June 17, 2022

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

Re: Geologic Hazard Evaluation
Proposed Lot 23, Filing 7
Elkhorn Subdivision
Routt County, Colorado
Western Slope Geotech Project No. 22-1035B

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 23 of the Elkhorn Subdivision, Filing No. 7 to be developed in Routt County, Colorado.

The scope of our work included a site visit on May 17, 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 re-platting of multiple single family residential building lots and adjacent other parcels to create one single-family residential building lot of approximately 5-acres in size. The property owner of each 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 May 17, 2022, to observe site conditions, potential building sites and to identify potential geologic hazards within and adjacent to proposed development areas.

The existing property is currently a part of the Steamboat Lake Subdivision, Filing No. 7. The proposed lot is generally located off the west side of County Road 129 and at the intersections of Littlehawk Lane, Elkhorn Drive and Aspen Court.

The proposed lot is mostly situated along Littlehawk Lane and Aspen Court and consists of two adjoining land parcels separated by Aspen Court. Another non-adjoining portion of the proposed lot is located north of Littlehawk Lane and east of Elkhorn Drive. Nearby properties were vacant and undisturbed. Site topography over a majority of the property was fairly consistent and generally sloped gently to moderately down to the south-southeast. A small, seasonal drainageway was present just north of the proposed lot.

A site plan indicating existing and proposed development areas 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 colluvium. Deeper bedrock conditions are inferred as Triassic and Permian-age sedimentary rocks. Mapping also indicates the site lies just west of a large thrust fault generally striking northeast-southwest and likely associated with the late Cretaceous-early Tertiary Laramide mountain building event.

Geologic Hazard Evaluation: Based on WSG's review of geologic mapping and experience with previous residential development within the Elkhorn 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.

A geologic fault of late Cretaceous and early Tertiary age is mapped to the east of the site. Associated seismic activity has not been recorded within the last 150 years. 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 not included in mapped Potentially UnStable (PUS) or mapped UnStable (US)

areas. Based on 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.

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

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No Scale

SITE PLAN

Project Name: Lot 23, Elkhorn, Filing 7

Location: Routt County, CO

WESTERN SLOPE GEOTECH
STEAMBOAT SPRINGS COLORADO

Project No.:22-1035B	Drawn/Checked:HS
Date: 5/31/22	Figure No.: 1