



Soils Testing and Engineering Requirements

Soils testing is required as part of the Onsite Wastewater Treatment System (OWTS) and as part of the design and construction of any home. The OWTS soils testing is completed by JVA Consulting Engineers (Boulder office) as part of the OWTS application process and costs are covered by the \$6,500 fee, unless there are extraordinary site conditions warranting more extensive excavation. OWTS permitting is completed by JVA, Inc., the Frost Creek HOA's OWTS engineering firm of record. Soils testing done for the OWTS system are soils profile pits dug with an excavator and not drilled.

Soils testing for the design of the home is to be completed by a qualified geotechnical engineering firm of the owner's choice and all costs are assumed by the lot owner. HP Kumar geotechnical engineers have completed numerous soils testing within the Frost Creek subdivision.

Geotechnical studies shall be submitted to the Frost Creek DRC at the Technical Review stage (last stage before submittal to Eagle County) and are required by Eagle County as part of the submittal for a building permit. Applications for building permit may be rejected by Eagle County if the proper soils test information is not provided with the building permit submittal.

Requirements for Soils Testing/Geotechnical Studies/Grading Plan Review:

All subsurface soils tests/geotechnical studies for individual lots shall have at least 2 borings and be drilled to depths of at least 50 feet (as feasible) into the evaporite bedrocks. These borings shall be in the general location of the proposed home. Auger drilling refusal shallower than the recommended 50 ft. boring depth will require alternate drilling methods and/or additional borings and should be evaluated but the geotechnical engineer at that time.

If indications of sinkholes or voids are found during the study, the house site shall be moved away from the suspect area or additional studies shall be conducted to evaluate the extent of the void and feasibility of mitigation.

Any subsoil studies for lots not identified below may be performed at any time of the year, but shall include opinions of the geotechnical engineer that expected seasonal fluctuations in groundwater levels will not impact the foundation stability of below grade design, or state if groundwater could impact the design and if additional study is needed.

The geotechnical engineer shall review the site grading plans for the project and provide comments and recommendations regarding the grading plan in a letter. The review should be to address the risk of construction induced slope instability in steep sloping areas, possible constraints in shallow groundwater areas, and whether surface drainage away from the building is generally as recommended.

Additional Requirements for lots that may be subject to shallow groundwater:

Any lots located adjacent to Brush Creek, including but not limited to lots located along the east side of Red Bluffs Lane (Frost Creek F3, Lots 73-86), along the east side of Creek Side Lane (Frost Creek F1, Lots 69-71), and the lower portions of Hunters View Lane are subject to the following additional requirements:

- **The preliminary geotechnical study must be completed May 15 to June 15**
- Temporary piezometers set into the borings to determine probably high groundwater levels
- Any additional recommendations regarding feasibility of below grade construction and requirements