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GEOTECHNICAL
ENVIRONMENTAL
WATER RESOURCES
CONSTRUCTION SERVICES

Project No.
4920.600.707

March 8, 2018
Revised March 14, 2018

Mr. Michael Letchinger
Stonebrae L.P.
28760 Fairview Avenue
Hayward, CA 94542

Subject: Stonebrae
Hayward, California

SLOPE MANAGEMENT PROGRAM ADDENDUM

- References:
1. ENGEO; Slope Management Program, Stonebrae Country Club, Hayward, California; March 14, 2005; Project No. 4920.1.013.06.
 2. ENGEO; Slope Management Program Review, Stonebrae Village C, Hayward, California; September 21, 2017, Project No. 4920.004.000.
 3. ENGEO; Slope Management Program Update, Stonebrae Village C, Hayward, California; October 2, 2017, Project No. 4920.600.707.

Dear Mr. Letchinger:

At your request and with your authorization, we prepared the attached Slope Management Program Addendum ("Addendum") to the referenced Slope Management Program prepared by ENGEO, dated March 14, 2005. The purpose of this Addendum is to clarify subdrain monitoring, maintenance, and repair responsibilities identified in Reference 1.

BACKGROUND

City of Hayward Condition of Approval No. 22 states the following:

Prior to approval of the first final map or grading and improvement plans, a Slope Management Program shall be developed and implemented by a Certified Engineering Geologist or licensed Geotechnical Engineer, who shall be responsible for the identification and remediation of unstable slopes. The Slope Management Program shall identify the types of onsite hazards, and shall include an appropriate periodic monitoring plan for constructed slopes and their associated drainage system. The program shall establish a procedure for response to slope failures affecting project improvements including the surface drainage system. The applicant/developer shall place deed restrictions, easements or other appropriate legal instruments on all slopes on private property to allow monitoring and remediation activities and to require property owners to maintain appropriate landscaping and irrigation procedures.

The Slope Management Program provides a framework for defining responsibilities, priorities, and activities relating to slopes within the Stonebrae development. The structure of the Slope Management Program allows for changes in the activities of responsible parties based on modifications in the site design that result from design-level plans or other conditions, which may vary over time. It is our understanding that deed restrictions, easements, or other appropriate legal instruments to allow monitoring and remediation activities and to require appropriate landscaping procedures have been incorporated as part of the Stonebrae Home Owners Association Master Declarations of Restrictions (CC&R's).

In 2017, a review of the Slope Management Plan was completed to comment on the applicability of the Slope Management Plan to Village C within the Stonebrae development (Reference 2). Within the Slope Management Program Review letter, it was concluded that the 2005 Slope Management Plan was applicable to Village C provided updated plans and reports were referenced in a Slope Management Plan update. A Slope Management Plan Update that included these references was prepared (Reference 3).

SUBDRAINS AND SUBDRAIN OUTLETS

Subdrains have been installed within the Stonebrae development as part of the corrective grading completed for the development and are associated with site retaining walls. Figures showing the location of the subsurface drains installed during corrective grading have been included in testing and observation reports completed for the development. Subdrains are located beneath Stonebrae Home Owners Association (HOA) owned parcels, golf course parcels as well as privately owned parcels. As shown, the subdrains range in depth from relatively shallow to quite deep. As identified in the Section X – Monitoring and Maintenance Schedule in the referenced Slope Management Program:

Subsurface drain outlets should be checked. Water flowing from these outlets should be measured and recorded during each inspection. The inspections should take place at least twice annually, preferably in the fall and spring. Any suspicious interruption in flow should signal a need to unplug or clean by flushing the affected drain.

We noted that an ambiguity arose as to the HOA responsibility for repairs. As part of the overall engineered fill, slope, and retaining wall systems for the Stonebrae development, these subdrains are an amenity that serves the entire development and the monitoring, maintenance, and repair for the subdrain system, including outlets, is the responsibility of the Stonebrae HOA. Based on our experience, it is not anticipated that the subdrain system will require regular maintenance with the exception of the subdrain outlets. The attached Addendum to the Slope Management Program has been prepared to remove this ambiguity and confirm this obligation of the HOA.

For your information, we also advise that if subdrains are encountered on privately owned lots (i.e. during excavation for a swimming pool) the owner of the Lot shall be instructed to contact the HOA. This will allow the HOA to observe the site conditions and as needed provide oversight and/or recommendations to maintain the integrity of the subdrain system to the homeowner.

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It has been our pleasure to provide continued services to you on this project. If you have any questions, please do not hesitate to contact us.

Sincerely,

ENGEO Incorporated



Stefanos Papadopoulos, GE
sp/eh/cjn



Eric Harrell, CEG

Attachment: Addendum to Slope Management Program