EnviroVector

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28 October 2022

Rob Rice Rob Rice Homes 22011 NE 99th Street Vancouver, WA 98682

Reference: Bodenhamer Trustees

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

Dear Client:

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

Table 1. Subject Property

No#	Address	Parcel Number Map Coordinates		Area
1	3717 49TH AVE SW	12832310700	Section 32 Township 18	50.01
2	3825 58TH LN SW	12832310800	Range 2W	5.00
2 Parcels		Total Size		55.01 acres

Permitting Jurisdiction is City of Tumwater.

1.0 INTRODUCTION

The Mazama pocket gopher is a Federally Threatened species protected under the Endangered Species Act and the City of Tumwater Code. Mazama pocket gopher screenings were performed by a qualified biologist certified by the US Fish and Wildlife Service (USFWS) for the purpose of satisfying the City of Tumwater (2018) Mazama Pocket Gopher Screening Protocol (**Appendix E**).

A Mazama pocket gopher screening is necessary to comply with City of Tumwater Code and the Endangered Species Act.

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2.0 METHODOLOGY

The Mazama pocket gopher screening was performed per City of Tumwater recommendations for two (2) site visits in compliance with the City of Tumwater (2018) Mazama Pocket Gopher Screening Protocol and the USFWS (2018) Mazama Pocket Gopher Screening Protocol for three (3) on-site gopher screenings (**Appendix E**). The screening was performed within the USFWS prescribed survey window (June 1 through October 31).

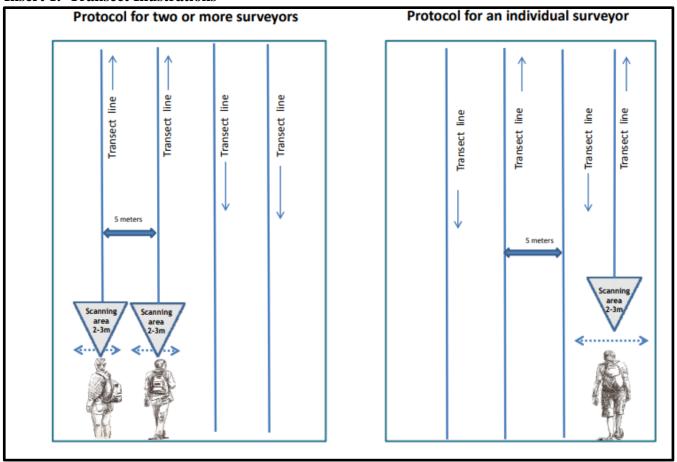
In compliance with the City of Tumwater (2018) Mazama Pocket Gopher Screening Protocols and the USFWS (2018) Mazama Pocket Gopher Screening Protocol:

- 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 site was visited three (3) times at least thirty (30) days apart because preferred gopher indicator soils occur on the subject property.
- Data was recorded on Mazama gopher field forms and provided in **Appendix F**.
- The areas of the property covered under the screening survey is illustrated in **Figure 2**.
- The ground was easily visible.

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



The detailed field methodology is in compliance with the City of Tumwater Code (2022) 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 two to three (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 5 meters apart while you are scanning left to right for mounds.
- 5. At each mound found, stop, and identify it as an MPG or mole mound. If it is an 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.
- 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 information shall be submitted in a form approved by the County.

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			
	Nisqually loamy fine sand, 0 to 3 percent slopes			
More Preferred	Nisqually loamy fine sand, 3 to 15 percent slopes			
	Spanaway-Nisqually complex, 2 to 10 percent slopes			
(formerly High and	Cagey loamy sand			
Medium Preference	Indianola loamy sand, 0 to 3 percent slopes			
Soils)	Spanaway gravelly sandy loam, 0 to 3 percent slopes			
	Spanaway gravelly sandy loam, 3 to 15% slopes			
	Alderwood gravelly sandy loam, 0 to 3 percent slopes			
Less Preferred	Alderwood gravelly sandy loam, 3 to 15 percent slopes			
	Everett very gravelly sandy loam, 0 to 3 percent slopes			
(formerly Low	Everett very gravelly sandy loam, 3 to 15 percent slopes			
Preference Soils)	Indianola loamy sand, 3 to 15 percent slopes			
	Kapowsin silt loam, 3 to 15 percent slopes			
	McKenna gravelly silt loam, 0 to 5 percent slopes			
	Norma fine sandy loam			
	Norma silt loam			
	Spana gravelly loam			
	Spanaway stony sandy loam, 0 to 3 percent slopes			
	Spanaway stony sandy loam, 3 to 15 percent slopes			
	Yelm fine sandy loam, 0 to 3 percent slopes			
	Yelm fine sandy loam, 3 to 15 percent slopes			
	Term time sandy todain, 5 to 15 percent stopes			



3.0 BACKGROUND INFORMATION

3.1 Thurston County Geodatabase Soils

Four (4) soil types were identified on the subject property (**Table 2**). Cagey loamy sand is classified as a "More preferred" gopher soil (**Appendix B & C; Table 2**). Three (3) other 'less preferred' gopher indicator soils are mapped on the subject property. One (1) non-gopher indicator soil is mapped on the northwestern portion of the subject property.

Table 2. Summary of Soil Preference

Soil Unit	Gopher Soil	Preference	Comments	
Mukilteo muck, drained	No	N/A	Located on northwestern corner of subject property	
Cagey Loamy Sand	Yes	More Preferred	Located on northern and southeastern corner of subject property	
Norma Silt Loam	Yes	Less Preferred	Located on southern and northeastern portions of the subject property	
McKenna Gravelly Silt Loam, 0 to 5% slopes	Yes	Less Preferred	Located on the southwestern corner of the subject property.	

3.2 WDFW Priority Habitats and Species (PHS) Database

No Mazama pocket gophers have been mapped on the subject property by the Washington Department of Fish and Wildlife (WDFW) Priority Habitat Species (PHS) database (**Appendix D**). However, the Mazama pocket gopher is mapped three thousand (3,000) feet southeast of the subejet property.

Two wetlands are mapped onsite and in the immediate vicinity of the site.

4.0 FIELD RESULTS

4.1 Mazama Pocket Gopher Site Evaluation

No mound formations exhibiting characteristics created by the Mazama pocket gopher have been identified on the subject property during the Mazama pocket gopher screenings. No crescent-shaped gopher mounds with plugged, diagonal tunnels to the surface have been identified on the subject property (**Appendices A & F**). The site screening focused on the entire parcel.

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.



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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 3. Summary of Results

	•		r
Site Visit	Date of Visit	Gopher Occurrence Observed	Comments
1st	26 July 2022	No	
2nd	28 September 2022	No	No mounds characteristic of that created by the Mazama pocket gopher have been identified on the subject property
3rd	28 October 2022	No	

4.2 Mazama Pocket Gopher Habitat Evaluation

Potential habitat occurs on the subject property with some opportunity for migration over landscape linkages or habitat corridors. Dominant vegetation on the subject property consists of European pasture grasses with non-native weedy species throughout the subject property and forest with understory vegetation (**Appendix A, Photos 1-31**). Intensive grazing occurs from a large number of livestock on the subject property (**Appendix A, Photos 10 & 11**). Livestock consume a vast quantity of forbs essential for the diet of the Mazama pocket gopher. Livestock also trample the ground disturbing and compressing the soils. Enormous quantities of manure alter the composition of soils.

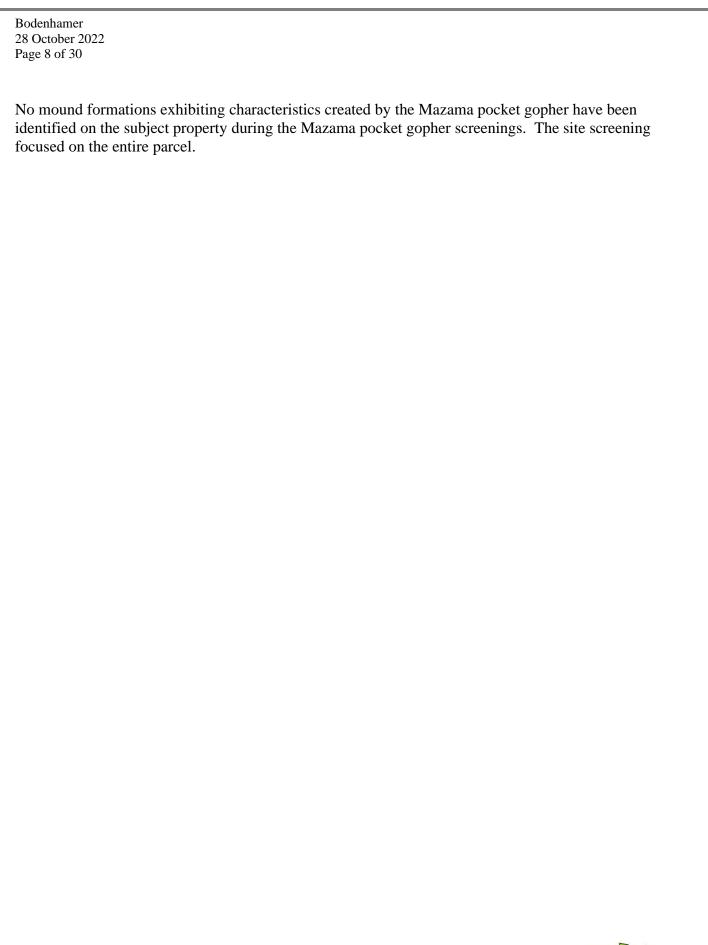
Neighboring properties consist of forests, shrubs, subdivisions, power substations, railroad tracks, single-family residences, and Black Lake. Habitat corridors to off-site populations of Mazama pocket gopher is limited.

5.0 CONCLUSION

This Mazama pocket gopher summary report was prepared to satisfy the City of Tumwater Mazama pocket gopher screening requirements and to comply with the City of Tumwater (July 2018) Mazama Pocket Gopher Screening Protocol. The site evaluations were performed on 26 July 2022, 28 September 2022, and 28 October 2022. No mounds characteristic of the Mazama pocket gopher were identified on the subject property.

Gopher indicator soils are mapped on almost the entire subject property by Thurston County database. However, the entire subject property is heavily graved by a large number of livestock. The vegetation community is dominated by European pasture grasses and other non-native plant species. No Mazama pocket gophers are mapped within three thousand ($\leq 3,000$) feet by the WDFW PHS database (**Appendix D**).







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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

Center intal

EnviroVector

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FIGURES



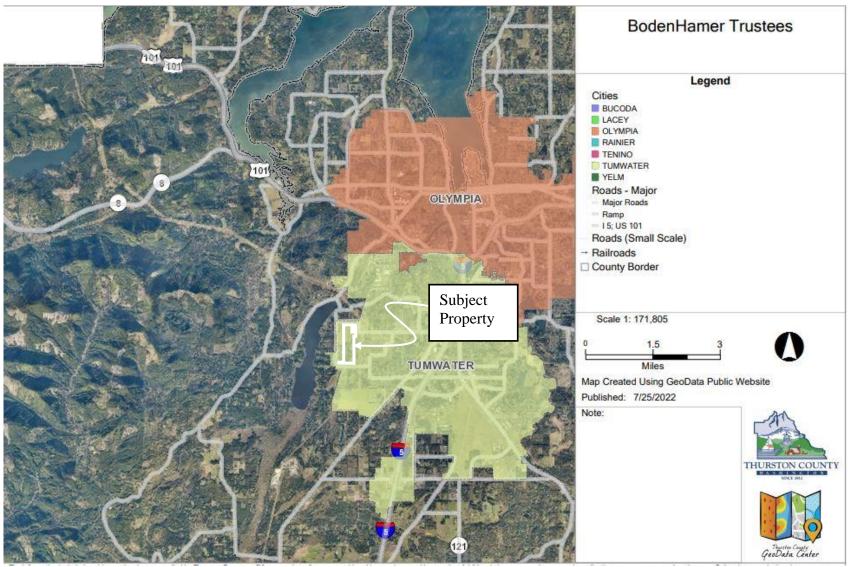


Figure 1. Vicinity Map



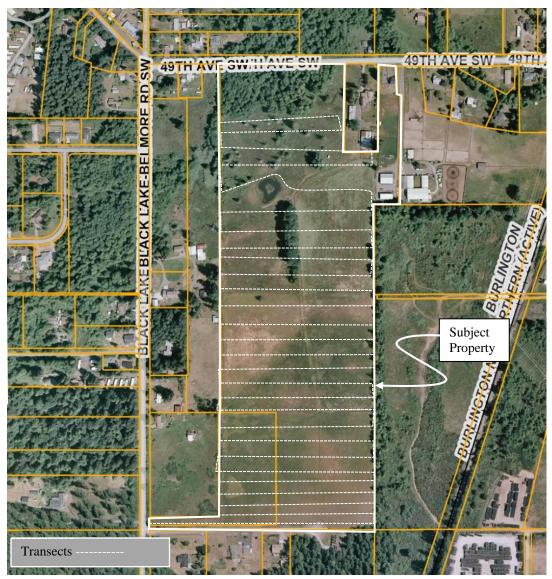


Figure 2. Transect Screening lines

Mazama Pocket Gopher Screening Protocol



APPENDIX A

Photo Documentation



First Gopher Screening (26 July 2022)



Photo 1. Adjacent to farm pond, northern portion of property



Photo 2. Performing gopher screening on subject property



Photo 3. European pasture grasses on western portion of property Photo 4. Pastureland, livestock under trees in distance





Photo 5. Pastureland near farm pond, northern portion of property Photo 6. Pastureland, European grasses



Mazama Pocket Gopher Screening Protocol



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Photo 7. Farm pond on northern portion of property



Photo 8. Farm pond on northern portion of property

Second Gopher Screening (28 September 2022)



Photo 10. Large number of cattle grazing on subject property



Photo 11. Large number of cattle grazing on subject property



Photo 12. Patches of scotch broom in the pasture



Photo 13. Highly trampled from livestock



Photo 14. Heavily grazed and trampled pasture area



Photo 15. Pastureland facing west

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Photo 16. Mole mound, conical shape, central vertical tunnel



Photo 18. Mole mound, blocky texture, central vertical tunnel

Mazama Pocket Gopher Screening Protocol



Photo 17. Mole mound, conical shape, central vertical tunnel



Photo 19. Mole mound, blocky texture, central vertical tunnel



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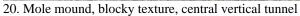




Photo 21. Pasture at trees, leaves occur above reach of livestock

Third Gopher Screening (28 October 2022)



Photo 22. Pastureland, no mounds at this location



Photo 23. Pastureland, no mounds at this location



Photo 24. Old encampment with garbage left behind



Photo 25. Internal road leading to center of Subject property



Photo 26. Old encampment with garbage left behind



Photo 27. Internal road leading to center of Subject property

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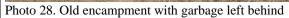




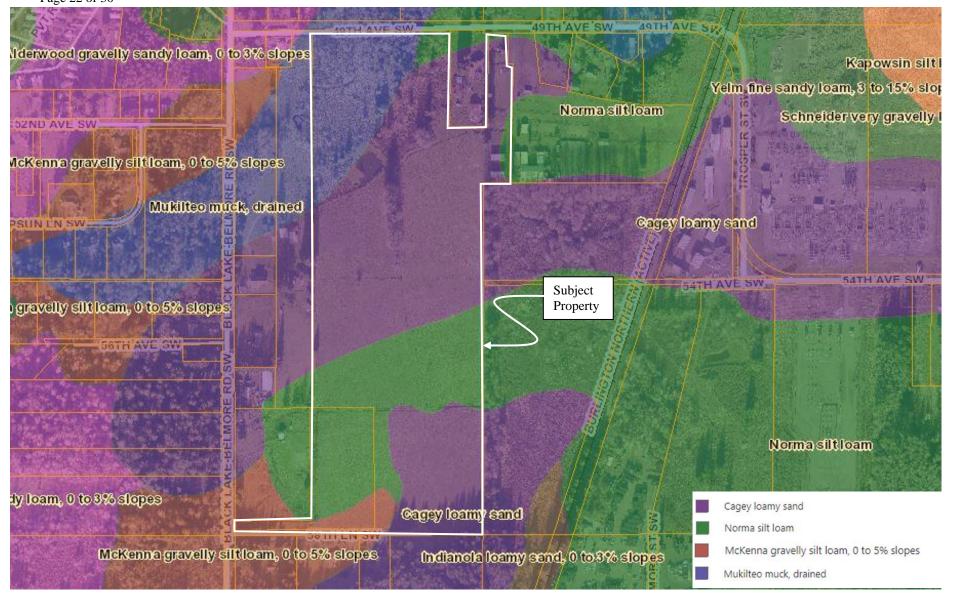
Photo 29. Internal road leading to center of Subject property

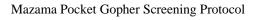
APPENDIX B Thurston County Geodatabase

Soils



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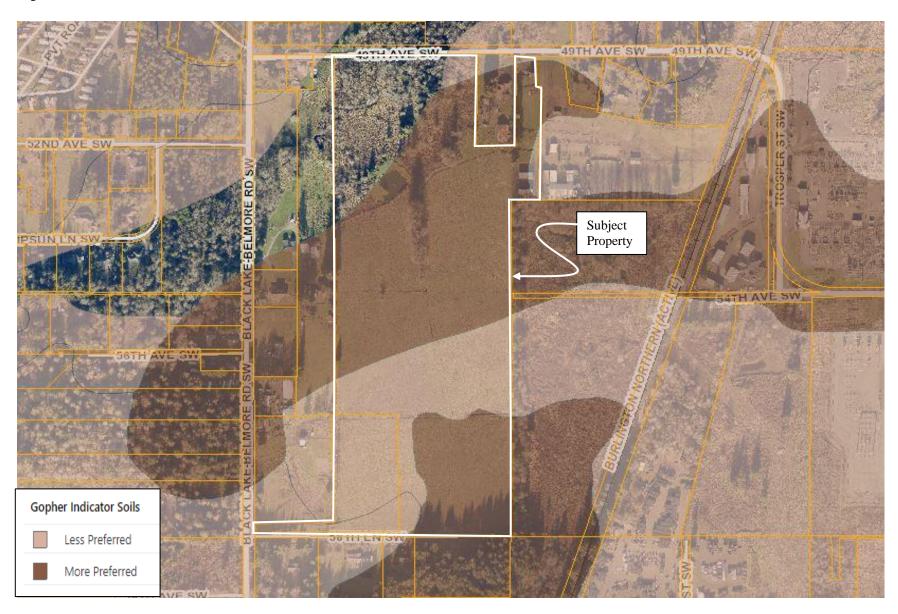


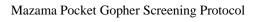
APPENDIX C

Thurston County Geodatabase

Gopher Indicator Soils









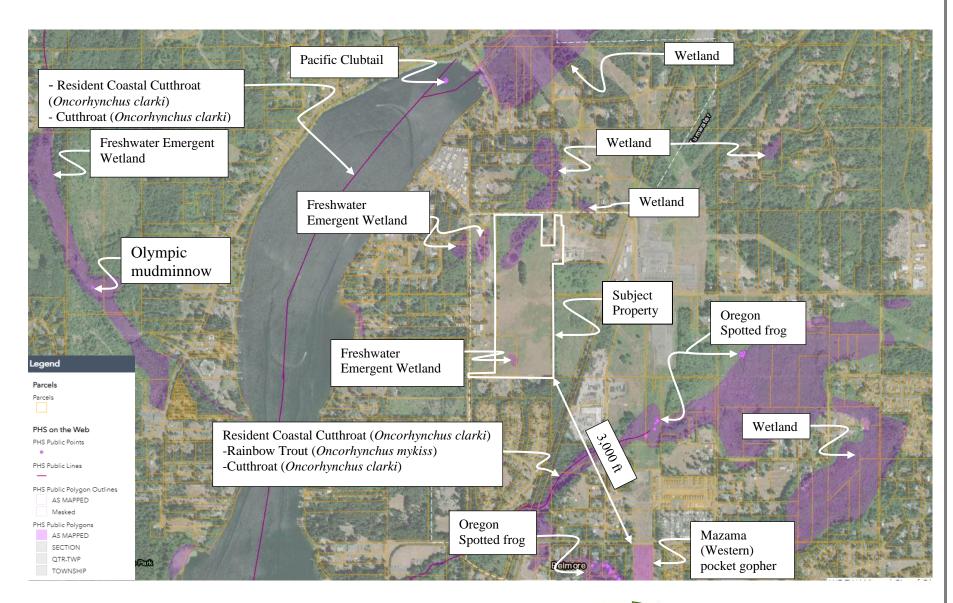
APPENDIX D

Washington Department of Fish and Wildlife

Priority Habitat Species (PHS)

Database





APPENDIX E

City of Tumwater

Mazama Pocket Gopher

Screening Protocol



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COMMUNITY DEVELOPMENT DEPARTMENT ADMINISTRATIVE DETERMINATION

TOPIC:

Mazama Pocket Gopher Screening

APPROVED: //

DATE: 7 25/18

Michael Matlock, AICP

Community Development Director

BACKGROUND: The Mazama Pocket Gopher (MPG) became a federally listed endangered species in April 2014. This memo addresses the City regulatory structure. The Endangered Species Act (ESA) is a separate regulatory structure from the Growth Management Act, the State statute the City does implement, so compliance with City regulations does not necessarily mean an applicant complies with the ESA. While the City routinely addresses questions from property owners on how to comply with its local development regulations, it does not do so with respect to the ESA. ESA compliance is the property owner's responsibility.

FINDINGS: In implementing the City's critical areas ordinance (CAO), and based on analysis prepared by qualified professionals, staff have found that projects in certain areas and with certain features lack gopher habitat, so do not require CAO review by a qualified professional. While the CAO governs these issues, the below summarizes what staff have found to date.

DETERMINATION: Based on the findings above, Tumwater summarizes assessment findings for MPG presence as follows:

- Geographic Due to lack of habitat, no properties in the City north of Trosper Road have required CAO review.
- Vegetative Cover Project Sites, parcels, or portions of these sites with 30% or greater forested cover have not required CAO review, although where there are adjacent unforested and undeveloped lots exceeding 7,600 square feet (SF) in area, CAO review may be needed.
- 3. Project Use Level
 - Single-family, manufactured homes, and duplexes for lots 7,600 SF or less
 - New or additions to single-family, manufactured homes, and duplexes

 CAO review has typically not been required on existing lots 7,600 SF

¹ For land owners seeking guidance on ESA compliance, while the City cannot assist, see USFWS Memorandum, Guidance on Trigger for an Incidental Take Permit Under Section 10(a)(1)(B) of the Endangered Species Act Where Occupied Habitat or Potentially Occupied Habitat is Being Modified, issued April 26, 2018.



- or less in size. Unforested and undeveloped lots exceeding 7,600 SF may require CAO review.
- 2) Developed lots surrounded by existing development (homes, streets, storm ponds, sidewalks, etc.) that are of a similar size have not required CAO review. This would not exclude sites on the periphery areas where adjacent lands are not developed at an urban density level.
- Single-family lots vested under RCW 58.17 and/or TMC 15.44.040 will likely not require CAO review.

b. Commercial/Industrial/Institutional

- New or additions to buildings proposed in areas with 30% or greater forested coverage, existing impervious surfaces or significantly disturbed pervious areas (i.e. evidence of compacted gravel, formal landscape areas or other scenarios that would exclude the proposed developed area as being defined as habitat) have typically not required CAO review.
- 4. Approved United States Fish and Wildlife Service (USFWS) Avoidance/Mitigation Strategy – Any projects that have consulted with USFWS and have a documented avoidance/mitigation strategy that is acceptable to USFWS can typically proceed with normal permitting.
- 5. Site Screening Properties may be screened by a qualified professional. Alternately, USFWS may screen properties by arrangement between the property owner and USFWS. At least two screenings, no less than 30 days apart, between June 1 and October 31, are consistent with best available science to determine the presence or absence of MPG.

PRIOR GUIDANCE: This Administrative Determination supersedes and replaces the City's prior Administrative Determination on Mazama Pocket Gopher Screening Protocol dated October 31, 2017.

APPEAL: This code determination shall become effective on the above date. Any person affected by this determination may appeal this decision to the Tumwater Hearing Examiner pursuant to Chapter 18.62 of the Tumwater Municipal Code.



APPENDIX F

Mazama Pocket Gopher Screening Field Forms



Mazama Pocket Gopher Screening Field Form Site Visit Date: 26 July 2022

1st Visit

Parcel #: 12832310700, 12832310800					
Site Name and Parcel #	Project #:				
	Site/Landowner: Bodenhamer				
How were the data collected?	Transect: Trimble Garmin Aerial				
(circle the method for each)	Mounds (Trimble) Garmin Aerial				
	Notes:				
Field Team Personnel:	Name: Curtis Wambach				
(Indicate all staff present, CIRCLE	Name:				
who filled out form)	Name:				
	Name.				
Others onsite (name/affiliation)					
Site visit #	1 st 2 nd 3 rd Unable to screen				
(CIRCLE all that apply)	Notes: One out of three screening visits				
Do onsite conditions preclude the	Yes No				
need for further visits?	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:				
detection:					
Request mowing?	Yes No N/A Notes:				
(CIRCLE and DESCRIBE WHERE					
MOWING IS NEEDED and SHOW					
ON AERIAL PHOTO					

Mounds observed over the whole site are characteristic of: Quantify or describe amount of	MPG Mounds	Likely MPG Mounds	Indeterminate	Likely Mole Mounds	Mole Mounds
each type and approx. # of mounds					20
Group = 3 mounds or more					
	No MPG mound	ds (circle)			
MPG mounds in GPS? (CIRCLE and DESCRIBE) If MPG mounds present, entered in GPS?	None All Notes: Yes No	Most Some	e		
Does woody vegetation onsite match aerial photo?	Yes No -	describe differe	ences and show or	parcel map/	aerial:
What portion(s) of the property was screened? (CIRCLE and DESCRIBE)			how on parcel ma		site.
Notes -	Describe, and sh	now on parcel ma	ap/aerial if applica	able:	
Team reviewed and agreed to data recorded on form?	Yes No	Reviewed by	initials: <u>CW</u> <u>VC</u>	Notes:	
(CIRCLE, and EXPLAIN if "No")					

Mazama Pocket Gopher Screening Field Form Site Visit Date: <u>28 September 2022</u>

Previous Visits: 26 July 2022

Site Name and Parcel # How were the data collected? (circle the method for each)	Parcel #: 12832310700, 12832310800 Project #: Site/Landowner: Bodenhamer Transect: Trimble Garmin Aerial Mounds Trimble Garmin Aerial
	Notes:
Field Team Personnel: (Indicate all staff present, CIRCLE who filled out form)	Name: Curtis Wambach Name: Viri Cortez Name:
Others onsite (name/affiliation)	
Site visit # (CIRCLE all that apply)	1 st 2 nd 3 rd Unable to screen Notes: Two out of three screening visits
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				10	80
Group = 3 mounds or more					
	No MPG mound	ds (circle)	1		
MPG mounds in GPS?	None All	Most Some	2		
(CIRCLE and DESCRIBE)	Notes.				
If MPG mounds present, entered in GPS?	Yes No	N/A			
Does woody vegetation onsite match aerial photo?	Yes No -	describe differe	nces and show on	parcel map/	aerial:
What portion(s) of the property (was screened?	All Part	- describe and sl	how on parcel ma	p/aerial:	
(CIRCLE and DESCRIBE)					
Notes -	Describe, and sl	how on parcel ma	ap/aerial if applica	able:	
Team reviewed and agreed to data recorded on form?	Yes No	Reviewed by	initials: <u>CW</u> <u>VC</u>	Not	es:

Mazama Pocket Gopher Screening Field Form Site Visit Date: 28 October 2022

Previous Visits: 26 July 2022 & 28 September 2022

Site Name and Parcel #	Parcel #: 12832310700, 12832310800 Project #: Site/Landowner: Bodenhamer				
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: Curtis Wambach Name: Name:				
Others onsite (name/affiliation) Site visit # (CIRCLE all that apply)	1 st 2 nd 3 rd Unable to screen Notes: Three out of three screening visits				
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: Utility work had been started on the southern portion of the subject property, leaving dirt piles and excavated holes.				

Request mowing?	Yes No N/A Notes:
(CIRCLE and DESCRIBE WHERE MOWING IS NEEDED and SHOW ON AERIAL PHOTO	Site consist of maintained lawn and no structural buildings, however utility excavation was started on site.

Mounds observed over the whole site are characteristic of: Quantify or describe amount of	MPG Mounds	Likely MPG Mounds	Indeterminate	Likely Mole Mounds	Mole Mounds
each type and approx. # of mounds			5	32	76
Group = 3 mounds or more					
	No MPG mounds	s (circle)			
MPG mounds in GPS? (CIRCLE and DESCRIBE) If MPG mounds present, entered in GPS?	None All Notes: Yes No	Most Some			
Does woody vegetation onsite match aerial photo?	Yes No -	describe differer	nces and show on	parcel map/ae	rial:
What portion(s) of the property was screened?	All Part	- describe and sh	ow on parcel ma	p/aerial:	
(CIRCLE and DESCRIBE)					
Notes -	Describe, and sh	ow on parcel ma	p/aerial if applica	ıble:	
Team reviewed and agreed to data recorded on form? (CIRCLE, and EXPLAIN if "No")	Yes No	Reviewed by	initials: <u>CW VC</u>	Notes	: