

2 February 2024

70 Sturges Road Limited
c/o Kate Cullen
Homes Property Services (UK) Ltd
2 – 4 Broad Street
Wokingham
Berkshire RG40 1AB



Thames Valley Surveying

Green Bank, University of Reading,
London Road Campus, London Road,
Reading, Berkshire, RG1 5AQ

By Email Only

Dear Kate,

70 Sturges Road, Wokingham, Berkshire, RG40 2HB
Inspection of defective lintels

We are writing to report on the findings of our inspection of 70 Sturges Road, Wokingham on 26th January 2024. Our report is made in accordance with the TVS fee proposal letter dated 17th January 2024.

Instructions

We are instructed to:-

1. Review background information on this property.
2. Undertake a visual internal inspection to flat 9 to ensure there are no signs of lintel distress to the interior or the property.
3. Undertake a visual external inspection and provide a photographic record of each lintel noting any defects.
4. We have not allowed for any opening up works, but this can be arranged during a later visit if needed. We have also not allowed for any structural calculations.

During our inspection the weather was mild, with no cloud coverage. Access to flat 9 was not provided and we have not viewed an interior areas.

Background

70 Sturges Road is a purpose build block of flats located in Wokingham, which is believed to have been constructed between 2001 and 2003. We obtained drawings from the original planning documents through the Wokingham Borough Council's planning portal and have used the elevation drawings to mark up each individual window and door head and cill that we inspected.

The window and door heads and cills are comprised of reconstituted stone, and we were informed that they were starting to crack and deform. Some of the heads and cills have received historic repairs, and whilst some have been repaired well, some are still defective.

Residents of 70 Sturges Road had raised concerns about the cracking.

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Photo 1 – Satellite image of 70 Sturges Road. Including the location of hopper details we inspected.

Findings and Recommendations reconstituted stone details

The heads and cills at this property are likely to be constructed from reconstituted stone. There is also a reconstituted stone string course detail positioned above the heads of the bay windows and doors on both the front and rear elevations. Reconstituted stone is a composite material comprised of natural stone fragments, lime, and any other required additives such as binders and pigments. This is designed to mimic the aesthetic and properties of natural stone while offering a more cost-effective and versatile alternative.

The reconstituted stone head detail is not structural; structural support is provided by a steel lintel behind this, the lower edge of this can be seen over the window head. Best practice is to install the lintel then the reconstituted stone head detail and then fit a cavity tray with weep holes above the reconstituted stone head detail. There are no weep holes visible above the reconstituted stone head detail which suggests the cavity tray is at lintel level. This prevents water being discharged from the cavity and direct water in to the reconstituted stone.

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Typically, the lifespan of reconstituted stone elements depends on several factors including the quality of the mix, the precision of the manufacturing process, and the environmental conditions to which they are exposed. Generally, well-crafted reconstituted stone can last several decades, often ranging from 30 to 50 years, but this duration can be significantly reduced by factors such as extreme weather, improper installation, or inadequate maintenance.

The degradation process in reconstituted stone may manifest as surface erosion, discoloration, and cracking, which can compromise both the aesthetic appeal and functional integrity of the heads and cills. Therefore, understanding these characteristics is crucial for effective maintenance planning and for predicting the need for repairs or replacements over the lifespan of the structure.

The structure of the building is comprised of an assumed masonry cavity wall, which will have the structural lintel spanned over the cavity. The stone heads and cills are purely an aesthetic feature these are not causing any current structural issues. The damage seen is due to a poor quality product, poor installation and a poor standard of remedial repairs,

We were able to inspect the reconstituted heads and cills to the front elevation via the front garden of flat 2. We did not have access to the adjacent garden, which impaired our ability to observe the ground floor windows of this flat (shown on the drawing), and as such we have not been able to provide condition information for all the heads and cills. The remaining reconstituted heads and cills were observed visually from ground level around the property.

We categorised the condition of the heads and cills into three categories.

- Category 1 have the worst damage, these require repair to prevent small pieces of masonry falling.
- Category 2 a defect that worsen in the next year.
- Category 3 denotes heads and cills which are in fair condition, and or only presented aesthetic issues.

Overall, the condition of the heads and cills were varied. The worst heads and cills had received historical plastic repairs, and in some cases, they had been decorated with an assumed non breathable masonry paint. The use of non-masonry paint to a repair on reconstituted stonework can cause water to become trapped and will ultimately blister the paint and cause cracking to the head and cills.

Some of the Category 1 items are beyond repair and will require replacement.

We could not ascertain the materials and method that had been done to repair some of the heads and cills, plastic repairs to stones should always be done with a lime mortar.

We recommend that you consult with a reputable company that performs plastic repairs to reconstituted stonework, details of reputable contractors can be found from the Cast Stone Association.

That way they will ensure that there has not been any further damage to the heads and cills. This way you can guarantee that you will gain the best methodology for repairment over the years, they will also be able to ensure that the repairs are colour matched more proficiently with the rest of the heads and cills.

It would be more cost effective to carry out all of the repair under one contract. As scaffolding will be required this will also reduce disruption to residents.

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Photo 2 – View of a previously repaired and decorated cill that is now experiencing large cracking. Typical category 1.



Photo 3 – Cill which has had an historic repair and decoration. This is typical of a category 2 as it has potential to worsen over time. It is also at first floor level.

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Photo 4 – Typical view of hairline cracking to head. Typical feature of a category 3.



Photo 5 – View of cracking which has become wider than hairline cracking width.

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Photo 6 – View of poor repair to string course above window head to the rear elevation.

Findings and Recommendations guttering

We inspected the hopper detail on both of the side elevations. Upon inspection of the property's rainwater goods, it has been noted that the hopper's dimensions appear to be relatively smaller compared to the expansive roof space it is intended to service. This is of particular concern due to the hopper's location in proximity to three steep roof valleys. These valleys, by their design, are likely to channel a significant volume of water towards the hopper, especially during heavy rainfall.

The configuration of these roof valleys in relation to the hopper presents a potential risk for rapid water accumulation. The hopper, given its current capacity, may not be able to adequately handle the influx of water, leading it to overflow. This could result in water saturation and the subsequent efflorescence staining to the external brickwork. Additionally, any water that seeps into the brickwork and cracks can worsen with freeze thaw weather, as the water inside the brickwork freezes it causes expansion to any existing cracks, and to the brickwork itself.

Furthermore, there may be problems with the functionality of the hopper itself, it may be possible that the hopper is leaking or could be blocked. The efficiency of the hopper is also contingent on the adequate channelling of water by the surrounding lead work. If the lead work is improperly installed, or has deteriorated, it could lead to significant water misdirection.

To address the insufficient capacity of the hopper relative to the expansive roof space and its proximity to three steep roof valleys, an upgrade to a larger hopper is recommended. This would more effectively manage the high volume of water expected during heavy rainfall.

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Additionally, a full and thorough inspection and necessary repair or replacement of the current hopper is advised to resolve any issues of leaking or blockages. Ensuring regular maintenance will help in preventing similar problems in the future.

The lead work surrounding the hopper warrants and potential remediation. Any improper installation or deterioration that impairs the effective channelling of water needs to be corrected.

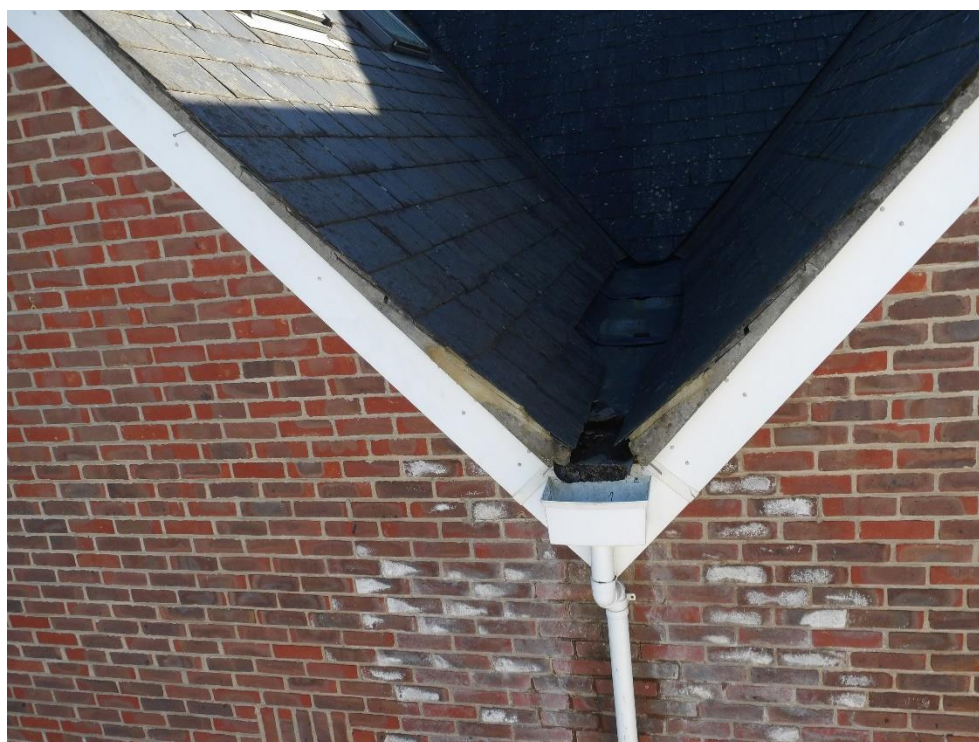


Photo 7 – View of hopper and downpipe feature to the side elevation. With staining to the exterior of the property.

Findings and Recommendations tile hanging

To the top gables of this property, there is a tile hanging featuring, which is comprised of assumed red sand faced tiles. We noticed that some of the tiles are starting to move and slip.

These slipped tiles are situated above door openings and the front and rear gardens, so these pose a potential health and safety risk to the residents. Furthermore, this may encourage vermin, or other animals to nest within the voids that the tile slipping has created.

We recommend that the reinstatement of the dislodged tiles should be reinstated and undertaken by a certified and reputable roofing specialist. This recommendation stems from a detailed assessment of the tiles' current condition and their location.

The observed looseness of the tiles not only presents a health and safety hazard, potentially posing a risk of falling debris, but also invites the risk of wildlife intrusion. The gaps left by these tiles could become conducive to roosting and nesting by birds and other animals.

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Photo 8 – View of slipped tile hanging to the front elevation gable.

Findings and Recommendations to expansion joint to side elevation

During our inspection it was observed that the expansion joint did not have filling or sealant present.

These joints are designed to absorb movement caused by thermal expansion, shifts in the soil, and other environmental factors. Without proper filling, expansion joints are vulnerable to water infiltration, leading to potential water damage and corrosion within the structure. Additionally, debris can accumulate in these empty spaces, hindering the joint's functionality and possibly causing undue stress on building materials. This neglect can accelerate wear and tear on the structure, compromise its integrity, and lead to costly repairs. Moreover, unsealed joints can result in decreased energy efficiency in buildings, as they allow for unwanted air infiltration, affecting indoor climate control.

Lastly, we recommend that you consult a reputable contractor for the installation of appropriate filler material for the expansion joint on the side elevation. Given the critical role of expansion joints in accommodating structural movements due to thermal changes and other environmental influences, expert guidance is essential

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Photo 9 – View of expansion joint on the side elevation.



Photo 10 – View up close of expansion joint, showing no filling inside the joint.

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Conclusion & Recommendations

In summary, the inspection of the property's reconstituted stone head and cills has revealed varying degrees of condition, ranging from fair to very poor. The heads and cills exhibiting fair condition show minimal signs of wear and can continue to function effectively with routine maintenance. However, the heads and cills in very poor condition present a more pressing concern. These have significant visible damage, including cracking, chipping, and erosion, which poses a risk of small pieces of masonry falling, and degraded aesthetic value.

It is imperative to address these defects promptly to prevent further deterioration. The damaged reconstituted stone heads and cill should be repaired or replaced, depending on the category and severity of the damage.

Regular monitoring and maintenance are recommended to ensure their longevity and to prevent similar issues from arising in the future. This will help in maintaining the structural integrity and visual appeal of the property, ensuring its safety and value are upheld.

Please do not hesitate to contact me if you require any further clarification.

Yours sincerely,



Caroline Ward MRICS

Associate

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