

January 17, 2019
Job No. 3476.104

Gade & Jill Miller
P.O. Box 77
Fulton, CA 95439

Plan Review
Geotechnical Engineering Services
during Final Design
4591 Lambert Drive
Larkfield Estates Subdivision
Santa Rosa, California

This letter transmits our comments regarding the following project plans:

1. Sheets S 0.0 – S4.0, not dated, receive January 8, 2019, prepared by Sierra Engineering Group.
2. Sheets A1.0 – A5.1, dated December 21, 2018, prepared by Barry Power Design.

We previously performed a geotechnical investigation for the project and transmitted the results in our January 19, 2018 report. We are performing this plan review as requested by you and in general accordance with the continuing services clause of our December 4, 2017 agreement.

We have reviewed the soil related portions of the referenced plans and find that the plans are in general conformance with the intent of our recommendations. However, we recommend that following comments be incorporated into the project plans:

- 1) For clarification to the contractor, the notes should indicate that site grading will include: 1) weak soils must be overexcavated and recompacted for their full depth; and 2) if expansive soils are exposed, the expansive soils must be capped with 12 to 30 inches of non-expansive select fill (See Pages 10 and 11 of our geotechnical investigation report).

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- 2) We did not observe drainage comments on the plans. Site drainage should be carefully installed to mitigate the risk of seepage and to improve site stability. The following comments are provided relative to this concern:
 - a) The building areas must be graded to provide positive drainage away from the building foundations.
 - b) Roofs should be provided with gutters, and the downspouts connected to non-perforated pipes discharging in erosion resistant areas well away from the structures and slopes. Roof downspouts and surface drains must be maintained entirely separate from subsurface drainage.
 - c) Outlets should be provided in the slab rock to reduce the risk of water build up in the slab rock. Increased mitigation should be provided by installation of trench subdrain(s) beneath the slab rock.

Providing grading recommendations for the new driveway areas were not part of our investigation scope of work. If desired, we would be pleased to provide supplemental consultation regarding the driveway.

We should observe the start of foundation excavations to note the conditions exposed and provide recommendations to the contractor. We should observe the completed excavations prior to the placement of reinforcing steel and concrete. We will observe the geotechnical and special inspection related items on an "on-call" basis. We can not comment on the adequacy of items we are not contacted to observe. We must be provided with at least 48 hours notice for scheduling our initial site visit, and 24 hours thereafter.

BAUER ASSOCIATES, INC.

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We trust this provides the information you require at this time. If you have questions or wish to discuss this further, please call.

Very truly yours,

BAUER ASSOCIATES, INC.



Bryce Bauer
Geotechnical Engineer



BB (pr/les miller)
Email only