

# Structural Stability Report

J209 - 32 Willoughby Road, NW3

15.09.2023

Ref: J209-RP-001

Status: For Information

# Contents

1. Introduction and Basis of Report	3
2. The Site	3
3. Proposed Works	4
4. Proposed Demolition	4
5. Temporary Stability	4

Prepared By:



.....  
Alexander Baker  
MEng (Hons) CEng MIStructE

Checked By:



.....  
Dylan Chatterton  
MEng (Hons) CEng MIStructE

Revision	Status	Issue Date
01	For Information	June 2022
02	For Information	January 2023
03	For Information	September 2023

## 1. Introduction and Basis of Report

BC Structural Design were appointed by Jimeet Patel to carry out an initial review of the necessary demolition and temporary stability regimes that will be required during proposed demolition works at 32 Willoughby Road, London NW3.

This report has been produced to meet the requirements of the London Borough of Camden's Planning Permission approval process for schemes where the extent of demolition is extensive and has been prepared for the use of Jimeet Patel and the allocated Planning Offer only.

This report shall not be reproduced in whole or part or relied upon by third parties for any use without the express permission of Baker Chatterton Structural Design. Baker Chatterton Structural Design shall have no liability for any use of the report other than for the purpose for which it was originally prepared.

## 2. The Site

32 Willoughby Road, London NW3 is a residential property in the London Borough of Camden. The demise comprises a three storey, semi-detached property. The property shares a party wall with neighbouring 30 Willoughby Road.

The property was built during the Victorian era and is of traditional construction for this period with loadbearing masonry external walls, timber joisted floor and a combination of blockwork and timber stud internal walls with a pitched roof constructed in timber. The foundations are likely corbelled masonry.

To the rear of the property is a two storey outrigger extension of masonry construction, which abuts a similar outrigger with neighbouring 30 Willoughby Road. The outrigger is of similar construction to the main demise with masonry external walls and timber joisted floors. The existing outrigger has a tall chimney which protrudes approximately 2m from the roof. The external masonry walls form the stability for both the existing main house and outrigger.



*Image 1 – Existing chimney protruding from the two storey outrigger*

### 3. Proposed Works

The works proposed to be undertaken include:

- (i) the demolition of the rear outrigger and replacement with a new, better proportioned extension;
- (ii) construction of a single storey side extension at ground floor to the main demise;
- (iii) excavating and forming a basement extending under the full footprint of the demise and partly into the rear garden;
- (iv) a two storey side infill to the rear of the demise; and
- (v) minor internal alterations.

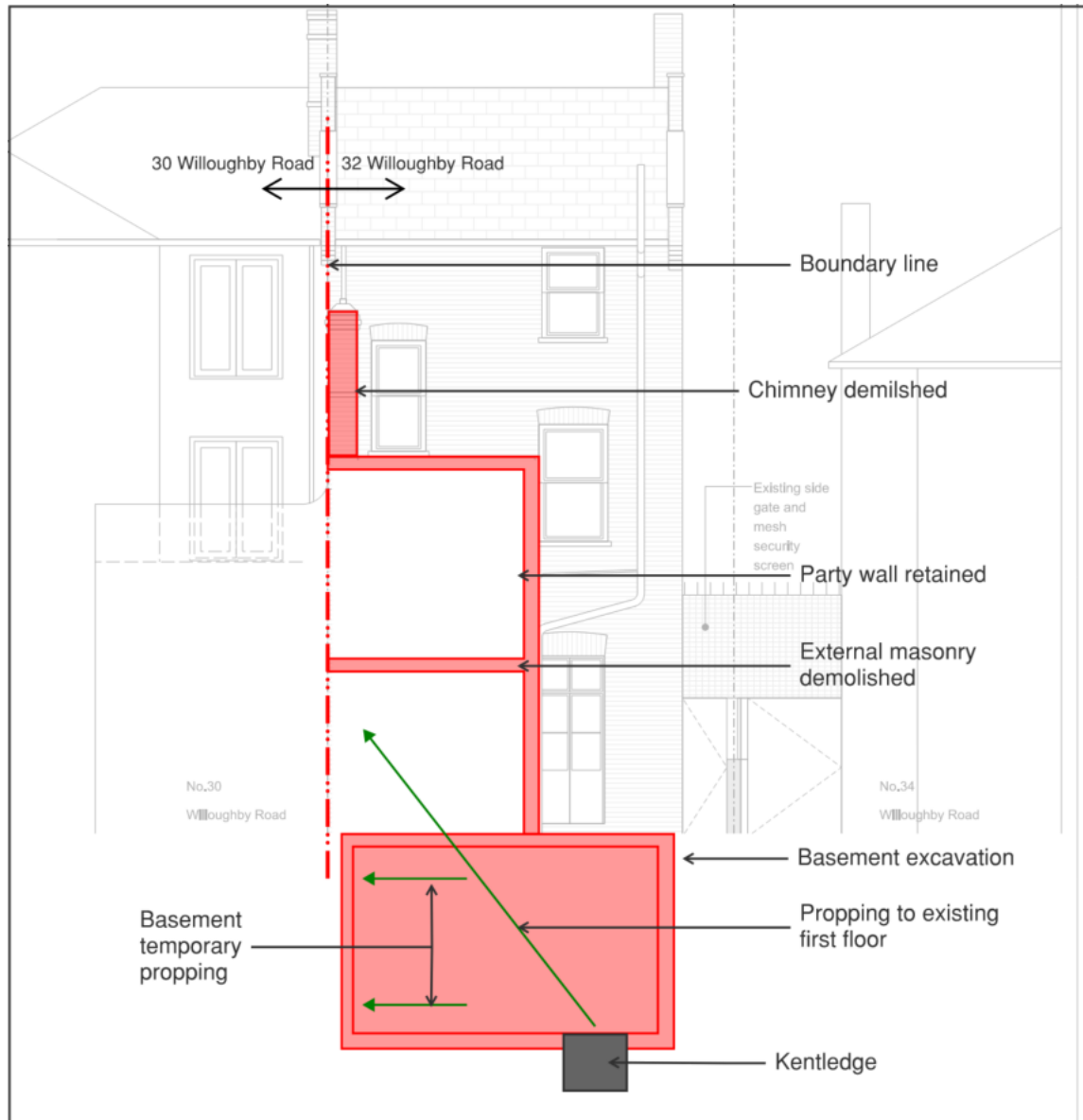
### 4. Proposed Demolition

To prop the existing chimney at height for the duration of the proposed works would pose a health and safety risk, the props could easily be damaged or knocked during construction and excavation of the basement. In order to retain the current aesthetic, it is proposed the existing chimney is demolished and rebuilt using the existing masonry. To facilitate this, it is proposed to (i) demolish the existing chimney prior to the demolition of the existing outrigger carefully using hand tools, (ii) retain and temporarily store the original masonry, and (iii) rebuild the chimney once the construction of the new basement and outrigger is complete.

The proposed outrigger will also be rebuilt using as much of the existing masonry as possible. It is proposed to carefully saw cut with a disk cutter to separate from the party wall and dismantle the outrigger walls with hand tools to minimise the number of snapped bricks. Scaffolding will be erected prior to demolition to provide safe access. All salvaged masonry will be handled with care and stored safely, before re-use.

### 5. Temporary Stability

The existing outrigger shares a party wall with neighbouring 30 Willoughby Road. It is expected that the lateral stability of the neighbouring property is not reliant on our outrigger, as would be required by Building Regulations. However, the temporary removal of the existing extension is likely to increase the overall lateral loads acting on the neighbouring outrigger, thus to ensure its stability during construction, it is proposed to provide temporary restraint to the party wall.

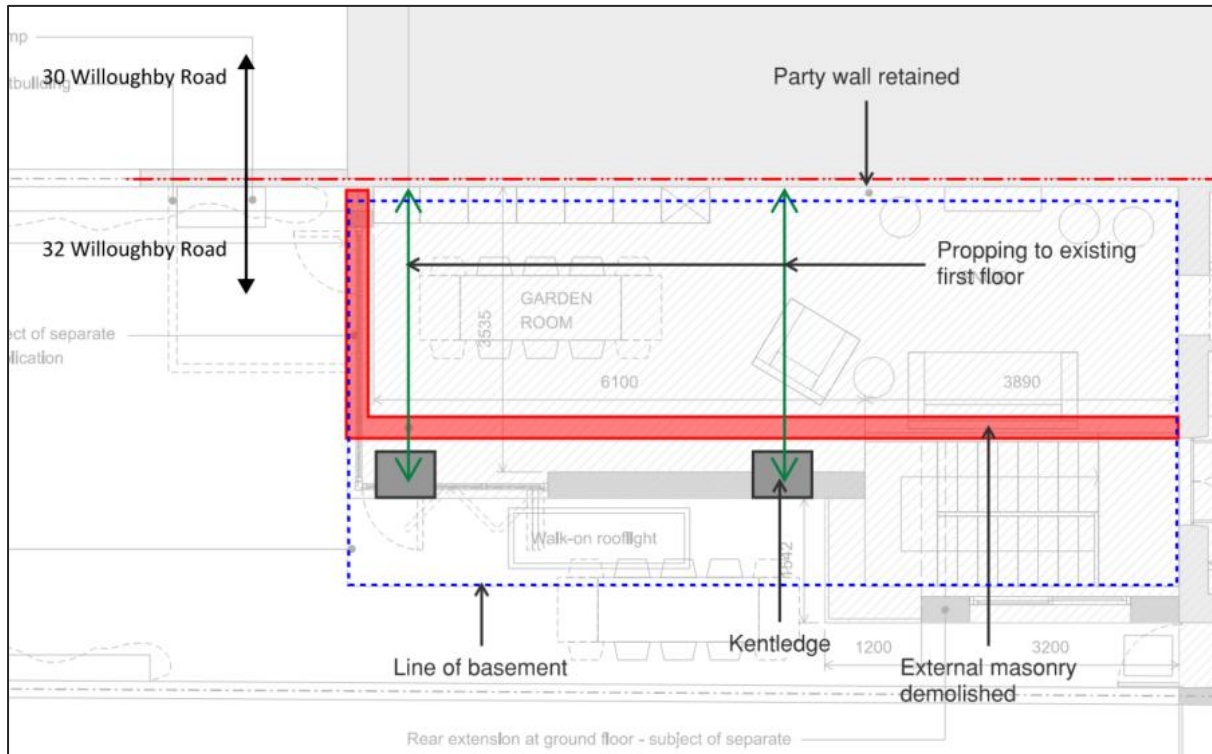


*Image 2 – Boundary wall temporary propping during construction section*

Once the outrigger structure to the property is demolished down to first floor, it is proposed to install temporary propping located just below the existing 1<sup>st</sup> floor joists. The props are to be founded on kentledge blocks. This kentledge can be founded at ground floor level until the basement is excavated and can be sequentially lowered until founded at basement formation, as shown in Image 2. Alternatively, the perimeter prop can be supported on the liner wall forming the basement.

By propping just below the existing floor slab, the restraint to the existing wall will be unchanged from the existing condition. Throughout the construction process, the Contractor may choose to relocate props along the length of the wall to permit flexible working, until such time that the new stability elements are constructed. Image 2 above shows the extent of outrigger demolition and basement excavation in section and the prop configuration, while Image 3 shows the proposed plan arrangement of the props, which can be moved throughout construction. As the chimney forms a stability element in the wall, it is proposed that two props are utilised. If it can be proved that the chimney has been retained internally at 30 Willoughby Road then the central prop would not be necessary.

The props should be Acrow props or similar, placed at 45 degree angles and resin-fixed into the party wall at the height of the existing first floor joists. The props should be periodically checked for tightness throughout construction. All fixings will be embedded no more than 100mm into the party wall.



*Image 3 - Temporary propping during construction plan*

The final design of the temporary propping regime will be to contractor design but will be shown indicatively on the structural engineer demolition drawings and the final proposals will be checked with the structural engineer.