

6 November, 2017

Woman's Round Lake Improvement Society

c/o Diane Marchand
P.O. Box 665
Round Lake, NY 12151

Re: Round Lake Library – north wing

Dear Diane,

I met with you on October 27 so that I could inspect the north wing of the Library. The sloping condition of the floors was your primary concern. Removing a wall to improve the layout of the interior space was another.

Observations

The north wing is a narrow, wood framed, two story addition to the library that is longer in the east/west direction as compared to the north/south direction. It is the north (long) edge of this wing that is lower than the other edges and is what is causing the first and second floors to slope.

Some common reasons for this condition is rotting of some wood framing and or foundation settlement. The first floor framing and the foundation walls have limited access and the ability to visually inspect these components was limited.

Obviously, it's a problem for the library to use this space effectively with a floor that slopes as much as it does and a floor plan that limits the effective use of the space. Fixing this slope and renovating the space would be a welcomed result.

Foundation Wall

From the exterior, the exposed foundation wall is mostly stone laid up with mortar and has a concrete parge over it. There are also some brick pieces that make up the top of the wall too. The sill plate is partially exposed at the north-west corner. With the exception of the parging, all of these components including the sill plate seem to be in good shape and have not failed. What is a little harder to detect is if the foundation has actually settled. If we can rule out other factors, then settlement is the likely cause.

First Floor Framing

The first floor framing, when inspected from the main basement, was not sufficiently exposed along the north wall to assess its condition. Therefore, I really cannot comment on whether that framing is rotted or whether some other form of failure has taken place at the top of the foundation wall. It seems less likely that rot or failure of the framing has occurred because everything looked satisfactory from the exterior side. But, we can inspect again after some demo has exposed this framing.

Exterior Space

The exterior space between this north wing and the neighbor's house to the north is very narrow. That house, which has no gutters, has a gable and valley roof that directs rainwater directly at the north wall of the library. The library has already taken steps to mitigate the damage that water can do to the exterior wall of the library by putting up a sheet of metal on the face the wall. However, there is no control of this water once it hits the ground. This concentration of water can cause the foundation to settle or to fail. The siding and floor framing along this wall are also in close proximity to the ground and are susceptible to rotting and failure. If those issues are not present now they could be in the future. Generally, water against a foundation wall is not an ideal situation because of the potential for damage, settlement or failure.

Recommendations

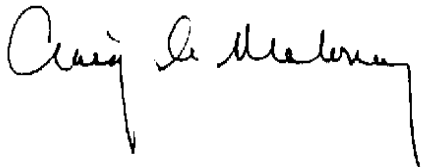
1. The most likely reason that the floors are sloping is settlement. If the foundation walls were built without a footing (what the foundation walls normally sits on) or if the footings were built too narrow, then the soil below it could become overstressed due to the weight and loads on the structure and excessive settlement could occur. The uncontrolled water along the north wall can be contributing to excessive settlement. There's no basement below this north wing, just a crawl space. Therefore, there's soil on both side of the foundation wall and the likelihood of some foundation wall failure is very small.
2. The next likely reason that the floors are sloping is if some sort of failure has occurred along the north wall at the first floor level. Once a contractor has been hired and some demo work can be performed to expose the structure, then we can take another look and hopefully eliminate this issue. If there is rotted framing, then some extensive work will need to take place at the first floor level.
3. There are companies that specialize in fixing foundation problems. One of which is Adirondack Basements. For foundations that have settled, they can install jacking devices that can lift the foundation to get the floors level again. What I don't know is if they can jack up a foundation that is made of stone or if they need more space to work with than what is available between the library and the house to the north.
4. An 'alternate' solution would be to just jack up the wood structure (independent of the foundation) of the north wing and then build atop the existing foundation wall another pressure treated sill plate. Since the slope is just a few inches, this type of corrective measure is probably much more cost effective. This however, doesn't fix the underlying settlement problem. So, this solution just might be a short term (10-15 years) fix.
5. Another issue that I recommend you deal with is the uncontrolled rainwater from the residential roof (to the north) that drops down in the space between that house and the library. If installing gutters and leaders that can direct this water away from this narrow space is not practical or possible, then creating a swale on the ground to direct the water sufficiently away from the buildings is a must. Directing the water at least six feet from the face of the library is a satisfactory distance. This construction of the swale can be plastic, metal or concrete. It should be robust enough that it will be reliable for many years. Fixing this water problem could extend the life of the 'alternate' solution described above. There

may also be a need to better protect the siding from splashing water when it drops from the next door roof.

6. Any demo and renovations to the interior space can be done at the same time as the exterior work. Jacking of the foundation or structure will undoubtedly cause some cracks on interior wall surfaces not demo'ed in the north wing and will need to be addressed. Walls within the main library should not be affected by this work. Also, whenever a structure is jacked up or moved in any fashion, new, unexpected problems can crop up. It seems unlikely but still possible that a leak may occur in the roofing where the north wing meets the original construction. This is a condition that will need to be watched closely as small leaks can cause big problems.
7. Since, the layout of the floor framing was not definitive during my inspection, the second floor framing will need to be investigated to determine if it bears on the wall that the library committee wants removed. If it is a bearing wall, then a beam can be installed within the second floor framing to support the second floor and then allow the removal of the wall.

If you require any additional information or have any questions regarding this report, please do not hesitate to call me at 518-584-9944 or e-mail at camaloney@nycap.rr.com.

Regards,

A handwritten signature in black ink that reads "Craig Maloney". The signature is written in a cursive style with a long, sweeping underline.

Craig Maloney, P.E.