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Moriches–Mastic–Shirley Community Library
407 William Floyd Parkway
Shirley, N.Y. 11967
attn: Kerri Rosalia

Re: Structural Inspection
Main Library Building

Dear Ms. Rosalia:

As per your request I have conducted an inspection of the library building located at 407 William Floyd Parkway in Shirley. The purpose of this inspection was to review the integrity of the structural components within the structure are are readily visible. I was able to review many of the components above the dropped ceilings however, we did not take down sheet rocked areas or concealed portions of the structure.

The majority of the interior structural frame is in good condition. I was able to note several problem areas with the majority limited to exterior steel sections. The problems are listed as critical problems requiring action within the next year. Non critical problems should be addressed with other normal maintenance items.

CRITICAL STRUCTURAL PROBLEMS

1. The steel lintels that support the exterior masonry walls have an excessive amount of corrosion. Several of the lintels need to be dealt with immediately. They may pose a danger. It appears that the steel was never properly painted and no weep holes in the masonry were supplied.. The masonry above the lintel will need to be removed to expose the steel for inspection. The existing steel may be saved. The lintel sections will need to be cleaned and painted at a minimum. The masonry then replaced with the proper weep holes.

2. The main columns supporting the structure at the location of the interior skylite appear to be bent. This may be inherent in the columns since they were installed or due to overloading. The columns and steel above them should be fully exposed and measured for straightness. From the drawing that I have reviewed, there was a column removed from the original structure. It could be that the remaining columns are not sufficient for the new loads. If overloaded, they pose a serious structural problem.

NON - CRITICAL STRUCTURAL PROBLEMS

1. Steel columns that protrude above the roofing membrane show signs of past water leakage and rust. They will need to be cleaned, painted. The roof penetration may require new flashing.
2. The majority of the steel frame, directly below the columns, will require minor cleaning and paint touch up at the connection. There is no lose of steel section nor connection capacity.

I have attached a series of photographs which help to illustrate the problems found. Please review them with this text for a clearer understanding of the problems noted.

Yours truly,

Steven Maresca, P.E.



View of the steel columns at the transition between the old and the new building. I was able to detect some curvature on the old column. This will need to be measured to verify.



View of the column on the opposite side. This column also appeared to be curved. The curvature could be from over loading or could be built into the column from day one. The steel will need to be exposed and measured.



View of a steel lintel at the southwest corner of building. The steel is badly corroded.



This is a closer look at the steel lintel. Note how the steel has pulled away from the masonry. It appears that this lintel has lost much of its strength. The bottom steel plate that we see could be pulled away from the steel frame above.



View of the steel lintel over the main entry. In this case there is a steel girder cantilevered out from the main building. Much of the steel is corroded.



Closer view of the steel connection with the cantilevered girder. Note that much of the corrosion is above the steel, behind the masonry. The masonry will need to be removed to expose all of the steel.



View of the front awning. I was able to note cracks at the intersection of the awning and supporting end wall.



Closer view of the cracks in the finish. The finish should be exposed to determine the cause of the cracking.



View of a curved header at the rear of the building. There is corrosion of the steel along the length of the header.



Closer view of the curved header. There is a steel connection along the length of the lintel. The masonry will need to be removed to inspect, clean and paint the steel.



View of exterior steel lintels at clerestory windows in the original structure. The steel will require cleaning and painting.



View of the lower sections of the same columns. We were able to note leaks below many of these columns. The columns should be cleaned, painted and reflashed if the leaks are active.



View of a main steel girder in the original structure. We noted water staining in the ceiling below. The water is a result of the roof leakage previously noted. There were no signs of steel corrosion. Only a minor clean up and painting will be required.



View of steel girder that cantilevers out past the front wall. There were no signs of corrosion.



View of steel hangers in the newer portion of the building. The cut steel is not of concern. It appears that the hangers are only meant to support the HVAC ducting and a movable wall partition below.



Another view of the cut steel hangers.



Another view of cut steel meant to support the movable partition below.



View of a steel framework that supports the roof top HVAC equipment. There are signs of minor water intrusion. The seals and flashing should be reviewed.