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Ref: 140313 hrail 530

Mr. Tony Leifer
44 Downshire Hill
London NW3 1NU

Dear Tony & Sue,

Re: 44 Downshire Hill, London NW3.

This is my analysis of what has happened to the upper rear landing handrail. I note as a matter of initial importance that Sue still does not want herself exposed to underpinning works.

Analysis.

There has been some further small movement and settlement along the #44 internal spine wall between the entry corridor/stair extension and the main kitchen/family room areas as has happened in the past.

Like previously, this is due to the differential historic ongoing settlement of your property relative to the stiffer underpinned party wall section of the adjacent property at #43.

I have only found further slight cracking internally and no evidence of recent (last 12 months) cracks forming in the external face of the rear wall. The crack indicator downstairs on the wall between the kitchen and family room shows a small movement of about 2mm laterally. This movement is limited given it has taken place over 5 years.

This indicates slight, gradual and ongoing general movement. This results in tensions building up in parts of the secondary structural elements located between the #43 party wall and the #44 internal spine wall. These items act as hinged links.

In this latest case the section of upper rear stair landing has moved a little further, dropping slightly with the settlement of the rear section of #44 internal spine wall.

The section of handrail on that landing is set within and fixed at one end to the #43 party wall. At the other end it was slotted into and fixed to the half landing newel post.

The landing dropped, the newel post dropped and rotated slightly and because the pivot point of the newel was at its base, the top rotated (or tried to rotated like an arm pivoting slightly at the elbow with the furthest point, like fingertips, therefore much more).

This set up a tension in the handrail. Like a chain the weakest link (the joint at the newel post) gave way with an explosive release of built up energy with one end remaining fixed to

the wall. This allowed the newel post top to rotate leaving a space between the end of the broken rail and the newel post.

Remedial Works.

I would leave the newel and landing as is and get a competent carpenter to cut around the section of handrail where it is fixed into the #43 party wall. He will probably find a small iron bracket plugged and screwed to wall behind plaster or the end screwed directly into the masonry.

This should be cut to allow the end of the handrail to be freed up. Then the broken end of the handrail can be end drilled with a metal dowel used with expanding glue to reseat the broken end back into the newel. The handrail should be carefully taken off the spindle tops to do this.

The wall end of the handrail section should be cleaned up. A small shaped and edge bevelled hardwood block approximately 60mm/70mm (depending on plaster thickness) thick with a slot the shape of the handrail section cut right through it. The block should be placed over the end of the handrail section and be able to slide along it but quite tight. A bit of beeswax would help.

The handrail section should be set back on the spindles and refixed into the newel and glued at that end only. The block at the other end should be slid back into the wall and screwed to the brick wall with the plaster made good around.

This solution will save the historic handrail, provide stiffness to the newel/handrail top, hold the section of handrail in place restraining both ends to provide a safe support but importantly allow movement in the handrail if there is any further movement in the landing and newel post. A simple sliding joint.

Find a stair handrail craftsman and I will brief him and prepare a sketch if required. But a competent person should be quite able to sort it out.

Summary Conclusion.

As this appears to be just a little more of the same I would notify your insurers, carry out limited local remedial works at this stage and call me back to check movement after the repairs are done to look at it again after 6 months, after this coming summer in say October 2014.

Regards,

Scott Mac Gregor