



May 12, 2023

Ryan Nolting
Director, Parks and Recreation
City of Sanger, Texas
301 Bolivar St
Sanger, TX 76266

Re: Sullivan Senior Center
AVO: 37449.004

Dear Mr. Nolting:

Per your request, Halff visited the Sullivan Senior Center (SSC) at 200 Bolivar St in Sanger on March 20. The intent of the visit was to observe the condition of the roof framing throughout the building and the floor framing at the rear or south end of the building. According to you, the roofing was due for replacement and the selected contractor had concerns about the condition of the structure that needed to be addressed before attempting the work. In addition, the SSC staff wanted to move equipment into the rear of the building so there was a need to confirm the capacity of the floor in that area.

General Observations

The building is a single-story structure located at the southwest corner of Bolivar St and N 2nd St in Sanger, TX. (See Photo 1)



Photo 1 - Sullivan Senior Center looking southwest

The structure's age is unknown. In plan, the building is roughly 24 feet wide and 88 feet long, measured east to west and north to south, respectively. The perimeter walls of the building are constructed of masonry (mortared stone and brick), with a stucco veneer on the exterior.

The interior space is separated into two large rooms by another masonry wall about 54 feet from the front of the building. The front room measures roughly 22 feet wide by 54 feet long, while the rear room is approximately 24 feet wide by 32 feet long. The floors are covered in carpeting; the floor in the front room appears to be a concrete slab while the rear room appears to be supported on timber framing. Acoustic ceiling tiles are suspended from the structure throughout the building. Access to the timber roof and ceiling framing was achieved via ladder while reaching above the acoustic ceiling tiles, making accurate measurements of individual members difficult, especially at the roof level.

The acoustic ceiling tiles visible to occupants hide portions of an old ceiling, including tiles, light fixtures, and electrical wiring. Some of the old tiles are in reasonable condition, but many have fallen completely or in part from the ceiling framing. (See Photo 2)



Photo 2 - View above acoustic ceiling in front room

Given the obviously advanced age of the building, the old ceiling tiles could contain asbestos. ***It is highly recommended that these tiles be tested for the presence of asbestos, especially prior to the removal or repair of any of the roof and ceiling framing.***

Floor Observations

As mentioned above, the rear of the building has a carpeted floor that is likely supported on timber. A small mechanical closet along the masonry wall that divides the rear of the building from the front provides a limited view of the floor sheathing, but little else. There is no apparent access to the crawlspace that likely exists beneath the floor, so the actual construction of the floor system was not observed and remains unknown. If access is made to this crawlspace later, Halff would be pleased to observe the floor system and report on its capacity and condition. Until then, its capacity remains unknown.

Roof and Ceiling Framing Observations

The building roof is framed in timber and is connected to additional timber framing that supports the ceiling. The main framing elements are supported by the perimeter masonry walls. Roof joists appear to be 2x8 dimensional lumber spaced 24 inches apart. The joists are supported at mid-span by the ceiling framing resulting in 11-foot spans at the front of the building and 12-foot spans at the rear of the building. The ceiling at the front of the building appears to be supported by 2x14 dimensional lumber at 16 inches on center, while the ceiling at the rear of the building appears to be supported by 2x8 dimensional lumber at 24 inches on center. Posts constructed of single 2x4s transfer load from the roof to the ceiling framing. (See Photo 3)



Photo 3 - View between ceiling framing and roof joists in back room

The condition of the framing varies depending on location. At the rear of the building, the joists and decking show significant discoloration and deterioration in places, especially at the southwest corner. It is apparent that water and insects have penetrated the roofing system over time, causing damage to both the roof and ceiling framing. In addition, the ceiling tiles (both levels) show signs of dripping and ponding water.

Analysis

The roof and ceiling framing has been analyzed to determine the capacity of the structure. In our analysis, we considered the self-weight of the structure (i.e., its own weight), wind loads, and roof live loads, which account for the use or repair of the structure. (This would include the temporary storage of repair materials.) When we considered these loads in combinations appropriate to the local building code, the 2018 International Building Code, we determined that the framing at the rear of the building is significantly overstressed and needs to be replaced. In fact, there was such a concern for this framing that we sent you a memo on April 5 outlining our concerns and recommending that the rear of the building be closed until the roof and ceiling framing could be replaced. The portion of the roof and ceiling framing at the front of the building is not such a concern that the building be completely closed, but we do recommend that this framing also be replaced. The reason is that this framing is not adequate for the roof live loads anticipated during the roofing repair. This means that the front portion of the roof should NOT be accessed or used for the storage of any materials, including repair materials. Access to the roof should be tightly controlled and limited until such time as the roof and ceiling framing are replaced.



Photo 4 - View of damaged/deteriorated roof framing along south wall of rear room



Photo 5 - View of damage/deterioration along ceiling framing from water intrusion at southwest corner of rear room

Conclusion

The Sullivan Senior Center is an aging structure with roof and ceiling framing that has stood the test of time. However, the framing is showing its age and needs to be replaced. (See Photos 4 and 5) As stated previously, we recommend that the rear of the building remain closed for all purposes (except for limited storage) until the roof and ceiling framing are replaced. In addition, we recommend that the roof at the front of the building be closed to all access until the roof and ceiling framing in this area are replaced. If you have any questions, please feel free to contact me at (214) 346-6284.

Sincerely,
HALFF

Eric S. Christiansen

Eric S. Christiansen, PE
Structural Team Leader

