



June 17, 2022

Bob Hagerty
Bola Enterprises, Inc.
PO Box 773630
Steamboat Springs, Colorado 80477

Re: Geologic Hazard Evaluation
Proposed Lot 3, Filing 2
Upper Beaver Canyon Drive Replat
Routt County, Colorado
Western Slope Geotech Project No. 22-1035C

Dear Bob,

As requested, Western Slope Geotech, Inc. (WSG) has prepared this report summarizing our observations and available data regarding potential geologic hazards associated with proposed Lot 3 of the Upper Beaver Canyon Drive Replat, Filing No. 2 to be developed in Routt County, Colorado.

The scope of our work included a site visit on June 2, 2022, to observe current site conditions, the review of readily available geologic and geologic hazard mapping, and the preparation of this report.

Proposed Development: WSG understands the proposed development will include the replatting of multiple single family residential building lots to create one single-family residential building lot of approximately 5-acres in size. The property owner of the lot will be required to develop individual water and on-site wastewater treatment systems (OWTS's). No site grading or road construction are planned.

Field Exploration/Site Conditions: WSG visited the project site on June 2, 2022, to observe site conditions, potential building sites and to identify potential geologic hazards within and adjacent to proposed development areas.

The existing properties are currently part of the Steamboat Lakes Subdivision, Filing No. 3 and Filing No.4. The proposed lot is generally located at the intersection of Beaver Canyon Drive and Pueblo Drive.

The proposed lot is mostly situated west of Beaver Canyon Drive and Pueblo Drive and overall consists of three land parcels separated by Beaver Canyon and Pueblo Drives. Nearby properties were mostly vacant and undisturbed however, a new residence was under construction on an adjoining property to the east. Site topography over a majority of the property was variable and generally sloped gently to moderately down to the east. A small, seasonal drainageway was present running west to east in the southern portion of the proposed lot.

Hummocky topography, often identified as old debris flows associated with landslide activity, was observed within the proposed development area and adjacent areas. Other visual indications of recent slope instability including tension cracks and scarps were not observed.

A site plan indicating the proposed development area is shown on Figure 1.

Geologic Conditions: Geologic mapping (Segerstrom & Young, *General Geology of the Hahns Peak and Farwell Mountain Quadrangles, Routt County Colorado*, USGS Bulletin 1349, 1972) indicates near surface soil consist of Quaternary-age landslide deposits. Deeper bedrock conditions are inferred as Tertiary-age Browns Park Formation sedimentary rocks.

Geologic Hazard Evaluation: Based on WSG's review of geologic mapping and experience with previous residential development within this area of the Steamboat Lakes Subdivision indicate the site is underlain by colluvial sand and clay soils derived from Browns Park Formation deposits located upslope of the area. Residual soils typically display variable swell potentials ranging from non-expansive to low and occasionally moderate. Foundations constructed on similar soil conditions in the area have historically experienced good foundation and floor slab performance using engineered design, good construction practices and maintenance. With the exception of seasonally perched groundwater, groundwater conditions that would preclude basement construction are not anticipated.

Geologic faults have not been mapped in the development area, and the risk of future seismic activity is considered low.

Based on WSG's review of Routt County Geologic Hazard Maps of the project area, the area is mapped as a Slope Failure complex (SFC). This infers surficial deposits consist of

multiple old landslide debris flows. Based on our site observations and experience with other sites in this area, WSG agrees with the SFC classification.

One recently active landslide is known and located approximately 2,500 feet to the northeast of the project site. The existence of other recent slope instability in the area of the project site is unknown and based on relatively gentle site topography and proposed construction, WSG believes the potential for slope instability associated with residential development is low.

Site development activities associated with residential development include construction of roadways, site grading including unretained cuts and fills and construction of On-site Wastewater Systems (OWTS's). These activities can lead to decreased slope stability through concentrated drainage and erosion, loss of slope support and increased slope loading.

Conclusions and Limitations: Based on the proposed development, our site observations and review of available mapping, WSG does not believe there are geologic conditions associated with the site that are considered excessively hazardous or would render the proposed development unfeasible.

Soils and bedrock with generally low swell potential are anticipated within the development. Geotechnical explorations should be conducted at individual building sites to evaluate local soil and bedrock conditions. Drainage and steep slope setbacks for OWTS absorption fields should be observed in accordance with Routt County regulations and good engineering practice.

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WSG # 22-1035C

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Western Slope Geotech appreciates the opportunity to be of service to you on this project. If you have any questions concerning the enclosed information or if we can be of further service to you in any way, please do not hesitate to contact us.

Very Truly Yours,
Western Slope Geotech, Inc.



Harold Schlicht, P.E.
Principal Engineer

