

February 26, 1999

Mr. Lou Baldacci  
St. Thomas Construction  
2291 Via De Mercados, Suite E  
Concord, California 94520

RE: Geotechnical Engineering Services (Phases 2 and 3)  
Greystone Estates  
Napa, California

Dear Mr. Baldacci:

At your request, Geolith Consultants is pleased to provide this proposal for continuing geotechnical engineering services for the Greystone Estates project in Napa, California. Our firm was initially retained by Donald and Gale Cardwell and issued a soils report for this project on June 10, 1998. We have also been providing some preliminary design consultations since the issuance of our report. It is our understanding that St. Thomas Construction will be proceeding with the design and construction of the subdivision and that grading should begin this year.

This proposal presents our anticipated scope of work and estimated costs for both Phase 2 services (final design consultations, supplemental recommendations and plan review) as well as Phase 3 (construction observations and testing services), as outlined in the following section.

### **SCOPE OF WORK**

#### **Phase 2: Design Consultations, Plan Review, and Response to City Plan Check**

Following the issuance of our report, we recommend that our office remain involved in the design process so that the geotechnical recommendations are incorporated into the design in the most efficient and cost-effective manner. We also recommend that we are provided the opportunity to review the geotechnical aspects of the final grading, drainage, foundation, and retaining wall plans and to provide a statement of compliance to the recommendations provided in our report(s).

Based on the City's recently-completed Plan Check, dated February 17, 1999, we propose to provide responses to Comments 8 and 10, which include the following tasks:

- A review of the proposed post-tensioned slab foundation system for the homes.
- Evaluation of the proposed grading at each building site.
- A detailed review of the final building, grading and improvement plans for conformance with our firm's recommendations regarding earthwork, drainage, foundations, retaining walls and slabs-on-grade.
- Wet stamp and sign two sets of the Improvement Plans prepared by Bartelt Engineering

- Wet stamp and sign two copies of the June 10, 1998 Soils and Foundation report for the City of Napa
- Documentation of our plan review in a summary letter to the City.

We anticipate that our review of the grading and building plans be performed simultaneously and documented in a single letter.

### Phase 3: Construction Observations and Testing Services

As outlined in our report, construction observations of site grading (including fill compaction testing) and all foundation construction and drainage installations is recommended by our firm and is being required in Item 11 of the City's Plan Check Corrections dated February 17, 1999. This is to observe and verify the soil and geologic conditions exposed at the time of construction and to provide any modified or supplemental recommendations that may be appropriate should conditions vary from what is originally anticipated.

Given the heterogeneous nature of the old quarry pit fill, we recommend that the scope of our construction observation and testing services include the following tasks:

- A pre-construction meeting at the site to evaluate grading conditions and establish scheduling protocol with the grading contractor.
- Daily site visits during grading operations, including sub-excavation for house pads, subdrain installations, pavement subgrade preparation and fill compaction operations;
- Periodic site visits to observe retaining wall and house foundation excavations and pad preparation prior to placement of reinforcing steel;
- Site visits as required to test subgrade preparation, utility trench backfill, and baserock compaction in sidewalk, roadway and driveway areas.
- At least one site visit near the end of the project to observe the final surface drainage conditions around the homes.
- Office coordination of the field visits.
- Preparation of project documentation, including progress grading reports, foundation letters, and a final report to the City of Napa Building Department.

During our site visits, we may also recommend temporary erosion control and drainage measures, depending on site and weather conditions during the grading and construction operations. However, it should be noted that the primary inspection responsibility for both permanent and temporary drainage measures, as well as erosion control is under the jurisdiction of the project civil engineer, Bartelt Engineering.

## ESTIMATED COSTS

### Phase 2 Services

Our charges for this phase of work will be made on an hourly, time-and-materials basis in accordance with the attached 1999 Schedule of Charges and Terms. The total of our fees are dependent on the amount of consultation required during the final design process. Since we have already reviewed the preliminary grading plans, we anticipate that our fees for the design consultations, supplemental recommendations and plan review work should be in the range of about **\$ 800 to \$1,400.**

Our fees for this phase should be within this range if only one letter is required and assuming that no project meetings will be needed during this phase of work. Any additional design consultation time or attendance at project meetings would be billed hourly and may result in our exceeding the figures quoted above. However, we agree not to exceed this amount without your prior authorization.

### **Phase 3 Services**

Our firm's construction observation and testing services will be charged on a time and materials basis at our standard hourly rates in effect at the time of the work. A copy of our 1999 Schedule of Charges is attached for your reference. Our costs will be directly related to the efficiency of the grading and foundation construction and additional site visits may be required if the work proceeds during inclement weather or if other unforeseen problems and special conditions arise.

As a rough guide, our costs for the grading portion of the work should be in the range of about \$400 to \$600 per day we visit the site during the grading operations (including laboratory testing and office costs) or approximately 10 to 15 percent of the total site grading costs. Since we have no control over the methods and equipment employed by the various contractors and we not been provided with a detailed construction schedule, we cannot estimate the overall number of site visits that may be required.

At this time, we would guess that the mass grading work could be accomplished in a 3 to 4 week time frame. For this schedule, our construction observation and testing services during all of the site grading operations (including subgrade, utility trench backfill, and baserock testing for paved areas) would likely be in the range of about **\$7,000 to \$9,000**, assuming no more than 18 site visits are required for the grading and related work. If the excavation and grading work encounters unanticipated site conditions or the contractor's schedule becomes drawn out, our fees may increase. If we anticipate going over \$9000 we will advise you in writing before incurring additional costs.

Our costs for foundation construction and drainage installation observations should be approximately \$100 to \$200 per home, including site retaining walls. Therefore, as a ballpark estimate, the total of our field and office costs for Phase 3 services should be in the range of **\$12,000 to \$16,000**.

As noted above, additional site visits, consultations, and meetings outside our scope of work would also be billed hourly and could result in our exceeding the figures quoted. However, we agree to contact you and discuss any additional fees should conditions appear to warrant a greater involvement of our firm's services.

We should note that the cost estimates quoted above are intended to represent the upper range of fees for this scope of work. Our costs may be lower if the project is accomplished in an efficient manner and if no additional site visits or consultations are needed. However, we recommend that a 15 to 20 percent contingency be established to handle any additional costs that could arise because of difficult or inefficient construction or unforeseen conditions.

All services rendered by our firm consist of professional opinions and recommendations made in accordance with generally accepted soil and foundation engineering principles and practices. This warranty is in lieu of all other warranties, either expressed or implied.

Any construction review of the contractor's performance conducted by us is not intended to include and does not include review of the adequacy of the contractor's safety measures in, on, or near the job site.

We look forward to being of continuing service to you in the development of the subject property. In order to complete our files, please sign one copy of this confirming proposal and return it to our office. We hope this letter provides you with the information which you require at this time.

If you have any questions regarding this proposal, please feel free to give us a call at your earliest convenience.

Mr. Baldacci  
February 26, 1999

Page 4

Very truly yours,

**GEOLITH CONSULTANTS, Inc.**

J. David Rogers, PhD, RG, CEG, CHG  
Principal Engineering Geologist

Robert B. Rogers, MEng, PE, GE  
Principal Geotechnical Engineer

I have read and agree to the provisions of the proposal (including the attached Schedule of Charges and Terms):

Approved by \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

JDR/KKB  
s:\landdev\castle\greystone\napa-greystone-cot-proposal.doc

Copies: Addressee (2)

Enclosures: Schedule of Charges and Terms