

Pre-Planning Assessment Report  
on the  
Structural and Constructional Impact  
of the  
Proposed Development  
at

10 Gloucester Gate  
London  
NW1 4HG

## **Pre-Planning Assessment Report on the structural and constructional impact of the proposed development.**

The following assessment has been based upon the Architectural proposals and the findings of a non-intrusive visual inspection of the property and results of a trial hole investigation of the existing foundations of the central section.

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### **General Proposals**

The Architectural concept outlines how the proposals sub-divide the property into three distinct sections.

The Main House;

The changes in this area are mainly cosmetic and some minor changes to the existing layout that involves minimal structural alterations.

The Central Annex and Courtyard;

Here the existing central section of the building is to be demolished and a new Architectural design Annex: built between the main house and the rear mews.

The Rear Mews;

A full refurbishment will be carried out on this section of the property with a new lowered first floor and roof structure.

### **Proposed Structural Works**

#### **Main Building**

As part of the structural appraisal on this section of the building and taking account of the building history and Grade 1 listing some intrusive investigations will be required to determine the existing structural make-up and construction details.

These intrusive checks will be localised to confirm the constructional make-up of walls to be altered and the existing floor make-up to check on its condition and to ascertain its structural capacity in carrying any increased loading.

The extent of these investigation will be agreed with the local authority prior to the works being carried out.

#### **Scope of Work.**

#### **Basement Area. – See Drawing 216057/01**

##### **B1 - Removal of Existing walls**

The walls identified to be removed within the basement area appear to be later additions and form the walls to the WC and shower enclosure.

From our initial survey of the upper floors the original timber joists in the front section of the property appear to span perpendicular to the front wall. It is therefore unlikely that the walls being removed provide any support to the ground floor and can be removed.

However, this will be checked by removing a small section of the ceiling local to the walls to confirm they are non-loadbearing.

## **Ground Floor. – See Drawing 216057/02**

### **G1 - Form New Full Height Opening.**

This section of wall runs parallel to the span of the First Floor joists and we assume it does not provide any support to the Main Floor Area. However, it may provide support to the First Floor Landing.

Subject to a more intrusive check being carried out, by opening up the Floor Area directly over the wall, the proposal would be to provide a new timber support beam within the floor zone spanning between the existing wall and a new post built on the return of the new partition wall.

### **G2 - Form New Opening in Existing Wall.**

This wall runs parallel with the span of the First Floor joists in this section of the building and does not line through with any of the walls over.

To form the new opening it is proposed to install a new support lintel timber or pre-cast concrete, to support the retained section of wall.

### **G3 - Balance size of Existing Opening.**

This existing opening is to be reformed to provide a 'balanced' appearance to the openings above.

To achieve this new support beams will be installed to allow for the increased clear opening size. Due to the restrictions of the existing heights we propose to use multiple steel box sections with top plates.

## **First Floor. – See Drawing 216057/03**

### **F1 - Reinstate Opening to Original Detail.**

The existing opening is to be increased to reflect the original details, which appears to have had circular posts at each end.

The wall does not line through with any walls below, at Ground Floor Level, or with any walls at Second Floor Level. If any support is being provided to the Second Floor it is being carried by a beam within the floor zone of the first floor construction. Therefore, to increase the opening size a new beam will be installed supported off two new circular posts.

The original support post may still be in place within the existing wall but this will require an intrusive check to confirm this.

## **Second Floor. – See Drawing 216057/04**

### **S1 - Bathroom.**

There are no structural alteration proposed for this Floor however due to Architectural changes within the existing Bathroom, subject to a final design check the existing floor is likely to require strengthening by installing additional joists between the existing.

The existing doorway into the Bathroom is to be relocated and the new opening will have a new

support lintel installed, either timber or pre-cast concrete to suit the wall construction.

### **Third Floor. – See Drawing 216057/05**

#### **T1 - Section of Landing to be removed.**

To allow this section of the floor to be removed it is proposed to install a new timber trimmer across the stair landing to support the existing floor.

#### **T2 - Bathrooms.**

Due to Architectural changes and subject to a final design check the existing floors within the two Bathroom Areas is likely to require strengthening by installing additional joists between the existing.

### **Roof. – See Drawing 216057/06**

#### **R1 – New Roof Light.**

To form the opening for the Roof Light new timber trimmers will be installed supported off the Existing Walls.

### **Conclusion**

The proposed Architectural changes to the main house will have minimal structural impact on the structural fabric of the original building.

Where openings are to be formed new structural supports will be installed using, where possible, materials that reflect the type of wall construction encountered. Local strengthening of the existing floors may be required to deal with any increased floor loads.

## **The Central Annex**

The Architectural design of the new annex requires the floor construction to appear 'flat' with no visible no downstand beams. To achieve this and provide the support for the curved feature glazing to the court yard, which is one and a half storeys high, the new structure in this section of the building will be a structural steel frame with insitu cast 'rib-deck' floor slabs.

From the trial hole investigation, the ground condition confirmed that the use of traditional concrete trench footing and a concrete ground bearing floor slab would be acceptable.

To ensure the stability of the retained sections of the property and the adjoining party wall is maintained during the demolition of the existing central block, the proposal is to cast the new trench footings that fall outside the footprint of the existing building and erect the steel frame.

The columns that form the front piers to the curved glazing will have corresponding channels located on the party wall line to support the cross beams needed to support the 'rib-deck' floor system. The cross beams will be installed by 'punching through' the existing external wall leaving the existing floors in place. Once this steel 'skeleton' has been erected the demolition of the existing section can be carried out and the new floor slabs cast.

With access to the site being restricted to Gloucester Mews this method of construction will assist with minimising issues that are always associated with developments of this nature in terms of deliveries and storage of materials.

## **Conclusion**

Whilst there is restricted access to this central section of the building the proposed method of construction will assist by minimising the need for extensive temporary works to support the party wall and the internal walls of the front and rear sections.

Overall we see not major structural issues involved with the demolition and re-construction of the proposed central annex section.

## **The Rear Mews**

The refurbishment of this section of the property includes the removal of the existing first floor and constructing a new lowered timber floor.

The existing roof construction is to be replaced with a new steel framed structure matching the existing pitch providing a clear internal vault loft space with a glazed ridge section.

The existing ground slab will be replaced with a new insitu cast concrete slab to meet current regulations.

To support the new lowered first floor structure a new steel frame will be installed within the existing footprint of the building. The rear post will be located to match the piers on the courtyard elevation and the front posts located on either side of the existing garage opening. The existing lintel over the garage doors will be retained with the new steel support beam being placed on the inside face.

The window cills on the mews elevation are to be lowered but there are no proposals to increase the width of the existing window openings. On the courtyard elevation the original arch detailed to the window openings will be reinstated.

The new roof will match the existing pitch and roof finishes and be constructed using timber rafters supported off a steel frame supported off the first floor structure.

## **Conclusion**

Similarly, to the central section by lowering the first floor the new floor structure can be constructed with the existing floor in place that will assist in maintaining the overall stability of the building during the works.

The new first floor will be designed to ensure that an internal support platform can be formed to allow the roof to be formed.

Overall we see not major structural issues involved with full refurbishment of the rear mews building.

## **Drainage Considerations.**

### **Surface Water.**

With no increase in the hard surface area of the site there will be no increase in surface water runoff to address and reconnection of new downpipes to the existing drainage system will be acceptable.

### **Foul Drainage.**

There are no proposed alterations to the existing below ground drainage system and where the new footing crosses any existing runs a traditional bridging detail will be used.

## **Constructional Considerations**

In considering the location and historic importance of the terrace there will be no deliveries or storage of materials to the front of the property in Gloucester Gate and all access and deliveries to the site will be from Gloucester Mews.

The design and method of construction proposed has taken account of the issues associated with the deliveries and storage of materials encountered on developments of this type of site.

## **Conclusion.**

Overall we feel the alterations proposed can be achieved without any structural effect on the existing fabric of the building or the adjoining properties.

## **End of Report.**

Yours sincerely,

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Trial Hole Investigations.



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