

Date: June 27, 2024

To: Patrick Faverty
San Simeon Community Services District

Project: Beach Access Stairs
Pico Avenue
San Simeon, CA

AV Job #: 240978

Subject: Pico Avenue Beach Access Stairs Observation

Dear Patrick,

As requested, representatives of our office visited the site at the address referenced above on May 24, 2024 to observe the concrete beach access stairs at the west end of Pico Avenue. Representatives of the San Simeon CSD were in attendance as well. The existing stair construction appears to consist of concrete stair treads (reinforcement unknown), concrete landings (reinforcement unknown) and wood guardrails fastened to the stairs. Adjacent to the stairs, there is a gabion rock wall of unknown length on the north side, and rock slope protection of unknown length on the south side.

While on site, significant concrete cracking, concrete deterioration, guardrail damage, undermining of the stair supports and bluff erosion was observed (All Figures). The stairs were viewed from above (Figure 1 & Figure 6), as well as from the beach (Figure 2). It is our assumption that the deterioration of the stairs has likely been caused by exposure to the surrounding environment and natural elements, such as wind, wave impact, and salt water.

At the time of the observation, the stairs were damaged and in poor condition, and we consider their current state to be a concern for public use. The concrete stairs and upper slab appeared to be reinforced with rebar; however, the size, spacing, and grade of rebar is unknown. Due to the extent of cracking, the reinforcing steel may be subject to potential corrosion. The integrity of the concrete may also be compromised, affecting the overall stability and safety of the stairs and upper slab.

The condition of the wood guardrails varied with some sections being completely unusable. Multiple guardrail posts were cracked and failing at their connections to the concrete (Figure 4), compromising their ability to resist lateral forces and presenting a safety hazard to users. These deteriorated connections increase the risk of the guardrails detaching from the stairs under minimal force, posing a significant fall hazard.

Rock slope protection (RSP) and a gabion rock wall appeared to be used for earth retention both underneath and immediately adjacent to the stairs. Portions of the RSP were mixed with a cementitious material to create a composite element. Severe erosion was observed below the composite RSP element on the south side of the stairs, causing the RSP element to cantilever, or remain suspended, over the adjacent ground (Figure 5). It is our opinion that the RSP was not intended for a cantilever condition and should be replaced or properly supported. The undermining of the RSP creates a significant hazard, potentially leading to sudden failure, which could pose a safety risk and further exacerbate the erosion issues.



In conclusion, it is our opinion that the stairs should be removed and/or replaced due to the potential risks associated, as explained in this memorandum.

Please note, these findings and opinions are based upon a visual observation of the immediate area around the referenced beach access stairs. No analyses, for vertical or lateral forces, were performed. The above opinions are based on our professional experience in the field of structural engineering. These opinions, conclusions, and recommendations may be revised, as necessary, if and when additional information becomes available.

This observation memorandum, and the opinions and findings herein, may not be construed as a warranty or guarantee of the structure's existing capacity or its performance under future events or circumstances.

Please do not hesitate to contact my office if you have any further questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ian Shoebridge', is written over a light blue horizontal line.

Ian Shoebridge, SE
Principal Engineer
(805) 545-0010 x 116

List of Figures



Figure 1



Figure 2



Figure 3



Figure 4



Figure 5



Figure 6