

COLORADO GEOLOGICAL SURVEY

1801 Moly Road
Golden, Colorado 80401



December 20, 2024

Matthew L. Morgan
State Geologist

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Planning and Community Development
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Location:
NE $\frac{1}{4}$ SW $\frac{1}{4}$ & SE $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 4
T15S, R66W of the 6th PM
38.7698°, -104.7862°

**Subject: Fishers Canyon Final Plat Multi-Family;
El Paso County, CO;
County File No SF243; CGS Unique No. EP-25-0022**

Scott:

The Colorado Geological Survey (CGS) has reviewed the referral as requested (email, December 2, 2024). We understand that the 16.23-acre project is proposed to be developed into multi-family and stormwater management facilities. We received several documents to support the application, including the Letter of Intent (N.E.S. Inc., November 2024), the Civil Construction Documents (Kimly Horn, Project No. 096302017, November 12, 2024), and a Report of Geotechnical Engineering Evaluation (Professional Service Industries, Inc., Project 05322879, October 11, 2024). CGS offers observations and recommendations on the geologic conditions based on the submitted documents, experience in this region and at this site, and various published geologic mapping resources.

At this location, historical gravel quarrying significantly altered the mesa top before any development, and both ancient and recent landslide features are evident in pre-development topography both beneath the site and along the north side of the landform. The proposed development site, characterized by mesa gravels overlying Cretaceous claystone, is prone to landslides—a common issue in these landforms on Colorado Springs' western side. This is documented in the landslide susceptibility mapping of this general area¹. While the project is outside the referenced map area, recommendations from the report associated with this map remain valid for the type of landslides expected in this landform.

The preliminary geotechnical report has identified several geological challenges; however, not all hazards have been fully characterized, and mitigation strategies for certain site-specific constraints remain unspecified. Notably, the Pierre Shale present at the site is generally unsuitable for structural fill due to its tendency to degrade when exposed to air or water, leading to swelling, heaving, and subsequent structural instability. The geotechnical report discusses that the Pierre Shale has been used in the fill material at the site.

Before approving the Site Development Plan and Final Plat, the following actions are recommended:

- **Geotechnical Documentation:** Submit finalized, signed geotechnical and geologic hazard reports that meet county standards and include all relevant project information and previous reports that are relied on.

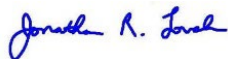
¹ MS-42 Colorado Springs Landslide Susceptibility Map, White, Jonathan, and Wait, T.C., 2003

- **Existing Fill Assessment:** Provide comprehensive documentation of existing fill placement, materials used, and extent, corroborated with historical aerial images or lidar differencing. Verify the suitability of existing fill for supporting proposed structures and additional fill, especially along the project's western or northern edges.
- **Slope Stability Analysis:** Conduct thorough analyses covering the pre-fill stability of potentially unstable slopes and buried landslides, the stability of existing and planned fill, planned cuts, and the global stability of retaining walls (ranging from 4 to 30 feet in height).
- **Drainage Considerations:** Clarify how water from historic groundwater flow will drain from the former valley now infilled, where the existing drainpipe will be removed (Existing Conditions Sheet C200).
- **Water Feature Design:** For the planned detention pond and swimming pool, provide recommendations for a liner and perform slope stability analyses for these features to mitigate potential impacts on geologic hazards from long-term infiltration.

All preliminary geotechnical recommendations provided by PSI should be strictly adhered to and shown on the plans as needed. Additionally, it is advisable to disclose the site's geological hazards and constraints in a note on the final plat to inform all stakeholders and future property owners. CGS anticipates reviewing complete project geotechnical and geological reports and updated site plans that rely on these reports when they become available and before approval of this project.

Thank you for the opportunity to comment on this project. If you have questions or require further review, please e-mail me at jlovekin@mines.edu.

Sincerely,



Jonathan R. Lovekin, P.G.
Senior Engineering Geologist