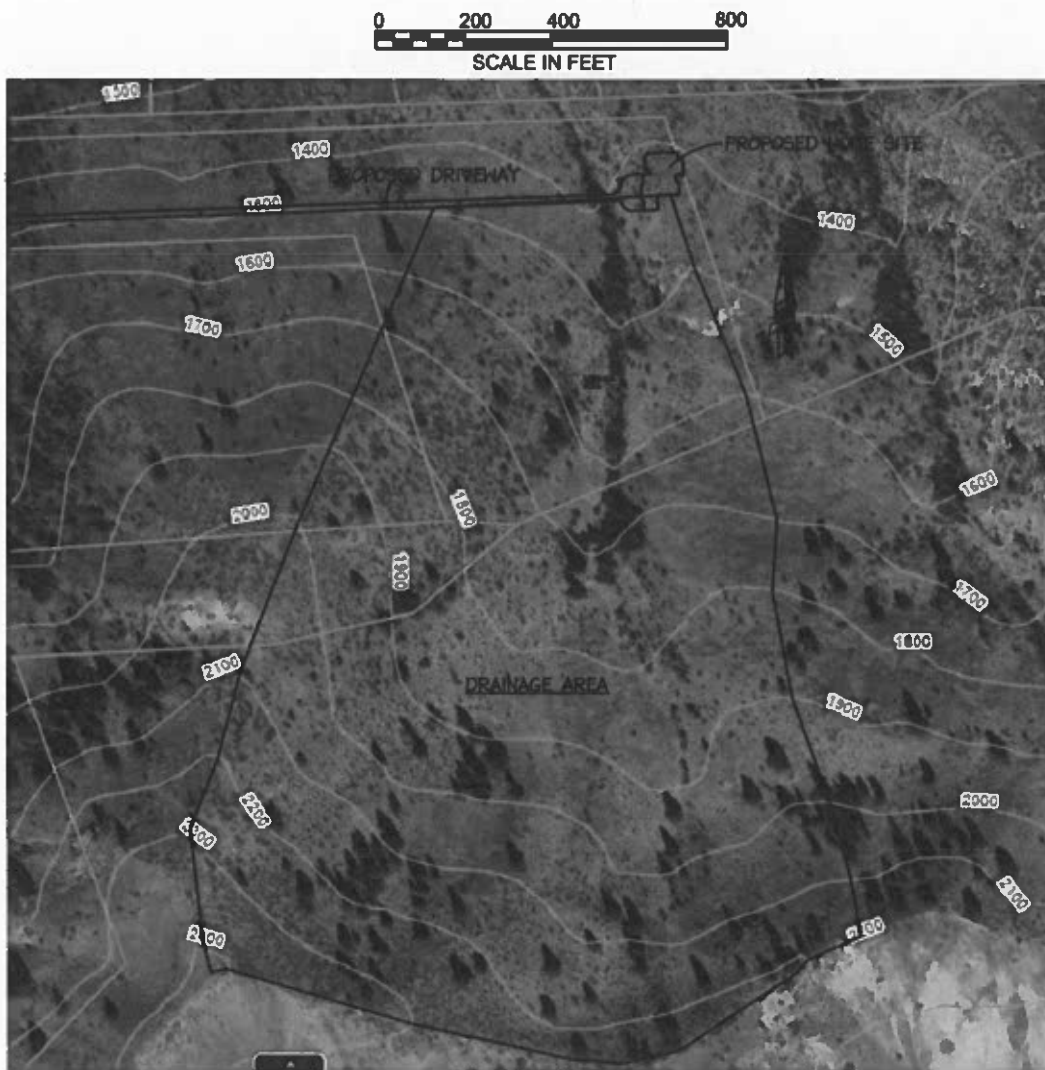


Figure 10 Drainage area intercepted by proposed development



MUNSON ENGINEERS, INC.

CIVIL ENGINEERS and LAND SURVEYORS

www.munsonengineers.com

November 20th, 2023

Chelan County
Department of Community Development
316 Washington Street, Suite 301
Wenatchee, WA 98801

RE: Statement of Qualifications

This letter serves as a statement of qualifications per Chelan County Code section 11.86.065(2)(a).

Below is a list of geologically hazardous area assessments that I have authored and conducted field observation.

Property Owner	Jurisdiction, Parcel #	License Status	Date
Enchantment Lane Plat	Chelan County, 232020860008, 232020860009	EIT under the supervision of Robert H. Culp, PE	April, 2018, project initiated November 2017
Brooks Gilbertson	Chelan County, 261736200060	EIT under the supervision of Robert H. Culp, PE	July, 2018
Dennis Vinson	Chelan County, 272112340275, 272112340070	EIT under the supervision of Robert H. Culp, PE	July, 2018
Carrie Barham	Chelan County, 241713210525	EIT under the supervision of Robert H. Culp, PE	August, 2018
Ismael Murillo	Chelan County, 241825745014	EIT under the supervision of Robert H. Culp, PE	June, 2019

Singh Short Plat	Chelan County, 241701550070	EIT under the supervision of Robert H. Culp, PE	May, 2019
Anderson Short Plat	Chelan County, 241702110090	EIT under the supervision of Robert H. Culp, PE	July, 2019
Mark Rhinehart	Chelan County, 241825745014	EIT under the supervision of Robert H. Culp, PE	September, 2019
Deborah Parks	Chelan County, 222006140040	EIT under the supervision of Robert H. Culp, PE	September, 2019
Rebecca Dias	Chelan County, 241723510430	EIT under the supervision of Robert H. Culp, PE	December, 2019
Bryan Crossley	Chelan County, 261611240200	EIT under the supervision of Robert H. Culp, PE	January, 2020
Leonard Silva	Chelan County, 222006730020	EIT under the supervision of Robert H. Culp, PE	February, 2020
Edwin Butler	Chelan County, 241806210200	EIT under the supervision of Robert H. Culp, PE	February, 2020
Andrea Bixby-Brose	Chelan County, 231811240000	EIT under the supervision of Robert H. Culp, PE	March, 2020
Brian George	Chelan County, 261735930260	EIT under the supervision of Robert H. Culp, PE	April, 2020
Shlomo Freiman	Chelan County, 241914330100	EIT under the supervision of Robert H. Culp, PE	May, 2020

Scott Strutzel	Chelan County, 231914130050	EIT under the supervision of Robert H. Culp, PE	May, 2020
Jeff Hammond	Douglas County, 22232220001	EIT under the supervision of Robert H. Culp, PE	June, 2020
Todd Fosse	Chelan County, 231811420030	EIT under the supervision of Robert H. Culp, PE	June, 2020
MacNeil Residence	Chelan County, 241727310950	EIT under the supervision of Robert H. Culp, PE	October, 2020
Hopkins Short Plat	Chelan County, 251828545035, 251828545040	EIT under the supervision of Robert H. Culp, PE	December, 2020
Tibor Lak	Chelan County, 251807120100	EIT under the supervision of Robert H. Culp, PE	January, 2021
Michael Tipps	Douglas County, 25282920003, 25282920004	EIT under the supervision of Robert H. Culp, PE	February, 2021
Stephen Benson	Chelan County, 261736220200	EIT under the supervision of Robert H. Culp, PE	March, 2021
Koontz Residence	Chelan County, 212005240100	EIT under the supervision of Robert H. Culp, PE	June, 2021

Blancas Residence	Chelan County, 222127814030	EIT under the supervision of Robert H. Culp, PE	June, 2021
John Avellar	Chelan County, 212018572090	EIT under the supervision of Robert H. Culp, PE	July, 2021
Johnston Residence	Douglas County, 91001301300	EIT under the supervision of Robert H. Culp, PE	August, 2021
Turner Short Plat	Douglas County, 22210710021	EIT under the supervision of Robert H. Culp, PE	April, 2022
David Yonaka	Chelan County, 231913240250	EIT under the supervision of Robert H. Culp, PE	August, 2021
Sellers Short Plat	Chelan County, 261603410080, 261602320101	EIT under the supervision of Robert H. Culp, PE	September, 2021
Meabon Residence	Chelan County, 261301976135	EIT under the supervision of Robert H. Culp, PE	November, 2021
Richard Peterson	City of Chelan, 272204522450	Licensed PE	March, 2022
John McDowell	Chelan County, 271718925160	Licensed PE	March, 2022
Tankersley Residence	Chelan County, 282228400050	Licensed PE	April, 2022
Tyler Chambers	Chelan County, 222007000125 222007000100 222007120050	Licensed PE	May, 2022
Snyder Homesite	Chelan County, 282120410050	Licensed PE	June, 2022

Shales Short plat	Chelan County, 271736340100	Licensed PE	July, 2022
Jeremy Hoskins	Douglas County, 20221410005	Licensed PE	October, 2022
Pamela Beaver	Chelan County, 232016430080	Licensed PE	March, 2023
Hair Homesite	Chelan County, 271831520225	Licensed PE	May, 2023
Brad Mitchell	City of Chelan, 272204522460	Licensed PE	May, 2023
Shon Smith	Chelan County, 231801240130	Licensed PE	August, 2023
Kuhlman Homesite	Chelan County, 261713720125	Licensed PE	September, 2023
Karen Whitmore	Chelan County, 262007553710	Licensed PE	September, 2023
Leo Espinoza	Chelan County, 222022420100	Licensed PE	October, 2023
McMaster Residence	Douglas County, 21222110012	Licensed PE	October, 2023

Sincerely,



Austin Harper, PE
Munson Engineers

