

**Subject: Results of 2022 Mazama Pocket Gopher Study****Report Date: July 13, 2022****Landowner:** Nielsen Pacific LTD**Site Address:** 11125 Durgin Road SE, Olympia, WA 98513**Consultant:** West Fork Environmental (Heidy Barnett, Alicia Rose)**1.0 Study Purpose**

A Mazama pocket gopher (MPG) study was requested to support permitting requirements detailed in the presubmission meeting notes from Thurston County (dated April 14, 2022) for Lakeside Industries Inc.'s application to recycle asphalt at its Durgin Road Plant. On June 6 and July 8, 2022, West Fork Environmental conducted a survey to detect activity of MPG on parcel 21817140200 (24.98 acres) in Olympia, Washington (Figure 1).

**2.0 Methods****2.1 MPG Method and Soil Type**

Survey methods followed the Thurston County MPG detection protocol and survey guidance provided by United States Fish and Wildlife Service (USFWS April 2018). The soil types on the parcel were Everett very gravely sandy loam 3 to 15% slopes (less preferred by MPG), Indianola loamy sand 3 to 15% slopes (less preferred by MPG), pits (not an MPG soil) and Dystric xerochrepts (not an MPG soil) based on the data obtained from Thurston County GeoData (Figure 1, Table 2). The WDFW PHS database did not show MPG detections within 600 feet of the parcel (Figure 5).

An asphalt plant is operated on the parcel by Lakeside Industries. The north and eastern edges are bordered by steep slopes with Scotch broom, Himalayan blackberry, and grasses. The slopes are >40%. The center of the parcel is paved. There is an office building, shop, and the asphalt plant on the cement. A gravel driveway extends out to Durgin Road SE and is accessed by heavy and light duty commercial trucks and personal vehicles.

During the survey West Fork Environmental staff surveyed around the perimeter of the paved area and along the ridge at the top of the parcel (Figure 3 and 4). The remainder of slope was excluded from survey because it was >40% slope as measured with a clinometer. Figure 2 describes why most of the parcel was excluded from the MPG survey.

**2.2 Prairie Review Methods**

According to Thurston County Critical Areas Ordinance (CAO 24.25), the parcel contains soil types associated with prairie habitat. A list of plant species encountered during the survey was recorded and the location of target prairie plant species were noted. When a CAO target prairie plant species was observed, a categorical estimate of the number of plants was recorded as outlined in Thurston County prairie review protocol<sup>1</sup>. The CAO states that the presence of three or more target prairie species close

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<sup>1</sup> <https://www.thurstoncountywa.gov/planning/planningdocuments/2020-prairie-inspection-guidelines.pdf>

together (within 16 feet), or the presence of 25 individual CAO-listed prairie plants, or the presence of plants that provide food or shelter for the Taylor's checkerspot butterfly, or the presence of rare plants classified by Washington's Natural Heritage Program are required for a positive determination of prairie habitat. In addition, observed recorded any mima mounds on the parcel and the presence and location of oak trees (*Quercus garryana*).

### 3.0 Results

#### 3.1 Mazama Pocket Gopher

During the surveys, no MPG mounds were identified on the parcel (see datasheets). Two mole mounds were observed on June 6th. Mole mounds were identified by a circular shape and clumpy soils.

#### 3.2 Prairie Review

Only one of the CAO target prairie plant species identified in the Thurston County CAO was observed (Figure 3). Less than 25 plants of sicklekeel lupine (*Lupinus albicaulis*) were growing in the vegetated strip near the settling ponds. No mima mounds and no oak trees (*Quercus garryana*) were observed. Other species observed during the survey:

Common Name	Scientific Name	Common Name	Scientific Name
Douglas-fir	<i>Pseudotsuga menziesii</i>	Red alder	<i>Alnus rubra</i>
Big leaf maple	<i>Acer macrophyllum</i>	Black cottonwood	<i>Populus balsamifera</i>
Pacific madrone	<i>Arbutus menziesii</i>	Butterfly bush	<i>Buddleia davidii</i>
Western red cedar	<i>Thuja plicata</i>	Wild raspberry	<i>Rubus occidentalis</i>
Snowberry	<i>Symphoricarpos albus</i>	Salix sp	
Oceanspray	<i>Holodiscus discolor</i>	Red elderberry	<i>Sambucus racemosa</i>
Indian plum	<i>Oemleria cerasiformis</i>	Thimbleberry	<i>Rubus parviflorus</i>
Oregon grape	<i>Mahonia aquifolium</i>	Beaked hazelnut	<i>Corylus cornuta</i>
Salmonberry	<i>Rubus spectabilis</i>	Himalayan blackberry	<i>Rubus armeniacus</i>
Bracken fern	<i>Pteridium aquilinum</i>	Scots broom	<i>Cytisus scoparius</i>
Common foxglove	<i>Digitalis purpurea</i>	Ribwort	<i>Plantago lanceolata</i>
St. John's wort	<i>Hypericum perforatum</i>	Self-heal	<i>Prunella vulgaris</i>
Fireweed	<i>Chamaenerion angustifolium</i>	Curled dock	<i>Rumex crispus</i>
Yarrow	<i>Achillea millefolium</i>	Canada thistle	<i>Cirsium arvense</i>
Common dandelion	<i>Taraxacum officinale</i>	Tansy ragwort	<i>Jacobaea vulgaris</i>
Oxeye daisy	<i>Leucanthemum vulgare</i>	Herb robert	<i>Geranium robertianum</i>
Forget-me-not	<i>Myosotis sp</i>	Field peppergrass	<i>Lepidium campestre</i>
Common vetch	<i>Vicia sativa</i>	Black medic	<i>Medicago lupulina</i>
Queen Anne's Lace	<i>Daucus carota</i>	Cleavers	<i>Galium aparine</i>
White clover	<i>Trifolium repens</i>	Hairy tare	<i>Vicia hirsuta</i>
Red clover	<i>Trifolium pratense</i>	Bur chervil	<i>Anthriscus caucalis</i>
Creeping buttercup	<i>Ranunculus repens</i>	Mullein	<i>Verbascum thapsus</i>
Sheep sorel	<i>Rumex acetosella</i>	Changing forget-me-not	<i>Myosotis discolor</i>
Catsear	<i>Hypochaeris radicata</i>	Sweet vernal grass	<i>Anthoxanthum odoratum</i>
Reed canary grass	<i>Phalaris arundinacea</i>	California brome	<i>Bromus sitchensis</i>
Velvet grass	<i>Holcus lanatus</i>	Orchard grass	<i>Dactylis glomerata</i>
Colonial bentgrass	<i>Agrostis capillaris</i>	Common rush	<i>Juncus effusus</i>
Pearly everlasting	<i>Anaphalis margaritacea</i>	Rabbits foot clover	<i>Trifolium arvense</i>
Wild rye	<i>Elymus glaucus</i>	Poison hemlock	<i>Conium maculatum</i>
Wood groundsel	<i>Senecio sylvaticus</i>	Mock Orange	<i>Philadelphus lewisii</i>

#### 4.0 Conclusions

No MPG mounds were observed during the survey. The proposed building will be located entirely on concrete and asphalt and no clearing of vegetation or disturbance of the ground is proposed. Only one of the CAO prairie plant species was observed on the parcel meaning the criteria needed to designate prairie was not met. No mima mounds and no oak trees (*Quercus garryana*) were observed.

The results of this survey are based on standardized methodologies and follow guidance provided by the USFWS and the Washington Department of Fish and Wildlife provided during June 2018 training. All findings presented within this report are subject to the final review and approval of Thurston County gopher review. If you have any questions regarding the information provided within this document, please contact our office at (360) 753-0485.

Sincerely,



Heidi Barnett  
Biologist



Alicia Rose  
Biologist

**Attachments:** Representative site photos, survey transects, datasheets (Thurston County MPG and prairie plant)



**Site Photos**



View of asphalt plant from top of slope to the east. The lower surface of the parcel is concrete and asphalt.



Slopes are >40% along the northern and eastern parcel boundaries.



Road at top of the northern slope was walked. Small landscaped area in center of parcel near the asphalt plant.





Steep slope habitat (left) and settling pond in center of the parcel (right).



Representative mole mounds observed along the ridgetop road.



Figure 1. Parcel location and soil types.

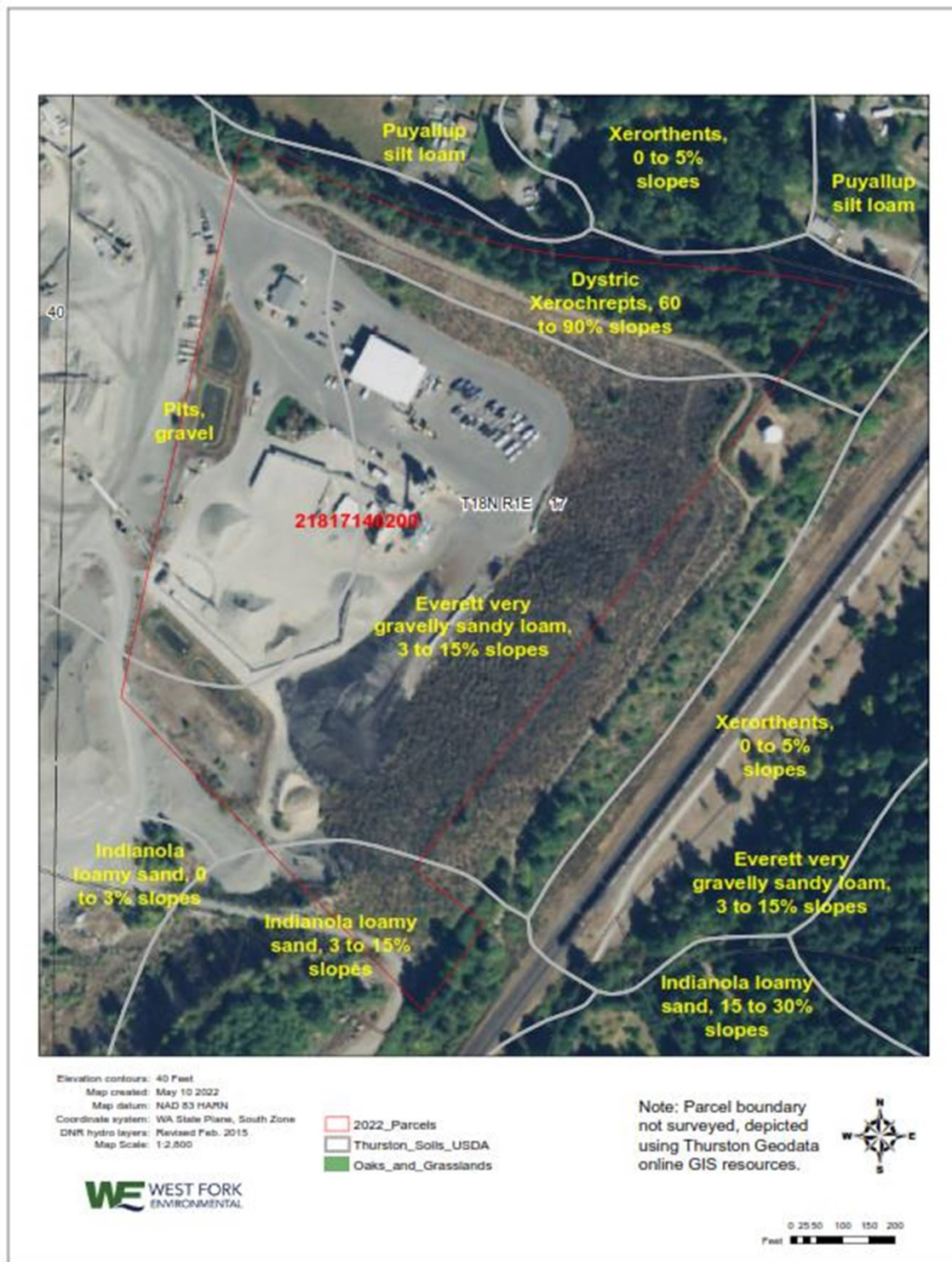




Table 2. Pocket gopher and prairie soil list requiring survey from Thurston County review guidance. A study is required if the parcel is within 300 feet of these soil types. Soils within 300 feet of the subject parcel are highlighted below.

SCS_Code	Soil Type	Gopher Review	Prairie Review
1	Alderwood gravelly sandy loam, 0 to 3% slopes	Less preferred	
2	Alderwood gravelly sandy loam, 3 to 15% slopes	Less preferred	
5	Baldhill very stony sandy loam, 0 to 3% slopes		X
6	Baldhill very stony sandy loam, 3 to 15% slopes		X
7	Baldhill very stony sandy loam, 15 to 30% slopes		X
8	Baldhill very stony sandy loam, 30 to 50% slopes		X
20	Cagey loamy sand	More preferred	X
32	Everett very gravelly sandy loam, 0 to 3% slopes	Less preferred	X
33	Everett very gravelly sandy loam, 3 to 15% slopes	Less preferred	X
42	Grove very gravelly sandy loam, 3 to 15% slopes		X
46	Indianola loamy sand, 0 to 3% slopes	More preferred	X
47	Indianola loamy sand, 3 to 15% slopes	Less preferred	X
51	Kapowsin silt loam, 3 to 15% slopes	Less preferred	
65	McKenna gravelly silt loam, 0 to 5% slopes	Less preferred	
73	Nisqually loamy fine sand, 0 to 3% slopes	More preferred	X
74	Nisqually loamy fine sand, 3 to 15% slopes	More preferred	X
75	Norma fine sandy loam	Less preferred	
76	Norma silt loam	Less preferred	
109	Spana gravelly loam	Less preferred	X
114	Spanaway-Nisqually complex, 2 to 10% slopes	More preferred	X
110	Spanaway gravelly sandy loam, 0 to 3% slopes	More preferred	X
111	Spanaway gravelly sandy loam, 3 to 15% slopes	More preferred	X
112	Spanaway stony sandy loam, 0 to 3% slopes	Less preferred	X
113	Spanaway stony sandy loam, 3 to 15% slopes	Less preferred	X
126	Yelm fine sandy loam, 0 to 3% slopes	Less preferred	
127	Yelm fine sandy loam, 3 to 15% slopes	Less preferred	
117	Tenino gravelly loam, 3 to 15% slopes		X

Figure 2. On-site conditions that did not require surveying under the Thurston County MPG detection protocol and survey guidance provided by United States Fish and Wildlife Service (USFWS April 2018).

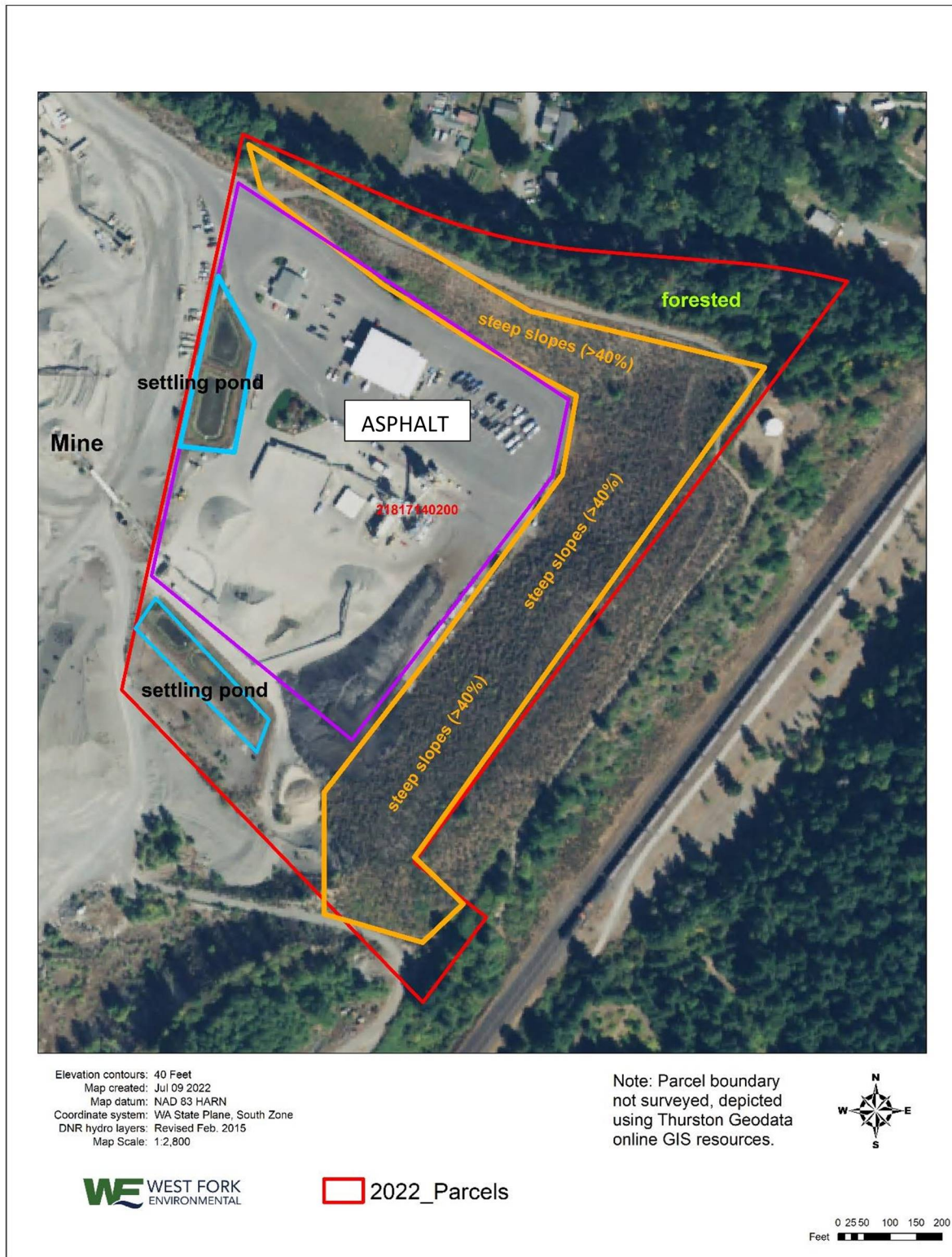




Figure 3. Survey tracks from June 6, 2022.

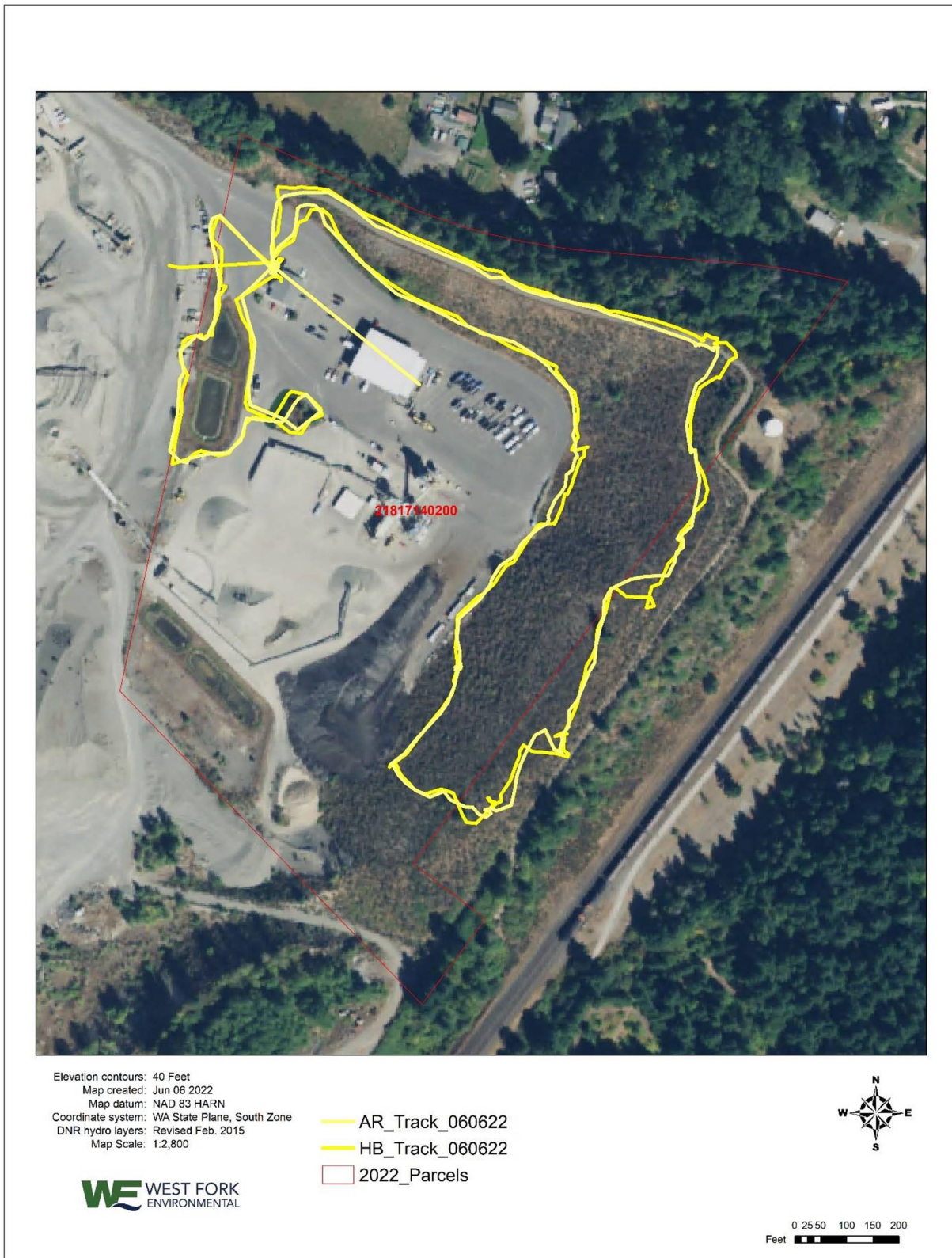




Figure 4. Survey tracks from July 8, 2022 and location of sicklekeel lupine.

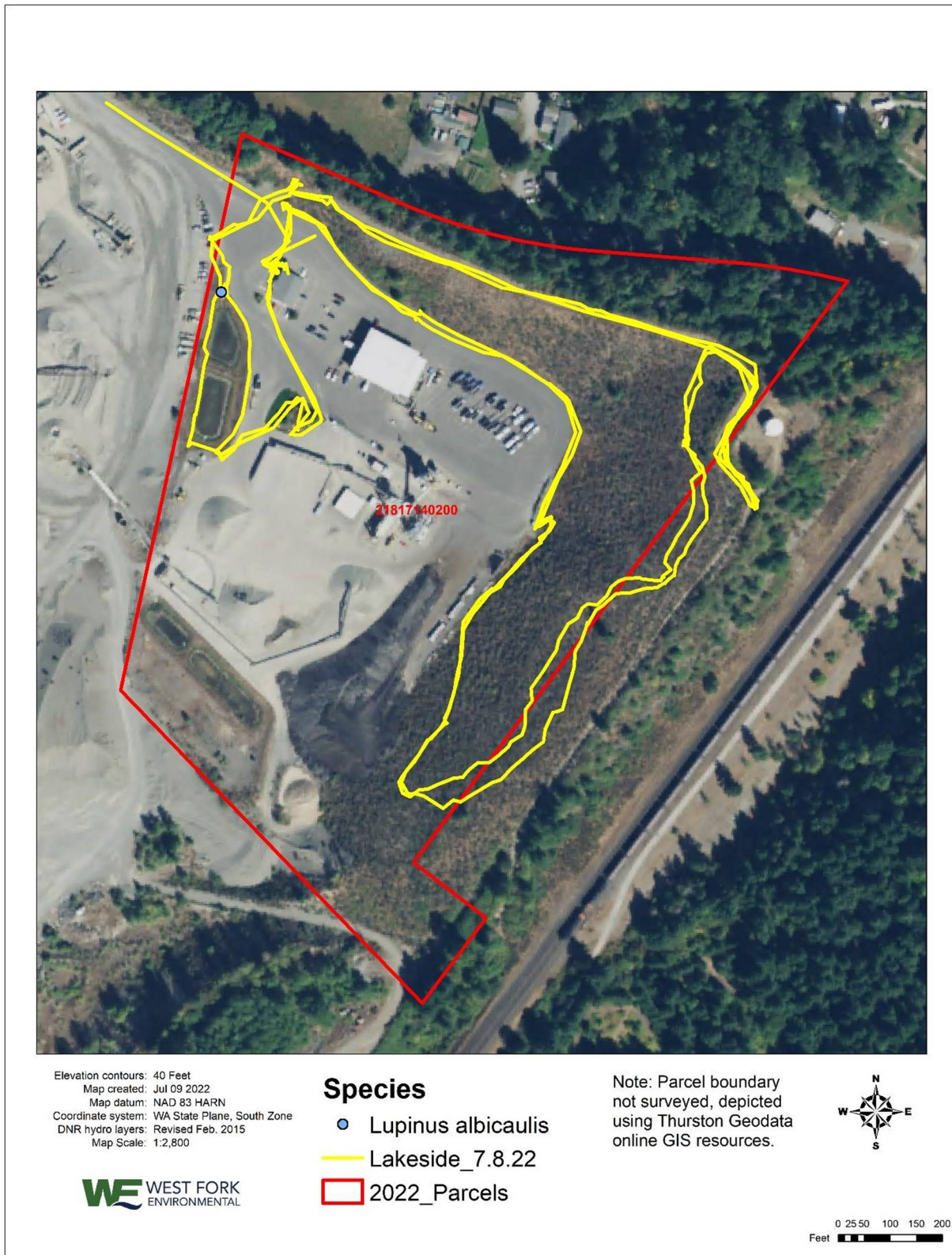




Figure 5. Results of Washington Department of Fish and Wildlife Priority Habitats and Species database report (areas withing 600 feet of the parcel).



## Datasheets

2021 Thurston County Mazama Pocket Gopher Screening Field Form Site Visit Date: 6-6-22

Site Name and Parcel #	Parcel #: <u>21817140200</u> Project #: _____ Site/Landowner: <u>Lakeside Industries</u>
How were the data collected? (circle the method for each)	Transect: Trimble <input checked="" type="radio"/> Garmin Aerial Mounds Trimble <input checked="" type="radio"/> Garmin Aerial Notes: <u>continuous tracks recorded</u>
Field Team Personnel: (Indicate all staff present, CIRCLE who filled out form)	Name: <u>Heidy Barnett</u> Name: <u>Alicia Rose</u> Name: _____
Others onsite (name/affiliation)	<u>Mine workers</u>
Site visit # (CIRCLE all that apply)	<input checked="" type="radio"/> 1 <sup>st</sup> <input type="radio"/> 2 <sup>nd</sup> <input type="radio"/> Unable to screen Notes: _____
Do onsite conditions preclude the need for further visits?	<input checked="" type="radio"/> Yes <input type="radio"/> No Dense woody cover that encompasses the entire site (trees/shrubs) that appears to preclude any potential MPG use. <input checked="" type="radio"/> Impervious <input type="radio"/> Compacted <input type="radio"/> Graveled <input type="radio"/> Flooded Other: _____ Notes: <u>Building on cement, most of parcel steep slopes where vegetated.</u>
Describe visibility for mound detection:	Poor Fair <input checked="" type="radio"/> Good Notes: _____
Request mowing? (CIRCLE and DESCRIBE WHERE MOWING IS NEEDED and SHOW ON AERIAL PHOTO)	Yes <input checked="" type="radio"/> No <input type="radio"/> N/A Notes: <u>Not needed on steep slopes.</u>

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6-6-22

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					11 
No MPG mounds (circle)					
MPG mounds in GPS? (CIRCLE and DESCRIBE) If MPG mounds present, entered in GPS?	<input checked="" type="radio"/> None <input type="radio"/> All <input type="radio"/> Most <input type="radio"/> Some Notes: No MPG mounds observed. Yes    No <input checked="" type="radio"/> N/A				
Does woody vegetation onsite match aerial photo?	<input checked="" type="radio"/> Yes    No - describe differences and show on parcel map/aerial: • Active gravel mine/asphalt.				
What portion(s) of the property was screened? (CIRCLE and DESCRIBE)	All <input checked="" type="radio"/> Part - describe and show on parcel map/aerial: • Cement parking lot. (no survey) • Slopes >40% around perimeter, survey flatter parts & top/bottom				
Notes -	Describe, and show on parcel map/aerial if applicable: • Building in middle of cement parking lot - should qualify for a waiver.				
Team reviewed and agreed to data recorded on form? (CIRCLE, and EXPLAIN if "No")	<input checked="" type="radio"/> Yes    No    Reviewed by initials: <u>TK</u> <u>AR</u> _____ Notes:				

## 2021 Thurston County Mazama Pocket Gopher Screening Field Form

Site Visit Date: 7-8-22

Site Name and Parcel #	Parcel #: <u>21817140200</u> Project #: _____ Site/Landowner: _____
How were the data collected? (circle the method for each)	Transect: Trimble <input checked="" type="radio"/> Garmin Aerial Mounds Trimble <input checked="" type="radio"/> Garmin Aerial Notes: <u>continuous tracks recorded</u>
Field Team Personnel: (Indicate all staff present, CIRCLE who filled out form)	Name: <u>Heidy Barnett</u> Name: <u>Alicia Rose</u> Name: _____
Others onsite (name/affiliation)	_____
Site visit # (CIRCLE all that apply)	1 <sup>st</sup> <input checked="" type="radio"/> 2 <sup>nd</sup> <input type="radio"/> Unable to screen Notes: _____
Do onsite conditions preclude the need for further visits?	Yes <input checked="" type="radio"/> No <input type="radio"/> Dense woody cover that encompasses the entire site (trees/shrubs) that appears to preclude any potential MPG use. <input checked="" type="radio"/> Impervious <input type="radio"/> Compacted <input type="radio"/> Graveled <input type="radio"/> Flooded Other _____ Notes: <u>Project is planned on cement, Survey to cover any questions that arise</u>
Describe visibility for mound detection:	Poor Fair <input checked="" type="radio"/> Good <input type="radio"/> Notes: _____
Request mowing? (CIRCLE and DESCRIBE WHERE MOWING IS NEEDED and SHOW ON AERIAL PHOTO)	Yes <input checked="" type="radio"/> No <input type="radio"/> N/A <input type="radio"/> Notes: <u>Cement or Steep Slopes</u>



7/8/22

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	⊖	⊖	⊖	⊖	⊖ (5) Circular clumpy soils
No MPG mounds (circle)					
MPG mounds in GPS? (CIRCLE and DESCRIBE)  If MPG mounds present, entered in GPS?	<input checked="" type="radio"/> None <input type="radio"/> All <input type="radio"/> Most <input type="radio"/> Some Notes: No MPG mounds observed Yes    No <input checked="" type="radio"/> N/A				
Does woody vegetation onsite match aerial photo?	<input checked="" type="radio"/> Yes    No - describe differences and show on parcel map/aerial: gravel mine				
What portion(s) of the property was screened? (CIRCLE and DESCRIBE)	All <input checked="" type="radio"/> Part - describe and show on parcel map/aerial: Did not survey cement or steep slopes opportunistic survey + check flat areas				
Notes -	Describe, and show on parcel map/aerial if applicable:				
Team reviewed and agreed to data recorded on form? (CIRCLE, and EXPLAIN if "No")	<input checked="" type="radio"/> Yes    No    Reviewed by initials: HB AB Notes:				

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Information provided by Thurston County Government

## 2021 Thurston County Critical Areas Ordinance (CAO) Prairie Screening Data Sheet

Parcel Number: <u>21817140200</u>	CAO prairie criteria met? Yes or <u>No</u>
Property Owner: <u>Lakeside Industries</u>	Mima mounds present? Yes or <u>No</u>
Surveyor(s): <u>Heidy Barnett, Alicia Rose</u>	Oaks ( <i>Quercus garryana</i> ) present? Yes or <u>No</u>
Date: <u>6/6/2022</u>	Mature: <u>0</u>
Composition of Vegetation: <u>Disturbed Site, Gravel Mine</u>	Sapling: <u>0</u>
	Seedling: <u>0</u>

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 <sup>2</sup> 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>  </u> m <sup>2</sup> 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> (Lotus <i>pinnatus</i> )	Present / Absent
<i>Koeleria macrantha</i> (K. <i>cristata</i> )	1 2 3 4 5 N/A
<i>Leptosiphon bicolor</i> (Linanthus b.)	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> (Saxifraga i.)	Present / Absent
<i>Micranthes oregana</i> (Saxifraga o.)	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>venosum</i> (Zigadenus <i>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 = &lt; 25

2 = 25 - 49

3 = 50 - 74

4 = 75 - 100

5 = &gt;100

Prairie Plant Manual:

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