



19 February 2015

Mr. Eric Dausman
General Manager
Sutro Tower Inc.
1 La Avanzada Street
San Francisco, CA 94131

Project 067199.11 – Condition Assessment of Sutro Tower, 2014 Inspections

Dear Eric:

At your request, Simpson Gumpertz & Heger Inc. (SGH) provided oversight and engineering support for tower condition assessment and repair work performed in 2014. Under agreement with the City of San Francisco (the “Standard Conditions”) Sutro Tower performs annual inspections of 1/3 of the tower, consisting of one of the three legs and the horizontal framing on one face, each year. These inspections are rotated such that the entire tower is inspected over a three-year period.

On a five-year schedule, the inspection agreement calls for an in-depth inspection to identify problems which may not be readily detectable with a visual review in the annual inspection, such as evaluation of guy wire tension and inspection of welds of tower leg columns to their base plates. In addition, two years ago, you embarked on a program of temporary removal of enclosing siding on tower levels located within the typical elevations impacted by fog, so that detailed evaluation of corrosion on normally obscured surfaces could be performed. This work continued into 2014.

In past years, CEL Consulting Engineers provided inspection of the tower, under our direction and review. Recently, you retained Tower Consultants Incorporated (TCI) to perform these inspections. CEL continues to provide nondestructive examination (NDE) of welds.

In a meeting with the neighborhood liaisons in March 2014, it was agreed that the 2014 inspections would encompass two tower legs and two tower faces. TCI performed inspection of Leg A, Stack A, and the north face trusses, as well as Leg C, Stack C and the south face trusses. Leg B and the east face trusses were inspected in 2013. In addition to the inspections of Leg A, Leg C and the north and south faces, this year’s work also included evaluation of guy wire tension and base weld NDE.

SGH provided TCI and Sutro Tower with inspection protocols and a series of standard forms for recording their observations. As the work progressed, TCI provided us reports of their corrosion measurements and other structural findings. We made calculations as necessary to determine if corrective action was required. TCI found one bent brace member which we determined required repair, which was done. Also, cracking of a seal weld in a column to base plate joint was detected and repaired. In addition, we performed a testing program in our laboratory to determine the extent of fastener corrosion that can be tolerated without compromise of bolted joint integrity. TCI replaced numerous bolts where corrosion exceeded these criteria, as well as

bolts they judged easier to replace than to clean. We directed repair of some items, not deemed critical to structural safety, as part of routine maintenance in the next year.

TCI has provided three reports summarizing their work:

1. Detailed inspection report for Leg A, Stack A and North Face Trusses (2014 “Annual Inspection” as required by the Standard Conditions).
2. Detailed inspection report for Leg C, Stack C and South Face Trusses (2015 “Annual Inspection” as required by the Standard Conditions).
3. Summary report confirming repairs made during the course of this work as well as tensioning of guy wires and NDE of column bases (2014 “In-depth Inspection” as required by the Standard Conditions).

We have reviewed these reports and determined that they accurately portray the work performed in 2014, the tower’s present condition, and our recommendations to address items found in disrepair.

Sincerely yours,



Ronald O. Hamburger, S.E.
Senior Principal
CA License No. 2951 (Structural)

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