

Supplemental Information from Staff including memorandum dated June 10, 2010 including tennis court noise readings from the Hillsborough Police Department, memorandum from the City Engineer dated June 24, 2010 responding to letter prepared by Dennis Rinehart of CSW/ST2 and memorandum reviewing the June 10, 2010 Geotechnical Investigation prepared by Earth Investigations Consultants; memorandum from C. Barry Butler, Principal Engineer of Cornerstone Earth Group dated July 07, 2010.



HILLSBOROUGH POLICE DEPARTMENT

INTER-OFFICE MEMORANDUM

DATE: JUNE 10, 2010
TO: CAPT. O'CONNOR
FROM: SGT. PATRICK BARRETT
Subject: Tennis Court Sound Measurements

On Friday, June 4th, Captain O'Connor directed me to obtain two independent decibel readings from the tennis courts at North Hillsborough School and the tennis courts which are located next to the Hillsborough School District Office complex. Both of this location have two tennis courts and are publicly accessible.

I understand that private tennis courts are located throughout the Town of Hillsborough at varied elevations, but these courts are not accessible to the public.

On Saturday, June 5th, at approximately 0915 hours, I observed two tennis matches in-progress at the tennis courts at North Hillsborough School and obtained two decibel readings as follows:

- 52.2 dB at a distance of 25 feet from the source
- 44.8 dB at a distance of 50 feet from the source

On Saturday, June 5th, at approximately 0930 hours, I observed two tennis matches in progress at the tennis courts which are located next to the Hillsborough School District Office complex and recorded two decibel readings as follows:

- 53.4 dB at a distance of 25 feet from the source
- 48.2 dB at a distance of 50 feet from the source

It should be noted that a little league baseball game was also in-progress directly behind the District Office complex at the time these decibel readings were obtained.

Decibel meter: Bruell & Kjaer – Precision Sound Level Meter Type 2232
Serial #1006221

MEMORANDUM

To: Elizabeth Cullinan, Planning Director
From: Cyrus Kianpour, City Engineer
Date: June 24, 2010
Subject: Peer Review for 3115 Ralston

I write to follow up on information submitted at the Architectural and Design Review Board (ADRB) meeting held on June 17, 2010, regarding the 3115 Ralston project. At that meeting, Mr. Steven Mattas presented a letter with an attachment prepared by Dennis Rinehart of CSW/ST2 relating to National Pollutant Discharge Elimination Systems (NPDES), drainage and erosion control as well as geotechnical issues. I have prepared the following responses. At the outset, I should note that the issues outlined in the letter from CSW/ST2 are typically addressed after the approvals of the ADRB for all projects since they are related to final design of the project and submittals required for issuance of building and grading permits.

1. **Increased impervious area:** The letter identifies the increased impervious area of the proposed project compared to the pre-development conditions and the additional run off from the site due to increased impervious area. The Town of Hillsborough standards have required all projects that create additional impervious areas greater than 1,000 SF to install a storm water detention system onsite and/or other methods of storm water treatment facilities. The intent of this policy has been to mitigate downstream effect of increased impervious area, compliance with the Town's NPDES permit requirements as well as Best Management Practices for storm water quality. The Town is aware of the latest Municipal Regional Storm water NPDES Permit for San Mateo County adopted in October 2009, regulating the discharge of storm water runoff, and is actively involved in implementing the latest practices and procedures relating to NPDES. As required by the NPDES Permit, hydromodification measures will be required and implemented for this project. During the review for issuance of a building permit, the project designer will be required to submit computation for design of a detention system as well as impervious area computations. The Town has been requiring all projects to utilize a 25 year frequency design storm. The letter from CSW/ST2 states: "The storm water standards to take effect July 1, 2010 pursuant to the Municipal Separate Regional Permit (MSR) will require hydromodification to be performed to demonstrate that the outflow from the site for events up to the 10-year frequency event are controlled and do not exceed the existing outflow." The current Town standards require a 25-year design frequency which exceeds the stated requirement. Secondly the letter is recommending a design storm with 100 year frequency for this project. If the Town requires such a standard, although more conservative, it would represent a change in the Town's standards applicable to this project only. The letter also is requesting the Town to follow Federal Emergency

Management Agency (FEMA) standards utilizing the 100 year storm frequency, which is typically used for regional storm drainage facilities by FEMA. This standard has never been utilized for design of local serving drainage facilities and to my knowledge has never been applied in the Town. The letter also raises a concern regarding the condition of the existing storm drain inlet on Pinehill Road, on the boundary of the project site and the need for its upgrade. The Town has already required the applicant to upgrade this inlet with the proposed off-site improvements included in our preliminary plan check comments. The Town is aware of the drainage condition on Pinehill adjacent to the project and previously upgraded the storm drain inlet on Pinehill across from the project site several years ago. The letter also states that the proposed detention facilities are not adequate. Hydraulic computations and analysis for the storm water run off will be submitted during the application process for a building permit. No computations have been submitted by CSW/ST2 to substantiate the volume of detention proposed versus needed. The Town will require the applicant to submit hydraulic computation demonstrating that maximum runoff rate leaving the developed site during a 25-year storm event will not exceed the runoff rate from predevelopment conditions. The analysis will be required to demonstrate sufficient detention volume to store the difference in the volume of runoff between the current pre-project conditions and a post-project.

2. **Site disturbance of more than one acre:** The Town has provided plan check comments for the applicant to prove that the proposed development does not exceed land disturbance of one acre and the applicant otherwise is instructed to demonstrate coverage under the Construction General Permit (99-08-DWQ), file a Notice of Intent to the California State Water Resource Control Board and implement a Storm Water Pollution Prevention Plan (SWPPP) onsite at all times pre- and post-construction. The Town will recommend the other methods of low impact development such as rain gardens, bioswales, etc. that is outlined as Best Management practices. The Town also requires submission of plans for erosion control measures during construction as well as permanent erosion control measures to be implemented for all slopes greater than 2:1 slopes throughout the property.

Other issues raised during the meeting

There were also concerns raised during the public hearing and oral testimony relating to topography of landslides and possibility of a landslide within the tennis court area. Several speakers also brought up other previous landslides along Pinehill over the last thirty years. The issue of a landslide on-site has been evaluated through the supplemental geo-technical investigation which included two borings, one at each end of tennis court reaching sandstone and siltstone. Copies of the peer review report prepared and submitted by the Town's geotechnical engineer will be included in the City Council agenda package. To summarize, there is no empirical evidence of a landslide on the property.

MEMORANDUM

To: Elizabeth Cullinan, Planning Director
From: Cyrus Kianpour, City Engineer
Date: June 15, 2010
Subject: Peer Review for 3115 Ralston

Attached please find the peer review memos from Cornerstone Earth Group for the geotechnical report relating to construction for the new single family dwelling unit on 3115 Ralston. As the peer review letters indicate, the geotechnical review adequately addresses the issues relating to grading, foundation and construction of improvements proposed.

In the supplemental geotechnical report an additional investigation was conducted on-site, specifically relating to the areas where the tennis court and swimming pool are to be constructed. The supplemental report also investigated the areas where the issue of the topography of the landslide has been brought up and concludes that there isn't any evidence of a landslide.

The geotechnical report provides adequate information for construction of the proposed new home.

Date: June 15, 2010
Project No.: 139-6-1
Prepared For: Mr. Cyrus Kianpour
TOWN OF HILLSBOROUGH
1600 Floribunda Avenue
Hillsborough, California 94010
Re: Geotechnical Consultation
3115 Ralston Avenue
Hillsborough, California

Dear Mr. Kianpour:

As requested, this letter presents the results of our third-party review of a geotechnical site investigation that is supplemental to the original geotechnical investigation for the new residential develop. To date, we have received copies of the following documents.

- A geotechnical report titled, "Geotechnical Site Investigation, 3115 Ralston Avenue, Hillsborough, California," prepared by J. Yang and Engineers, Project No. J10-1488, dated January 15, 2010.
- A letter titled, "Re: 3115 Ralston Avenue Residential Project," prepared by meyers | nave riback silver & wilson, dated April 26, 2010, with a geotechnical letter attachment.
- A geotechnical letter attachment to the letter dated April 26, 2010, titled "Geotechnical Concerns, Proposed Horton Residence, 3115 Ralston Avenue, Hillsborough, California," prepared by Berlogar Geotechnical Consultants, Job No. 3250.000, dated April 22, 2010.
- A response to comments letter, titled "Subject: Geotechnical Review Comments," prepared by J. Yang and Engineers, dated May 3, 2010.
- A letter titled, "Re: 3115 Ralston Avenue," prepared by meyers | nave riback silver & wilson, dated June 2, 2010, with a geotechnical letter attachment.
- A geotechnical letter attachment to the letter dated May 3, 2010, titled "Geotechnical Issues, Proposed Horton Residence, 3115 Ralston Avenue, Hillsborough, California," prepared by Berlogar Geotechnical Consultants, Job No. 3250.000, dated May 28, 2010.
- Two civil plan Sheets, C-1.1 and C-1.2, titled "New Residence, 3115 Ralston Avenue, San Mateo County, Hillsborough, California," prepared by Clifford Bechtel and Associates, Job No. 2010313, dated April 12, 2010.

- A report titled, "Geotechnical Investigation, Proposed Residential Development, 3115 Ralston Avenue, Hillsborough," prepared by Earth Investigations Consultants, Job 2039.03.00, dated June 10, 2010.

As you know, to develop our opinion, we have reviewed the above documents, reviewed published information regarding the site and vicinity, reviewed historic aerial photos, and performed a reconnaissance of the site and immediate vicinity. This letter is supplemental to our previous review letter of June 4, 2010.

Conclusions

Based on our review of the supplemental geotechnical investigation prepared by Earth Investigations Consultants, in our opinion, further support of the conclusions drawn by J. Yang and Engineers, as well as the conclusions provided by us in our previous letter are provided. In addition, supplemental recommendations regarding hillside grading and drainage are provided, as we recommended in our previous letter.

Therefore, based on our review of the supplemental investigation prepared by Earth Investigations Consultants, we have no further comments.

Closure

The opinions presented in this letter have been prepared for the sole use of Town of Hillsborough specifically for the property at 3115 Ralston Avenue in Hillsborough, California, and have been developed based on our review of provided materials, our observations, and our review of published materials in the site vicinity. Our professional services were performed, our findings obtained, and our opinions prepared in accordance with generally accepted geotechnical engineering principles and practices at this time and location. No warranties are either expressed or implied.

If you have any questions or need any additional information from us, please call and we will be glad to discuss them with you.

Sincerely,

Cornerstone Earth Group, Inc.


C. Barry Butler, P.E., G.E.
Principal Engineer



CBB

Copies: Addressee (1 by email)

Attachments: References
 Letter Dated June 4, 2010

SELECTED REFERENCES

- Berlogar Geotechnical Consultants, 2010, *Geotechnical Concerns, Proposed Horton Residence, 3115 Ralston Avenue, Hillsborough, California*, Job No. 3250.000, dated April 22, 2010.
- Berlogar Geotechnical Consultants, 2010, *Geotechnical Issues, Proposed Horton Residence, 3115 Ralston Avenue, Hillsborough, California*, Job No. 3250.000, dated May 28, 2010.
- Brabb, E.E., and Pampeyan, D.L., 1983, *Geologic Map of San Mateo County, California*, U.S. Geological Survey, Miscellaneous Investigations Series Map I-1257-A, scale 1:62,500.
- Brabb, E.E., Graymer, R. W., and Jones, D. L., 1998, *Geology of the Onshore Part of San Mateo County, California*, U.S. Geological Survey, Open File Report 98137, scale 1:62,500.
- Earth Investigations Consultants, Geotechnical Investigation, Proposed Residential Development, 3115 Ralston Avenue, Hillsborough, California, Job No. 2039.03.00, dated June 10, 2010.
- Leighton and Associates Geotechnical Engineers, 1976, *Geotechnical Hazards Synthesis Map for San Mateo County*, sheet 1 of 5, scale 1: 24,000.
- Pampeyan, E. H., 1994, *Geologic Map of the Montara Mountain and San Mateo 7½' Quadrangles, San Mateo County, California*, U.S. Geological Survey Miscellaneous Investigations Series, Map I-2390, scale 1:24,000.
- J. Yang and Engineers, Geotechnical Site Investigation, Proposed New Residence, 3115 Ralston Avenue, Hillsborough, California, Proj. No. J10-1488, dated May 3, 2010.
- J. Yang and Engineers, Geotechnical Review Comments, Planned New Residence, 3115 Ralston Avenue, Hillsborough, California, dated May 3, 2010.

AERIAL PHOTOS REVIEWED AT U.S. GEOLOGICAL SURVEY, MENLO PARK, CA:

Geomorphic features on the following aerial photographs were interpreted at the U.S. Geological Survey in Menlo Park as part of this investigation:

| Date | Flight | Frames | Scale | Type |
|------------------|---------|-------------|----------|---------------|
| October 11, 1943 | DDB | 2B-114, 115 | 1:20,000 | black & white |
| May 27 1956 | DDB | 2R-40, 41 | 1:20,000 | black & white |
| April 18, 1968 | GS-VBZJ | 1-215, 216 | 1:30,000 | black & white |
| May 8, 1973 | 3567 | 3-173, 174 | 1:12,000 | black & white |
| June 25, 1974 | Area 9 | 9-18, 19 | 1:20,000 | Nat color |

Date: June 4, 2010
Project No.: 139-6-1
Prepared For: Mr. Cyrus Kianpour
TOWN OF HILLSBOROUGH
1600 Floribunda Avenue
Hillsborough, California 94010
Re: Geotechnical Consultation
3115 Ralston Avenue
Hillsborough, California

Dear Mr. Kianpour:

As requested, this letter presents the results of our third-party review of geotechnical and geologic comments for the proposed residential project in response to the remaining issues of concern highlighted in the Berlogar Geotechnical Consultants (Berlogar) letter dated May 28, 2010.. To date, we have received copies of the following documents.

- A geotechnical report titled, "Geotechnical Site Investigation, 3115 Ralston Avenue, Hillsborough, California," prepared by J. Yang and Engineers, Project No. J10-1488, dated January 15, 2010.
- A letter titled, "Re: 3115 Ralston Avenue Residential Project," prepared by meyers | nave riback silver & wilson, dated April 26, 2010, with a geotechnical letter attachment.
- A geotechnical letter attachment to the letter dated April 26, 2010, titled "Geotechnical Concerns, Proposed Horton Residence, 3115 Ralston Avenue, Hillsborough, California," prepared by Berlogar Geotechnical Consultants, Job No. 3250.000, dated April 22, 2010.
- A response to comments letter, titled "Subject: Geotechnical Review Comments," prepared by J. Yang and Engineers, dated May 3, 2010.
- A letter titled, "Re: 3115 Ralston Avenue," prepared by meyers | nave riback silver & wilson, dated June 2, 2010, with a geotechnical letter attachment.
- A geotechnical letter attachment to the letter dated May 3, 2010, titled "Geotechnical Issues, Proposed Horton Residence, 3115 Ralston Avenue, Hillsborough, California," prepared by Berlogar Geotechnical Consultants, Job No. 3250.000, dated May 28, 2010.
- Two civil plan Sheets, C-1.1 and C-1.2, titled "New Residence, 3115 Ralston Avenue, San Mateo County, Hillsborough, California," prepared by Clifford Bechtel and Associates, Job No. 2010313, dated April 12, 2010.

To develop our opinion, we have reviewed the above documents, reviewed published information regarding the site and vicinity, reviewed historic aerial photos, and performed a reconnaissance of the site and immediate vicinity.

Review of Published Documents

Several regional scale geologic maps have been published of the area including those by Lajole et al. (1974), Leighton (1976), Brabb and Pampeyan (1983), Wentworth et al. (1985), Pampeyan (1994), Brabb et al. (1998) and Brabb et al. (2000), which all depict similar geologic units underlying the site. Of these published maps, Pampeyan's depiction of the bedrock units is consistent with our site observations (see below). His mapping depicts "Sheared rock" ("fsr") of the Franciscan complex underlying the area of the site, but he also has a body of serpentinite ("sp") closely associated with it. The sheared rock is described as soft to sheared shale, siltstone, and graywacke containing various-size tectonic inclusions of Franciscan rock types.

Site Reconnaissance

A reconnaissance of the site and immediate vicinity was performed by our Certified Engineering Geologist on June 2, 2010 for the purpose of observing features at the ground surface for preparation of this letter. We observed Franciscan sandstone outcropping at the ground surface along the cut for Provident Drive just beyond the west property line. Soil cover is very thin and the sandstone is massive, fractured and moderately hard. We also observed abundant sandstone clasts as float in the road cut for Pinehill Road just beyond the east property line and infer that it is underlain by sandstone. Our review of historic (pre- and post-construction) aerial photos taken between 1943 and 1974 and our recent site reconnaissance indicates the existing bi-level (terraced) building pad has a cut and fill geometry. No evidence suggestive of the presence of landsliding at the site was observed in the photos. This cut and fill building pad geometry results in breaks in slope such as in the eastern portion of the property. Just below the lowest fill slope in the central portion of the property is a concrete walkway that transects the lower (eastern) portion of the property. From this location down to near the east property line the ground is disturbed and rutted by recent machine traffic (small tractor) while the soil was wet. Occasional bricks and concrete are apparent in this surficial soil, and it is replete with large roots and other vegetation. This area was previously described in the letter by Berlogar as showing "classic landslide topography."

A row of trees has been planted relatively recently and spoils from the excavations for this planting are piled along the uphill side of this row of trees, adding to the hummocky appearance of the ground. A 48-inch diameter undisturbed oak tree resides in the middle of this area. This tree shows no signs of being affected by soil instability. A survey of Pinehill Road located just adjacent to the eastern property line (within 20 feet east of this area), reveals no evidence of distress or settlement or lateral displacements as would be expected if it were underlain by a landslide. We did not observe any indication of pavement distress in the driveway located on the downslope side of the road.

Conclusions

Below we highlight Berlogar's geotechnical and geologic concerns and provide our opinion following each comment.

Comment: *Three borings were drilled; all three borings were in the area of the proposed new residence. No borings were drilled in the area of the proposed tennis court where most of the on-site fill will be placed.*

Response: In our opinion, based on our review of the geotechnical report, the site exploration and discussion of surface and subsurface conditions appears within the standard of practice. However, because slopes in the area of the proposed tennis court are on the order of 4:1 to 6:1 (horizontal to vertical), we recommend that the geotechnical engineer of record provide supplemental recommendations for keying, benching and subdrains related to the slope fills placed in the area of the tennis court. In our opinion, they should also provide recommendations for construction review of all keyways and benches by a certified engineering geologist for adverse conditions prior to fill placement.

Comment: *Most of the sampling attempts in the Yang borings yielded no recovery, i.e. the sampler was empty when removed from the borings. A geotechnical engineer can only adequately characterize subsurface materials when he has samples to examine and test in the laboratory.*

Response: We disagree with the above comment. Many items are considered by geotechnical engineers in addition to samples in characterizing subsurface materials, including, geologic mapping, site reconnaissance and surface conditions, observation of drill cuttings, and blow counts, among others. It is not uncommon, nor unexpected, that in dense bedrock materials with high blow counts, material is not retained by the sampler.

Comment: *USGS geologic maps show a geologic contact with a different geologic unit on the lower half of the site than on the upper half of the site. Given the large mass of fill planned for the tennis court on the lower part of the site and the distinct possibility of an existing landslide at this location, thorough investigation of this part of the site is essential.*

Response: J. Yang and Engineers (Yang) completed three borings at the site within the area of the proposed residence. All three of the borings encountered siltstone bedrock. In our reconnaissance, we did not observe evidence of landsliding on the property, in Pinehill Road or on the property below Pinehill Road. In addition, we also saw no indication of a geologic contact or change in the road cut for Pinehill Road. Although it is possible that a geologic contact could be encountered, in our opinion, the potential is relatively low. Also, as previously mentioned, a certified engineering geologist should be present during grading to observe keyways and benches should adverse conditions be encountered and to provide mitigation recommendations at that time.

Comment: *Our letter of April 22, 2010 indicated that the topographic survey by B&H Survey shows classic landslide topography in the area at the tennis court. To further investigate the possible landslide, we analyzed 3 sets of stereo-paired aerial photographs obtained from HJW Geospatial (Oakland). The 3 sets of aerial photographs are:*

AV 01-02-02 6/18/37
AV 01-02-03

AV 170-09-19 5/10/55
AV 170-09-20

KAV9200-38-4 10/12/05
KAV 9200-38-5

The existing house was present in the 1955 and 2005 photographs, but was not present in 1937 photographs. The 1937 aerial photographs show surface topography consistent with landsliding. Given that the suspect topography predates the construction of the existing residential development, we conclude that it was likely formed by landsliding. At the time of my site visit on May 12, 2010, I observed flow from a natural spring from the southern portion of the slope along Pine Hill Road. My estimate of the rate of flow from the spring is 2 gallons per minute. Such spring flow is a common feature of an existing landslide. The proposed tennis court requires fill up to 10 feet in height. If the suspect topography is a landslide, placement of this amount of fill on the head of landslide may well result in failure.

Response: The Berlogar letter is not explicit as to the evidence of landsliding other than topography and the presence of a spring, but we assume that the break in slope at the base of the lowest fill pad and the disturbed appearance of the ground surface below that point may have been interpreted by Berlogar as a scarp. The pre-construction photos we reviewed (1943) show a break in slope essentially at the southeast property corner, however, this in itself is not definitive of landsliding. A more comprehensive review of the conditions and surface features at and immediately adjacent to the property strongly suggests that the topography is due to cut/fill grading and successive generations of fill being spread out over the ground surface just below that building pad grading. Subsequent machine traffic during wet conditions has further added to the disturbed appearance of the ground surface in this area. We observed no evidence of landsliding.

The spring observed is apparently outside of the area of grading for the tennis court based on the noted location, and is not a significant indicator of landsliding in the Hillsborough area, where springs are abundant.

Closure

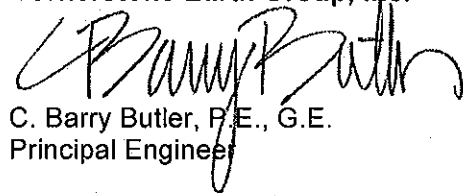
As requested, this letter completes the limited scope of work requested of us for the project. The opinions presented in this letter have been prepared for the sole use of Town of Hillsborough specifically for the property at 3115 Ralston Avenue in Hillsborough, California, and have been developed based on our review of provided materials, our observations, and our review of published materials in the site vicinity. Our professional services were performed, our findings obtained, and our opinions prepared in accordance with generally accepted geotechnical engineering principles and practices at this time and location. No warranties are either expressed or implied.



If you have any questions or need any additional information from us, please call and we will be glad to discuss them with you.

Sincerely,

Cornerstone Earth Group, Inc.


C. Barry Butler, P.E., G.E.
Principal Engineer



CBB:CSH:JRD

Copies: Addressee (1 by email)

Attachments: References

SELECTED REFERENCES

- Berlogar Geotechnical Consultants, 2010, *Geotechnical Concerns, Proposed Horton Residence, 3115 Ralston Avenue, Hillsborough, California*, Job No. 3250.000, dated April 22, 2010.
- Berlogar Geotechnical Consultants, 2010, *Geotechnical Issues, Proposed Horton Residence, 3115 Ralston Avenue, Hillsborough, California*, Job No. 3250.000, dated May 28, 2010.
- Brabb, E.E., and Pampeyan, D.L., 1983, *Geologic Map of San Mateo County, California*, U.S. Geological Survey, Miscellaneous Investigations Series Map I-1257-A, scale 1:62,500.
- Brabb, E.E., Graymer, R. W., and Jones, D. L., 1998, *Geology of the Onshore Part of San Mateo County, California*, U.S. Geological Survey, Open File Report 98137, scale 1:62,500.
- Leighton and Associates Geotechnical Engineers, 1976, *Geotechnical Hazards Synthesis Map for San Mateo County*, sheet 1 of 5, scale 1: 24,000.
- Pampeyan, E. H., 1994, *Geologic Map of the Montara Mountain and San Mateo 7½' Quadrangles, San Mateo County, California*, U.S. Geological Survey Miscellaneous Investigations Series, Map I-2390, scale 1:24,000.
- J. Yang and Engineers, *Geotechnical Site Investigation, Proposed New Residence, 3115 Ralston Avenue, Hillsborough, California*, Proj. no. J10-1488, dated May 3, 2010.
- J. Yang and Engineers, *Geotechnical Review Comments, Planned New Residence, 3115 Ralston Avenue, Hillsborough, California*, dated May 3, 2010.

AERIAL PHOTOS REVIEWED AT U.S. GEOLOGICAL SURVEY, MENLO PARK, CA:

Geomorphic features on the following aerial photographs were interpreted at the U.S. Geological Survey in Menlo Park as part of this investigation:

| Date | Flight | Frames | Scale | Type |
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| October 11, 1943 | DDB | 2B-114, 115 | 1:20,000 | black & white |
| May 27 1956 | DDB | 2R-40, 41 | 1:20,000 | black & white |
| April 18, 1968 | GS-VBZJ | 1-215, 216 | 1:30,000 | black & white |
| May 8, 1973 | 3567 | 3-173, 174 | 1:12,000 | black & white |
| June 25, 1974 | Area 9 | 9-18, 19 | 1:20,000 | Nat color |

RECEIVED**JUL -7 2010****HILLSBOROUGH
COMMUNITY SERVICES**

Date: July 7, 2010
Project No.: 139-6-1
Prepared For: Mr. Cyrus Kianpour
TOWN OF HILLSBOROUGH
1600 Floribunda Avenue
Hillsborough, California 94010
Re: Geotechnical Consultation
3115 Ralston Avenue
Hillsborough, California

Dear Mr. Kianpour:

As requested, this letter presents the results of our third-party review of geotechnical and geologic comments for the proposed residential project presented in the Cotton, Shires and Associates, Inc. (Cotton) letter dated July 2, 2010. Previously, we have reviewed the following documents provided to our office, and attended the ADRB hearing on June 17, 2010.

- A geotechnical report titled, "Geotechnical Site Investigation, 3115 Ralston Avenue, Hillsborough, California," prepared by J. Yang and Engineers, Project No. J10-1488, dated January 15, 2010.
- A letter titled, "Re: 3115 Ralston Avenue Residential Project," prepared by meyers | nave riback silver & wilson, dated April 26, 2010, with a geotechnical letter attachment.
- A geotechnical letter attachment to the letter dated April 26, 2010, titled "Geotechnical Concerns, Proposed Horton Residence, 3115 Ralston Avenue, Hillsborough, California," prepared by Berlogar Geotechnical Consultants, Job No. 3250.000, dated April 22, 2010.
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- Two civil plan Sheets, C-1.1 and C-1.2, titled "New Residence, 3115 Ralston Avenue, San Mateo County, Hillsborough, California," prepared by Clifford Bechtel and Associates, Job No. 2010313, dated April 12, 2010.

- A geotechnical letter titled, "Engineering Geologic Peer Review, Brewer Development LLC, New Residence, 3115 Ralston Avenue," prepared by Cotton, Shires and Associates, Inc., dated July 2, 2010.

To develop our opinions, we have previously reviewed the above documents, reviewed published information regarding the site and vicinity, reviewed historic aerial photos, and performed a reconnaissance of the site and immediate vicinity.

Conclusions

Below we highlight Cotton's geotechnical and geologic concerns and provide our opinion following each comment.

Comment: *"Based on my site inspection, analysis of historic aerial photographs and review of the referenced EIC investigation, I conclude that there is substantial evidence indicating the presence of an apparent landslide at the site of the proposed tennis court..."*

Response: Cotton indicates that there is substantial evidence indicating the presence of an apparent landslide, yet provides no references of the air photos reviewed, no geologic map depicting evidence of an apparent landslide, no figures illustrating the location of the apparent landsliding, nor cross sections depicting the postulated subsurface geometry of an apparent slide.

Comment: *"Local documented landsliding along Pinehill Road, and within approximately 60 feet of the 3115 Ralston project site, has previously occurred displacing bedrock at depths to at least 12 feet."*

Response: Again, a reference for the local documented landsliding Cotton refers to is not provided, nor a discussion of the causation, geology, or any other information. It appears that Cotton may be referencing a landslide that reportedly occurred (Garbe, 1982), downslope and to the southeast, due to saturation of surface soils by storm water and/or sanitary sewer discharge, involved mainly sliding of the saturated surface soils, and involved serpentinite bedrock, with much higher susceptibility to landsliding, which differs from the site geology at the 3115 Ralston site. During our site reconnaissance as part of our third party review we did not note any landsliding with the potential to affect the subject site. In addition, Earth Investigations Consultants found, "There are no mapped landslides affecting the site, nor was there evidence of a landslide detected in the field during our site investigation or on historic aerial photographs dating to 1937."

Comment: *"The primary document responsible for setting industry standards of landslide characterization is "Recommended Procedures for Implementation of DMG Special Publication 117 – Guidelines for Analyzing and Mitigating Landslide Hazards in California."*

Response: The above referenced guidelines were published for DMG Special Publication 117, which has been substantially updated (CGS, 2008), and no update to the ASCE/SCEC guidelines has yet been published. However, SP 117A includes guidance to screening sites for seismic hazards.

Comment: *"For conformance with prevailing standards, either continuous core sampling should be completed or excavations should be advanced that allow a geologist to directly inspect a continuous exposure of in-place earth materials down to a depth of at least 25 to 30 feet in the tennis court area."*

Response: The above guideline measures are for sites where landsliding is present or weak zones are expected. Based on the review of published materials, site reconnaissance, and subsurface exploration, the design consultants for the project concluded there was no evidence of landslides affected the site. Based on our review of available information to date, and our own review and site reconnaissance, we concur with that conclusion.

In addition to the above, as described at the ADRB hearing, review of the final grading plan and observation during grading by a Certified Engineering Geologist of benches into undisplaced bedrock is a critical and final check of the potential presence of previous undetected displacements due to landsliding. If landsliding is detected during grading, further mitigation would be implemented at that time.

Closure

As requested, this letter completes the limited scope of work requested of us for the project. The opinions presented in this letter have been prepared for the sole use of Town of Hillsborough specifically for the property at 3115 Ralston Avenue in Hillsborough, California, and have been developed based on our review of provided materials, our observations, and our review of published materials in the site vicinity. Our professional services were performed, our findings obtained, and our opinions prepared in accordance with generally accepted geotechnical engineering principles and practices at this time and location. No warranties are either expressed or implied.

If you have any questions or need any additional information from us, please call and we will be glad to discuss them with you.

Sincerely,

Cornerstone Earth Group, Inc.


C. Barry Butler, P.E., G.E.
Principal Engineer



CBB:CSH

Copies: Addressee (1 by email)