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BEFORE THE
BOARD FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS
DEPARTMENT OF CONSUMER AFFAIRS
STATE OF CALIFORNIA

In the Matter of the Accusation Against: **THOMAS HENRY LUTGE** 1632 Ulloa Street San Francisco, California 94116 **Civil Engineer License No. C 39743** **Structural Engineer License No. S 3160** Respondent.	Case No. 859-A **SECOND AMENDED ACCUSATION**

Complainant alleges:

PARTIES

1. David E. Brown (Complainant) brings this Accusation solely in his official capacity as the Executive Officer of the Board for Professional Engineers and Land Surveyors, Department of Consumer Affairs.

2. On or about August 23, 1985, the Board for Professional Engineers and Land Surveyors issued Civil Engineer License Number C 39743 to Thomas Henry Lutge (Respondent). The Civil Engineer License was in full force and effect at all times relevant to the charges brought herein and will expire on December 31, 2009, unless renewed.

3. On or about November 19, 1988, the Board for Professional Engineers and Land Surveyors issued Structural Engineer License Number S 3160 to Thomas Henry Lutge

(Respondent). The Structural Engineer License was in full force and effect at all times relevant to the charges brought herein and will expire on December 31, 2011, unless renewed.

JURISDICTION

4. This Accusation is brought before the Board for Professional Engineers and Land Surveyors (Board), Department of Consumer Affairs, under the authority of the following laws. All section references are to the Business and Professions Code unless otherwise indicated.

5. Section 6775 of the Code states, in pertinent part, that "[T]he board may reprove, suspend for a period not to exceed two years, or revoke the certificate of any professional engineer registered under this chapter:

. . .

(c) Who has been found guilty by the board of negligence or incompetence in his or her practice.

. . .

(h) Who violates any provision of this chapter.

6. Section 6735 of the Code States:

"(a) All civil (including structural and geotechnical) engineering plans, calculations, specifications, and reports (hereinafter referred to as "documents") shall be prepared by, or under the responsible charge of, a licensed civil engineer and shall include his or her name and license number. Interim documents shall include a notation as to the intended purpose of the document, such as "preliminary," "not for construction," "for plan check only," or "for review only." All civil engineering plans and specifications that are permitted or that are to be released for construction shall bear the signature and seal or stamp of the licensee and the date of signing and sealing or stamping. All final civil engineering calculations and reports shall bear the signature and seal or stamp of the licensee, and the date of signing and sealing or stamping. If civil engineering plans are required to be signed and sealed or stamped and have multiple sheets, the signature, seal or stamp, and date of signing and sealing or stamping shall appear on each sheet of the plans. If civil engineering specifications, calculations, and reports are required to be signed and sealed or stamped and have multiple pages, the signature, seal or stamp, and date of signing

and sealing or stamping shall appear at a minimum on the title sheet, cover sheet, or signature sheet."

. . ."

7. Section 6749 of the Code States:

"(a) A professional engineer shall use a written contract when contracting to provide professional engineering services to a client pursuant to this chapter. The written contract shall be executed by the professional engineer and the client, or his or her representative, prior to the professional engineer commencing work, unless the client knowingly states in writing that work may be commenced before the contract is executed. . ."

COSTS

8. Section 125.3 of the Code provides, in pertinent part, that the Board may request the administrative law judge to direct a licentiate found to have committed a violation or violations of the licensing act to pay a sum not to exceed the reasonable costs of the investigation and enforcement of the case.

9. Section 419 of the Title 16, California Code of Regulations states in pertinent part:

"In addition to the disciplinary orders described in this section, all decisions shall address recovery of the Board's investigation and enforcement costs, as described in and authorized by Business and Professions Code section 125.3."

FACTUAL BACKGROUND

10. Respondent entered into two with contracts Robert and Christina Adams. One contract was for engineering work on the Adamses' property located at 359-361 Lombard St. San Francisco. The other contract was for construction work on the same Adamses' property. The contract for engineering services was not signed by the Adamses. This Accusation deals solely with the engineering services provided by Respondent. Respondent prepared several sets of calculations and drawings for the Adamses including those described in paragraphs 11-16.

11. Respondent prepared a set of calculations dated November 10, 2005, entitled "STRUCTURAL CALCULATIONS FOR: STRUCTURAL REHABILITATION WITH NEW

SEISMIC UPGRADE/UMB WALL REMOVAL ADAMS RESIDENCE 359-361 LOMBARD STREET SAN FRANCISCO, CA 94133." This set of calculations was 62 pages long.

12. Respondent prepared a set on calculations dated November 10, 2005, entitled "STRUCTURAL CALCULATIONS FOR: BLOCK: 78 LOT: 41 EXISTING GARAGE EXTENSION UNDER REAR OF EXISTING BUILDING ADAMS RESIDENCE 359-661 LOMBARD STREET SAN FRANCISCO, CA 94133." This set of calculations was 39 pages long.

13. Respondent prepared a 13 page set of calculations dated July 24, 2006 (pages 8 and 9 were dated November 10, 2005), entitled "PLAN CHECK COMMENT RESPONSE FOR: DEPARTMENT OF BUILDING INSPECTION."

14. Respondent prepared drawings dated October 22, 2005, entitled "STRUCTURAL REHABILITATION WITH NEW SEISMIC UPGRADE/UMB WALL REMOVAL ADAMS RESIDENCE 359-361 LOMBARD STREET SAN FRANCISCO, CA 94133." These Drawings are numbered R-1 to R-3 and S1-S13.

15. Respondent prepared additional drawings dated October 22, 2005, entitled "STRUCTURAL REHABILITATION WITH NEW SEISMIC UPGRADE/UMB WALL REMOVAL ADAMS RESIDENCE 359-361 LOMBARD STREET SAN FRANCISCO, CA 94133." These drawings are numbered A1 to A9, S1 to S4, S4-A, S4-B, S5 to S-13, and R1-R3.

16. Respondent prepared drawings dated November 2, 2005, November 10, 2005 and October 22, 2005, entitled "EXISTING GARAGE EXTENSION UNDER REAR OF EXISTING BUILDING ADAMS RESIDENCE 359-661 LOMBARD STREET SAN FRANCISCO, CA 94133." These drawings are numbered A1 to A9, S1 to S11.

17. In general the drawings and calculations contain numerical errors, omissions, and incorrect methodology used in design and engineering.

FIRST CAUSE FOR DISCIPLINE

(Negligence)

18. Respondent is subject to disciplinary action under section 6775(c) of the Code in that Respondent was involved in negligence in the practice of professional engineering. The set of

calculations described in paragraph 11, above, contain errors that constitute negligence. The errors in the calculations that constitute negligence are as follows:

a. On page 32: The design of the wall stem neglects the effect of any vertical loads. In the calculation U, the value of D (dead load) is ignored even though the value of the dead load was derived and shown on the previous page, page 31.

b. On page 32: The calculation of the moment capacity of the wall stem is based on a wall thickness of 11.25". However drawings described in paragraphs 14, 15 (page S6, detail C) indicate that the wall thickness is actually 10". Therefore there is a discrepancy between the design assumption on page 32 and the specified detail on page S6 of the drawings. The moment capacity based on the wall thickness of 10" does not meet the demand requirements and the wall is undersized.

c. The strength of concrete called out in the calculations on page 32 is f'c = 2500 psi for the design of the retaining wall. However there is a discrepancy with the General Notes on the structural drawings which calls out concrete strength as f'c = 3000 psi (Sheet S1 of the drawings described in paragraphs 14 and 15).

d. On page 37: Respondent failed to specify the angle of inclination of the rock anchor shown on this page or generate any calculations to determine the actual embedment lengths needed for both the bond zone and non-bond zone. While Respondent did indicate the methodology for determining the appropriate lengths on sheet S11 of the drawings described in paragraphs 14 and 15, Respondent failed to provide engineering analysis and justification for the final design.

e. On page 50: Respondent failed to include calculations as to how the wind loads were determined. Respondent included no justifications for the wind load values chosen. Furthermore Respondent omitted wind loads for an entire floor. Respondent assumed a conservative value for wind load which is more in line with engineering judgment than with rigorous engineering analysis or design. The distribution of lateral loads to the wood shear walls in the longitudinal direction was not shown or justified.

f. On page 57: The formula given for the calculation of uplift force, Pup, is incorrect. Additionally, there was no derivation of the forces resisted by the shear walls. Respondent assumed and failed to justify the forces used in the calculations.

SECOND CAUSE FOR DISCIPLINE

(Incompetence)

19. Respondent is subject to disciplinary action under section 6775(c) of the Code in that Respondent was involved in incompetence in the practice of professional engineering. The set of calculations described in paragraph 11, above, contain errors that constitute incompetence. The errors in the calculations that constitute incompetence are as follows:

a. On pages 29 and 46: The cross sections of the building shown on pages 29 and 46 are both missing one complete floor level. The design loads generated from this floor was omitted in calculations related to lateral design presented on page 46.

b. On Page 36: The design of a critical new concrete retaining wall shown on this page and on page S4 of the drawings described in paragraph 14 was completely omitted from the calculations.

THIRD CAUSE FOR DISCIPLINE

(Negligence)

20. Respondent is subject to disciplinary action under section 6775(c) of the Code in that Respondent was involved in negligence in the practice of professional engineering. The set of calculations described in paragraph 12, above, contain errors that constitute negligence. The errors in the calculations that constitute negligence are as follows:

a. On pages 24 to 25: The design of the mat slab is inconsistent with the design drawings described in paragraphs 14 and 15 above. The spacing of the reinforcing rebar is closer in the calculations (4 inches) than it is on Page S6 and S7 of the drawings (12 inches).

b. On page 33: The lateral soil pressure diagram present on this page and used for design of the rear wall is inconsistent with the pressure diagram given on page 36 of the calculations described in paragraph 11. The soil pressures shown on this page (page 33) do not

include the top 6 feet of soil pressure shown on page 36, consequently, the design values used were incorrect.

c. On page 36: Respondent failed to specify the angle of inclination of the rock anchor shown on this page or generate any calculations to determine the actual embedment lengths needed for both the bond zone and non-bond zone. While Respondent did indicate the methodology for determining the appropriate lengths on sheet S11 of the drawings described in paragraphs 14 and 15, Respondent failed to provide engineering analysis and justification for final design.

FOURTH CAUSE FOR DISCIPLINE

(Incompetence)

21. Respondent is subject to disciplinary action under section 6775(c) of the Code in that Respondent was involved in incompetence in the practice of professional engineering. The set of calculations described in paragraph 12, above, contain errors that constitute incompetence. The errors in the calculations that constitute incompetence are as follows:

a. On page 21: The cross section of the building is missing one complete floor level. The design loads generated from this missing floor were omitted in calculations.

FIFTH CAUSE FOR DISCIPLINE

(Negligence)

22. Respondent is subject to disciplinary action under section 6775(c) of the Code in that Respondent was involved in negligence in the practice of professional engineering. The set of calculations described in paragraph 13, above, contain errors that constitute negligence. The errors in the calculations that constitute negligence are as follows:

a. On page 10: Respondent omitted the live load in the calculation of factored loads for the existing footing that spans 6 feet. There is live load associated with the floor load to this part of the slab and the wood framed floor attached to the deep beam footing (shown on page 9). The live load does not add significantly to the overall total load but should have been considered and included in the demand calculations.

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SIXTH CAUSE FOR DISCIPLINE

(Negligence)

23. Respondent is subject to disciplinary action under section 6775(c) of the Code in that Respondent was involved in negligence in the practice of professional engineering. The set of drawings described in paragraph 14, above, contain errors that constitute negligence. The errors in the calculations that constitute negligence are as follows:

a. On sheet S1 (General Notes Page): This page calls for different concrete strengths for different concrete elements. This page has concrete strengths of f'c=2,500 psi for footings and slabs on grade, f'c= 3,000 for "all other concrete", and f'c= 4,000 for columns and waffle slabs. However the calculations for all concrete elements is based on concrete strength of f'c= 2,500 psi. The calculations do not have concrete elements with f'c = 3000 psi, and f'c = 4000 psi despite being called out on the General Notes.

b. On sheet S4: The size of the temporary shoring beam shown on existing 2nd floor framing plan is not called out and the design of this beam was lacking in the calculations.

c. On sheet S6: There are two values given for the retaining wall thickness found in detail C. One value given is 10' and the next value is 11.25".

d. On sheet S7: In details B & C, the angle of inclination of the steel anchor and rock bolt are missing. In addition, the details of end anchorage bearing against the concrete wall are missing and were not designed.

SEVENTH CAUSE FOR DISCIPLINE

(Incompetence)

24. Respondent is subject to disciplinary action under section 6775(c) of the Code in that Respondent was involved in incompetence in the practice of professional engineering. The set of drawings described in paragraph 14, above, contain errors that constitute incompetence. The errors in the calculations that constitute incompetence are as follows: Detail A, on sheet S5, is missing a floor level.

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EIGHTH CAUSE FOR DISCIPLINE

(Negligence)

25. Respondent is subject to disciplinary action under section 6775(c) of the Code in that Respondent was involved in negligence in the practice of professional engineering. The set of drawings described in paragraph 15, above, contain errors that constitute negligence. The errors in the calculations that constitute negligence are as follows:

a. On sheets A4 to A9: On the proposed 1st level floor plan on Sheet 4A, the new elevator is specified as 'New National Wheelvator "Epic" Residential Elevator.' This is in direct contrast to elevator specifications given on sheets A5 to A9, which call for a Concord Infinity Residential Elevator. There are no structural calculations or designs generated to determine if the wall studs, framing and the structural system is adequate or must be strengthened to support the new (Concord Infinity) elevator loads.

b. On sheet S1 (General Notes Page): This page calls for different concrete strengths for different concrete elements. This page has concrete strengths of f'c=2,500 psi for footings and slabs on grade, f'c= 3,000 for all other concrete, and f'c= 4,000 for columns and waffle slabs. However the calculations for all concrete elements is based on concrete strength of f'c= 2,500 psi. The calculations do not have concrete elements with f'c = 3000 psi, and f'c = 4000 psi despite being called out on the General Notes.

c. On sheet S4: The size of the temporary shoring beam shown on existing 2nd floor framing plan is not called out and the design of this beam was lacking in the calculations.

d. On sheet S6: There are two values given for the retaining wall thickness found in detail C. One value given is 10' and the next value is 11.25".

e. On sheet S7: In details B & C, the angle of inclination of the steel anchor and rock bolt are missing. In addition, the details of end anchorage bearing against the concrete wall are missing and were not designed.

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NINTH CAUSE FOR DISCIPLINE

(Incompetence)

26. Respondent is subject to disciplinary action under section 6775(c) of the Code in that Respondent was involved in incompetence in the practice of professional engineering. The set of drawings described in paragraph 15, above, contain errors that constitute incompetence. The errors in the calculations that constitute incompetence are as follows: Detail A on sheet S5 is missing a floor level.

TENTH CAUSE FOR DISCIPLINE

(Negligence)

27. Respondent is subject to disciplinary action under section 6775(c) of the Code in that Respondent was involved in negligence in the practice of professional engineering. The set of drawings described in paragraph 16, above, contain errors that constitute negligence. The errors in the calculations that constitute negligence are as follows:

a. Sheets A5 to A9: The specific type of Concord Infinity Residential Elevator to be installed in the subject residence is not called out in the drawings. There are no structural calculations or design generated to determine if the wall studs, framing and the structural system are adequate or must be strengthened to support the new elevator loads.

b. On sheet S1 (General Notes Page): This page calls for different concrete strengths for different concrete elements. This page has concrete strengths of f'c=2,500 psi for footings and slabs on grade, f'c= 3,000 for "all other concrete", and f'c= 4,000 for columns and waffle slabs. However the calculations for all concrete elements is based on concrete strength of f'c= 2,500 psi. The calculations do not have concrete elements with f'c = 3000 psi, and f'c = 4000 psi despite being called out on the General Notes.

c. On Sheet S2: Concrete specified under the "Concrete Quality" table does not correspond to the values used in the calculations. Based on the calculations, all concrete strengths should be fc = 2,500 psi.

f. On sheet S5: In details B & C, the angle of inclination of the steel anchor and rock bolt are missing. In addition, the details of end anchorage bearing against the concrete wall

are missing and were not designed.

ELEVENTH CAUSE FOR DISCIPLINE

(Failure to Obtain Signed Contract)

28. Respondent is subject to disciplinary action under section Respondent is subject to disciplinary action under sections 6775(h) and 6749 of the Code in that Respondent failed to obtain a written contract signed by all of the parties. The written contract Respondent had with Robert and Christina Adams for engineering services was never actually signed by the Adamses.

TWELFTH CAUSE FOR DISCIPLINE

(Failure to Appropriately Mark the Drawings and Calculations)

29. Respondent is subject to disciplinary action under section Respondent is subject to disciplinary action under sections 6775(h) and 6735 of the Code in that Respondent failed to mark the drawing and calculations described in paragraphs 11-16 as preliminary. Respondent stamped all of the documents described in paragraphs 11-13, and 16, yet claims these documents were incomplete, interim documents. However Respondent failed to mark "preliminary," "not for construction," "for plan check only," "for review only," or some other similar notation indicating the drawings and calculations were not complete.

PRAYER

WHEREFORE, Complainant requests that a hearing be held on the matters herein alleged, and that following the hearing, the Board for Professional Engineers and Land Surveyors issue a decision:

1. Revoking or suspending Civil Engineer License Number C 39743, issued to Thomas Henry Lutge.

2. Revoking or suspending Structural Engineer License Number S 3160, issued to Thomas Henry Lutge.

3. Ordering Thomas Henry Lutge to pay the Board for Professional Engineers and Land Surveyors the reasonable costs of the investigation and enforcement of this case, pursuant to Business and Professions Code section 125.3;

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4. Taking such other and further action as deemed necessary and proper.

DATED: 11/17/10

Original Signed

DAVID E. BROWN
Executive Officer
Board for Professional Engineers and Land Surveyors
Department of Consumer Affairs
State of California
Complainant

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