

COLORADO GEOLOGICAL SURVEY

1801 Moly Road
Golden, Colorado 80401



Matthew L. Morgan
State Geologist and Director

July 15, 2026

Joe Letke
El Paso County Planning
Joeletke@elpasoco.com

Location:
E½ Section 5,
N½ SW¼ Section 4, and
NW¼ Section 3
T11S, R67W of the 6th P.M.
39.1272, -104.8912

**Subject: Ben Lomand Mountain Village Preliminary Plan
El Paso County, CO; CGS Unique No. EP-26-0077**

Dear Joe:

As requested (email dated June 24, 2026), the Colorado Geological Survey has reviewed the Ben Lomand Mountain Village Preliminary Plan referral. The applicant proposes the following: (1) 72 single-family residential lots ranging from 2.05 acres to more than 2.5 acres (two of which will be set aside for United Congregational Church facilities during development of the subdivision); (2) two lots (Lots 1 and 1A) for a new Religious Institution or potentially Community Building; (3) tracts for private roads, stormwater retention, and drainage; and (4) approximately 100 acres of conservation area that will serve as a sanctuary for wildlife (Tract A). With this referral, we received the Letter of Intent (Fairfield & Woods, May 27, 2026), Grading Plans (Manhard Consulting, March 6, 2026), Preliminary Plan Set (Manhard Consulting, March 6, 2026), Soil and Geology Study (RMG, July 1, 2025), Wastewater Study (RMG, June 27, 2025), Preliminary Drainage Report (Manhard Consulting, February 27, 2026), and other documents.

Geology and geologic hazards: According to available geologic mapping (Thorson, J. et al., 2008, Geologic Map of the Larkspur Quadrangle, El Paso County, Colorado, Colorado Geological Survey, Open-File Report OF-08-17, 1:24,000), the project area is mapped as Sheetwash deposits (Qsw), Colluvium (Qc), and the Dawson Formation (Tda). Areas mapped as Qc are prone to rockfall debris and future rockfall events, and areas mapped as Qsw and Qc are subject to debris flows and flooding. These materials are easily eroded, and the potential increases on hillsides and with earthwork activities. The Dawson Formation is the source of rockfall deposits within the site.

RMG states (page 22), "*Geologic hazards (as described in Section 8.0 of this report) that were found to be present at this site include potentially unstable slopes, rockfall, radon, and faults/seismicity. Geologic constraints (also as described in Section 8.0 of this report) include expansive and compressible soils/bedrock and seasonally fluctuating subsurface water.*" RMG's assessment of the site's geologic hazards and constraints is valid. CGS notes that this finding is inconsistent with the Letter of Intent (Fairfield & Woods, May 27, 2026), which states that "*no soil or topographical conditions present hazards within the proposed subdivision*" and that "*there are no geologic hazards on the Church Property.*" CGS recommends the applicant reconcile this discrepancy prior to approval.

Rockfall: RMG states (page 17), "*Lots 1–3, 5, and 6 have been identified as containing rockfall hazard zones along the southern portion of the lots.*" CGS agrees with RMG that "*Mitigation techniques on the steeper slopes and cliffs should include those mitigation types discussed for the rockfall source area (sections 8.5.1 and*

8.5.2, below), such as rock stabilization. Another option is the use of structures designed to stop rocks before they reach the proposed development to the south, if approved.” CGS recommends that the county require that lots impacted by rockfall hazards be noted on the preliminary plan/plat, with specific mitigation measures, if appropriate. CGS agrees with RMG that “drainage will be imperative to maintain the integrity of the parent rock.”

Debris fans/debris flow susceptibility: Based on debris flow susceptibility mapping (McCoy, K.M. et al., 2018, Debris Flow Susceptibility Map of El Paso County, Colorado, Colorado Geological Survey, Open-File Report OF-18-11), the areas mapped as Qc and Qsw are subject to debris-flow hazards and potential risk of structural damage and/or sediment inundation. Although the site is not within a defined floodplain, these areas may produce debris flows that generate landslides, erosion, flooding, and transport following heavy precipitation. RMG's report does not evaluate debris-flow hazards. CGS recommends that the county require the applicant's engineering geologist or geotechnical engineer to evaluate debris-flow hazards, identify which lots are affected, and propose mitigation measures, with affected lots noted on the preliminary plan/plat consistent with the other hazards discussed above.

Construction-related slope instability: Steep slopes (30 percent and greater) are associated with Lots 1-11 and portions of Lots 20-44 (Overall Grading Plan). Steep slopes could result in construction-related instability. Slopes that appear to be currently stable can be destabilized by modifications such as excavation of cuts, the addition of fills, and loading from structures. RMG states (page 17), “Slopes greater than 30% are generally designated as “No-Build” zones.” CGS agrees with RMG that “Without additional slope stability analyses or rockfall studies, it is recommended the residences and detached structures maintain a minimum setback of 30 feet from the top and bottom of slopes exceeding 30 percent.” CGS recommends that this building setback from steep slopes (potentially unstable slopes) be noted in the preliminary plan.

Shallow groundwater: RMG states (page 15), “Due to the potential for seasonal fluctuations in groundwater, subsurface moisture conditions may occur due to variations in rainfall and other factors not readily apparent at this time.” Also, “The potential exists for elevated groundwater levels and/or ponding surface water during high moisture periods, and will affect a portion of Lots 12-17, 49-51, 53-55, 57-59, 61, 65, 66, and 75-77. Additionally, Lots 45-48, 49, 55, 56, 64, 65, 78, and 12, currently paralleling County Line Road, have indications of surface runoff along the roadway.” CGS agrees with RMG that “basement construction should be restricted except where one of the following conditions apply:

- A year-long groundwater monitoring study has been undertaken, and the results indicate that groundwater is sufficiently deep to allow basement construction;
 - The proposed site grading will result in at least 14 feet of separation between the proposed ground surface and the groundwater elevation;
- If a minimum separation of 6 feet from the bottom of foundation components and groundwater cannot be maintained, below-grade habitable space shall not be utilized.”

CGS recommends that the county require that lots impacted by shallow groundwater be noted on the preliminary plan/plat, with specific mitigation measures, as recommended by RMG.

Thank you for the opportunity to review and comment on this project. If you have questions or require further review, please call me at (303) 384-2632 or e-mail acrandall@mines.edu.

Sincerely, 

Amy Crandall, P.E.
Engineering Geologist