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18 August 2023

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**).

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 and the USFWS (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.

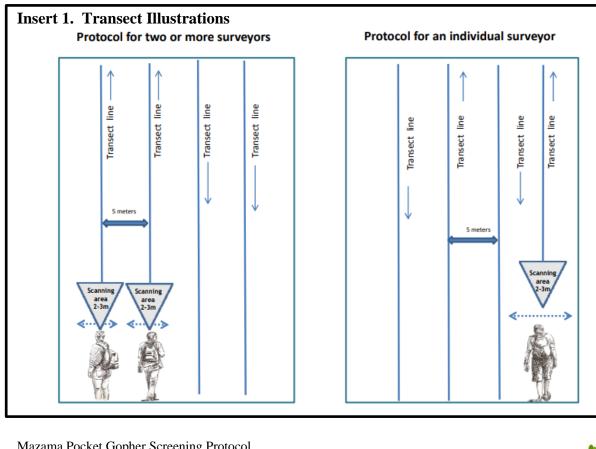
2.0 **METHODOLOGY**

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.

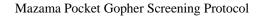




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The detailed field methodology is in compliance with the City of Tumwater Code (2022) Site Inspection Protocol and Procedures: Mazama Pocket Gopher as follows:

- 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		



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.

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.

Table 2. Summary of Soil Preference

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 subject 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.

Site Visit	Date of Visit	Gopher Occurrence Observed	Comments
1st	16 June 2023	No	
2nd	16 July 2023	No	No mounds characteristic of that created by the Mazama pocket gopher have been identified on the subject property
3rd	18 August 2023	No	

 Table 3. Summary of Results

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 1-25**). Intensive grazing occurs from a large number of livestock on the subject property. 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 16 June 2023, 16 July 2023, and 18 August 2023. 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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No mound formations exhibiting characteristics created by the Mazama pocket gopher have been identified on the subject property during the Mazama pocket gopher screenings. The site screening focused on the entire parcel.

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

Sincerely,

Center inlach

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



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FIGURES



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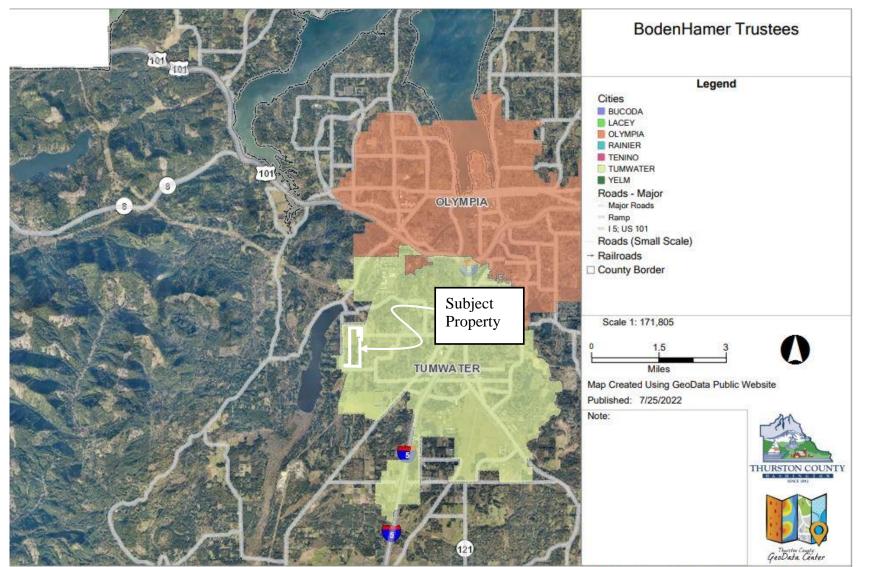


Figure 1. Vicinity Map



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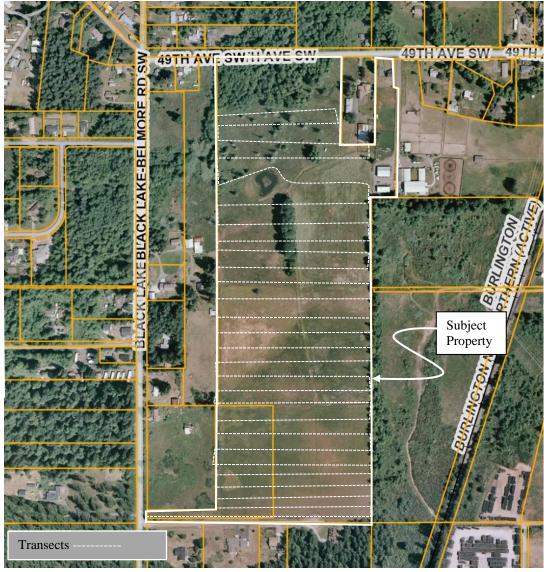


Figure 2. Transect Screening lines



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APPENDIX A

Photo Documentation



18 August 2023 Page 12 of 24 First Gopher Screening (16 June 2023) Photo 2. Conical-shaped mole mound with blocky texture Photo 1. Vertical tunnel in center of conical mole mound Photo 3. European pasture grasses on property Photo 4. Central vertical tunnel, conical, blocky texture, mole mnd Photo 5. Central vertical tunnel, conical, blocky texture, mole mnd Photo 6. Central vertical tunnel, conical, blocky texture, mole

Photo 7. Central vertical tunnel, conical, blocky texture, mole mnd Photo 8. Conical shaped, blocky texture, mole mound

Mazama Pocket Gopher Screening Protocol

Bodenhamer



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Second Gopher Screening (16 July 2023)



Photo 10. Livestock pasture onsite



Photo 12. Central vertical tunnel, conical, blocky texture, mole



Photo 14. Central vertical tunnel, conical, blocky texture, mole



Photo 16. Conical shaped, blocky texture, old mole mound Mazama Pocket Gopher Screening Protocol



Photo 11. Livestock pasture onsite



Photo 13. Central vertical tunnel, conical, blocky texture, mole



Photo 15. Central vertical tunnel, conical, blocky texture, mole



Photo 17. Livestock pasture onsite



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Third Gopher Screening (18 August 2023)



Photo 18. Livestock pasture onsite



Photo 20. Livestock pasture onsite



Photo 22. Mole mound, blocky texture, central vertical tunnel



Photo 24. Mole mound, blocky texture, central vertical tunnel Mazama Pocket Gopher Screening Protocol



Photo 19. Livestock pasture onsite, Delineated wetland area



Photo 21. Mole mound, blocky texture, central vertical tunnel



Photo 23. Mole mound, blocky texture, central vertical tunnel



Photo 25. Mole mound, blocky texture, central vertical tunnel



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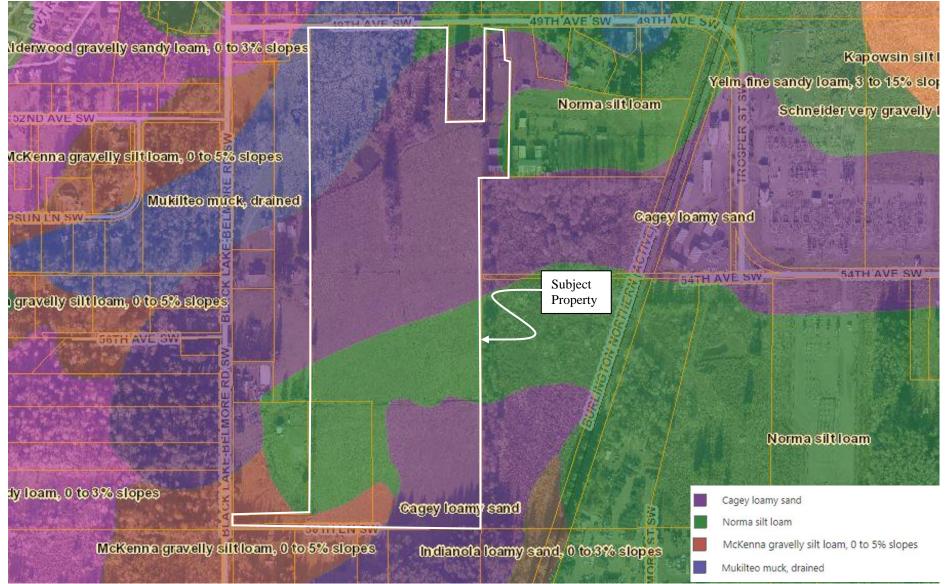
APPENDIX B

Thurston County Geodatabase

Soils



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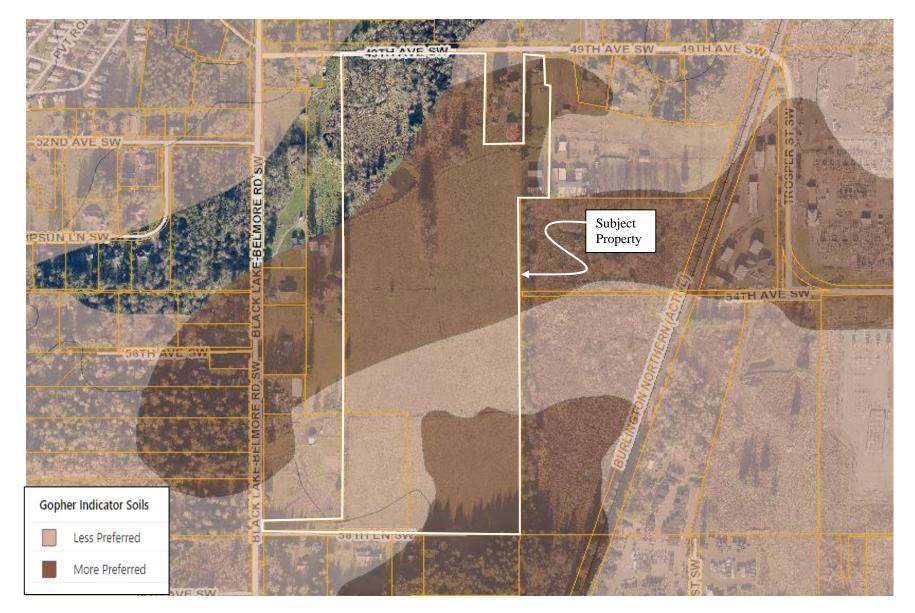
APPENDIX C

Thurston County Geodatabase

Gopher Indicator Soils



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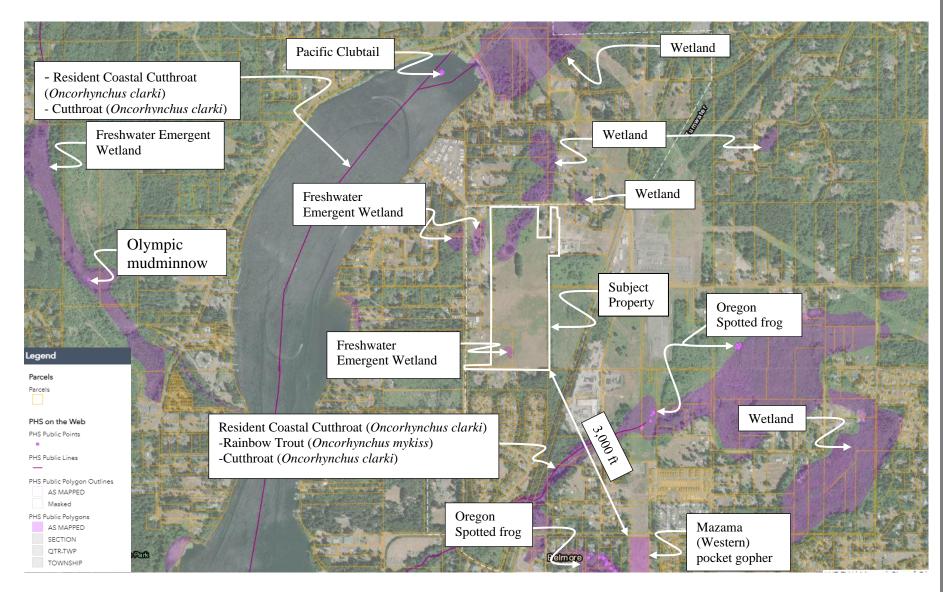
APPENDIX D

Washington Department of Fish and Wildlife

Priority Habitat Species (PHS)

Database







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APPENDIX E

City of Tumwater

Mazama Pocket Gopher

Screening Protocol



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CITY OF TUMWATER	COMMUNITY DEVELOPMENT DEPARTMENT ADMINISTRATIVE DETERMINATION TOPIC: Mazama Pocket Gopher Screening APPROVED: Mazama Pocket Gopher Screening DATE: 1,25/1 Michael Matlock, AICP Community Development Director	18

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.¹ 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:

- 1. Geographic Due to lack of habitat, no properties in the City north of Trosper Road have required CAO review.
- 2. 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
 - a. Single-family, manufactured homes, and duplexes for lots 7,600 SF or less
 - 1) 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.

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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.

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APPENDIX F

Mazama Pocket Gopher Screening Field Forms



2022	Thurston County	y Mazama Pocket Go	pher Screening	g Field Form	Site Visit Date:16 June 2023

Site Name and Parcel # How were the data collected? (circle the method for each)	Parcel #:12832310700, 12832310800 Project #: Bodenhamer Site/Landowner: Bodenhamer Transect: Trimble Garmin Aerial Mounds Trimble Oarmin 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 Unable to screen Notes: one out of two 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: No Fresh mounds old mounds Heavily forested and understory vegetation on majority of the site					
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					110
Group = 3 mounds or more					
	No MPG moun	ds (circle)			
MPG mounds in GPS? (CIRCLE and DESCRIBE)	None All Notes:	Most Sor	me		
If MPG mounds present, entered in GPS?	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?	All Part	describe and	l show on parce	map/aerial:	
(CIRCLE and DESCRIBE)	Seasonally floo screened	ded wetland or	n northern edge	and flooded fa	arm pond not
Notes -	Describe, and s	how on parcel i	map/aerial if ap	plicable:	
	Seasonally floo screened	ded wetland or	n northern edge	and flooded fa	arm pond not
Team reviewed and agreed to data recorded on form?	Yes No	Reviewed	by initials: <u>CW</u>		_ Notes:
(CIRCLE, and EXPLAIN if "No")					

2022 Thurston County Mazama Pocket Gopher Screening Field Form Site Visit Date: <u>16 July 2023</u>. Previous Visit: <u>16 June 2023</u>

Parcel #:12832310700, 12832310800					
Project #: Bodenhamer					
Site/Landowner <u>: Bodenhamer</u>					
Transect: Trimble Garmin Aerial					
Mounds Trimble Garmin Aerial					
Notes:					
Name: Curtis Wambach					
Name:					
Name:					
1 st 2 nd 3 rd Unable to screen					
Notes: one out of two screening 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:					
Poor Fair Good Notes: No Fresh mounds old mounds Heavily forested and understory vegetation on majority of the site					

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 each type and approx. # of	MPG Mounds	Likely MPG Mounds	Indeterminate	Likely Mole Mounds	Mole Mounds 60
mounds Group = 3 mounds or more	No MPG mou	nds (circle)			
MPG mounds in GPS? (CIRCLE and DESCRIBE) If MPG mounds present, entered in GPS? Does woody vegetation onsite match aerial photo?	None Al Notes: Yes No Yes No		me erences and show	v on parcel m	ap/aerial:
What portion(s) of the property was screened?	All Ca	rt - describe and	d show on parce	map/aerial:	
(CIRCLE and DESCRIBE)	Seasonally flo screened	oded wetland o	n northern edge	and flooded f	arm pond not
Notes -		show on parcel			arm pond not

Team reviewed and agreed to data recorded on form?	Yes	Νο	Reviewed by initials: <u>CW</u>	 Notes:
(CIRCLE, and EXPLAIN if "No")				

2022 Thurston County Mazama Pocket Gopher Screening Field Form Site Visit Date: <u>18 August 2023</u>. Previous Visits: <u>16 June 2023</u>, <u>16 July 2023</u>

	Parcel #:12832310700, 12832310800					
Site Name and Parcel #	Project #: Bodenhamer					
	Site/Landowner <u>: Bodenhamer</u>					
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:					
Others onsite (name/affiliation)						
Site visit #	1 st 2 nd 3 rd Unable to screen					
(CIRCLE all that apply)	Notes: one out of two screening visits					
Do onsite conditions preclude the	Yes No					
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: No Fresh mounds old mounds Heavily forested and understory vegetation on majority of the site					

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 each type and approx. # of	MPG Mounds	Likely MPG Mounds	Indeterminate	Likely Mole Mounds	Mole Mounds 45
mounds Group = 3 mounds or more	No MPG mout	nds (circle)			
MPG mounds in GPS? (CIRCLE and DESCRIBE) If MPG mounds present, entered in GPS? Does woody vegetation onsite	None All Notes: Yes No Yes No	N/A	me erences and show	w on parcol m	an/aorial:
match aerial photo? What portion(s) of the property			show on parcel		ap/aeriai:
(CIRCLE and DESCRIBE)			n northern edge		arm pond not
Notes -	Describe, and	-	map/aerial if ap n northern edge		arm pond not
	screened		-		

Team reviewed and agreed to data recorded on form?	Yes	Νο	Reviewed by initials: <u>CW</u>	 Notes:
(CIRCLE, and EXPLAIN if "No")				