Housing Services Corporation

Technical Services Field Inspection Record

Project Information # :

Site Visit By; Bill Bacon (705) 618-0512
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Inspection date; July 16th, 2018

Building Information: Three story apartment building

Location, Address: Vanastra Lions Homes, Chris #: 519-955-0616.
198 12th Street
R. R. #5
Clinton, Ontario
N0M 1L0

General Observations:

The purpose of the site visit was to review and record general observations regarding the condition of the two level balcony structures at the above subject property. The building appears to predate the balcony structures, in conversation with the building's maintenance person I was told that the building was originally constructed as a part of the RCAF facility that once occupied this site. It is believed that the building was repurposed as a residential apartment building approximately 30 ago. It is assumed that the balcony structures were added to the facility at that time. The balcony structures as constructed would not meet current building code requirements. There are a number of safety concerns that should be addressed immediately such as the railing and column support systems and deck tie in points. It is our recommendation that access to the balconies be curtailed until the health and safety concerns are addressed and corrected.

Site Photos and details:

Support post foundation and saddles

The balcony support columns rest on concrete piers topped with mild steel saddles intended to mechanically connect the columns to the foundation pier. There is no evidence of sagging or slumping of the structures therefore it is assumed that the piers are providing appropriate support to the balconies. The mild steel saddles have not been treated with anticorrosion surface treatment such as rust inhibiting paint. The surface is covered in corrosion (rust) it is recommended that the saddles be cleaned of all surface rust and painted with a coat of red oxide primer and a minimum of two coats of rust inhibiting paint. There are holes drilled into the saddles to allow for a mechanical connection between the post and saddle, many of the bolts are missing or have never been installed.

View of steel saddle and support column note surface corrosion and missing bolts

Support Columns

The balconies are supported by continuous wooden posts at the front edge and supported on ledger strips fasted to the building at the rear of balcony. The continuous posts are covered in aluminum trim material therefore it is not possible to confirm the physical condition of the support posts. There are numerous signs water penetration behind the trim pieces therefore it if likely that some deterioration (rotting) of the columns has taken place.
There are no signs of mechanical connections between the wooden sections that make up the individual posts. This is of concern should shifting or movement take place there is nothing to prevent the posts from becoming misaligned and collapsing.

The support columns are continuous, the above photo depicts the wooden posts stacked one on the other with little in the way of mechanical connection at the joints to provide stability.

Support beams and ledgers

Support beams are constructed from built up wooden joists. The support beams are connected to the face of the columns using a combination of nails, lag screws and bolts. This provides for a very weak joint susceptible to failure due to fastener fatigue or wood decomposition. The rear of the balcony joists are fastened to a ledger strip that appears to be fastened to the building by lag screws. The floor joists are supported by a wooden support strip and joists hangers,. The joist hangers used for the construction appear to be designed for indoor use and not appropriate for the balcony deck construction, these should be replaced with a product designed for exterior use. The ledger strips should be mechanically attached to the structure using a bolt system with space between the ledgers and building face provided for storm water drainage and air circulation and flashed at the top to prevent water egress.

Above photo depicts the connection of the joists to the ledger strip. The joist hangers have been painted making them difficult to identify in this photo.

Floor joists

Although no cracking or obvious sagging is noticeable it is assumed that many of the joists are experiencing some level of decay or rot due to contact with moisture contained in the deck sheathing.

Deck Sheathing

The balcony decks consist of plywood sheathing, it appears that a prior repair may have taken place where an additional layer of plywood was installed over the original. The plywood deck sheathing has been covered with paint on membrane. Deck sheathing is soft and spongy in many areas and at the end of service life.

Underside of balcony decks depicting deteriorated plywood sheathing

Top surface of balcony decks note paint on membrane

Balcony guards (railings)

The balcony guards do not comply with current building code requirements and in our opinion unsafe. The railing system and posts exhibit significant movement when pushed against with moderate force. Deterioration of support posts were noted in many areas, intermediate support posts were not properly framed in to the deck floor joists.

Decaying and improperly supported railing posts

Recommendations

Due to the numerous deficiencies, poor initial design, improperly supported joists and beams and the decaying condition of the overall structures it is our recommendation that all balcony structures be redesigned and rebuilt in their entirety.

A suggestion would be to construct the new balconies using a structural steel frame with wood joists and decking. This approach would provide a long lasting structure that could be more easily maintained while provide a more structurally sound attachment point for a new railing system.
It is our opinion that this approach would provide a long lasting, cost effective solution.