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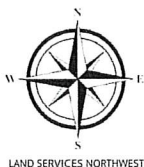
MAZAMA POCKET GOPHER (*Thomomys Mazama*) AND THURSTON COUNTY REGULATED PRAIRIE ABSENCE REPORT

Prepared for Baker Ave, LLC
June 20, 2022

THURSTON COUNTY
RECEIVED

JUL 13 2022

BUILDING DEVELOPMENT CENTER



Prepared By:

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LAND SERVICES NORTHWEST
OLYMPIA, WASHINGTON

1.0 INTRODUCTION

This report is the result of a Mazama Pocket Gopher and regulated prairie survey of the 16.28 Parcel Number 09090009000 at 7731 Littlerock Rd SW with the legal descriptions of H BARNES DC COM X W LN DC& SELV LN HWY 1- M N 43DEG E 24 43- 0- 0 in Thurston County (**Figure 1**).

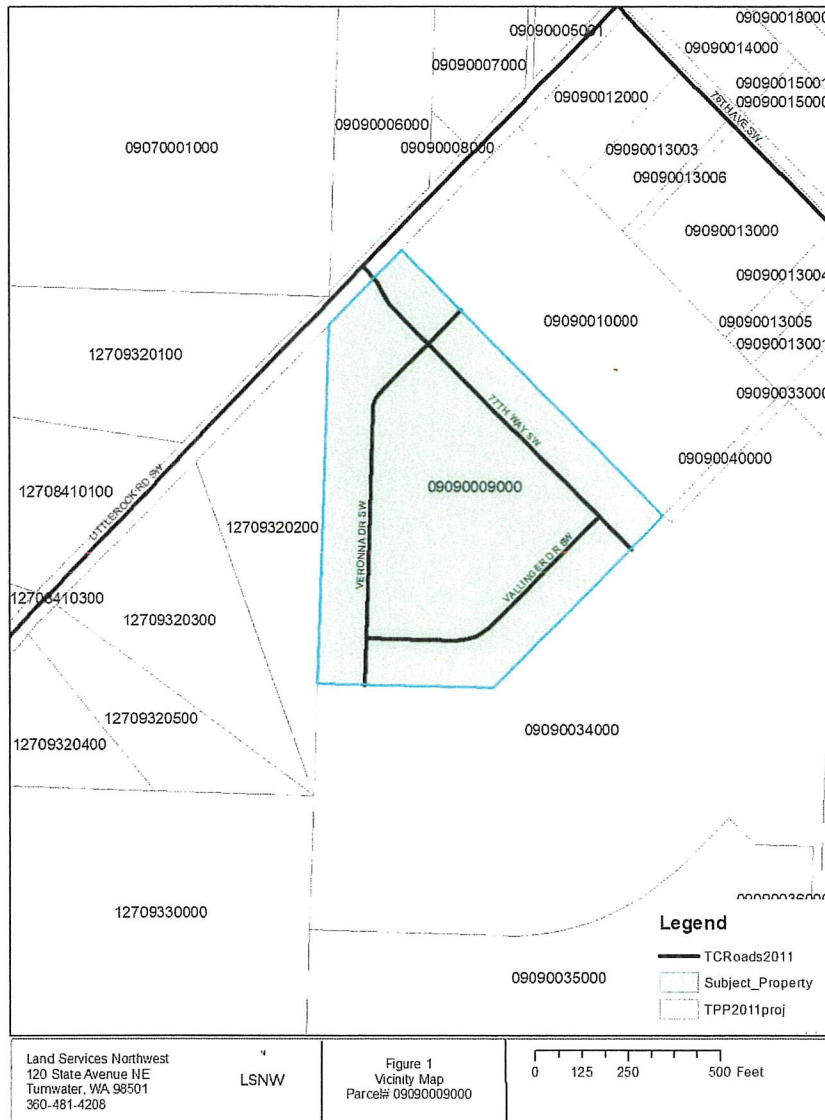


Figure 1 – Vicinity Map

The Purpose of this report is to provide a study of the presence or absence of indicators of the Mazama Pocket Gopher (*Thomomys Mazama*) (MPG) and Regulated Prairie Under Thurston County Code (TCC) Chapter 24.

Mazama Pocket Gopher

Four subspecies of Mazama pocket gophers found in Thurston County are listed as threatened under the Endangered Species Act (ESA). Impacts to Mazama pocket gophers should be avoided or addressed through USFWS permitting processes. The presence of this species on a property may have regulatory implications that may limit the amount or type of development that can occur on a property in order to avoid “take” of the species. Take is defined under the ESA as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect any threatened or endangered species.

This study should allow the reader to assess whether the Mazama pocket gopher is likely to be found on site and what the implications of its presence or absence may have with regard to permitting a residence or other structures or development.

Regulated Prairie, Garry Oaks and Mima Mounds

The parcel contains soil types associated with prairies as defined in the Thurston County Critical Areas Ordinance (CAO 24.25). Transects were walked throughout the parcel. A list of plant species encountered during the survey was recorded and CAO target prairie plants were noted. Regulated prairie can be either wet or dry outwash prairie and is critical habitat for the Taylors checkerspot butterfly and the Mardon skipper butterfly. Prairie habitat is regulated if three indicator species are found within 5 meters (15 feet) of each other with 25 or more of each species in the plot.

2.0 METHODS

2.1 Review of Existing Information

Background Review

Background information on the subject property was reviewed prior to field investigations and included the following:

- Thurston County Geodata Gopher Soils Shapefiles
- WDFW Priority Habitats and Species Information
- USFWS species list information
- WDFW species information

2.2 Summary of Existing Information

The existing information shows Cagey loamy sand and Nisqually loamy fine sand which is more preferred by the MPG (**Figure 2**) and (**Attachment A**).

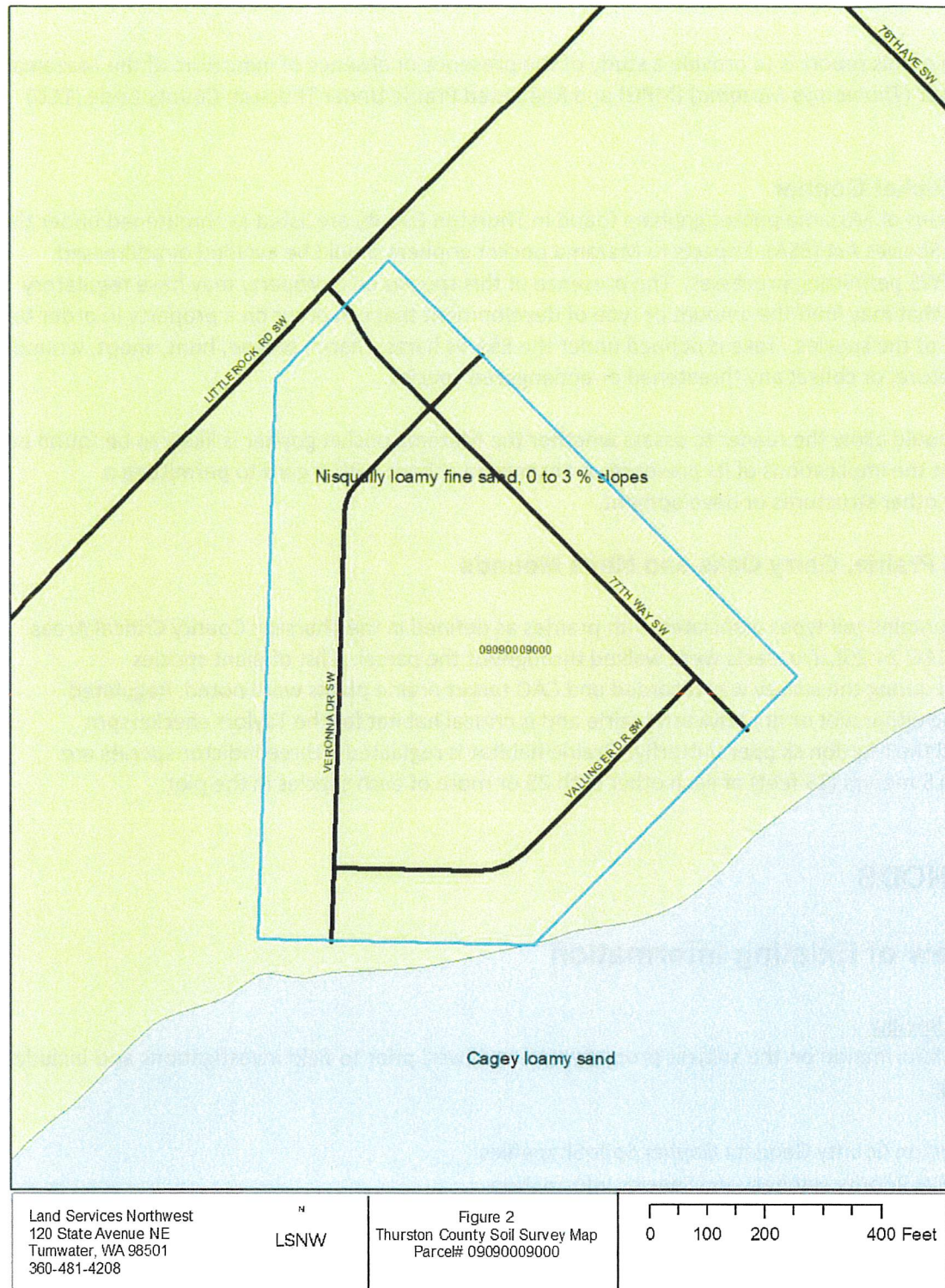


Figure 2 – NRCS Soil Survey Map

Attachment A

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

Mazama Pocket Gopher Preference	Soil Type
More Preferred (formerly High and Medium Preference Soils)	<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 percent slopes</p>
Less Preferred (formerly Low Preference Soils)	<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>

The WDFW Priority Habitats and Species Map shows the MPG in the vicinity of the subject property within 600 feet. (**Appendix B**).

2.3 2021 Mazama Pocket Gopher Protocol

A. General Information – 2021 Approach

1. The MPG review season will run June 1-October 31, 2021.
2. The protocol described in this memorandum will only apply to properties not known to be occupied by MPG since April 2014, the date of the federal listing.

MPG occupancy was identified on site in December 2016.

3. Negative determinations will be valid for the length of the underlying County permit or approval, per County code.

The determination is negative.

4. Qualified consultants may perform field reviews and submit results for County evaluation, per the CAO. Consultants must have received training from USFWS at one of the two trainings offered in May/June 2019 and is certified to conduct these surveys.

Alex Callender is qualified as a consultant as he received training and certification during the May 2019 class conducted by the United States Fish and Wildlife Service.

B. In-Office Procedures

1. Staff will review land use applications to determine if the MPG field screening protocols described in this memorandum must be initiated for the following:

- a. Within 600 feet of a site known to have positive MPG occurrence ; or

MPG occupancy was identified on site in December 2016.

- b. On or within 300 feet of a soil type known to be associated with MPG occupancy.

The existing information shows Nisqually loamy fine sand, 0 to 3 percent slopes and Cagey loamy sand.

2. County staff will determine if other factors preclude the need for field screening. See Preliminary assessment below.

Certain portions of the site were disturbed, however, these portions previously received development approval, which expired, for a preliminary plat known as "Sienna I," which shares infrastructure with Sienna II. The County issued permits for development for Sienna II, including construction of infrastructure and installation of utilities on portions of the Subject Property, which resulted in disturbance of soils within the area which was thought to be subject to Mazama pocket gopher review. Because the disturbance was allowed, those areas are excluded from the requirements of the survey. This would include the storm pond and roads which are located on the site plan in Appendix

3. County staff will notify applicants if their application cannot be excluded from further review.

4. Applicants may hire a consultant to perform field review, or may request that field review be conducted by County staff according to the protocol described in this memorandum.

5. County staff will review critical area reports submitted by consultants.

6. For sites to be screened by the County, staff will coordinate site visits with landowners/applicants, ensure advance notification and property access, and develop site visit schedules.

7. For sites where no MPG activity is observed, the County will provide applicants with a project condition that requires them to stop construction activity and alert the County and USFWS if evidence of MPG occupancy is observed.

N/A - No activity observed.

8. Thurston County landowners who know or learn that Mazama pocket gophers are present on their property can move forward with their proposed development by: 1) proposing mitigation to the County as directed in the County's Critical Areas Ordinance (Title 24 TCC); or 2) contacting USFWS directly to discuss the review, assessment, and mitigation process most appropriate for their site(s) and proposed activities; or 3) waiting to participate in the yet to be completed Thurston County HCP.

C. Preliminary Assessment

As land use applications are received, properties mapped with or within 300 feet of gopher and/or prairie soils undergo the following preliminary assessment in-office.

1. For properties or project areas that appear to meet County criteria below, an internal review is conducted by staff biologist to determine if the project may be released from the full gopher review process. The following criteria may release a project from further gopher review:

- Locations west of the Black River, or on the Steamboat Island or Cooper Point peninsulas.
N/A
- Sites submerged for 30 consecutive days or more since October 31, 2017.
N/A
- Sites covered with impervious surfaces (as defined in CAO Chapter 17.15 and Title 24).
N/A
- Fully forested (>30%) sites with shrub and fern understory.
The site has no forested areas that meet this criteria.
Sites that consist of slopes greater than 40 percent, or that contain landslide hazard areas (per existing County regulations).
N/A
- Sites on less preferred MPG soils north of Interstate 5.
N/A
- Building to take place in the footprint of an existing structure (also mobile home replacements in the same footprint).
N/A
- Mobile home replacements in existing lots in an existing mobile home park.
N/A
- Heating oil tank removal
N/A
- Foundation repair
N/A
- Projects which lie >300 feet from mapped gopher soils.
The parcel has had gophers present and discovered in 2016 and is within 300 feet of gopher soils.

2. If a property and/or project area do not meet internal review criteria, the project is put on a list to be scheduled for full MPG review during the appropriate seasonal review period.

The subject property was reviewed for the presence of the mazama pocket gopher in accordance with the accepted US Fish and Wildlife Protocols.

3. In addition to the in-office preliminary assessment, the County HCP biologist may, if time allows, visit properties prior to the first gopher review in order to screen for prairie habitat. This screening process focuses on the presence or absence of native prairie plants, Oregon white oak trees (*Quercus garryana*), or Mima mounds protected under the Critical Areas Ordinance (CAO).

The site was evaluated for Regulated prairie during the two gopher studies. The first survey was September 16 and 17, 2021 and the second was October 17, 2021. No CAO regulated prairie plants were found.

No Mima mounds or Garry oaks were found

D. Implementation Measures

In order to ensure the review process runs efficiently, the following measures will be implemented as part of the 2021 screening approach. These are intended to reduce costs and staff time, and ensure that MPG screening requests, especially those associated with building permit applications, are screened during the screening season.

1. No soil verification will be required in conjunction with MPG field screening.
2. Site mowing or brushing will be required to initiate first site visits, where necessary and feasible, and completed two to four weeks in advance of the site visit.

The ground was visible.

3. No further screening will be conducted in 2019 following the detection of MPG mounds on a property. The County will notify landowners that MPG evidence has been detected within two weeks.

The Mazama pocket gopher mounds were **not** found.

4. At the end of the 2021 season, County staff will provide data regarding MPG occupancy to USFWS.
5. No additional site visit will be required if indeterminate mounds are detected, if the full number of required visits has been completed.

N/A

6. The County will prioritize project specific applications over non-project applications. This will help ensure that applicants that have projects ready for construction will receive necessary permits and may initiate construction in a timely manner.

E. Site Visit Overview

County field personnel or hired consultants will conduct field observations to determine MPG presence on sites with potential habitat. These site visits will be conducted as follows:

1. All valid site visits must be conducted from June 1 through October 31, 2019. Site visits outside that survey window will not be considered valid.

Site visits were conducted on September 16 and 17, 2021 and October 17, 2021.

2. A site or parcel is considered to be the entire property, not just the footprint of the proposed project.

A portion of the property is a recently created and highly disturbed retention pond area. Although excluded, the ground was visible and the area was thoroughly scanned. There were no signs of MPG activity. The excluded area is shown on the transect maps in Appendix C. This portion of the site was previously approved infrastructure as explained in this report.

3. Sites with less preferred soils (see Attachment A) will be visited two (2) times, at least 30 days apart.
4. Sites with more preferred soils (see Attachment A) will be visited two (2) times, at least 30 days apart.

The site was visited to two times during the proper study period 30 days apart.

5. Site conditions must be recorded on a data sheet or similar information documented in narrative form. A template data sheet can be found on the County website at <http://www.co.thurston.wa.us/permitting/gopher-reviews/index.html>

The data sheets are provided in Appendix C.

6. Document and describe which areas of the parcel cannot be screened due to limited accessibility and/or dense understory. This should be depicted on an aerial or site plan submitted to the County.

A portion of the property is a recently created and highly disturbed retention pond area that has been dug about 20- 30 feet below grade. Although excluded, the ground was visible and the area was thoroughly scanned as we walked the perimeter. There were no signs of MPG activity. The excluded area is shown on the transect maps in Appendix C.

7. The ground must be easily visible to ensure mound observation and identification.
Request mowing if necessary to ensure visibility. Wait two to three weeks after mowing before beginning screening.

The ground was visible in the area surveyed. The area had been previously mowed.

<http://www.co.thurston.wa.us/permitting/gopher-reviews/index.html> F. Detailed Field Methodology

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.

The area was walked in 5 meter transects as directed by the protocol.

4. If the survey is performed by a team, walk together in parallel lines approximately 5 meters apart while you are scanning left to right for mounds.

The survey was conducted according to the protocol.

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. (County has developed data sheets for your use on <http://www.co.thurston.wa.us/permitting/gopher-reviews/index.html>)

The data sheets are provided in Appendix C. No MPG mounds were found. The mounds found on site were typical of moles which are round, clumpy and the show was in a linear fashion.

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. County GPS Data instruction can be found at <http://www.co.thurston.wa.us/permitting/gopher-reviews/index.html>

N/A

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.

No MPG mounds found.

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:

- At least one up-close photo to depict mound characteristics
No MPG mounds were found.
- At least one photo depicting groups of mounds as a whole (when groups are encountered).
N/A
- At least one photo depicting gopher mounds with recognizable landscape features in the background, at each location where mounds are detected on a property
N/A
- Photos can be taken with the GPS unit or a separate, camera, preferably a camera with locational features (latitude, longitude)
N/A
- Photo point description or noteworthy landscape or other features to aid in relocation. Additional photos to be considered.
N/A
- The approximate building footprint location from at least two cardinal directions.
N/A
- Landscape photos to depict habitat type and in some cases to indicate why not all portions of a property require gopher screening.
Appendix A Photos

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.

The excluded area is shown on the transect maps in Appendix C. This area was approved for shared infrastructure improvements under Sienna II.

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.

No mounds were found.

11. In order for the County to accurately review Critical Area Reports submitted in lieu of County field inspections the information collected in the field (GPS, data sheets, field notes, transect representations on aerial, etc.) shall be filed with the County. GPS

No mounds were found, the information was submitted in an acceptable format.

2021 Regulated Prairie, Garry Oaks and Mima Mounds Protocol

The parcel contains soil types associated with prairies as defined in the Thurston County Critical Areas Ordinance (CAO 24.25).

Transects were walked throughout the parcel. A list of plant species encountered during the survey was recorded and CAO target prairie plants were noted. Regulated prairie can be either wet or dry outwash prairie and is critical habitat for the Taylors checkerspot butterfly and the Mardon skipper butterfly.

Prairie habitat is regulated if three indicator species are found within 5 meters (15 feet) of each other with 25 or more of each species in the plot.

The site was evaluated for Regulated prairie plants on September 16 and 17, 2021 and October 17, 2021. None of the target prairie plant species identified in the Thurston County CAO were detected on the parcel (Appendix E).

No Garry oaks were found.

No Mima mounds were found.

If prairie habitat is detected elsewhere on the property, the landowner must be informed in order to avoid future disturbance of this habitat. Target plant species may be hand-drawn on the aerial map or logged using GPS equipment, depending on availability. Existing and ongoing agricultural activities may continue.

N/A

3.0 CURRENT CONDITIONS AND METHODS

Land Services Northwest conducted a survey on September 16 and 17, 2021 and October 17, 2021 walking the area and looking for signs of the MPG and regulated prairie in accordance with the protocol.

The parcel is flat and construction is occurring on the adjacent parcel. The parcel was mowed two weeks prior to the survey.

Certain portions of the site were disturbed, however, these portions previously received development approval, which expired, for a preliminary plat known as "Sienna I," which shares infrastructure with Sienna II. The County issued permits for development for Sienna II, including construction of infrastructure and installation of utilities on portions of the Subject Property, which resulted in disturbance of soils within the area which was thought to be subject to Mazama pocket gopher review. Because the disturbance was allowed, those areas are excluded from the requirements of the survey. This would include the storm pond and roads which are located on the site plan in Appendix

4.0 RESULTS

No Mazama pocket gophers were found on site. The mounds found on site were typical of moles which are round, clumpy and the show was in a linear fashion.

No CAO prairie plants were found.

No Garry Oaks or Mima Mounds were found.

Appendix A

Photos





















Appendix B

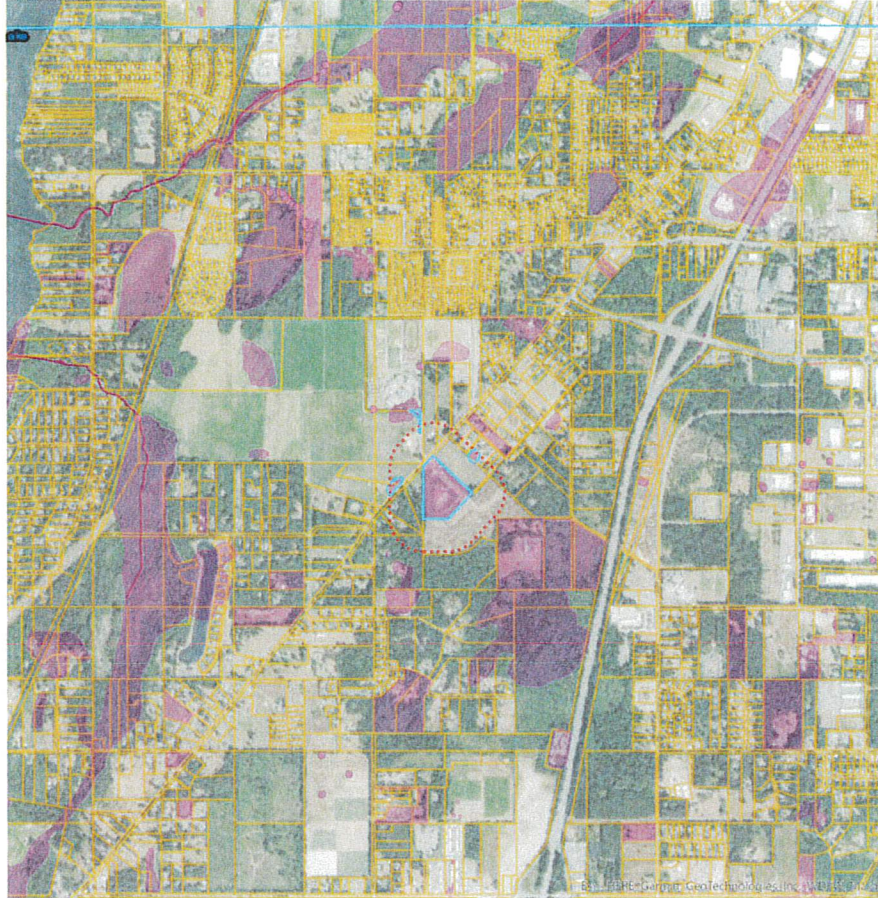
WDFW Priority Habitats and Species Map

6/20/22, 12:40 AM

PHS Report



Priority Habitats and Species on the Web



Buffer radius: 600 Feet

Report Date: 06/20/2022, Parcel ID: [09090009000](#)

PHS Species/Habitats Overview:

Occurrence Name	Federal Status	State Status	Sensitive Location
Oregon vesper sparrow	N/A	Candidate	No
Mazama (Western) pocket gopher	Threatened	Threatened	No
Big brown bat	N/A	N/A	Yes
Townsend's Big-eared Bat	N/A	Candidate	Yes

PHS Species/Habitats Details:

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6/20/22, 12:40 AM

PHS Report

Oregon vesper sparrow	
Scientific Name	<i>Poocetes gramineus affinis</i>
Priority Area	Occurrence
Site Name	OLYMPIA AIRPORT
Accuracy	1/4 mile (Quarter Section)
Notes	OREGON VESPER SPARROW. SUMMER RESIDENT & CERTAIN NESTER IN VICINITY OF OLYMPIA AIRPORT.
Source Record	70491
Source Dataset	WS_OccurPoint
Source Date	WS_OccurPoint
Source Name	SKRILETZ, J/WDFW
Source Entity	WA Dept. of Fish and Wildlife
Federal Status	N/A
State Status	Candidate
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	Y
Display Resolution	AS MAPPED
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00026
Geometry Type	Points

Mazama (Western) pocket gopher	
Scientific Name	<i>Thomomys mazama</i>
Priority Area	Occurrence
Site Name	LITTLEROCK RD SW
Accuracy	Map 1:12,000 <= 33 feet
Notes	MAZAMA POCKET GOPHER MOUND CONCENTRATION AREA. MOUNDS AT PROPERTY AT STREET ADDRESS 7747 LITTLEROCK RD SW. 2015: SITENAME CHANGED, PREVIOUSLY BLACK HILLS HIGH SCHOOL.
Source Record	4356
Source Dataset	WS_OccurPolygon
Source Date	WS_OccurPolygon
Source Name	MCALLISTER, K/WDFW
Source Entity	WA Dept. of Fish and Wildlife
Federal Status	Threatened
State Status	Threatened
PHS Listing Status	PHS LISTED OCCURRENCE
Sensitive	N
SGCN	Y
Display Resolution	AS MAPPED
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=01175
Geometry Type	Polygons

2/4

6/20/22, 12:40 AM

PHS Report

Mazama (Western) pocket gopher	
Scientific Name	<i>Thomomys mazama</i>
Priority Area	Occurrence
Site Name	LITTLE ROCK RD SW
Accuracy	Map 1:12,000 <= 33 feet
Notes	MAZAMA POCKET GOPHER MOUND CONCENTRATION AREA. MOUNDS AT PROPERTIES AT STREET ADDRESSES 7927 AND 7831 LITTLE ROCK RD SW. 2015: SITENAME CHANGED, PREVIOUSLY BLACK HILLS HIGH SCHOOL.
Source Record	4357
Source Dataset	WS_OccurPolygon
Source Date	WS_OccurPolygon
Source Name	MCALLISTER, K/WDFW
Source Entity	WA Dept. of Fish and Wildlife
Federal Status	Threatened
State Status	Threatened
PHS Listing Status	PHS LISTED OCCURRENCE
Sensitive	N
SGCN	Y
Display Resolution	AS MAPPED
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=01175
Geometry Type	Polygons

Mazama (Western) pocket gopher	
Scientific Name	<i>Thomomys mazama</i>
Priority Area	Occurrence
Site Name	LITTLE ROCK RD SW
Accuracy	GPS
Notes	SITE DELINEATED BY PARCEL BOUNDARY
Source Record	4905
Source Dataset	WS_OccurPolygon
Source Date	WS_OccurPolygon
Source Name	CAPELLI, C./USFWS
Source Entity	WA Dept. of Fish and Wildlife
Federal Status	Threatened
State Status	Threatened
PHS Listing Status	PHS LISTED OCCURRENCE
Sensitive	N
SGCN	Y
Display Resolution	AS MAPPED
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=01175
Geometry Type	Polygons

3/4

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PHS Report

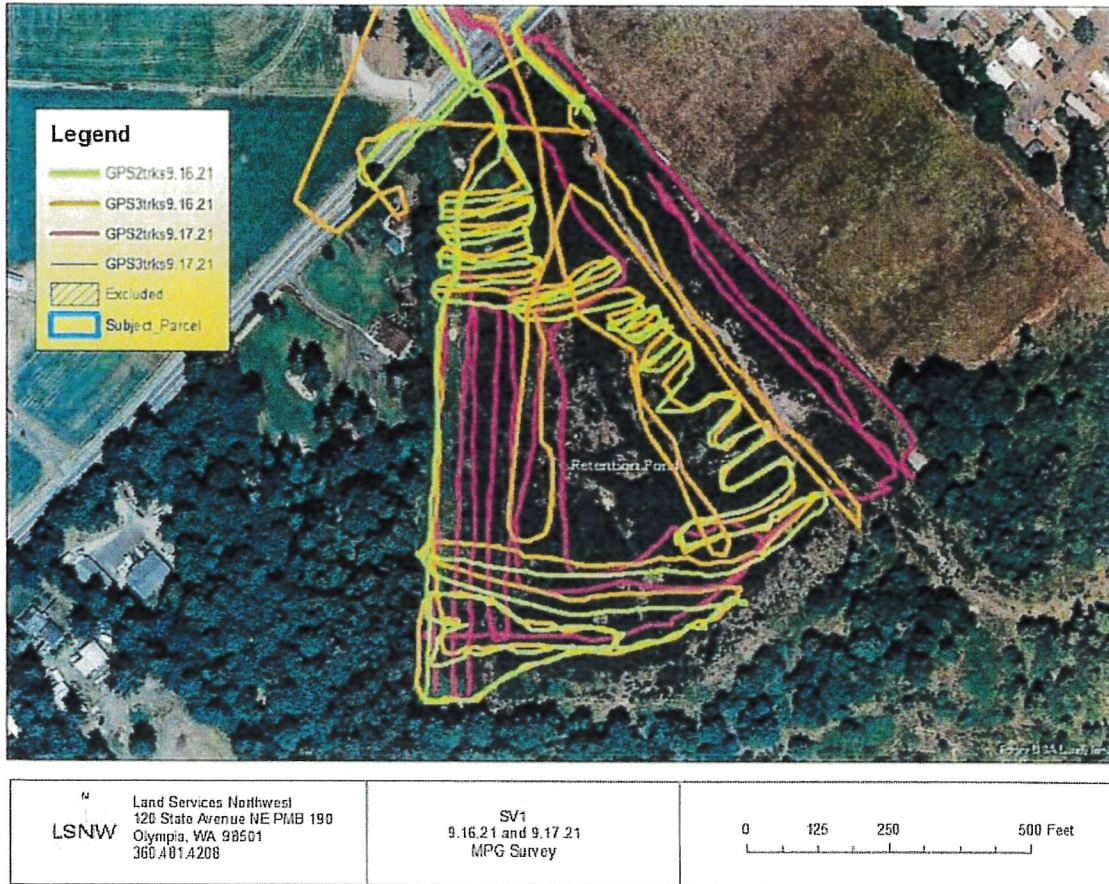
Big brown bat	
Scientific Name	<i>Eptesicus fuscus</i>
Notes	This polygon mask represents one or more records of the above species or habitat occurrence. Contact PHS Data Release (360-902-2543) for obtaining information about masked sensitive species and habitats.
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
SGCN	N
Display Resolution	TOWNSHIP
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00605

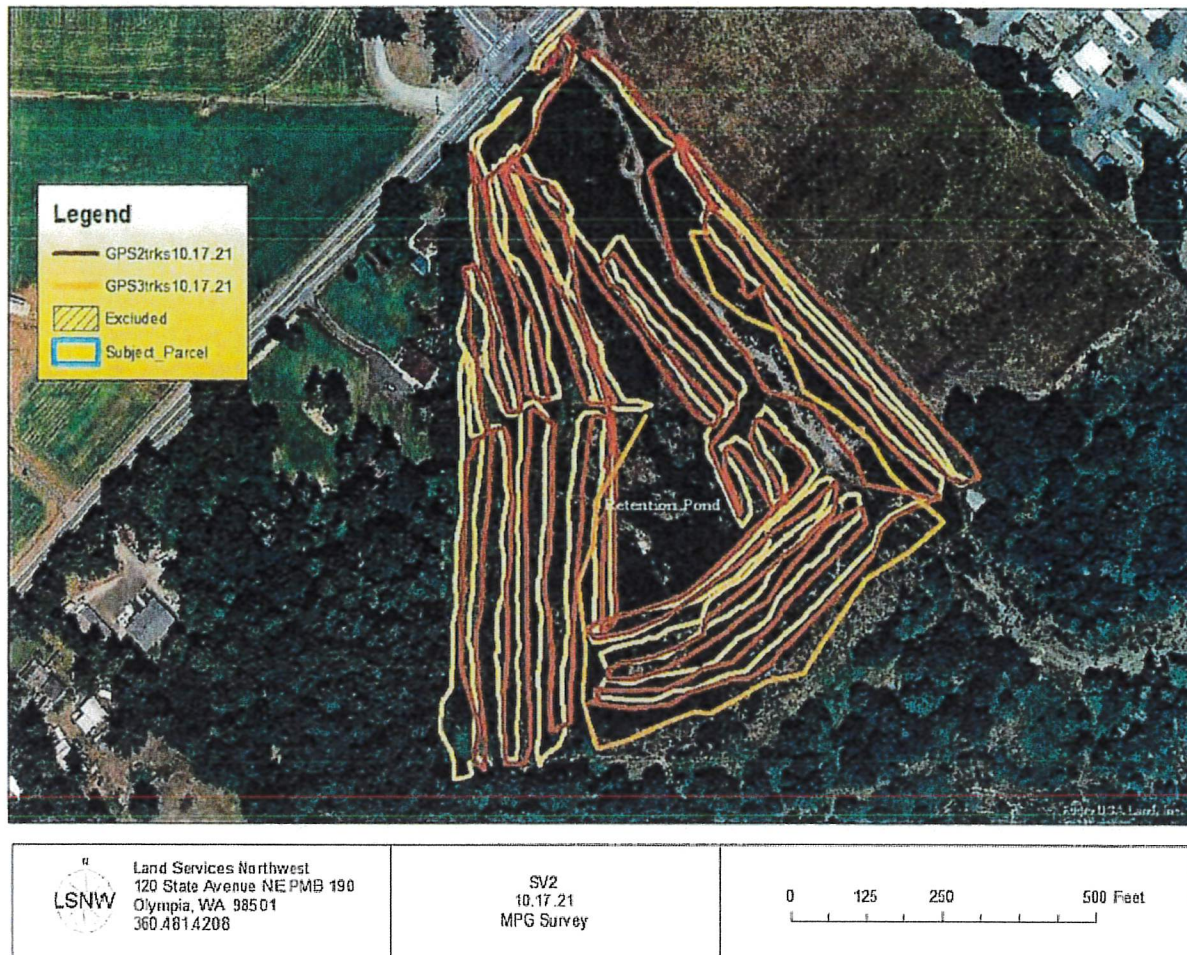
Townsend's Big-eared Bat	
Scientific Name	<i>Corynorhinus townsendii</i>
Notes	This polygon mask represents one or more records of the above species or habitat occurrence. Contact PHS Data Release (360-902-2543) for obtaining information about masked sensitive species and habitats.
Federal Status	N/A
State Status	Candidate
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
SGCN	Y
Display Resolution	TOWNSHIP
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00027

DISCLAIMER. This report includes information that the Washington Department of Fish and Wildlife (WDFW) maintains in a central computer database. It is not an attempt to provide you with an official agency response as to the impacts of your project on fish and wildlife. This information only documents the location of fish and wildlife resources to the best of our knowledge. It is not a complete inventory and it is important to note that fish and wildlife resources may occur in areas not currently known to WDFW biologists, or in areas for which comprehensive surveys have not been conducted. Site specific surveys are frequently necessary to rule out the presence of priority resources. Locations of fish and wildlife resources are subject to variation caused by disturbance, changes in season and weather, and other factors. WDFW does not recommend using reports more than six months old.

Appendix C

MPG Survey Form and Transect Maps





2020 Thurston County Mazama Pocket Gopher Screening Field Form Site Visit Date: 9.16.21& 9.17.21

Site Name and Parcel #	Parcel #09090009000 Project #: Site/Landowner: Baker Ave LLC
How were the data collected? (circle the method for each)	Transect: Trimble Garmin Aerial Mounds Trimble Garmin Aerial Notes: _____
Field Team Personnel: (Indicate all staff present, CIRCLE who filled out form)	Name: Alex Callender Name: Susan Callender Name:
Others onsite (name/affiliation)	
Site visit # (CIRCLE all that apply)	1 st 2 nd Unable to screen Notes:
Do onsite conditions preclude the need for further visits?	Yes No Dense woody cover that encompasses the entire site (trees/shrubs) that appears to preclude any potential MPG use. Impervious Compacted Graveled Flooded Other _____ Notes:
Describe visibility for mound detection:	Poor Fair Good Notes:
Request mowing? (CIRCLE and DESCRIBE WHERE MOWING IS NEEDED and SHOW ON AERIAL PHOTO)	Yes No N/A Notes:

Mounds observed over the whole site are characteristic of:	MPG Mounds	Likely MPG Mounds	Indeterminate	Likely Mole Mounds	Mole Mounds
Quantify or describe amount of each type and approx. # of mounds Group = 3 mounds or more	0	0	0	0	100+
	No MPG mounds (circle)				
MPG mounds in GPS? (CIRCLE and DESCRIBE) If MPG mounds present, entered in GPS?	None All Most Some Notes: Yes No (N/A)				
Does woody vegetation onsite match aerial photo?	(Yes) No - describe differences and show on parcel map/aerial:				
What portion(s) of the property was screened? (CIRCLE and DESCRIBE)	All (Part -) describe and show on parcel map/aerial: A portion of the parcel is a recently created retention pond. This excluded area is shown on the transect maps in Appendix C. The pond was scanned as the ground was cleared and visible. There were no signs of MPG or mole activity.				
Notes -	Describe, and show on parcel map/aerial if applicable:				
Team reviewed and agreed to data recorded on form? (CIRCLE, and EXPLAIN if "No")	(Yes) No Reviewed by initials: AC, SC Notes:				

2020 Thurston County Mazama Pocket Gopher Screening Field Form Site Visit Date: 10.17.21

Site Name and Parcel #	Parcel #09090009000 Project #: Site/Landowner: Baker Ave LLC
How were the data collected? (circle the method for each)	Transect: Trimble <u>Garmin</u> Aerial Mounds Trimble <u>Garmin</u> Aerial Notes: _____
Field Team Personnel: (Indicate all staff present, CIRCLE who filled out form)	Name: Alex Callender Name: <u>Susan Callender</u> Name: _____
Others onsite (name/affiliation)	
Site visit # (CIRCLE all that apply)	1 st <u>2nd</u> Unable to screen Notes: _____
Do onsite conditions preclude the need for further visits?	Yes <u>No</u> Dense woody cover that encompasses the entire site (trees/shrubs) that appears to preclude any potential MPG use. Impervious Compacted Graveled Flooded Other _____ Notes: _____
Describe visibility for mound detection:	Poor Fair <u>Good</u> Notes: _____
Request mowing? (CIRCLE and DESCRIBE WHERE MOWING IS NEEDED and SHOW ON AERIAL PHOTO)	Yes No N/A Notes: The client removed Scotch broom and other shrubs prior to the survey.

Mounds observed over the whole site are characteristic of:	MPG Mounds	Likely MPG Mounds	Indeterminate	Likely Mole Mounds	Mole Mounds
Quantify or describe amount of each type and approx. # of mounds <i>Group = 3 mounds or more</i>	0	0	0	0	100+
	No MPG mounds (circle)				
MPG mounds in GPS? (CIRCLE and DESCRIBE) If MPG mounds present, entered in GPS?	None All Most Some Notes: Yes No N/A				
Does woody vegetation onsite match aerial photo?	Yes No - describe differences and show on parcel map/aerial:				
What portion(s) of the property was screened? (CIRCLE and DESCRIBE)	All Part - describe and show on parcel map/aerial: A portion of the parcel is a recently created retention pond. This excluded area is shown on the transect maps in Appendix C. The pond was scanned as the ground was cleared and visible. There were no signs of MPG or mole activity.				
Notes -	Describe, and show on parcel map/aerial if applicable:				
Team reviewed and agreed to data recorded on form? (CIRCLE, and EXPLAIN if "No")	Yes No Reviewed by initials: AC, SC Notes:				

Appendix D

CAO Prairie Data Sheets

2019 Thurston County Critical Areas Ordinance (CAO) Prairie Screening Data Sheet

Parcel Number: 09090009000	CAO prairie criteria met?	Yes or No
Property Owner: Baker Ave LLC	Mima mounds present?	Yes or No
Surveyor(s): Alex and Susan Callender	Oaks (<i>Quercus garryana</i>) present?	Yes or No
Date: 9.16.21, 9.17.21 and 10.17.21	Mature:	
Composition of Vegetation:	Sapling:	
	Seedling:	

X Target species	Class* (circle)
<i>Apocynum androsaemifolium</i>	1 2 3 4 5 N/A
<i>Balsamorhiza deltoidea</i>	Present / Absent
<i>Bistorta bistortoides</i>	Present / Absent
<i>Brodiaea coronaria</i>	1 2 3 4 5 N/A
<i>Camassia leichtlinii</i>	1 2 3 4 5 N/A
<i>Camassia quamash</i>	Present / Absent
<i>Carex densa</i>	Present / Absent
<i>Carex feta</i>	1 2 3 4 5 N/A
<i>Carex inops</i> ssp. <i>inops</i>	1 2 3 4 5 N/A
<i>Carex tumulicola</i>	1 2 3 4 5 N/A
<i>Carex unilateralis</i>	1 2 3 4 5 N/A
<i>Castilleja hispida</i>	1 2 3 4 5 N/A
<i>Castilleja levisecta</i>	Present / Absent
<i>Danthonia californica</i>	1 2 3 4 5 N/A
<i>Delphinium menziesii</i>	1 2 3 4 5 N/A
<i>Delphinium nuttallii</i>	1 2 3 4 5 N/A
<i>Deschampsia cespitosa</i>	1 2 3 4 5 N/A
<i>Deschampsia danthonioides</i>	1 2 3 4 5 N/A
<i>Dodecatheon hendersonii</i>	1 2 3 4 5 N/A
<i>Downingia yina</i>	1 2 3 4 5 N/A
<i>Erigeron speciosus</i>	1 2 3 4 5 N/A
<i>Eriophyllum lanatum</i>	Cover: <u> </u> m ² N/A
<i>Eryngium petiolatum</i>	Present / Absent
<i>Festuca roemerii</i> (F. <i>idahoensis</i>)	1 2 3 4 5 N/A
<i>Fragaria virginiana</i>	Cover: <u>3</u> m ² N/A
<i>Fritillaria affinis</i>	1 2 3 4 5 N/A
<i>Hieracium scouleri</i>	1 2 3 4 5 N/A
<i>Hosackia pinnata</i> (<i>Lotus pinnatus</i>)	Present / Absent
<i>Koeleria macrantha</i> (K. <i>crinata</i>)	1 2 3 4 5 N/A
<i>Leptosiphon bicolor</i> (<i>Linanthus b.</i>)	1 2 3 4 5 N/A
<i>Lomatium bradshawii</i>	Present / Absent
<i>Lomatium nudicaule</i>	1 2 3 4 5 N/A
<i>Lomatium triternatum</i>	1 2 3 4 5 N/A
<i>Lomatium utriculatum</i>	Present / Absent

<i>Lupinus albicaulis</i>	1 2 3 4 5 N/A
<i>Lupinus lepidus</i> var. <i>lepidus</i>	1 2 3 4 5 N/A
<i>Lupinus polyphyllus</i>	1 2 3 4 5 N/A
<i>Micranthes integrifolia</i> (<i>Saxifraga l.</i>)	Present / Absent
<i>Micranthes oregana</i> (<i>Saxifraga o.</i>)	1 2 3 4 5 N/A
<i>Microseris laciniata</i>	Present / Absent
<i>Perideridia gairdneri</i>	1 2 3 4 5 N/A
<i>Plagiobothrys figuratus</i>	1 2 3 4 5 N/A
<i>Plectritis congesta</i>	Present / Absent
<i>Polemonium carneum</i>	Present / Absent
<i>Potentilla gracilis</i>	Present / Absent
<i>Ranunculus alismifolius</i>	1 2 3 4 5 N/A
<i>Ranunculus occidentalis</i>	Present / Absent
<i>Ranunculus orthorhynchus</i>	1 2 3 4 5 N/A
<i>Sericocarpus rigidus</i>	Present / Absent
<i>Sidalcea malviflora</i> var. <i>virgata</i>	Present / Absent
<i>Silene scouleri</i>	Present / Absent
<i>Sisyrinchium idahoense</i>	1 2 3 4 5 N/A
<i>Solidago missouriensis</i>	1 2 3 4 5 N/A
<i>Solidago simplex</i> (S. <i>spathulata</i>)	1 2 3 4 5 N/A
<i>Toxicoscordion venenosum</i> var. <i>venenosum</i> (<i>Zigadenus venenosus</i>)	1 2 3 4 5 N/A
<i>Trifolium willdenowii</i> (T. <i>tridentatum</i>)	1 2 3 4 5 N/A
<i>Triteleia grandiflora</i>	1 2 3 4 5 N/A
<i>Triteleia hyacinthina</i>	1 2 3 4 5 N/A
<i>Veratrum californicum</i>	1 2 3 4 5 N/A
<i>Veratrum viride</i>	1 2 3 4 5 N/A
<i>Viola adunca</i>	1 2 3 4 5 N/A
<i>Viola praemorsa</i> var. <i>nuttallii</i>	1 2 3 4 5 N/A

*Species Count Class:

1 = < 25
 2 = 25 - 49
 3 = 50 - 74
 4 = 75 - 100
 5 = >100

Prairie Plant Manual:

<https://www.thurstoncountywa.gov/planning/planningdocuments/cao-prairie-plant-manual-4.23.2018.pdf>

Non-CAO vegetation

Species or codons (i.e. "HYPRAD" for <i>Hypochaeris radicata</i>)	Notes	No real density of prairie species
1 Himalayan blackberry (<i>Rubus armeniacus</i>)	Common sheep sorrel (<i>Rumex acetosella</i>)	
2 Foxglove (<i>Digitalis purpurea</i>)	Hairy cats ear (<i>Hypochaeris radicata</i>)	
3 Narrow leafed plantain (<i>Plantago lanceolata</i>)	Red fescue (<i>Festuca rubra</i>)	
4 Trailing blackberry (<i>Rubus ursinus</i>)	Bluegrass (<i>Poa sp</i>)	
5 Hawkweed (<i>Hieracium coespitosum</i>)	White clover (<i>Trifolium repens</i>)	
6 Ox eye daisy (<i>Leucanthemum vulgare</i>)	Field sowthistle (<i>Sonchus arvensis</i>)	
7 Orchard Grass (<i>Dactylis glomerata</i>)	Canada thistle (<i>Cirsium arvense</i>)	
8 St. johnswort (<i>Hypericum perforatum</i>)	Field pepperweed (<i>Lepidium campestre</i>)	
9 Climbing nightshade (<i>Solanum dulcamara</i>)		
10 Velvetgrass (<i>Holcus lanatus</i>)		
11 Common dandelion (<i>Taraxacum officinale</i>)		
12 Scotch broom (<i>Cytisus scoparius</i>)		
13 Colonial bentgrass (<i>Agrostis capillaris</i>)		
14 Snowberry (<i>Symphoricarpos albus</i>)		
15 Reed canarygrass (<i>Phalaris arundinacea</i>)		

Prairie Habitat Criteria: If at any point at least three target species, totaling in general at least 25 plants each are encountered within about 5 meters of each other (WDFW 2015), the area in question meets the criteria to be established as occurrence of prairie. For certain plants such as WNHP rare plants (indicated here in bold), or species which serves as nectar or host plants for both TCB and either SCC or SGCN butterflies (indicated here with underline), presence is enough to meet prairie habitat criteria for such species, even if their count is less than 25 individual plants. CAO wet and dry prairie plant lists can be found in Tables 24.25-7 and 24.25-8, respectively. More info available at: <https://www.thurstoncountywa.gov/planning/Pages/hcp-prairie-review.aspx>

Mima mounds and oak habitat definitions can be found in TCC 24.03.010

Appendix E

Site Plan

