STRUCTURAL SURVEY REPORT

1 Devonshire Terrace

SC-3231-SS-01

Swantest

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AMENDMENT TO REPORT

Revision Number	Previous version no/date***	Section/details of revision	Revision by	Date

****If the report number has been changed include the previous report no.*

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GENERAL INFORMATION	
Client:	Kefo Construction
Site Address:	1-2 Devonshire Terrace, London. W2 3DN
Client Contact:	Peter
Inspection Date:	6TH July 2023
Weather conditions:	Dry, approximate 20°C

Survey Carried Out By:	Conor McHugh	
Report By:	**Name:** Conor McHugh	**Signature:**

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1. Introduction

Swantest was contracted by Kefo Construction to undertake a structural survey of the u/s of 1st floor balcony to understand the make up of the slab and cause of the cracking of the soffit and to the decorative scroll bracket as shown below.

The purpose of this report is to facilitate a remedial proposal to repair the cracking and defects noted.

This report will detail the following:

- GA of balcony, scroll bracket and defects.
- Proposed remedial details.
- Any further investigation required

Fig. 1: Balcony location

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Location of Works

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2. General Arrangement

- The balcony is approx. 3700mm long, 560mm wide and the slab is 125mm thick.
- There are 3no. scroll brackets.
- At this stage it is not known if these brackets are structural or purely decorative. Further investigation required to confirm this detail – This was not possible at the time of inspection as the working scaffold did not extent enough to carry out intrusive works to the end bracket (shown in blue below)

Balcony Slab:

- The slab is constructed from steel filler joists with brick / clay tile infill and a concrete topping.
- There is a asphalt covering the slab and a lead flashing detail.
- At least 2 joists were located using ferroscanning and intrusive works.
- It appears that there has been water ingress for a prolonged period which has corroded the filler joists and caused the cracking.
- We broke out in 2 locations along the crack as shown below.
- There is a rendered layer (approx 15mm thick)
- We then encountered clay tiles and in some cases clay brick that make up the infill between joists. The u/s of the steel joist has a clay tile cover (Approx 25mm thick)
- The filler joists are approx 55mm wide with a 10mm thick bottom flange).

Scroll Bracket:

- Although the scaffold did not extend far enough past the bracket, we were able to simply remove large amounts of this bracket by hand as it was already very loose.
- The details showed a cast bracket which must be fixed back to the building by some steel bracket / bar that was not clear at this stage.
- Water ingress has corroded the inner steel bars of the bracket and the plaster was crumbling away in places.
- It was deemed not safe to leave it in this condition so under instruction from the client we removed whatever we could by hand to remove risk to the public.
- The bracket measures approx. 510mm x 235mm deep, tapering to 120m mat the front and x 130mm wide

Proposed remedial details:

Balcony slab

- Only focusing on the cracked section between the 2 brackets as shown below.
- Any remedial details would have to be approved and agreed with the clients design engineer.

- Break out and remove the defect concrete using batter powered breaker.
- Uncover the u/s of the steel filler joists.
- Using a wire brush attachment on a grinder, clean and remove the corrosion on the filer joist.
- Prime and prepare the joist using a zinc rich primer and concrete ready to apply repair mortar.
- Using Sika Monotop 630 hand pack the repair mortar to the u/s of the steel joist.
- There is minimal concrete cover to the steel joist so it is not considered feasible to install any new steel rebar or dowels.
- The hand packed repair will be floated to a finish then scratched coat to leave a finish ready for render.
- Swantest will not be responsible for new render and paint.

Scroll bracket:

- Only focusing on the end bracket as shown. It should be noted that the 2nd bracket is also showing signs of deterioration, corrosion and could pose a risk.
- Any remedial details would have to be approved and agreed with the clients design engineer.

- We would have to confirm if this bracket is structural or decorative.
- This can only be done when the scaffold is extended and we can do further investigation work to confirm connection to the building.
- If the bracket is decorative only – we have a proposed details from a previous job as shown further below. This could be applied to Devonshire Terrance, if the design engineer approves and details it.
- Specialist contractor to attend site and take a mould of an existing bracket. This would then be used to cast a new one and installed as detailed below on page

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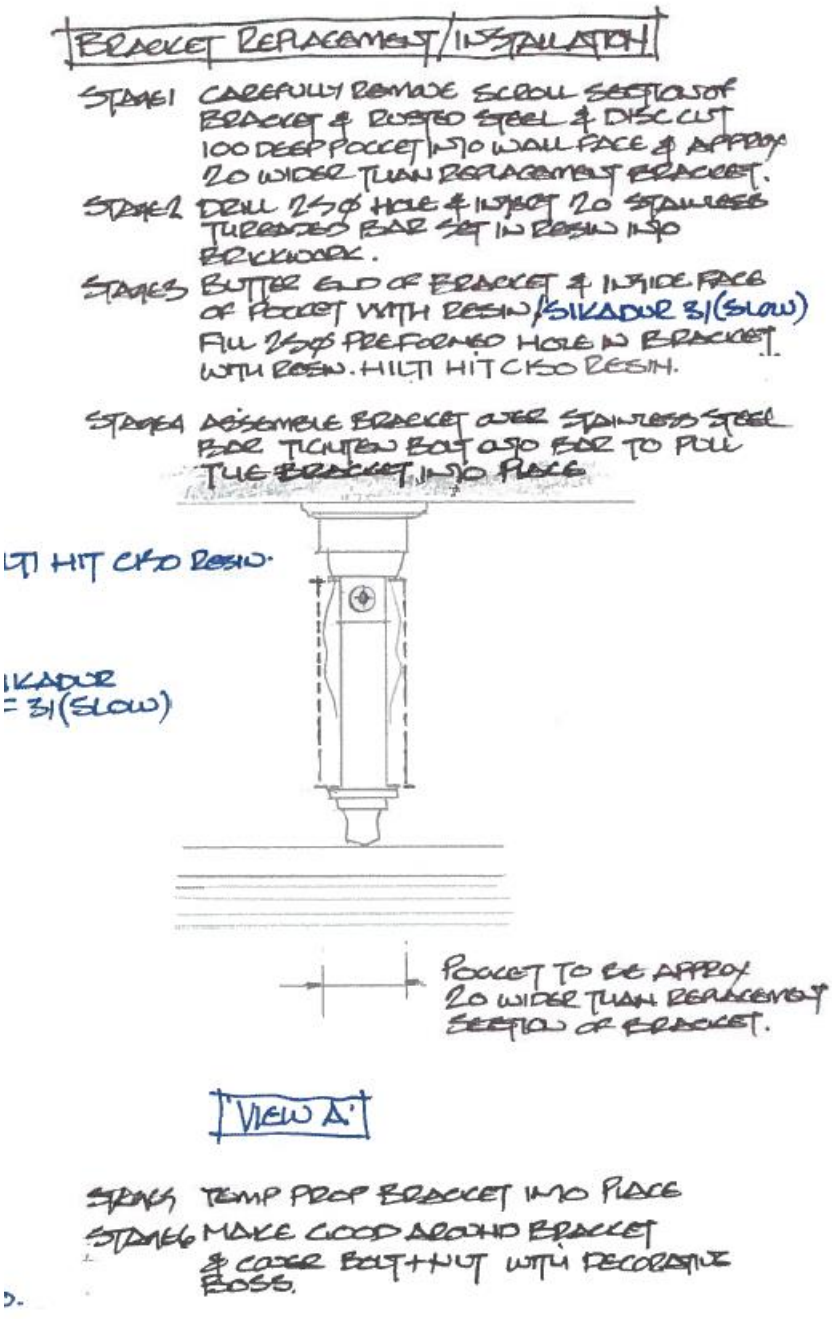
Potential repair details for bracket:



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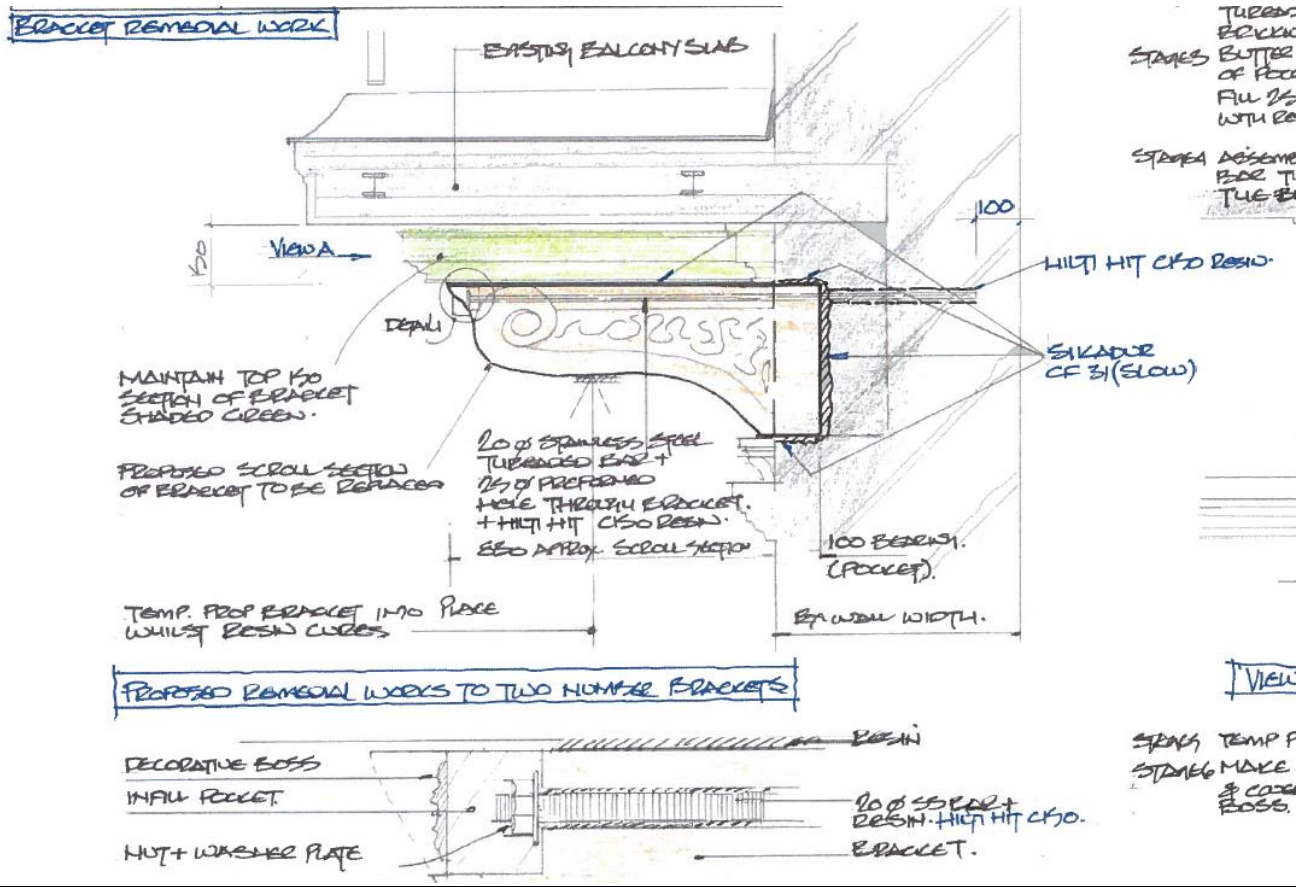

Photos Below:

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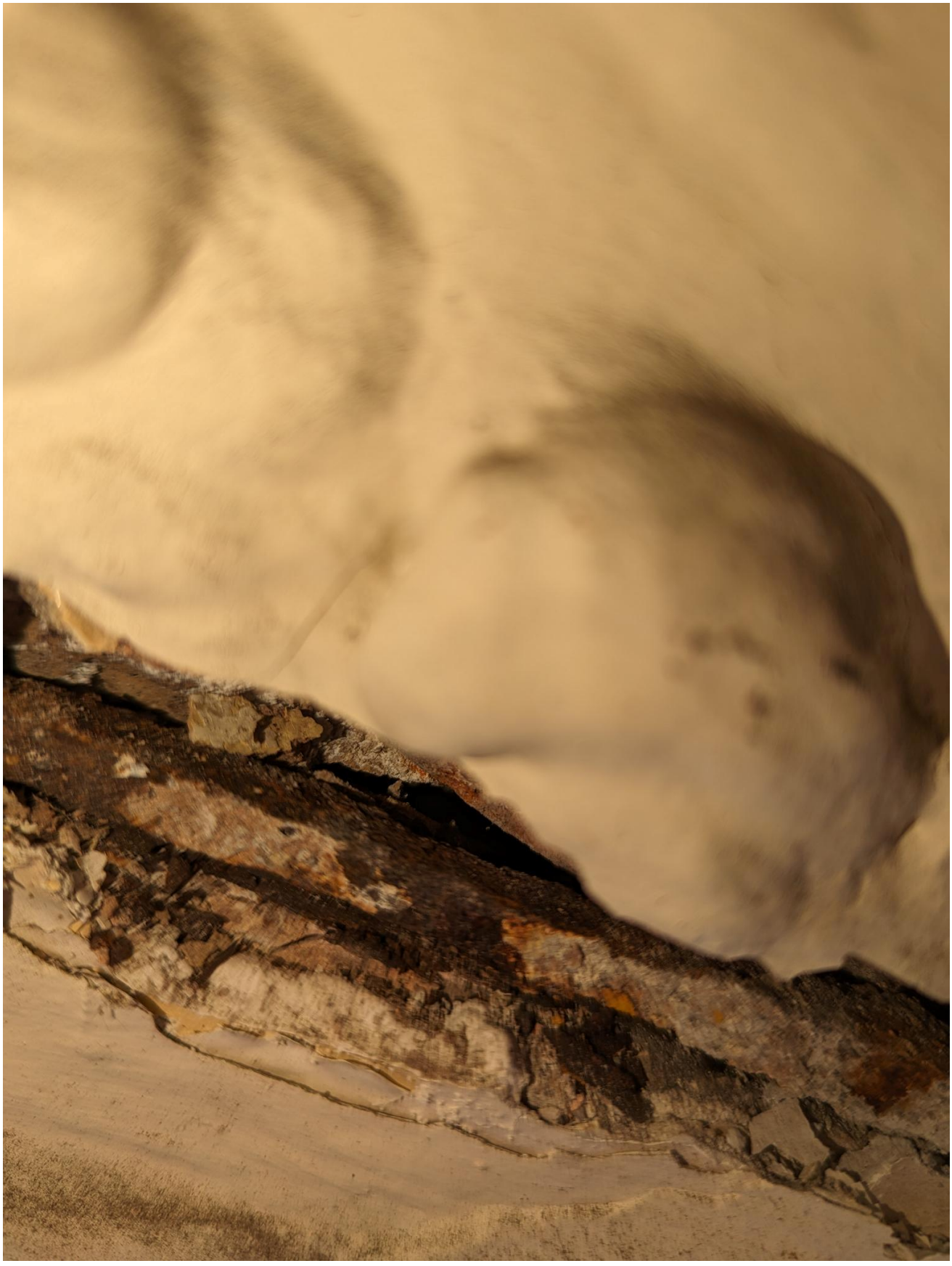

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