EnviroVector
1441 West Bay Drive, Suite 301
Olympia, WA 98502

Phone: (360) 790-1559
Email: curtis@envirovector.com

www.envirovector.com

30 October 2020

Rob Rice

Reference: Kirsop Rd (#79900002400)
Subject: Mazama Pocket Gopher Screening to Satisfy City of Tumwater Permitting Requirements

Dear Rob Rice:

At your request, EnviroVector has prepared to satisfy City of Tumwater requirements for Mazama pocket gopher screenings on the 10.68-acre subject property located at 6139 Kirsop Rd SW, City of Tumwater, WA, 98512 (#79900002400) (**Figure 1**).

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 (July 2018) Mazama Pocket Gopher Screening Protocol (**Appendix E**).

The City of Tumwater has determined that a Mazama pocket gopher screening is necessary to comply with City of Tumwater Code and the Endangered Species Act.

2.0 METHODOLOGY

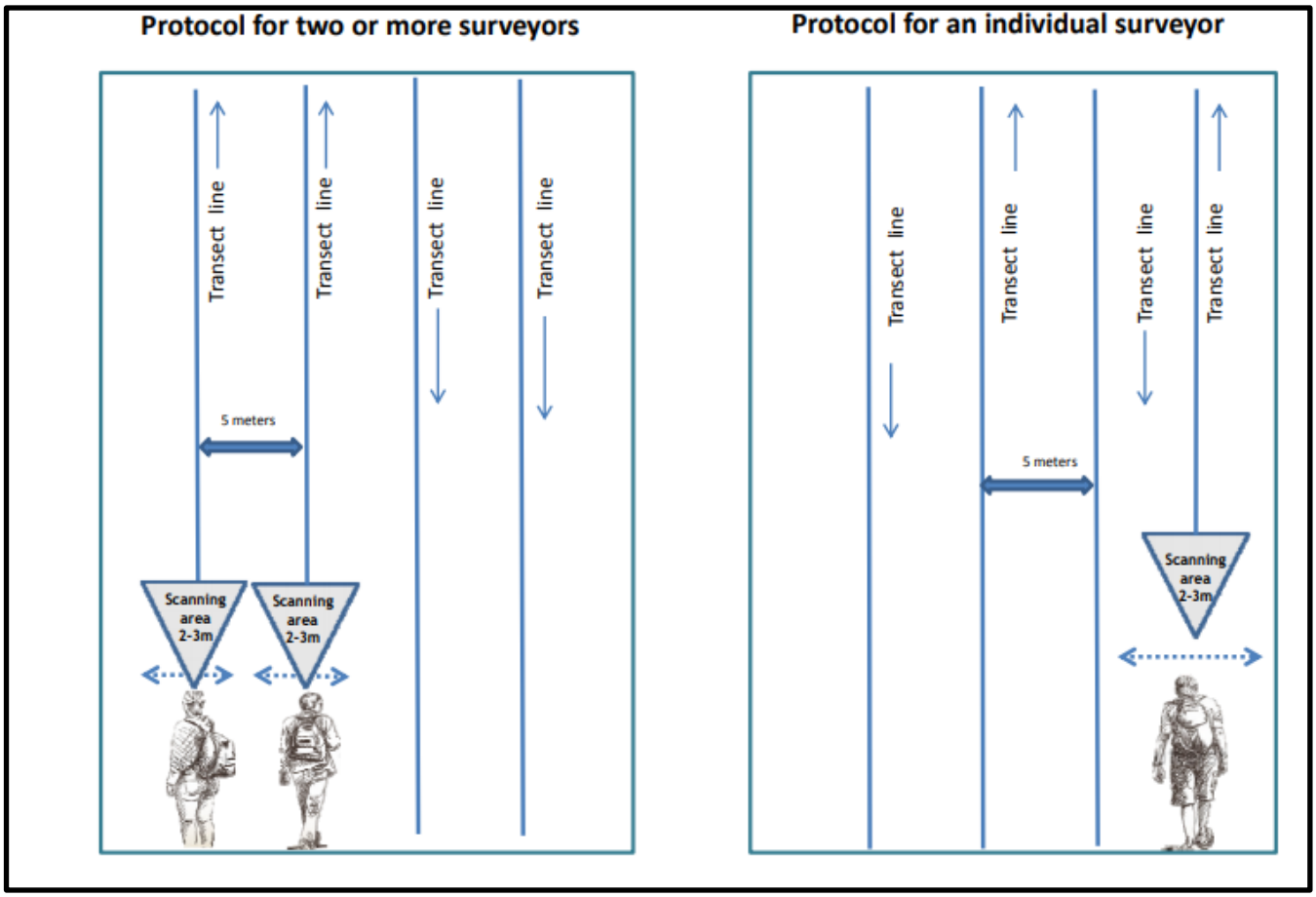
The Mazama pocket gopher screening was performed on 19 September 2020 and 30 October 2020 per City of Tumwater recommendations for two (2) site visits in compliance with the City of Tumwater (July 2018) Mazama Pocket Gopher Screening Protocol (**Appendix E**). The screening was performed within the USFWS prescribed survey window (June 1 through October 31).

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

- 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, not just the project footprint.
- The site was visited two (2) times at least 30 days apart.
- Data was recorded on datasheets 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 USFWS Site Inspection Protocol and Procedures: Mazama Pocket Gopher as follows:

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

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

Insert 2. Mazama pocket gopher soils

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

Mazama Pocket Gopher Preference	Soil Type
More Preferred (formerly High and Medium Preference Soils)	Nisqually loamy fine sand, 0 to 3 percent slopes Nisqually loamy fine sand, 3 to 15 percent slopes Spanaway-Nisqually complex, 2 to 10 percent slopes Cagey loamy sand Indianola loamy sand, 0 to 3 percent slopes Spanaway gravelly sandy loam, 0 to 3 percent slopes Spanaway gravelly sandy loam, 3 to 15% slopes
Less Preferred (formerly Low Preference Soils)	Alderwood gravelly sandy loam, 0 to 3 percent slopes Alderwood gravelly sandy loam, 3 to 15 percent slopes Everett very gravelly sandy loam, 0 to 3 percent slopes Everett very gravelly sandy loam, 3 to 15 percent slopes 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 Geodata Soils

Three (3) soil types are mapped on the subject property by Thurston County Geodata (**Appendix B & C; Table 1**). Two (2) soil types mapped on the subject property are preferred gopher soils, Indianola loamy sand 0-3% slopes (More preferred) and Nisqually loamy fine sand 0-3% slopes (more preferred).

Table 1. Summary of Soil Preference

Soil Unit	Gopher Soil	Preference	Comments
Indianola loamy sand, 0-3% slopes	Yes	More preferred	Located in the northwestern portion of the subject property
Nisqually loamy fine sand, 0-3% slopes	Yes	More preferred	Located in the southeastern portion of the subject property
Mukilteo muck	No	N/a	Northwestern corner of the subject property

3.2 WDFW PHS Database

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

4.0 FIELD RESULTS

4.1 Mazama Pocket Gopher Site Evaluation

No mounds characteristic of that created by the Mazama pocket gopher have been identified on the subject property during the 19 September 2020 or 30 October 2020 site screenings. The majority of the site consists of heavily grazed livestock pasture and paddocks (**Figure 2**; **Appendix A, Photos 1-8 & 15-20**). Neighboring properties consist of forested areas, wetlands, high intensity single-family residences, utility corridor, and rural residential. Conical-shaped mole mounds with central, vertical tunnels to the surface have been identified on the subject property (**Appendix A, Photos 7, 8, 9-13, & 21-24**). Some mounds are old and flattened.

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

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

Table 2. Summary of Results

Site Visit	Date of Visit	Gopher Occurrence Observed	Comments
1st	19 September 2020	No	No mounds characteristic of that created by the Mazama pocket gopher have been identified on the subject property
2nd	30 October 2020	No	

4.2 Mazama Pocket Gopher Habitat Evaluation

Marginal potential Mazama pocket gopher habitat occurs on the subject property and in the vicinity. While the majority of the subject property is mapped as "More preferred" gopher soils, there are large wetland areas mapped north of the property by the WDFW PHS database.

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 entire subject property was evaluated for the Mazama pocket gopher on 19 September 2020 and 30 October 2020 in accordance with the City of Tumwater (July 2018) Mazama Pocket Gopher Screening Protocol. The site evaluation was performed within the prescribed survey window (June 1 through October 31).

The subject property primarily contains soils listed by the WDFW as "more preferred" by the Mazama pocket gopher.

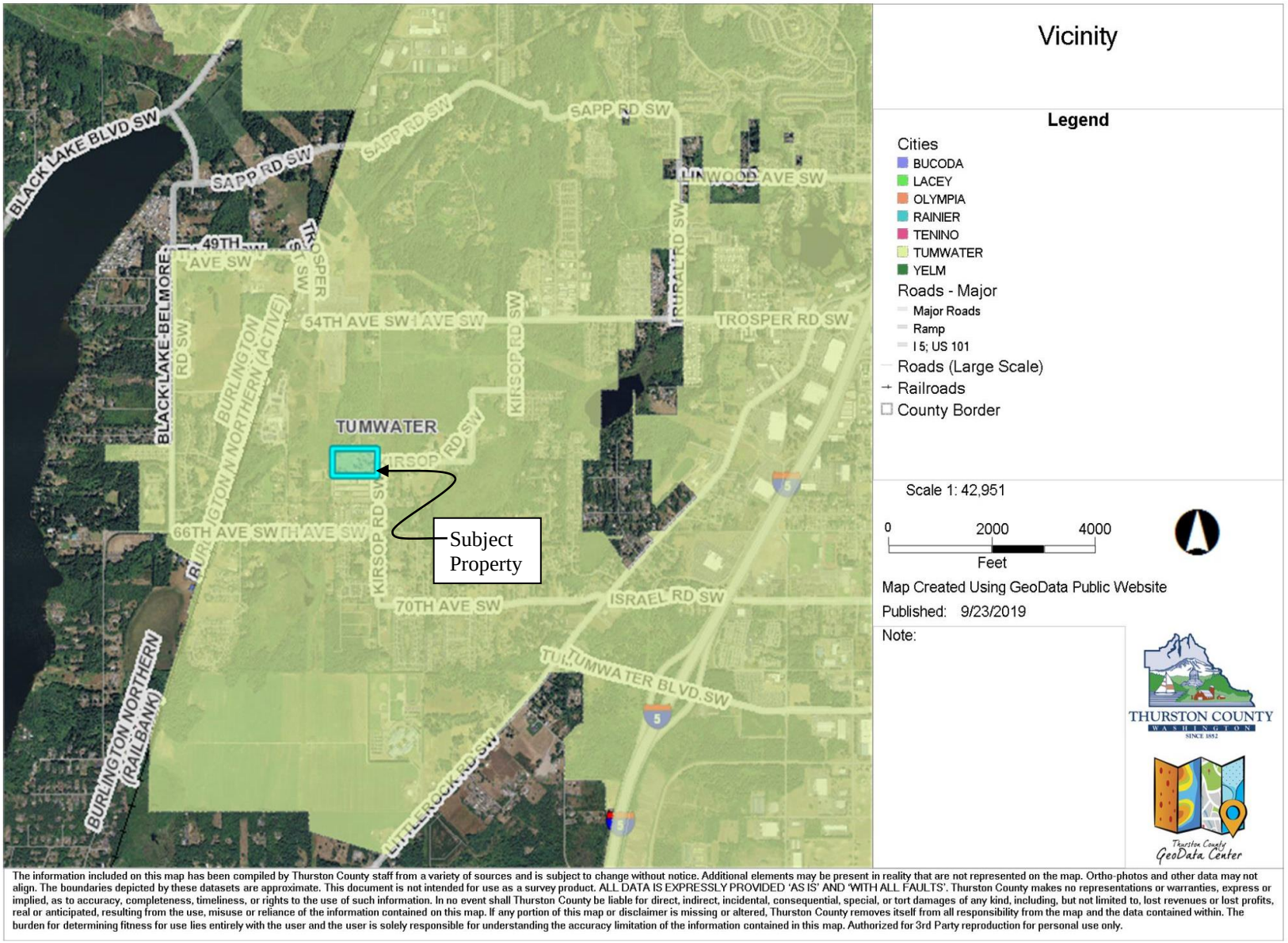
No mounds characteristic of the Mazama pocket gopher have been identified on the subject property. Marginal potential habitat occurs on the subject property.

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

Sincerely,

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

Figures



The information included on this map has been compiled by Thurston County staff from a variety of sources and is subject to change without notice. Additional elements may be present in reality that are not represented on the map. Ortho-photos and other data may not align. The boundaries depicted by these datasets are approximate. This document is not intended for use as a survey product. ALL DATA IS EXPRESSLY PROVIDED 'AS IS' AND 'WITH ALL FAULTS'. Thurston County makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. In no event shall Thurston County be liable for direct, indirect, incidental, consequential, special, or tort damages of any kind, including, but not limited to, lost revenues or lost profits, real or anticipated, resulting from the use, misuse or reliance of the information contained on this map. If any portion of this map or disclaimer is missing or altered, Thurston County removes itself from all responsibility from the map and the data contained within. The burden for determining fitness for use lies entirely with the user and the user is solely responsible for understanding the accuracy limitation of the information contained in this map. Authorized for 3rd Party reproduction for personal use only.

Figure 1 Vicinity Map

EnviroVector
OPTIMIZE USABLE LAND

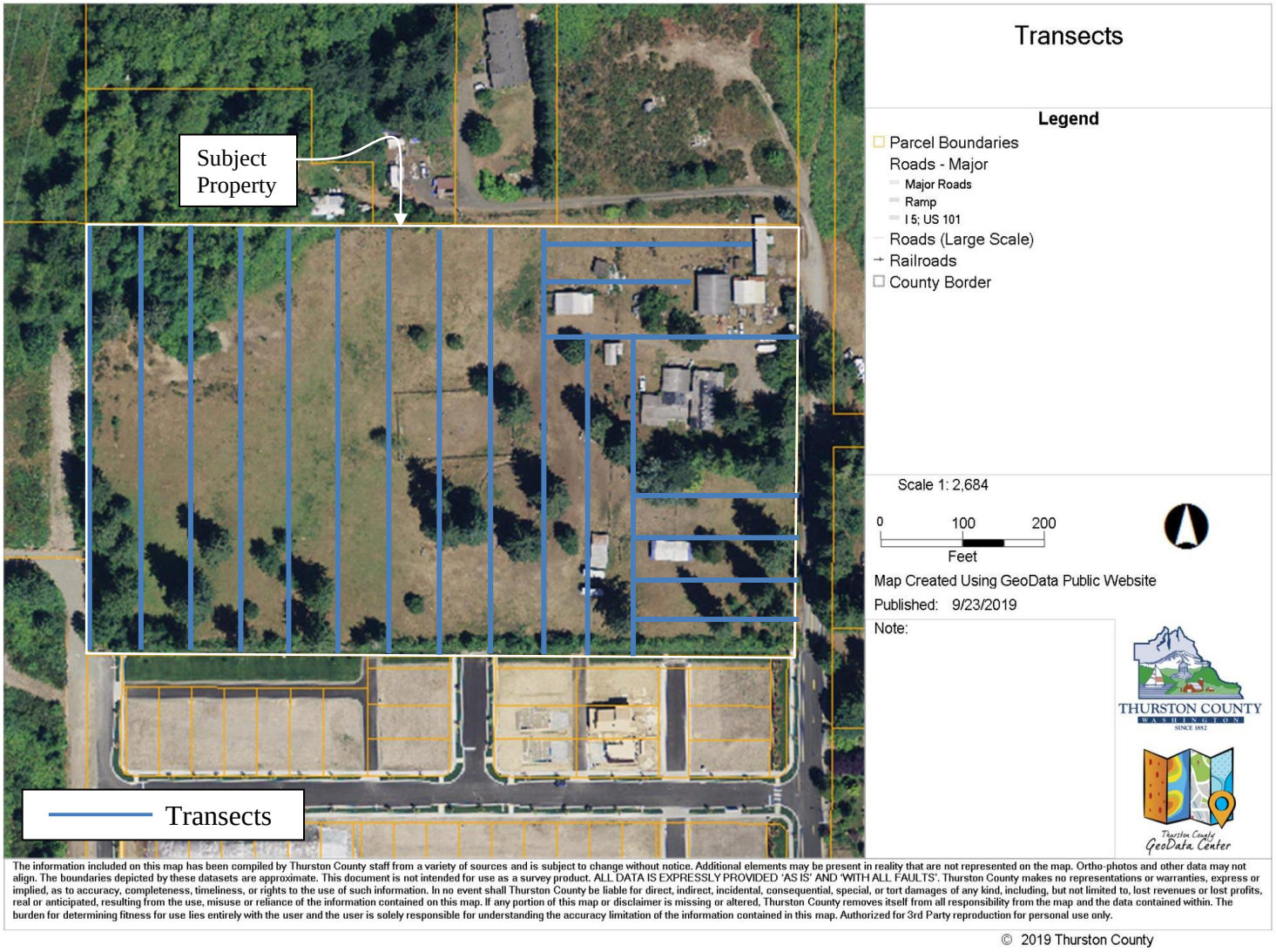


Figure 2 Subject Property

Appendix A

Photo Documentation

First Visit (29 October 2020)

Photo 1. Pastureland grazed by livestock

Photo 2. Short grazed grassland

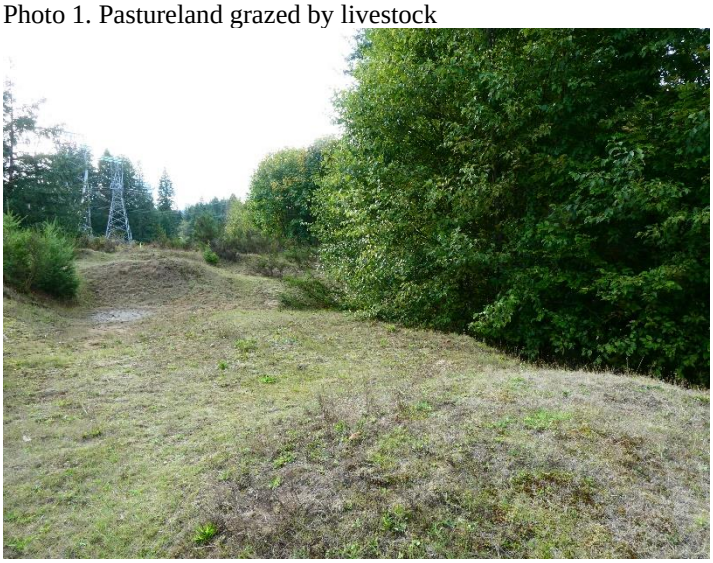


Photo 3. Short grass, no mounds

Photo 4. Short grass and bracken fern

Photo 5.

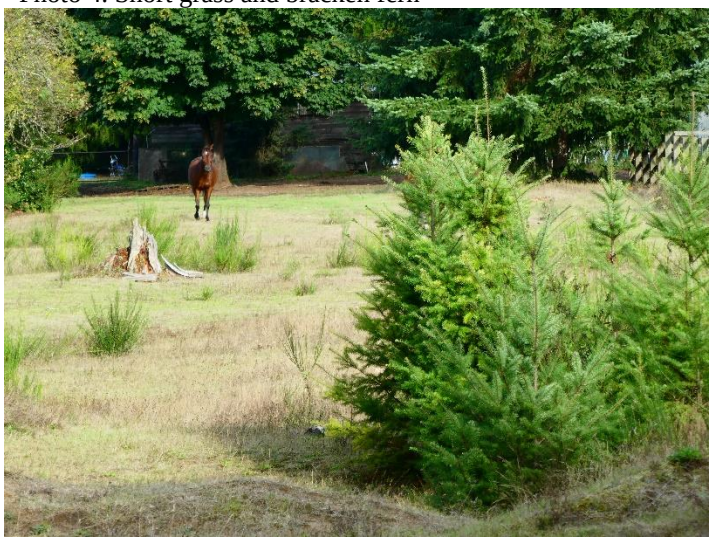


Photo 6. Mole mounds, blocky texture, conical in-line distribution

Photo 7. Mole mound, central tunnel, conical, blocky texture

Photo 8. Mole mounds, blocky texture, conical in-line distribution

Second Visit (30 October 2020)

Photo 9. Mole mound, conical, blocky texture

Photo 10. Mole mound, conical, blocky texture

Photo 11. Forested area adjacent to short grass area, no mounds

Photo 12. Mole mound, central tunnel, conical, blocky texture

Photo 13. Mole mound, conical, blocky texture

Photo 14. Mole mounds, in line distribution, blocky texture

Photo 15. Weathered mole mounds, in line distribution

Photo 16. Mole mound, conical, blocky texture

Photo 17. Weathered mole mounds, in line distribution

Photo 18. Mole mound, conical, blocky texture

Photo 19. Weathered mole mounds, in line distribution

Photo 20. Mole mound, conical, blocky texture

Photo 21. Weathered mole mounds, in line distribution

Photo 22. Mole mound, conical, blocky texture

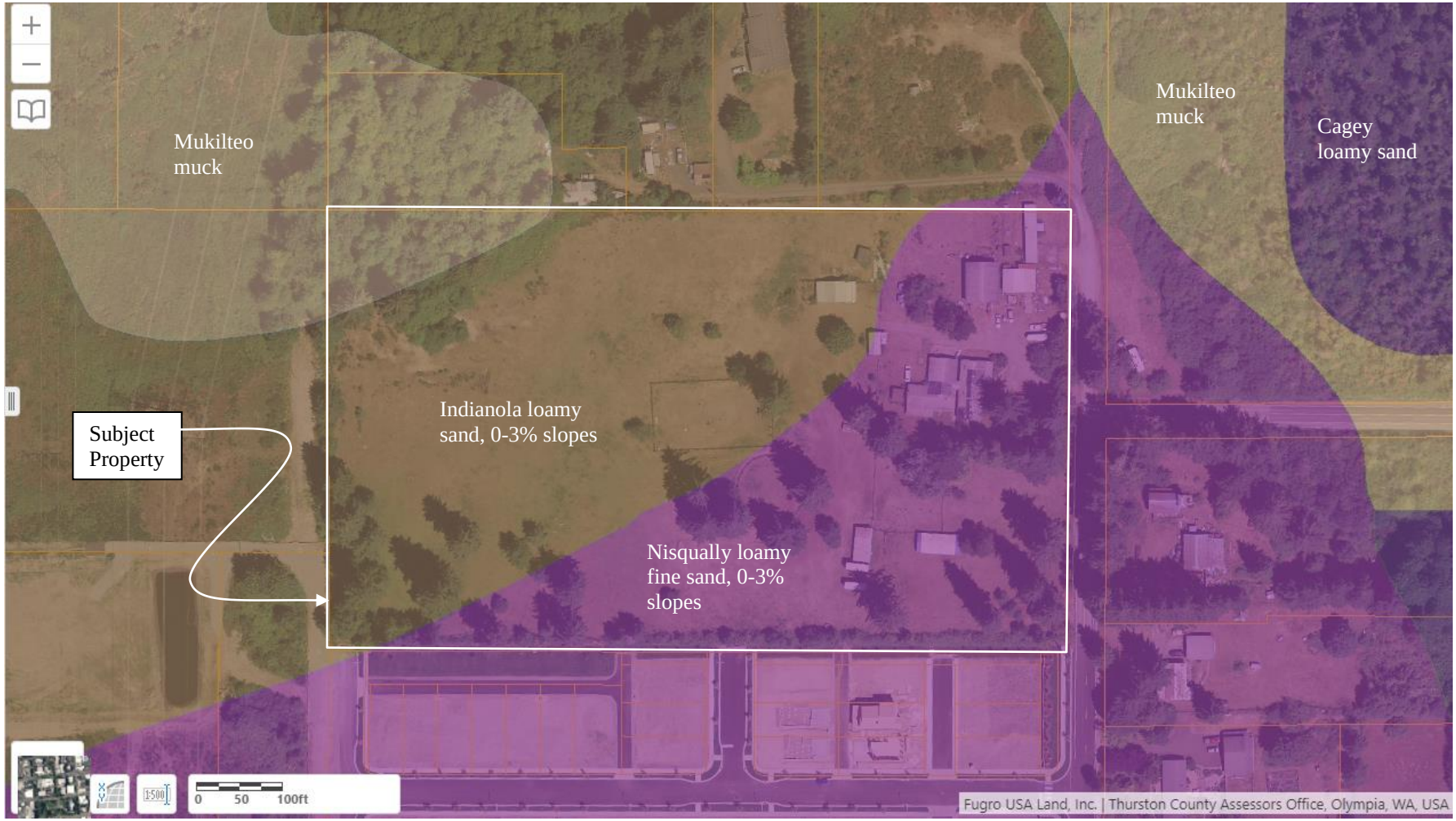
Photo 23. Weathered mole mounds, in line distribution

Photo 24. Mole mound, conical, blocky texture

Appendix B

Thurston County Geodata

Soils


Mukilteo muck
Mukilteo muck
Cagey loamy sand
Indianola loamy sand, 0-3% slopes
Subject Property
Nisqually loamy fine sand, 0-3% slopes
0 50 100ft
Fugro USA Land, Inc. | Thurston County Assessors Office, Olympia, WA, USA

Appendix C

Thurston County Geodata

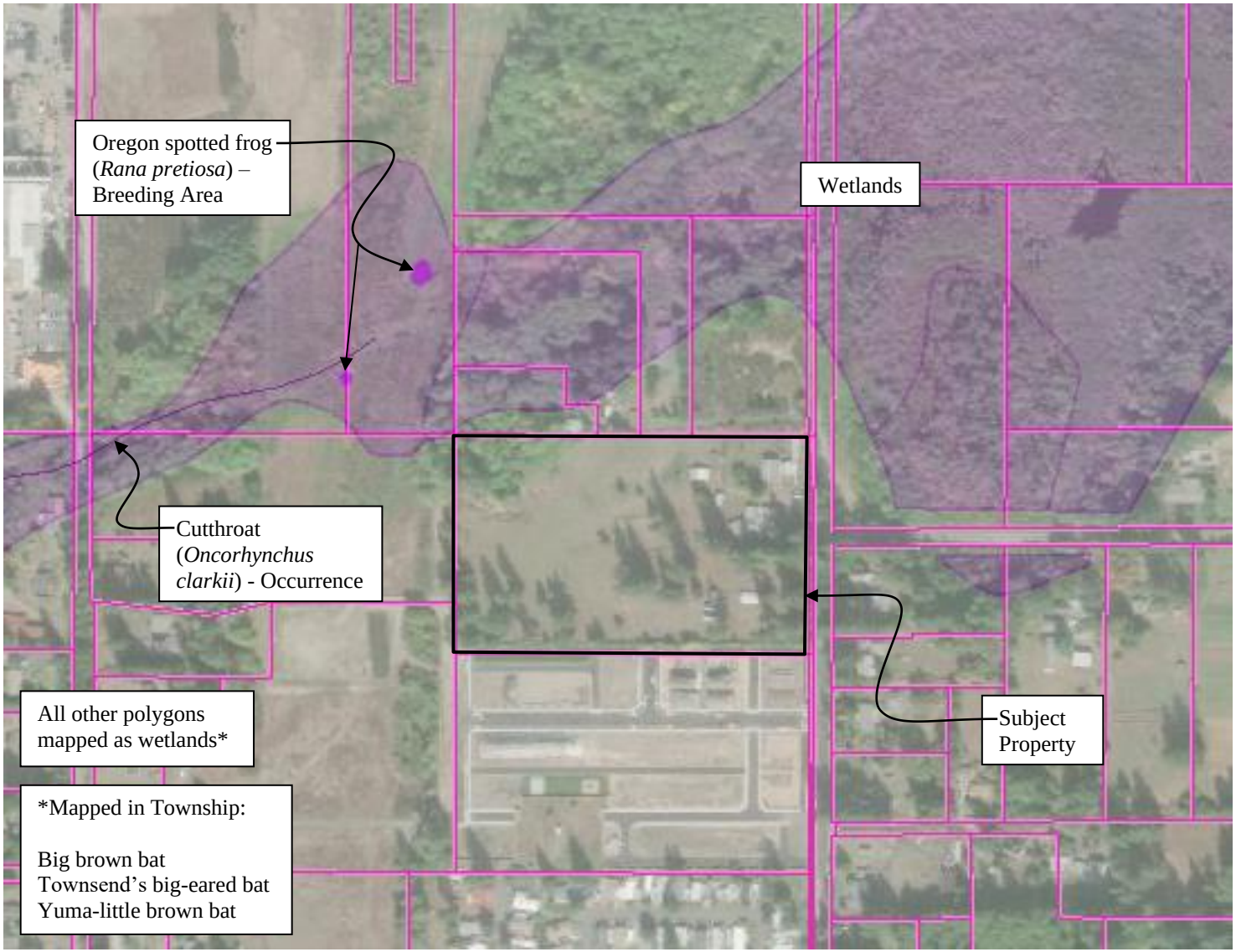
Gopher Indicator Soils


Subject Property
More Preferred
0 50 100ft
Fugro USA Land, Inc. | Thurston County Assessors Office, Olympia, WA, USA

Appendix D

WDFW

Priority Habitat Species (PHS)


Oregon spotted frog (*Rana pretiosa*) – Breeding Area
Wetlands
Cutthroat (*Oncorhynchus clarkii*) - Occurrence
Subject Property
All other polygons mapped as wetlands*
*Mapped in Township:
Big brown bat
Townsend's big-eared bat
Yuma-little brown bat

Appendix E

City of Tumwater

Mazama Pocket Gopher

Screening Protocol

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.[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.

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.

3) Single-family lots vested under RCW 58.17 and/or TMC 15.44.040 will likely not require CAO review.

b. Commercial/Industrial/Institutional

1) 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

Datasheets

Sample Mazama Pocket Gopher Screening Field Form

Site Visit Date: 19 Sept 2020

If 2nd or 3rd site visit, date(s) of previous visits:_____

Site Information	**Parcel #:** 79900002400 **Site/Landowner:** Rob Rice **Mapped soil types [close-up soil map with site outlined is attached ___]** **More preferred:** Indianola loamy sand, 0-3% slopes, Nisqually loamy fine sand, 0-3% slopes **Less preferred:**__ **Within 600' of known MPG occurrence? Yes (distance in ft) _____ No____** **[Copy that includes date of info. retrieval is attached ____]**	
How were the data collected? (circle the method for each)	**Transect: (GPS) Aerial** **Mounds: (GPS) Aerial** **What portion of MPG mounds observed were recorded in GPS or drawn on map? None (All) Most Some** **Notes:** No mounds were recorded	
Field team names: (Note who filled out form and others conducting screening)	Kari Gordon, Julie Lewis,	
Others onsite (name/affiliation)		
Site visit # (CIRCLE all that apply) **Request mowing to enable screening of all or a portion of the site?**	**(1st) 2nd 3rd** **Unable to screen** **Yes No N/A** **Date last mowed:_____**	**Notes:**
Do onsite conditions <u>throughout the entire parcel</u> preclude the need for MPG surveys? **(CIRCLE and DESCRIBE)**	**Yes (No)** **Dense woody cover (trees/shrubs) that appears to preclude any MPG use** **Impervious Compacted Graveled Flooded Slope** **Other_____** **Notes:**	
Describe ground visibility for mound detection: (CIRCLE and DESCRIBE)	**Poor Fair (Good) Notes:**	

Sample Mazama Pocket Gopher Screening Field Form

<table>
<tr><td rowspan="2">Quantify or describe amount of MPG mounds and approx. # of mounds or groups of mounds
(specify whether count is individual mounds or groups)</td><td>MPG Mounds</td><td>Indeterminate</td><td>Mole Mounds</td></tr>
<tr><td>0</td><td></td><td>50</td></tr>
<tr><td></td><td colspan="3">No MPG mounds observed (CIRCLE)</td></tr>
<tr><td>Does woody vegetation onsite match aerial photo?

(CIRCLE and DESCRIBE)</td><td colspan="3">(Yes) No – describe differences and show on parcel map/aerial:</td></tr>
<tr><td>What portion of the property was screened?

(CIRCLE and DESCRIBE)</td><td colspan="3">(All) Part - describe and show on parcel map/aerial:</td></tr>
<tr><td>Notes</td><td colspan="3"></td></tr>
<tr><td>Team reviewed and agreed to data recorded on form?

(CIRCLE, and EXPLAIN if “No”)</td><td colspan="3">(Yes) No Reviewed by: ____ ____ ____ _____ _____
Notes:</td></tr>
</table>

Sample Mazama Pocket Gopher Screening Field Form

Site Visit Date: 19 Sept 2020

If 2nd or 3rd site visit, date(s) of previous visits: 30 Oct 2020

Site Information	**Parcel #:** 79900002400 **Site/Landowner:** Rob Rice **Mapped soil types [close-up soil map with site outlined is attached ___]** **More preferred:** Indianola loamy sand, 0-3% slopes, Nisqually loamy fine sand, 0-3% slopes **Less preferred:** **Within 600' of known MPG occurrence? Yes (distance in ft) _____ No____** **[Copy that includes date of info. retrieval is attached ____]**	
How were the data collected? (circle the method for each)	**Transect: (GPS) Aerial** **Mounds: (GPS) Aerial** **What portion of MPG mounds observed were recorded in GPS or drawn on map? None (All) Most Some** **Notes:** 1 mound was recorded	
Field team names: (Note who filled out form and others conducting screening)	Julie Lewis, Todd Sliger	
Others onsite (name/affiliation)		
Site visit # (CIRCLE all that apply) **Request mowing to enable screening of all or a portion of the site?**	**1st (2nd) 3rd** **Unable to screen** **Yes No N/A** **Date last mowed:_____**	**Notes:**
Do onsite conditions throughout the entire parcel preclude the need for MPG surveys? **(CIRCLE and DESCRIBE)**	**Yes (No)** **Dense woody cover (trees/shrubs) that appears to preclude any MPG use** **Impervious Compacted Graveled Flooded Slope** **Other_____** **Notes:**	
Describe ground visibility for mound detection: (CIRCLE and DESCRIBE)	**Poor Fair (Good) Notes:**	

Sample Mazama Pocket Gopher Screening Field Form

<table>
<tr><td rowspan="2">Quantify or describe amount of MPG mounds and approx. # of mounds or groups of mounds
(specify whether count is individual mounds or groups)</td><td>MPG Mounds</td><td>Indeterminate</td><td>Mole Mounds</td></tr>
<tr><td>0</td><td></td><td>65</td></tr>
<tr><td></td><td colspan="3">No MPG mounds observed (CIRCLE)</td></tr>
<tr><td>Does woody vegetation onsite match aerial photo?

(CIRCLE and DESCRIBE)</td><td colspan="3">(Yes) No – describe differences and show on parcel map/aerial:</td></tr>
<tr><td>What portion of the property was screened?

(CIRCLE and DESCRIBE)</td><td colspan="3">(All) Part - describe and show on parcel map/aerial:</td></tr>
<tr><td>Notes</td><td colspan="3"></td></tr>
<tr><td>Team reviewed and agreed to data recorded on form?

(CIRCLE, and EXPLAIN if “No”)</td><td colspan="3">(Yes) No Reviewed by: ____ ____ ____ _____ _____
Notes:</td></tr>
</table>