

**STRUCTURAL INTEGRITY REPORT PERTAINING TO WALL CRACKS IN A
THREE-BED LINK DETACHED GROUND+FIRST+LOFT ROOF WITH FRONT &
REAR DORMER PROPERTY**

113 WATERSIDE LANE GILLINGHAM ME7 2ST



PEARL ENGINEERS PLANNERS AND PROJECT MANAGERS

Name of the client: **Sxxxxxx**

Address of property inspected: **113 WATERSIDE LANE GILLINGHAM ME7 4ST**

Reference: **SIR/2024/87/ST**

Weather: **Overcast and Cold**

Date of Inspection: **20-04-2024**

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1. Directives

Upon the instructions received from the client to inspect the existing cracks as observed in the RICS home buyers report, Pearl Engineers Planners and Project Managers conducted a survey at 113 Waterside Lane Gillingham ME7 2ST, to confirm the structural integrity of the property pertaining to the cracks.

2. REPORTS ANALYTICAL FOCUS

This report's scope includes the identification of cracks in the block wall between the garage and the house in this 3-bed linked detached property, its causes, prevention, and solution. The on-site conditions were investigated via different non-destructive methods such as, physical, visual and acoustics of the materials

We have not conducted a thorough examination of the woodwork or any concealed areas within the structure, and as such, I cannot verify the absence of defects in these sections of the building.

We appreciate the client's cooperation in granting access to the property as scheduled and assisting in addressing inquiries raised during our discussions.

3. SCOPE OF WORK

- Conduct a survey to identify the existing cracks in the block wall between the garage and the house in this 3-bed linked detached property, its causes, prevention, and solution

During the visit dated 21st April 2024, the current homeowner was present to guide us throughout the survey.

4. Comprehensive Overview of the Property.

113 Waterside Lane Gillingham ME7 2SN is a Three-bedroom G+1+ Habitable-Loft Roof linked-detached property comprised of a single dwelling. Access to the property is gained through the front entrance door, the property has a drive and the party wall runs LHS (Left Hand Side) and RHS (Right Hand Side) of the Property. The access to the rear terrace has been gained through the living room.

The property is traditionally built, where external brick walls carry the pitched roof structure, and the external walls are made up of facing bricks with a tiled roof. Similarly, the Floors are made up of suspended timber and concrete flooring.

5. Narratives.

- 1] Breeze block wall with two layers of bricks on top between the garage and the main house shows structural cracks throughout its height from the Floor finish to the ceiling level inside the garage. The cracks passing the blocks and bricks by cutting through them, please refer to photographs 1,2,3, and 4.
- 2] The cracks appear predominantly in the middle and at the corner junction of the wall. However, the cracks in the middle reflect foundation movement as appeared in photographs 1,2 and 3. whereas the cracks at the junction of the walls are predominantly caused due to shrinkage, please refer to photographs 5 and 6.
- 3] There are no cracks found in the middle of the wall between neighbor's garage wall during the survey.
- 4] The front elevation's external walls show no such cracks at the time of the survey
- 5] Similarly, there are no such cracks in the rear external walls of the property.
- 6] As per the existing owner the cracks appeared in the first few years after its construction since then the cracks have not changed/increased.

6. Conclusion:

According to the observations made above the following recommendation and conclusion have been derived.

"The cracks in the middle of the garage walls are structural cracks cutting through the brick/blocks, such cracks reflect that the foundation below the wall is subjected to movement, any such movement in such location may have been caused due to inadequate foundation or shrinkage/swell in the subsoil, which is usually caused by a water source/tree vegetation, For such conditions there are several foundation/soil strengthening solutions are available such as, underpinning of the existing foundations followed by the repair of the existing cracks, the cracks at the corners which appear more to be shrinkage cracks can be repaired by using a non-shrink structural repair mortar/resin, it is also very much important to provide a flexible joint at the junctions to avoid such cracks from appearing again".

However, as mentioned by the existing owner of the house there has been no change in the cracks and the same cracks have been reported to the developer more than 20 years ago showing that the movement and settlement are not progressing, therefore the cracks are not live cracks. Hence, if considering this the cracks are to be monitored by a specialist crack monitoring vendor, and once it's established that the cracks are not live, repair the cracks without reinforcing the foundation or subsoil until the structural cracks appear to be live and progressing.

All the work is to be done in a workmanlike manner following CDM2015, where the specialist contractor should ensure proper management and safety during the work in compliance with statutory regulations.

If in case of any further query, please revert to the undersigned for further investigation. We hope that this letter serves its purpose, however, if you have any questions or concerns, please do not hesitate to reach out and contact us at Projects@Pearlepp.co.uk

Photograph #1



Photograph #2



Photograph #3



Photograph #4



Photograph #5



Photograph #6



Photograph #7



Photograph #8



Photograph #9

