

Queens Cross Housing Association
45 Firhill Road
GLASGOW
G20 7BE

Our Ref. 20008/AM/TM

20th February 2020

For the attention of [REDACTED]

Dear Sirs,

19 + 21 Murano Place, Firhill, Glasgow

Following recent structural inspections we have undertaken at Nos. 19 and 21 Murano Place and the reports/advice provided, we now take the opportunity to summarise these as follows.

We attended No. 21 Murano Place on the morning of 30th January 2020 following a reported collapse of the stairwell roof. This roof projects above the general copper finished mono-pitch roofs over the flats either side, and accommodates a vacant space above the stairwell which is accessed by a ceiling hatch. The construction over the stairwell comprises a rectangular cavity masonry wall space measuring around 10.4m long x 2.7m wide (internal size) x 3m in height. The floor is concrete (pc planks) and the roof is timber with both spanning across the 2.7m width. There is an upstand around the roof and a single rainwater pipe outlet. The rear two-thirds area of the timber roof had collapse resulted in a very significant volume of water to engulf the void area and the stairwell below. The cause of the roof collapse will have been blockage of the single rainwater pipe outlet causing deep water retention on the roof, the weight of which has resulted in collapse of the support timbers. With the roof timbers being fixed to the side walls of the stair void area, the collapse has also disturbed these walls causing horizontal cracking and some loss of the verticality in these walls. Given the damage and exposure to the elements, the following emergency remedial works were recommended and have been implemented in order to make the stair roof structure and supporting walls safe.

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- a) Install braced timber cross-walls (3 No.) over the width of the compartment fixed to the long side walls and floor in order to secure these walls.
 - b) Install steel angle brackets (4 No.) in each corner of the walling to secure the front and rear walls to the side walls.
 - c) Reinstate the roof joists as previously, but also with two lines of acrow props and header beams to provide added support to the roof, off the concrete floor.

The above measures will make the stair roof area safe until permanent repair works can be specified and has allowed residents to return to their properties. For the permanent repair works we will be recommending reinstatement similar to existing, but with additional measures taken to ensure low risk of repeat incident and enhanced structural support.

These would include the following: -

- a) 2 No. emergency overflows through the perimeter roof upstand to allow escape of water in the event of blockage at the drain outlet.
- b) Bird/leaf guard over the drain outlet.
- c) Additional bolt and bracket support to the roof joist ends where these are supported on the side walls.
- d) Permanent braced timber cross walls or wind posts fixed to the long side walls to provide additional lateral support to these.
- e) Permanent additional mid-span support to the roof joists by provision of a timber stud wall running centrally down the length of the compartment.

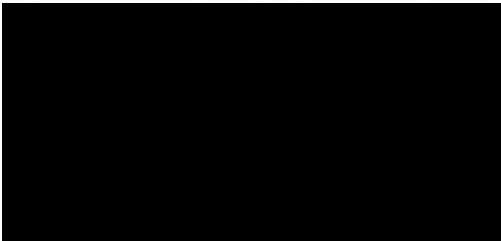
With the above measures in place, the risk of the water build up on the roof in the event of outlet pipe blockage would be negligible (assuming annual routine inspection) and would provide a roof capable of supporting water build up, should that unlikely event ever occur. These detailed proposals will be specified shortly and provided to you. We would be happy to inspect during installation.

We attended No. 19 Murano Place on 7th February 2020 for the purpose of inspection the similar stairwell roof construction in order to identify if any structural defects exist. Other than a very slight out of plumb bulge in one of the void area side walls, we found no structural defects and therefore no requirement for any immediate action. We do however recommend that all the structural enhancements which we have recommended at No. 21, should also be implemented here and that in the interim period until completion of these works, the roof water outlet pipe must be kept clear of obstructions which might cause blockage. If that is difficult to be sure of then we suggest that two lines of acrow props with header timber support beams be installed down the length of the void to support the roof off the concrete slab thus making safe in the event that blockage and deep water build up occurred.

We also undertook a general visual inspection within the stairwell of No. 21 and to external structural facades of Nos. 19 and 21 Murano Place. No structural defects were observed and all appears to be sound and well maintained.

As instructed, we will now progress with specification of the remedial works recommended and provide these to you within the next couple of weeks. By all means contact ourselves if you require further advice or assistance.

Yours faithfully,



DCF Design Consultants