MCPHERSON
Engineering Design

September 20, 2021

Mr. Tim Evans
Planning and Inspections Director
Town of Holden Beach
110 Rothschild Street,
Holden Beach, NC 28462

RE: Report of Engineering Services - Building Assessment
Holden Beach Fishing Pier
441 Ocean Boulevard West, Holden Beach, NC 28462

Dear Mr. Evans,

I was on site September 17, 2021 to observe the existing building at the above mentioned address. The purpose of the visit was to perform visual observations to assess the building for possible future use.

The building was constructed in three sections at different times. The original structure was built in 1960 and is the center section of the building. This portion of the building was constructed on a low crawl space with a cmu foundation wall, wood framed floor, exterior load bearing wood walls, and wood roof system. The west end of the building was constructed later. The wood roof system is bearing on beams and round pilings and the walls are wood framed and appear to be non-load bearing curtain walls. The floor is concrete slab on grade. The exterior walls are supported by two or three courses of cmu. According to the owner, the west end may have been an open, covered pavilion at one time. The east end of the building was also added later and is constructed of a concrete slab on grade floor, low cmu wall, and load bearing wood framed wall and roof system.

According to Mr. Gil Bass, the current owner, the building has experienced 3 floods in it's 60-year lifetime. The building overall is in poor condition. The following observations are noted for each of the main building systems.

Foundation

The cmu foundation walls are damaged in multiple locations. Cracks in the mortar, misaligned blocks, and cracks in the concrete floor slab were observed. See Figure 1, Figure 2, and Figure 3. The crawl space foundation in the original section of the building was not accessible because sand has inundated the space below the building. Excavation was not within the scope of this report, therefore concrete footings were not observed, if present.

Floor

The condition of the wood framed floor system was not visually observed from the crawl space as noted above. However, the crawl space is not performing as intended, as sand has filled the space. The floor is not level, bowing in some locations, and soft spots were observed in at least one location that indicate the presence of deteriorated wood. See Figure 5. The concrete floor slab on grade is cracked and damaged in multiple locations. See Figure 4.

Walls

The wood framed walls are covered with various finish materials on the inside and outside and therefore the framing, foundation tie downs (if present), and condition of the wood were not observed. However, there are no flood vents in the building and the walls would likely not withstand the code required flood and wind loading without failure.

Roof

There is a small breach in the rear soffit of the building that shows the roof members in that location to be 2x wood framing (see Figure 6). The roof member attachment to the supporting beams is covered with finish materials and could not be observed. Further observation is needed to assess the structural integrity of the roof.

Conclusion

Based on my observations, the wood framed floor system in the original section of the building on the crawl space could not be repaired and may be demolished. It follows that the smaller east side addition may also be demolished.

The west side addition, which is supported by beams and pilings, may be able to be salvaged. This would require a pile study and further assessment and analysis of the beams and roof system to determine if the existing piles are adequate to support anticipated loading conditions.

Thank you for the opportunity to provide engineering services. If you require additional information, please feel free to contact me at (910)840-1444.

Sincerely,

Anna Rose McPherson, PE

Figure 1: Cracks in mortar at foundation wall

Figure 2: Misaligned blocks at foundation wall

Figure 3: Damaged foundation wall

Figure 4: Cracks and damage to concrete slab on grade.

Figure 5 Bow in wood floor system.

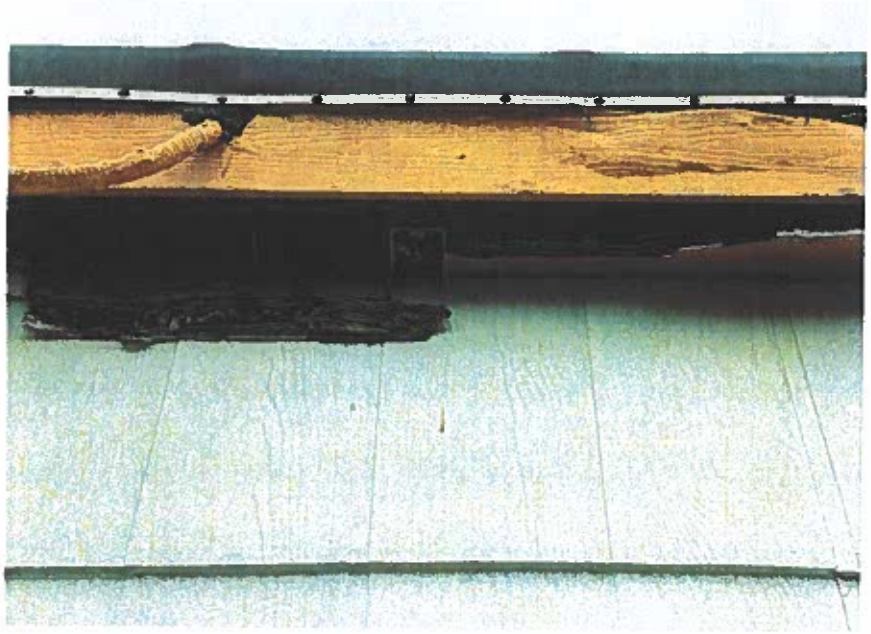

Figure 6: Damage to rear soffit

Figure 7: Wood piling and beam construction