



advanced geotechnical services, inc.

July 26, 2018  
Client Number 4844  
Report Number 10164

Mr. Akbar Alikhan  
Channel Islands Beach Community Services District  
353 Santa Monica Drive  
Oxnard, CA 93035

**Preliminary Geotechnical Information  
Proposed Future Residence  
112 Las Palmas Street  
Oxnard, California**

This letter has been prepared at your request, and is intended to provide preliminary information and recommendations regarding the construction of a proposed future single-family residence at the subject site. It is anticipated that the final geotechnical report will be completed within two to three weeks.

The field exploration was conducted on July 23, 2018, and the laboratory testing is still in progress. After completion of the lab testing, additional analyses will be performed utilizing the results of the lab testing, in order to determine the final recommendations. Therefore, the information contained in this letter should be considered preliminary in nature, and subject to change after the completion of our lab testing and final analyses, but represents our best guess as to the likely conclusions and recommendations for the future construction of a single-family residence at the subject site. The information presented herein is based in part on our experience with similar projects in the general area of the subject site.

Our field exploration program was conducted on July 23, 2018, and consisted of the excavation of two exploratory borings on the subject site to depths between approximately 16.5 and 51.5 feet below the existing ground surface. Our exploration encountered beach sand, possibly intermixed with alluvial deposited sand, to a depth of approximately 40 feet below the ground surface, where a stiff clayey silt was then encountered, followed again by sand at a depth of 50 feet. These earth materials are typical to this general area. Groundwater was encountered at a depth of approximately 8.5 to 9 feet below the existing ground surface.

Based on a preliminary analysis of the data obtained during the field exploration, and experience with similar projects in the general vicinity of the subject site, it is anticipated that the construction of a single-family residence on the subject site will be feasible from a geotechnical engineering perspective. The main geotechnical issues with this site will be the potential for liquefaction occurring directly below, and in the general vicinity of the subject site, and mitigation of the earth materials disturbed and replaced during the abandonment of the existing water well. Each of these issues is discussed in the following paragraphs.

Liquefaction involves the loss of strength within certain soil layers during the strong ground shaking accompanying a large earthquake. The most significant manifestations of liquefaction that may affect the subject site are settlement of the future structure, and surficial disruption due to sand boils or ground fissuring. It is anticipated that the upper bound of total potential settlement of the future structure as a result of liquefaction may be up to approximately 4

inches, and differential settlement may be up to approximately 2.67 inches (2/3 of the maximum settlement) over a span of 30 feet. The typical mitigation for up to this amount of total and differential settlement for this type of structure would be to support the proposed structure on a mat foundation, which typically consists of a thickened and more heavily reinforced slab, generally on the order of 8 to 12 inches thick, along with a deepened perimeter beam/foundation typically extending a total of 18 to 24 inches deep, and likely interior beams/foundations as well. Note that the use of a mat foundation for liquefaction mitigation is typical to this area, and is intended to prevent collapse of the structure for life safety purposes, and will not prevent the anticipated settlements, and any resulting distress to the structure.

The second significant geotechnical issue affecting the subject site is the presence of the 'uncertified fill' placed back into the excavation resulting from the abandonment of the water well in 2003 ('uncertified fill' being any man-made fill that was not inspected, tested, and certified by a geotechnical engineering company). Based on the well abandonment documents which you provided to us, there is no information available regarding the exact location of the abandoned well, or the exact depth and lateral extent of the excavation made during the abandonment of the well. The location of the abandoned well can only be approximately inferred from the photographs included with the well abandonment documents. The 'Conditions for Well Destruction' contained on the *Well Permit Application* you provided to us, dated 1/28/03, indicate that the well casing was to be filled with cement to a depth of 5 feet below finish grade, and the remaining well casing was to be removed to a depth of 5 feet below grade. Therefore the minimum depth of uncertified fill placed back into the well abandonment excavation is likely 5 feet. The lateral extent of the fill is unknown however. All of the uncertified fill resulting from the well abandonment will have to be removed, stockpiled onsite, and then properly compacted back into the resulting excavation, under the observation and testing of a geotechnical engineering company. A qualified representative of a geotechnical engineering company would be onsite during the excavation process to help determine the depth and lateral extent of the existing uncertified fill.

After the removal and recompaction of all existing uncertified fill material resulting from the well abandonment, it would be recommended to over-excavate and recompact approximately the upper 3 feet of soils throughout the remainder of the proposed building footprint, and approximately 1 foot beyond the outer edge of footings, in order to provide more uniform foundation support. The mat foundation would then be supported directly on the newly placed compacted fill.

This opportunity to be of service is sincerely appreciated. We have strived to provide our services in accordance with generally accepted geotechnical engineering practices in this community at this time, but we make no warranty, either express or implied.

Should you have any questions, please feel free to contact the undersigned.

Respectfully submitted,  
**Advanced Geotechnical Services, Inc.**



Kenneth J. Palos  
President



Scott Moore, GE  
Principal Engineer



cc: (1) Addressee via email