Erf 356, Ships View Road, Glen Stewart Estate, Kwelera, East London, Eastern Cape

CREATED BY:	
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1. INTRODUCTION

1.1. A request was received from the Conciliation Officer (Eastern Cape), Mr. Reuben Jonas, to conduct an assessment at the home following a complaint regarding the appearance of defects in the house. The Engineering and Technical Services (ETS) Team was tasked to conduct an assessment and provide a report.

1.2. This report provides the findings and the possible causes of the defects. The observations and comments made in this report are based on the following:

1.2.1. External observations by the structural engineer

1.2.2. No opening up works, tests or other investigations have been carried out.

1.2.3. Photographs of the existing condition of the house that were taken during site visits are provided in the report.

1.2.4. It shall be noted that the observations made in this report are representative of items noted during the investigation and should not be considered as a comprehensive snag list hence the document should not be used as the sole source of defects and snags requiring attention. This report is based on purely visual assessment.

2. LOCATION

2.1. The subject site is situated in the Glen Stewart Residential Estate Approximately 30km north of East London along the south-east coast of the Eastern Cape. The house is approximately 600m from the sea. Figure 1 below depicts the regional context of the subject site.

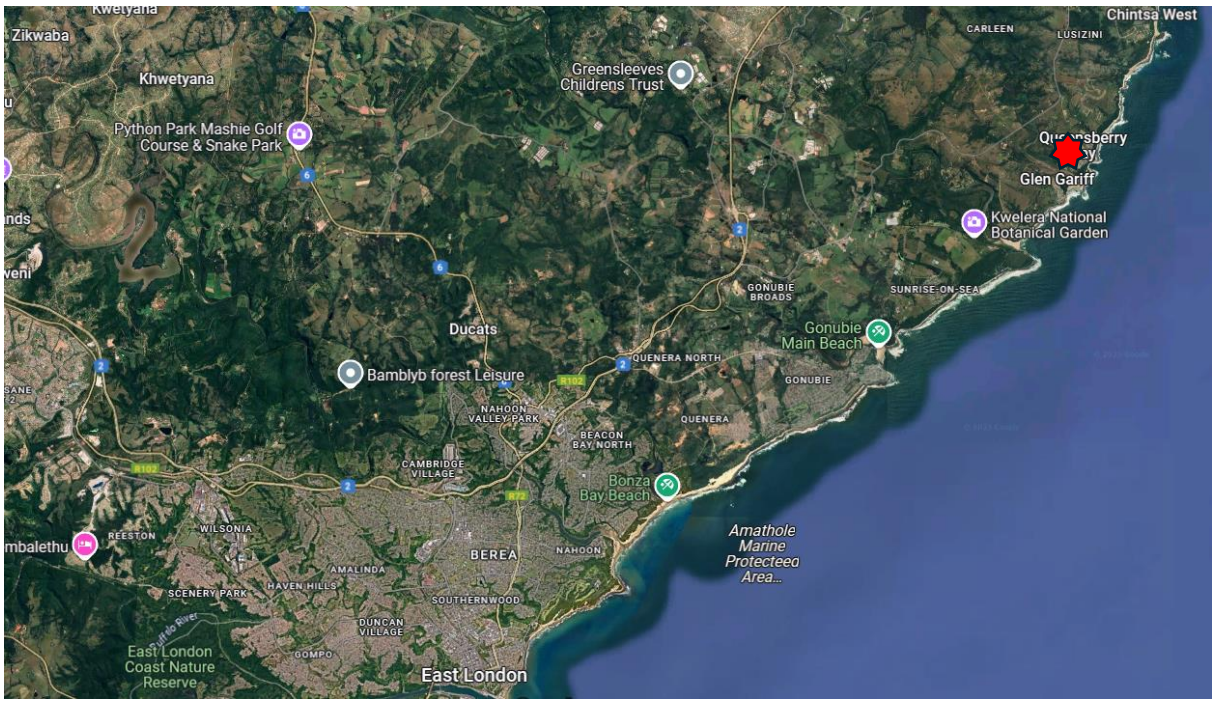

Figure 1: Locality Map

2.2. In terms of the terrain, the erf is sitting higher than the surroundings with the slope towards the roads on the northeast and northwest sides and slopes towards the open erf to the southeast and the neighbors to the southwest. This is shown in figure 2 below.

Figure 2: Site terrain

The wind in this area is predominantly northeasterly or south-westerly winds of up to 45km/h strengths and gusts reaching 75km/h.

3. SITE GEOLOGY

The geology of the area features a backbone of ancient, erosion-resistant sedimentary rocks from the Cape Supergroup, possibly intruded by durable granite or basalt formations that contribute to its stable coastal features. These older geological structures are overlain by more recent, unconsolidated coastal sediments, including sand, gravel, and localized sandstone and limestone deposits.

4. INVESTIGATION APPROACH

The assessment was performed using a walk-through survey and noting all defects.

4.1. Walk-Through Survey

4.1.1. As previously mentioned, this assessment was purely visual and there was no testing done.

4.1.2. The objective of the walk-through survey is to visually observe the property so as to obtain information on material systems and components for the purposes of providing

a brief description, identifying physical deficiencies to the extent that they are easily visible and readily accessible.

4.1.3. The walk-through survey was conducted by a qualified structural engineer with a well-rounded knowledge and experience in evaluating pertinent building systems, and components, supported by the senior home inspector in order to provide increased detail in reporting and insight their respective systems' conditions,

4.1.4. The walk-through survey was intended to focus on the following areas:

4.1.4.1. Property/Site Features – Observations on the type, condition and adequacy of the general topography, storm water drainage, ingress and egress.

4.1.4.2. Structural Frame and Building Envelope – Typically observations on the type, condition and adequacy of the foundation solution, building frame, façade and curtain walls, and the roofing systems form part of structural frame/building envelope assessment.

4.1.4.3. Structural systems are frequently concealed and may be inaccessible during an assessment.

4.1.4.4. The NHBRC's assessment was limited to the identification of readily visible indicators of common problems. In this case, foundations were not accessible as well as the roof.

5. ASSESSMENT FINDINGS

This section details the findings which were from visual assessment. The house has a single-storey section at the front and double-storey section above the living room and kitchen.

5.1. Cracks

5.1.1. A vertical crack is visible on the front wall next to the garage door. The crack is visible on the external face of the wall (± 1mm wide) from the top of the wall to lintel height where plaster band ends. This crack is also visible on the internal face in the garage wall (± 1mm wide) about 150mm from the internal wall connection to the external wall.

5.1.2. Some minor hairline cracks are also indicated on other internal walls in the hallway and rooms.

5.2. Water damage on walls

5.2.1. Water damage is visible on the internal painted walls in the living room.

5.2.2. Water damage is visible on the wall next to and in the reveals of the bay windows on the north-east side of the house.

5.2.3. Water damage is visible on the wall below the window and on the internal sill of the south-east side of the house below the balcony at the external braai.

5.3. Water damage on ceilings and other roof issues.

5.3.1. Water damage is visible on the walls and ceiling and cornices in the front bedroom.

5.3.2. The homeowner indicates roof noise when the wind blows.

5.3.3. Water leaks reported in the garage.

5.3.4. Tilting batten is not installed, causing opening between first and second tile rows.

6. PHOTOGRAPHS OF FINDINGS

Figure 3: Vertical crack at garage door on external face.

Figure 4: Vertical crack at garage door on internal face.

Figure 5: The front bedroom ceiling shows water stains.

Figure 6: Signs of water damage at ceiling cornice.

Figure 7: Water damages on walls at the bay window in the living room.

Figure 8: Close-up showing water damage.

Figure 9: Water damage at living room windowsill.

Figure 10: External view of bay window and balcony.

Figure 11: First floor balcony detail above window where moisture is visible on sill.

Figure 12: Roof valley above garage.

Figure 13: Roof valley gutter above garage – bottom view.

Figure 14: Roof valley gutter above the front bedroom.

Figure 15: Roof valley gutter above garage – internal view from bottom.

7. DISCUSSION OF IDENTIFIED DEFECTS

7.1. The cracks identified are minor and classified as slight to moderate as per Table 5 (Classification of expected damage in masonry walls) in the NHBRC Home Building Manual. These are therefore not seen as major structural defects and not covered by the NHBRC warranty fund.

7.2. The water damage on the internal walls appears to be due to leaks at the window frames of the identified windows. They are mostly due to the above balconies' stormwater not focused but flooding over the side above the indicated window.

7.3. The roof items indicated are the cause of the identified leaks on the ceilings and cornices. The identified leaks are mainly in the garage and the front bedrooms. This roof leak is covered by the NHBRC warranty. The specific cause of the roof leak, however, is not clear as there are various items identified which could impact on the watertightness of the roof. This includes the omission of the tilting batten, incorrect installation of the valley gutter, cracked and missing ridge mortar pointing, cracked and loose tiles, under tile membrane not continuous etc.

8. PROPOSED REMEDIAL SOLUTION

Repairs to the roof will include the following:

8.1. Install Tilting Fillet at Eaves:

8.1.1. At the eaves (the bottom edge of the roof), the absence of a tilting fillet is causing a gap above the first row of tiles.

8.1.2. Remove the first row of tiles.

8.1.3. Install a timber tilting fillet (a wedge-shaped batten) along the eaves line. This raises the bottom edge of the first row of tiles, ensuring they sit flush and create a consistent pitch with the subsequent rows.

8.1.4. Re-lay the first row of tiles and secure them properly.

8.2. Address Valley Gully Issues:

8.2.1. Remove all tiles in the valley areas.

8.2.2. Install appropriately sized timber valley boards along the length of each valley, securely fixed to the roof structure. These provide a solid base for the valley lining.

8.2.3. Install high-quality, SABS-approved, reinforced breathable under-tile membrane directly over the valley boards and extended well under the adjacent roof tiles.

8.2.4. Install metal valley gutter over the valley boards. Ensure adequate width and upturned edges to contain water flow.

8.2.5. Re-lay the valley tiles ensuring they are correctly cut and aligned to follow the line of the valley, allowing sufficient space for water run-off into the valley lining without obstruction. Secure them properly

8.3. Rectify Under-Tile Membrane:

8.3.1. Carefully lift roof tiles in affected areas.

8.3.2. Install a new, high-quality, SABS-approved, reinforced breathable under-tile membrane. Ensure it is correctly tensioned, adequately overlapped (minimum 150mm), and securely fixed to the rafters or battens. The membrane should run continuously from the eaves to the ridge.

8.4. Repair/Replace Damaged Tiles:

8.4.1. Identify and remove all chipped, broken, and mismatched roof tiles.

8.4.2. Replace them with new, matching tiles that are of the correct profile and color. Ensure all loose tiles are properly secured.

8.5. Improve Ridge Pointing (mortar application):

8.5.1. Rake out the areas of existing poor ridge mortar.

8.5.2. Re-point the ridges and hips using a strong, flexible, and weather-resistant mortar mix. Ensure the mortar is applied neatly and fully fills the gap between the ridging and the roof tiles, creating a watertight seal and preventing wind-driven rain ingress.

9. CONCLUSION

9.1. The remedial work required will only include for the roof leaks and not the items of masonry cracking and water damage at the window of the living room.