

126308
GeoEngineers

FILED FOR RECORD
SKAMANIA CO. WASH
BY Planning Dept

SEP 27 12 00 PM '96

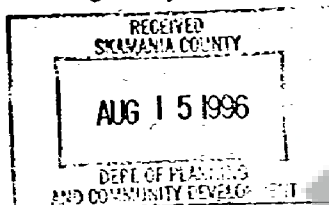
Gaynor
AUDITOR
GARY H. OLSON

BOOK 159 PAGE 718



Consulting Engineers
and Geoscientists
Offices in Washington,
Oregon, and Alaska

August 14, 1996



Mr. Russ Gaynor
P.O. Box 1176
White Salmon, Washington 98672

Revised Geotechnical Response
to County Checklist
Proposed Northwestern Short Plat of the
Rancho Del Oro Development
Skamania County, Washington
File No. 5274-001-36

INTRODUCTION AND BACKGROUND

We are pleased to present this revised letter summarizing our geotechnical response to Skamania County's checklist regarding approval for development of the northwestern Short Plat of the Rancho Del Oro development. Revisions to our previous letter include defined building envelopes and building pad heights, clarifying landslide features, and defining structural fill. Our services have been provided in accordance with our agreement dated July 10, 1996, and were authorized on July 11, 1996.

The northwest short plat (Lots 1 through 4) of the Rancho Del Oro development occupies approximately 10 acres located adjacent to Loop Road north of Stevenson, Washington. During review for development approval, Skamania County generated a checklist of items required for approval. The County's checklist includes issues related to a large landslide that occurred in early February of this year immediately north of the parcel and across Loop Road (We understand that a study of this landslide is ongoing, but that the results of the study will not be available for another year).

These issues were stated as follows:

1. *Based upon this approval criterion, the applicant shall provide to the Planning Department a letter stamped and signed by an Engineer licensed to practice in Washington, that states that the slide across Loop Road does not pose a hazard to persons or property located within or near the short plat or explains how protective improvements can be constructed that will eliminate any potential hazards.*

GeoEngineers, Inc.
7504 SW Bridgeport Road
Portland, OR 97224
Telephone (503) 624-9274
Fax (503) 620-5940

Stamp 20-00
Adm. Dir. ☒
Indirect ☒
Filed ☒
Indexed ☒

Mr. Russ Gaynor
August 14, 1996
Page 2

BOOK 159 PAGE 719

2. Furthermore, most of the Engineering reports addressing this slide area indicate the water was a factor in the cause of the slide. The applicant's Engineer shall state that the lot sizes and building density of this Short Plat will not cause or increase the potential for additional slides in this area.

The purpose of this letter is to address these two issues to the extent possible based on our limited scope of work.

OBSERVATIONS

During the landslide, a debris flow breached Loop Road and deposited soil and vegetation across the northwest corner of Lot 1 of the proposed development, as depicted in the attached figure. Additional material flowed down the creek channel for several hundred feet into Lot 2. Based on our conversation with Mr. Gaynor, the deposits we observed are about 3 feet thick in the northwest portion of Lot 1. The deposits appeared to be less than about 2 feet thick in the stream channel. Our observations of the topography of the area and open excavations on site for percolation testing indicate that much of the site consists of old landslide materials, and that the current slide is likely a reactivation of a portion of a more extensive slide and mudflow deposit area.

Although the site appears to contain ancient landslide and debris flow features, and debris flow materials from the recent slide upslope, site vegetation and other features do not indicate the presence of an active slide on the short plat. Large cedar trees in the building envelope on Lot 1 are evidence of this, as they were observed to be growing vertically without overcorrected growth or distress.

CONCLUSIONS

We understand that plans call for developing a Lot 1 homesite in the building envelope shown in the attached figure. We recommend that the residence in this building envelope be located on the knoll (likely an ancient inactive landslide block). This knoll extends approximately 10 feet above the surrounding grades, and we understand that it would be graded down about 4 feet to allow for a level homesite. Based on this home site location and elevation on Lot 1, it is our opinion that further debris flows directly from the upslope slide area or stream channel will not pose a hazard to the residence or its occupants. On Lot 2, we recommend that the homesite be located as far south and away from the stream channel as possible as depicted by the recommended building envelope for Lot 2 on the attached figure. We also recommend that the residence on Lot 2 be raised a minimum of three feet above surrounding grades with structural fill (suitable soils compacted to 92% dry density relative to ASTM D-1557). Based on our observations, it appears that the current slide and associated debris flows do not pose a hazard to Lots 3 and 4. Furthermore, although water was likely a primary cause of the Loop Road

Mr. Russ Gaynor
August 14, 1996
Page 3

BOOK 159 PAGE 720

landslide, it is our opinion that the lot sizes and building density of this Short Plat will not cause or increase the potential for additional slides in this area.

LIMITATIONS

We have prepared this report for use by Mr. Russ Gaynor for the proposed development based on a limited scope of work including visual observations of the site surface. Subsurface explorations or detailed investigation of the upslope landslide were not a part of our scope of work. Our report, conclusions, and interpretations should not be construed as warranty of the subsurface conditions. When construction begins we should be retained to evaluate encountered subsurface conditions.

If there are changes in the grades or location of the buildings the conclusions and recommendations presented may not be applicable. If design changes are made we request that we be retained to review our conclusions and recommendations and to provide a written modification if required.

Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted practices in this area at the time the report was prepared. No warranty, express or implied, should be understood.

We appreciate the opportunity to work with you on this project. If you have questions concerning this report or if we can provide additional services, please call.

Yours very truly,

GeoEngineers, Inc.



Don Rondema, P.E.
Senior Geotechnical Engineer

EXPIRES 9/12/97

Scott V. Mills, P.E.
Principal

DLR:VVM:msh
Document ID: 52740011.add
Attachment

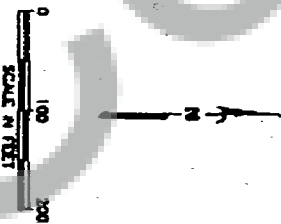
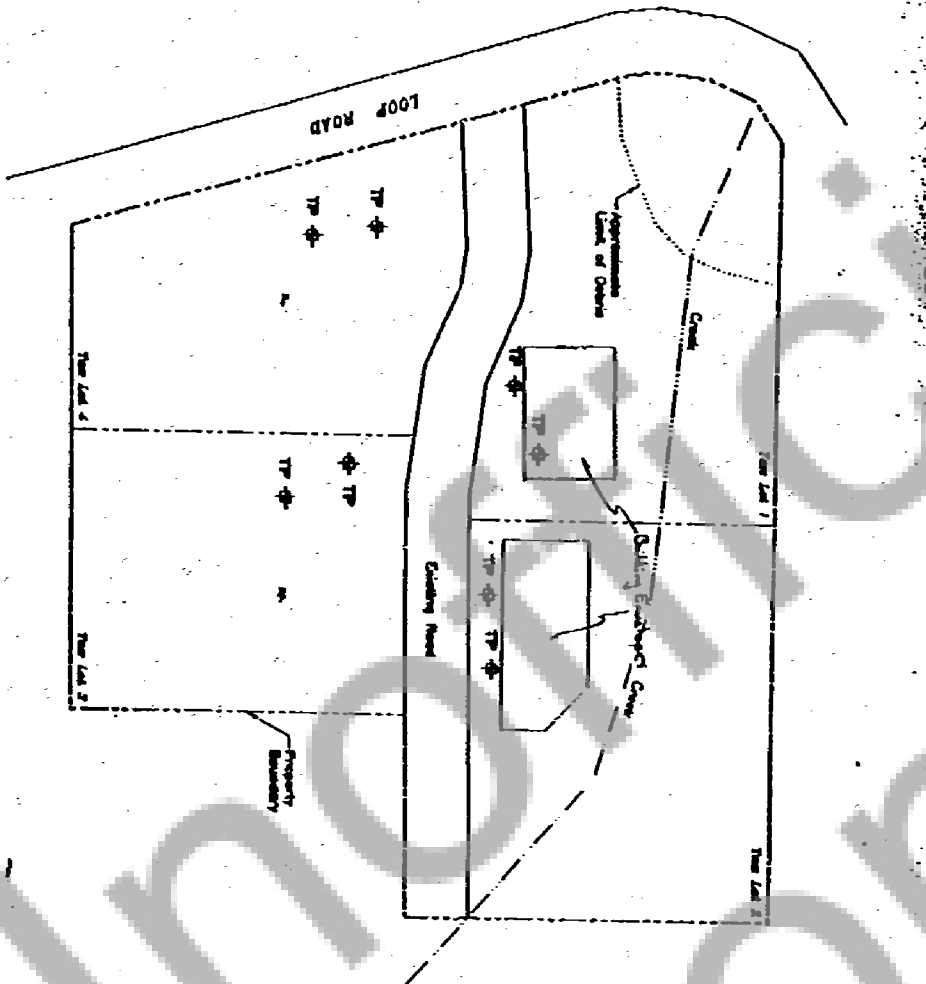
Copyright © 1996 GeoEngineers, Inc., All rights reserved

GeoEngineers

File No. 5274-001-36-2130

8374-001-36 D.B.MAD 07/18/98

Reference Drawing number, "Survey and One Sheet Plot, Lots 1-4,"
dated 06/98, provided by Taylor Engineering, Inc.



EXPLANATION
TP - 757 ft

Note: The boundaries of all features shown are approximate.

Geo. Engineers

DATE PLANNED

FILE # 5274-001-36-2/80