

Project: EP-27-0014 Schmidt PUD Preliminary Plan

El Paso County File Number: PUDSP264

Location: Portion of the SE ¼ of SW ¼ of Sec. 32, T12S, R65W, 6th P.M.

Submitted 9/9/2026 by Jonathan R. Lovekin, Senior Engineering Geologist, Colorado Geological Survey, jlovekin@mines.edu

Colorado Geological Survey (CGS) Review Comments

Project: Schmidt PUD Preliminary Plan PUDSP264; CGS Project EP-27-0014

Colorado Geological Survey Review Comments

As requested in El Paso County's email dated August 19, 2026, the Colorado Geological Survey (CGS) reviewed the Schmidt PUD Preliminary Plan submittal, (File Number PUDSP264, located 38.9571, -104.6955) including Entech Engineering, Inc.'s June 19, 2026 *Soils and Geology Study*, All Terrain Engineering LLC's June 2026 *Master Development Drainage Plan/Preliminary Drainage Report*, the Letter of Intent, and the development plans.

Entech describes 277 residential lots on approximately 58.6 acres. The application describes attached and detached single-family development. The residential area occupies portions of a former sand-and-gravel quarry east of Cottonwood Creek. Uncontrolled fill and loose or potentially collapsible soils are principal geotechnical constraints.

CGS generally agrees with Entech's geologic interpretation and recommended measures for addressing fill and soil conditions. However, the submitted information does not establish whether completed and proposed grading provides adequate groundwater separation for the proposed basements and foundations.

Groundwater

Entech recorded groundwater as shallow as 7 feet in May 2026 and concluded that groundwater was not anticipated to affect shallow-foundation construction. The January 10, 2024 *Preliminary Geotechnical Investigation* in Appendix D recorded groundwater as shallow as 3½ feet and concluded that groundwater would likely affect shallow foundations or utility trenches. Appendix F documents subsequent fill placement during August–November 2025 and includes a preliminary grading heat map indicating localized fill amounts approaching 12 feet. This work may explain the changed assessment, but the records have not been reconciled to demonstrate the resulting groundwater separation.

Entech's report does not explain the basis for the Letter of Intent's one-foot groundwater separation recommendation. CGS recommends at least three feet of vertical separation between the lowest applicable basement or foundation element and maximum anticipated seasonal groundwater for conventional construction. Entech's separate recommendation for finished floors one foot above floodplain levels addresses surface-water flooding and does not establish groundwater separation.

CGS recommends that the County require the following:

- **Demonstrate separation.** Entech should reconcile grading and construction records with earlier and current boring locations and elevations. Using a common elevation datum, compare anticipated groundwater with proposed finished grades, basement slab undersides, and footing bottoms. Clearly state expected seasonal groundwater fluctuations, address potential changes associated with grading, drainage, and development, and identify whether additional separation is warranted.
- **Monitor where needed.** A groundwater monitoring program may be unnecessary where verified grading elevations and adequately supported groundwater elevations clearly demonstrate the recommended three-foot separation under maximum anticipated seasonal groundwater conditions. This conclusion should not be inferred solely from fill thickness, preliminary grading quantities, or isolated water observations. Where the available records cannot establish anticipated groundwater elevations sufficiently to evaluate basement feasibility, require groundwater monitoring in the affected areas, with surveyed reference elevations, appropriate water-bearing intervals, and sufficient frequency and duration to evaluate seasonal high groundwater.

- **Address groundwater limitations on construction.** Entech should identify grading adjustments, basement restrictions, or mitigation measures needed to address groundwater conditions affecting the proposed basements and foundations. The plans should restrict basement construction unless the evaluation demonstrates the recommended separation or provides a technically supported mitigation approach reviewed by the County with CGS input regarding land-use suitability. If the applicant elects to proceed with basement restrictions, Entech should demonstrate that the foundations allowed under those restrictions and associated infrastructure can accommodate anticipated groundwater. Lot-specific investigations can subsequently confirm foundation design.
- **Clarify the pond assessment.** Entech should identify the boring supporting the detention pond groundwater assessment and resolve the reference to “TB-1” within the pond, which conflicts with its northeastern residential location on the current exploration plan.

Cottonwood Creek

The proposed channel stabilization design should address erosion, scour, and channel adjustment where these could affect development, detention facilities, or outfalls, including necessary setbacks, protection, and maintenance. Detailed design may be documented in the Channel Design Report accompanying the initial final plat and Final Drainage Report. Any constraints affecting lot suitability, subdivision layout, or major grading should be resolved before Preliminary Plan approval.

Earthwork and Plan Corrections

- **Carry earthwork recommendations onto the plans.** Include plan notes addressing Entech’s recommendations for removal or mitigation of remaining uncontrolled fill, proof rolling, recompaction of soft areas, and detention basin embankment construction. The grading and applicable construction plans should show embankment benching into the existing slope and specify compaction requirements, with embankment and fill slopes no steeper than 3H:1V, consistent with Entech’s recommendations. Require geotechnical observation and testing before prepared areas are covered by subsequent construction, with written documentation provided to the County. Resolve slope geometry affecting the pond footprint, adjacent lots, or major grading before Preliminary Plan approval; construction details can follow in the final plans.
- **Address expansive materials if encountered.** Include a plan note requiring the lot-specific geotechnical investigations recommended by Entech. Investigations should address the proposed building footprints, with coordinated recommendations for attached units sharing a continuous building pad. Where expansive materials are encountered, the geotechnical engineer should specify mitigation compatible with groundwater conditions, adjacent improvements, and the construction sequence. Incorporate these requirements into the applicable plans before foundation construction.
- **Reconcile project descriptions.** Resolve the lot counts—277 in Entech’s report, 270 in the application and Letter of Intent, and 273 in the drainage report—and confirm that the evaluations address the proposed plan and its grading.
- **Correct the geohazard note.** Revise Sheet DP1.00 to reference Entech’s June 19, 2026 report, supplemental findings, applicable recommendations, and resulting development restrictions, with a reference to the County project file. State groundwater separation and floodplain criteria separately.

CGS cannot recommend approval until the grading and groundwater evaluation establishes geologic suitability for the proposed foundations and associated infrastructure, including any necessary basement restrictions, and any channel or slope constraints affecting lot suitability, subdivision layout, or major grading are resolved. The Preliminary Plan should incorporate the resulting restrictions, applicable implementation notes, and corrections identified above.

Submitted September 9, 2026 by Jonathan R. Lovekin, PG, Senior Engineering Geologist, Colorado Geological Survey, jlovekin@mines.edu