



Earth
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October 13, 2021

City of Camas
Community Development Department
616 Northeast 4th Avenue
Camas, Washington 98607
Attention: Lauren Hollenbeck, Senior Planner

Phone: 360-817-7253
E-mail: lhollenbeck@cityofcamas.us

**Subject: Geotechnical Peer Review
Proposed Washougal River Oaks Cottages Development
2531 Northeast 3rd Avenue
Camas, Clark County, Washington
EEI Report No. 21-217-1**

Dear Ms. Hollenbeck:

Per your request, **Earth Engineers, Inc. (EEI)** has completed a geotechnical review for the project referenced above. Our services for this project are being conducted in accordance with EEI Proposal No. 21-P339 dated September 20, 2021, which was authorized by Robert Maul on September 21, 2021.

PROJECT BACKGROUND INFORMATION

Our understanding of the project is based on the following information that you provided to us.

- **August 21, 2018 report by Soil and Water Technologies (SWT), Inc. titled “Geotechnical Engineering Study, Proposed 2531 NE 3rd Avenue Subdivision, 2531 NE 3rd Avenue, Camas, Clark County, Washington 98607.”** The report was prepared for DD&C, LLC of Vancouver, Washington.
- **Preliminary Partition Plan, Sheet P-1.0, titled “Washougal River Oaks” by Navix Site | Civil, dated December 29, 2020.**

We have not been provided any other design drawings, including drawings for the individual cottages or a proposed site grading plan overlain on an existing topographic site plan.

Briefly, we understand that the currently proposed project consists of constructing 22 cottages and designating 2 open spaces (Tract “A” and Tract “B”). SWT has been retained by DD&C,

LLC to act as the Geotechnical Engineer of Record for the project and has completed the geotechnical investigation report, which has been submitted to the City of Camas and forwarded to us for geotechnical review.

PURPOSE AND SCOPE OF SERVICES

The purpose of our geotechnical review was to assess the geotechnical report provided to us and provide our professional opinion on whether the report (1) meets the geotechnical engineering standard of care, and (2) meets Camas Municipal Code (CMC) Chapter 16.59.060—Critical Area Report Requirements for Geologically Hazardous Areas.

REVIEW COMMENTS

After reviewing the SWT report, we offer the following comments:

1. Based on the language in the “Introduction” section of the report, it is not clear that SWT understood the report would be submitted to the City of Camas to satisfy the Critical Area Report requirements. The SWT report does not comply with the report requirements of CMC Chapter 16.59.060. Specifically, the items still to be addressed include:
 - a. Areas that are acceptable for storage of materials/stockpiles during construction.
 - b. Areas on the site that are acceptable for stormwater disposal.
 - c. Include a topographic site plan with 2-foot contours.
2. Based on the language in the “Project Description” section, it appears that the proposed project has changed since the geotechnical report was issued in 2018. We recommend SWT be provided the updated project drawings so that they can update their geotechnical report. In particular, SWT should review the currently proposed development area and determine whether additional subsurface explorations are warranted. For example, it is not clear to us whether the proposed building construction has been extended further to the north where the steeper slopes are located and where SWT may not have performed any subsurface explorations.
3. In the “Site Conditions” section, SWT indicates that the property slopes downwards from north to south at 10H:1V and that the maximum total elevation change across the site is approximately 40 feet. They should confirm that this is still correct.
4. The “Site Conditions” section also notes that there was a partially demolished residence present on the property in 2018. We recommend that SWT include geotechnical recommendations related to the demolition of any existing structures on the property (i.e. that all remnants of old construction—footings, slabs, etc.—be removed from the property and that any resulting voids be backfilled with properly compacted structural fill that is subsequently tested for compaction by a representative of the Geotechnical Engineer).

5. The "Slope and Landslide Hazards" section indicates that there are slopes greater than 15%, but they do not define what the maximum slopes on the property are. We recommend SWT more thoroughly describe the slope conditions on the project site and explain why the slopes are not considered a hazard that could impact the proposed project. While not required, consideration should be given by SWT to performing supplemental subsurface explorations in the area noted as "Geologically Hazardous" (due to steep slopes), as shown on Sheet P-1.0.

This section of the report also presents language that refers to Clark County requirements. However, that is not applicable because this project is being permitted by the City of Camas, not Clark County.

6. At the time the report was issued, the 2018 International Building Code had not been adopted yet. But now the 2018 version has been adopted. We recommend that the "Seismic Design Criteria" section be updated accordingly.
7. The Atterberg Limits lab test results included in Appendix B show that the soil classifies as CL. However, the description of the soil in the report is silt (ML). This is likely an insignificant discrepancy that doesn't impact their recommendations, but we suggest they correct this inconsistency.

We recommend that the City request that SWT respond to the items above in a revised or supplemental report.

LIMITATIONS

This report has been prepared for the exclusive use of the City of Camas for the specific application to the proposed Washougal River Oaks Cottages project located at 2531 Northeast 3rd Avenue in Camas, Washington. EEl does not authorize the use of the advice herein nor the reliance upon the report by third parties without prior written authorization by EEl.

The Geotechnical Engineer warrants that the findings, recommendations, specifications, or professional advice contained herein have been made in accordance with generally accepted professional geotechnical engineering practices in the local area. No other warranties are implied or expressed. We appreciate the opportunity to perform this geotechnical engineering evaluation. If you have any questions pertaining to this report, or if we may be of further service, please contact Troy Hull at 360-567-1806 (office) or 360-903-2784 (cell).

Sincerely,
Earth Engineers, Inc.



Troy Hull, P.E.
Principal Geotechnical Engineer

Reviewed by:



Adam Reese, L.E.G.
Principal Engineering Geologist