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Subject: Preliminary Slope Hazard Evaluation
Vacant Residential Lot
Corner of SW Walters Dr and SW Lovhar Drive
Gresham, Oregon

Introduction

Strata Design LLC (STRATA) has prepared this preliminary site evaluation and review of available online resources to assess landslide (slope) hazard conditions on a vacant lot at the intersection of SW Walters Drive and SW Lovhar Drive in Gresham. This letter summarizes the work we accomplished and provides comments on landslide hazard potential.

STRATA performed a field investigation at the site on May 14, 2023 to evaluate surface and subsurface conditions and potential geohazards. The site location is on the north side of Gresham Butte in Multnomah County, Oregon, as shown in the site vicinity map is provided as Figure 1.

We understand proposed improvements are conceptual at this time, and will generally consist single family residence into a proposed cut excavation of the existing natural slope. Our study included a site reconnaissance, reviews of historical records and geologic maps, and this letter summarizing our findings.

Vicinity Landslide Mapping

The Oregon Department of Geology and Mineral Industries (DOGAMI) completed landslide inventory mapping of the State which is cataloged in their online web service (SLIDO¹). SLIDO includes “Historic Landslide Data Inventory” from various sources and the local area GIS mapping of landslide inventory. Review of the latest DOGAMI-SLIDO mapping indicates the site is not located within a landslide deposit.

Field Reconnaissance

On May 13, 2023, STRATA observed site topography and other surface features to evaluate landslide potential. The property is located on a steep, north facing slope near Elevation 700 feet located along Gresham Butte. The proposed development is limited to this north-central location within the tax lot parcel as shown in concept on Figure 1.

In the immediate vicinity of the property, the terrain is in the form of mature forest with the most prominent

(1) Oregon SLIDO: Statewide Landslide Information Layer for Oregon Viewer, Oregon Department of Geology and Mineral Industries, <https://gis.dogami.oregon.gov/maps/slido/>, accessed April 28, 2023.

feature of concern being a saturated draw with sharp breaks between grades. This surface feature slopes downward south to north at between 20 and 40 percent, and is highlighted in Figure 1. The understory of the ground surface contains hydrophilic vegetation indicative of seasonally saturated conditions.

These mature coniferous trees surrounding the proposed home site occasionally display some occasional J-butted bases which can be associated with past landslide or soil creep, as trunks become curved as the trees react to the slow downslope movement of soil or rock by trying to grow vertical at the same time. Based on the occasional curvature observed in a few trees at the site, there is a landslide hazard potential present. However, we also did not detect clear evidence of recent landslide activity such as offset soil cracks or active scarps surrounding the study location. The pavement along Lovhar Drive also does not display clear signs of distress, such as cracking or deformation from movement or drainage issues.

Since the more northern portions of the lot are distant from the proposed development area, we did not explore existing conditions as part of this scope of work.

Summary

It is our professional opinion that the proposed site grading and development can be feasible, however this assumes that advanced measures to help stabilize the potential landslide hazards are implemented, and that the disturbance footprint for development will be contained to the immediate areas of house and driveway, maintaining the remainder area as forested in its native form. To promote stormwater dispersion across the slope areas, exposed bare soil areas should be re-seeded with native grass mixes, and/or riparian (woodland) seed mixes.

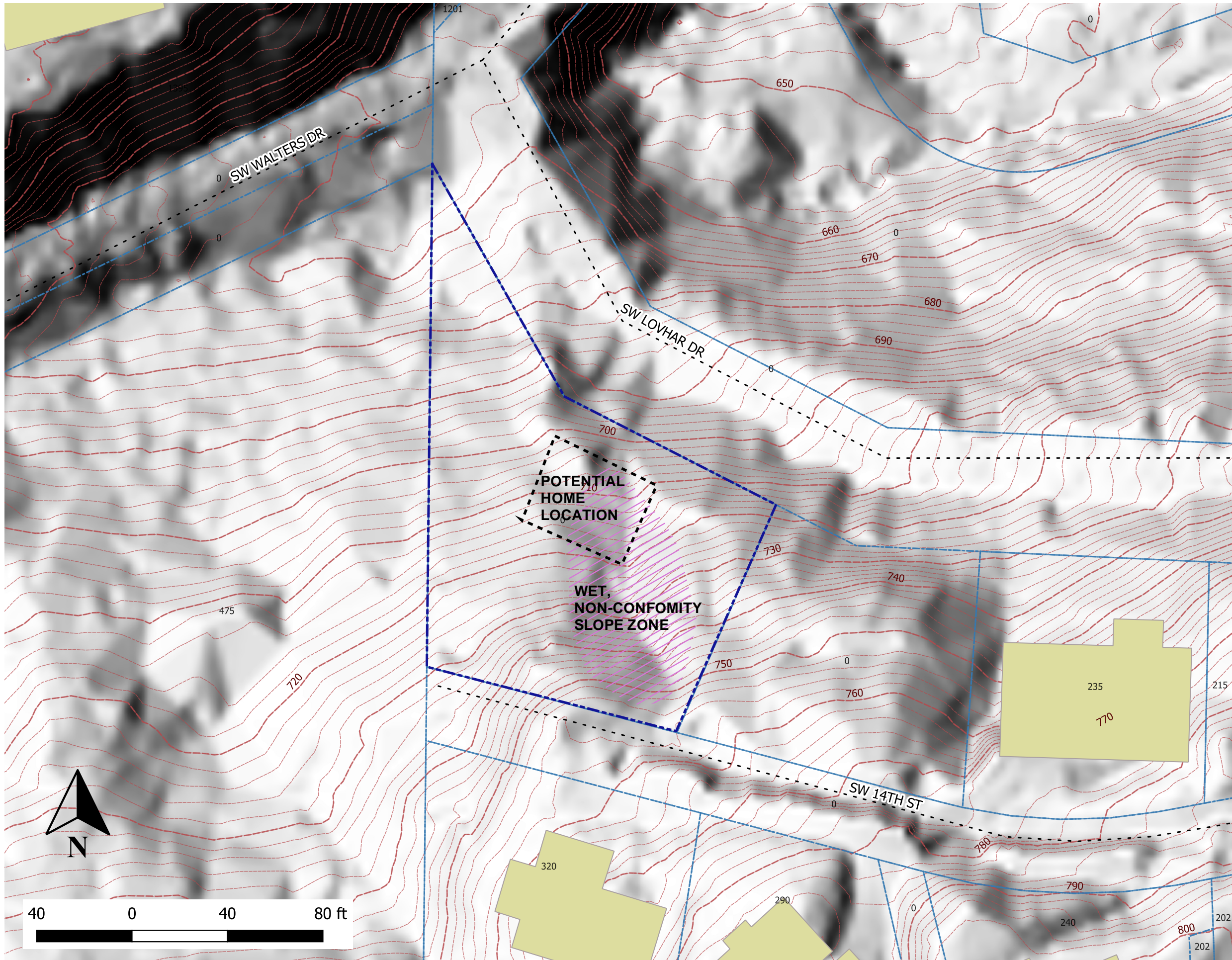
Limitations

Our work has been conducted according to the standard of care in the field of geotechnical engineering practice in the Pacific Northwest for projects of this nature and magnitude. No warranty, expressed or implied, exists on the information presented in this report. By utilizing the design recommendations within this report, the addressee acknowledges and accepts the risks and limitations of residential hillside lot development.

If the above proposed site improvement plans are significantly altered or additional development impact areas are proposed beyond the above described assumptions, further geotechnical assessment or analysis may be necessary in order to quantify the potential impact of slopes, landslide or other geologic hazards. Observation by experienced geotechnical personnel should be considered an integral part of the construction process. The owner is responsible for insuring that the project designers and contractors implement our recommendations.



EXP 6/30/23



SITE TOPOGRAPHY

PROPOSED GARAGE UNDERPINNING

**VACANT TAX LOT
SW LOVHAR DRIVE
GRESHAM, OR**

Job #23-907

MAY 2023

Aerial base map from Google Earth

2-Foot Contours from 2014
LiDAR (OR-DOGAMI)

Lot lines shown are from GIS and
should be considered approximated



Figure 1