



November 5, 2012
E5172B

Board of Directors
LOMBARD PLAZA OWNER'S ASSOCIATION
240 Lombard Street
San Francisco, CA 94111

SUBJECT: Winterization Recommendations
RE: East Slope of Telegraph Hill, Winthrop and Lombard Streets
San Francisco, California

Dear Board of Directors:

At the request of the City of San Francisco Department of Public Works (DPW), Cotton, Shires and Associates, Inc. (CSA) is providing you with this letter summarizing our winterization recommendations for the steep slope area adjacent to the Parc Telegraph property on Telegraph Hill in San Francisco, California. In our meeting with DPW on October 31, 2012, and in a subsequent email received on November 2, 2012, DPW requested winterization recommendations by November 6, 2012.

BACKGROUND

CSA representatives attended a meeting with DPW on October 31, 2012 where we summarized the status of our geologic and geotechnical investigation of the steep rock slope near the intersection of Winthrop and Lombard Streets in San Francisco California. At that time, our field investigation (topographic surveying, geologic mapping, and preparation of engineering geologic cross sections) had been recently completed. In summary, our field mapping reveals that the precipitous slope near the intersection of Winthrop and Lombard contains abundant very large rock blocks that are potentially unstable, and are capable of mobilizing into rockslides that are at least as hazardous as the January 23, 2012 rockslide. As you are aware, this January 23, 2012 rockslide destroyed the existing catchment fence at the base of the hill and damaged a vehicle parked in the Winthrop Street ROW near the Parc Telegraph residential structure. Rock blocks up to 8 feet in diameter came to rest within the Winthrop and Lombard Street ROWs, very near the residential structure. Ultimately, these large rock blocks were moved to near the base of the slope, the rock catchment fence was repaired, and the precipitous slope was 'scaled' of loose rocks (less than 3 feet in diameter) so that our geologists could access the slope safely. Following geologic mapping of the slope and preparation of engineering geologic cross sections, CSA then evaluated alternative

mitigation concepts. With the 2012-2013 winter coming up, the length of time likely needed for developing engineered design drawings and specifications, and the time necessary for permitting, the precipitous slope will likely remain in its current condition for at least a portion of the winter before mitigation measures can be implemented. Therefore, we are providing the following winterization recommendations.

WINTERIZATION RECOMMENDATIONS

The following recommendations should be considered until permanent mitigation of the slope is performed:

1. Access through the area of concern should be restricted to emergency vehicles and engineering/geologic professionals only. Trash removal should be performed only during daylight hours and not during heavy rainfall conditions. Neither automobile nor pedestrian traffic should be permitted between the Parc Telegraph building and the slope, and existing gate structures should be augmented and signed to facilitate this restriction.
2. The existing span of concrete 'K-rails' that is located on the east side of the access road near the southwest corner of the building should be augmented to include shadowing the transformers south of the Parc Telegraph building, and should be extended northward approximately 30 feet from the southwesterly corner of the building, shadowing the building for this stretch. The K-rails should be equipped with a minimum 6-foot high chain-link fence atop the rails. The K-rails should be provided with an overlapping gap near the corner of the building such that trash bin removal can be performed.
3. Following significant storm events (1 inch of rainfall per day or greater), earthquake events, or any significant rockfall activity, the slope should be inspected by a representative of CSA.
4. Residents that face the precipitous slope should be made aware of the rockfall hazard potential and should let the property manager and/or the LPOA representatives know if they observe rockfalls, raveling, or small rockslides. Of particular concern would be persistent raveling (where small groups of rocks dislodge from the slope face and dribble down the face again and again) or even very small sized rocks from the same area. Persistent raveling could potentially foreshadow a larger rockfall event.

5. CSA is providing the LPOA with the following emergency phone numbers and email addresses for key personnel available for contact 24 hours a day and these key personnel should be notified immediately if conditions on the slope deteriorate:

John Wallace – jwallace@cottonshires.com, cell: 408-348-5688, direct office line: 408-354-5542X303;

Joe Durdella – mjurdella@cottonshires.com, cell: 408-221-6016, direct office line: 408-354-5542X211; and

Patrick Shires – cottonshires@me.com, cell: 408-981-5060, direct office line: 209-736-4252.

LIMITATIONS

Our services consist of professional opinions and conceptual recommendations made in accordance with generally accepted engineering geology and geotechnical engineering principles and practices. No warranty, expressed or implied, or merchantability or fitness, is made in or intended connection with our work, by the proposal for consulting or other services, or by the furnishing of oral or written reports or findings.

We trust that this provides you with the information that you need at this time. If you have any questions regarding this letter, please feel free to call us.

Respectfully submitted,

COTTON, SHIRES AND ASSOCIATES, INC.



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