

# OBSERVATION LETTER

August 22, 2023

Phone: 323-346-9111

**Re: 709 Paseo Del Mar Palos Verdes Estates CA, 90274**

This letter has been prepared for Alexandra Lieberman, as a follow-up to our site visit on August 17<sup>th</sup>, 2023, and summarizes the findings of our visit.

This letter is limited to visible signs of structural or geotechnical damage or distress and is not intended analyze the overall ability of the structure(s) to withstand future loading conditions. It should also be noted that this site visit did not include a review of original or renovation structural plans, or the benefit of a current subsurface investigation (soils report), as they were not made available. The observation was conducted on a visual basis, however, a ZIPLEVEL Pro-2000B High Precision Altimeter was used to measure variations in floor elevations.

Regardless of opinions stated, written, or implied by any representative of Alpha Structural Inc., no building elements or structure obscured or covered by anything may be commented relied upon in any email, report or Observation Letter issued. This includes but is not limited to floor structures or slabs covered by carpeting or any floor covering, retaining walls covered by foliage, pools filled with water, etc. If comment is requested of us, please have these areas exposed entirely for observation.

Rough estimates were requested for the various repair options. It should be noted that these estimates are given on a "plus or minus" basis and are not actual bids. In order to acquire an exact price, an option would need to be chosen, and an accurate bid undertaken in order to ascertain the price therein.

## GENERAL:

- The subject property is a 4,878 sq. ft. two-story single-family dwelling originally built in 1970 according to the Los Angeles County Assessor records.
- The dwelling is in a hillside area and appears to consist of a raised foundation system. However, this could not be confirmed as the crawl space was inaccessible.

## OBSERVATIONS:

### Interior:

- A walk through the interior finished floor appears to consist of a raised foundation system. However, no crawl space entrances could be found along the interior or exterior of the dwelling. It is also possible that the foundation system consists of concrete slab on grade foundation system with built-up framing above the concrete slab; however, neither of these two scenarios could be confirmed. Although the foundation system could not be visually observed, a manometer survey was performed using a ZIPLEVEL Pro-2000B High Precision Altimeter to measure variations in the interior floor elevations. As a result, the manometer detected approximately 4-inches of settlement along the westerly kitchen wall, which exceeds the tolerable limits of 1-inch of settlement within a 20-foot span.
- Some of the interior doors touch and are out of square.
- The attached garage concrete slab on grade was noted to have hairline cracks, which is common and typical. Overall, the concrete slab appeared functional at the time of observation. Above the attached garage is an exterior deck. The deck appears to have tile finished flooring with surface drains. The waterproofing system below the finished tile is not known or visible.
- The westerly second floor balcony occurs over the finished living space of the kitchen below. The waterproofing system used under the decking is not known or visible.

### Exterior:

- The westerly kitchen perimeter walls appear to be out of square with severe cracks or fractures along the westerly return wall adjacent to the ivy vegetation, likely due to the settlement detected by the manometer.
- The westerly deck appears to consist of two caissons and a grade beam. The grade beam appears undermined due to the soil erosion that has occurred below it. The grade beam also appears to have cracks and fractures, likely due to the settlement and shifting in this general area. The caisson embedment depth below grade is not known. Adjacent to the grade beam is a CMU (concrete masonry unit) retaining wall for the stairs, and this wall has had substantial movement and is breaking apart. The perimeter retaining walls along the handrail for the stairs are also fractured, settling and in distress. The northwesterly retaining walls adjacent to the deck are also leaning, settling, and shifting, likely due to the lack of adequate footing embedment's. Much of the westerly deck framing appears to have been previously lifted to adjust the floor levels of the deck with multiple 50-ton jacks. The northwesterly section of the deck appears to consist of joist framing in close proximity or in contact with the soil. Prolonged earth to wood contact can lead to rot and decay of timber. Various degrees of deterioration the deck framing was observed along the outer rim, joist, and beam members along with rust or corrosion to hardware components. It appears that the City of Palos Verdes Estates does not have permit records for the westerly deck.
- An eave gutter system with downspouts that connect to a subgrade drain line was observed along the perimeter. Channel drains and surface drains were also noted along the perimeter of the dwelling.
- Planter beds or lawn, adjacent to the easterly perimeter foundation was observed, which can lead to an oversaturation of soil and lead to potential foundation settlement and deterioration.
- Cracking of the exterior smooth finish stucco/plaster was observed.

## RECOMMENDATIONS:

- Due to the hillside condition and settlement observed, a soil and geology report with kinematic analysis of the westerly slope, or geological inspection while in escrow is highly recommended. The soils report will identify the composition of the on-site soil, depth to suitable material, past grading operations, perimeter foundation's depth below grade, and stability of the westerly slope.
- Due to the substantial settlement and exterior fractures of the perimeter stem/retaining wall observed along the westerly kitchen area, a partial foundation replacement/underpinning on deepened pile and grade beam foundations is recommended. This would consist of installing deepened pile and grade beam foundations that extend into competent suitable material to support and stabilize westerly section of the dwelling, adjacent to the slope. It should be noted that the findings of the soil and geology report will determine if this option can be utilized as it might be discovered after geological exploration and that this option is not feasible due to possible unfavorable soil conditions.
  - Estimated cost approximately: +/- \$8,000. (Engineering and permit expediting for pile and grade beam replacement/underpinning system – Does not include plan check or permit fees. Estimated costs of construction cannot be determined at this time and can be provided upon completion of a soils report in order to have a full understanding of the slope stability and on-site soil conditions.)
- If maintaining the westerly rear deck is desired, then a rebuild of the deck will be required on deepened pile foundations that extend into competent suitable material/bedrock. Pile foundations will also be required for the northwesterly section of the deck where non-conforming substandard framing was observed without adequate foundations. It should be noted that the findings of the soil and geology report will determine if this option can be utilized as it might be discovered after geological exploration and that this option is not feasible due to possible unfavorable soil conditions.
  - Estimated cost approximately: +/- \$6,000. (Engineering and permit expediting for pile and grade beam underpinning system – Does not include plan check or permit fees. Estimated costs of construction cannot be determined at this time and can be provided upon completion of a soils report in order to have a full understanding of the slope stability and on-site soil conditions.)
- It is recommended to remove and replace the westerly distressed retaining walls. This would consist of installing a pile and grade beam supported reinforced concrete retaining walls with pile foundations that extend into competent suitable material. It should be noted that the findings of the soil and geology report will determine if this option can be utilized as it might be discovered after geological exploration and that this option is not feasible due to possible unfavorable soil conditions.
  - Estimated cost approximately: +/- \$6,000. (Engineering and permit expediting – Does not include plan check or permit fees. Estimated costs of construction cannot be determined at this time and can be provided upon completion of a soils report in order to have a full understanding of the slope stability and on-site soil conditions.)
- It is recommended to install a concrete hardscape system adjacent to the perimeter foundation while sloping away from the boundaries of the dwelling at a two percent slope at all planter bed/lawn locations, to mitigate deterioration and settlement of the perimeter foundation. Surface drains can also be

recommended, that connect to an existing or new subgrade drain line and outlet at the street or an approved location.

- Estimated cost approximately: +/- \$9,000.
- It is recommended to ensure that all exterior hardscapes are sloping away from the perimeter foundation at a two percent slope to protect the perimeter foundation. Remove, regrade, and reinstall as needed to achieve correct sloping.
- It is recommended to pull up a section of the finished flooring to determine whether there is a crawl space consisting of a raised foundation system, or whether the foundation system consists of concrete slab on grade foundation system. If a raised foundation system is confirmed, then it is recommended to create crawl space entry points as needed so that a thorough observation of the perimeter foundation can be completed. It should be noted that if a concrete slab on grade foundation system is found, then sections of the concrete slab will likely have cracked due to the settlement that was captured by the manometer.
- Although visible signs of moisture were not observed at the time of observation, it is recommended to hire a moisture detection specialist to ensure that moisture is not seeping through any of the second-floor balconies or decks that occur over finished living space below.
- It is recommended to hire an appropriate contractor to ensure that all downspouts, subgrade drain lines, and surface drains, are in proper working condition. Flush or inject lines as needed.
- It is recommended to hire a licensed termite and mold specialist to examine all exterior framing components such as the roof, roof eaves, exterior balconies, and exterior patios. Sister or replace framing as needed.
- It is recommended to contact the City of Palos Verdes Estates to verify permit status of all changes or additions to the original structure including the westerly deck.

Thank you for the opportunity to be of service. Should you or any of your authorized agents have any questions, please feel free to call or email anytime.

Sincerely,



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