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**GROUND MOVEMENT  
ASSESSMENT (BUILDINGS DAMAGE)  
REPORT**

15 Belsize Park Mews  
Camden  
NW3 5BL

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**Report Title:** Ground Movement Assessment (Buildings Damage) Report for 15 Belsize Park Mews, Camden, NW3 5BL

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Prepared by: **JOMAS ASSOCIATES LTD** For: **ELECTRON HOLDINGS MANAGEMENT LTD**

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## EXECUTIVE SUMMARY

Electron Holdings Management Ltd commissioned Jomas Associates Ltd to undertake a Ground Movement Assessment (buildings) at the site located at 15 Belsize Park Mews, Camden, NW3 5BL. The salient details of this commission are summarised in the table below.

Executive Summary	
<b>Current Site Use</b>	Residential mews property.
<b>Proposed Site Use/Works</b>	Construction of a single-storey basement and the addition of a mansard roof to the existing two-storey mews house.
<b>Ground Movement Assessment</b>	<p>The Ground Movement Assessment results indicate minimal impact on adjacent properties as a result of the proposed works.</p> <p>The obtained damage categories vary between Category 0 - (Negligible) and Category 1 - (Very Slight) for all analysed scenarios, with respect to the Burland structural damage assessment criteria.</p> <p>These results are within the typical acceptable limits of anticipated structural damage for developments within the London Borough of Camden.</p>

*It should be noted that the table above is an executive summary of the findings of this report and is for briefing purposes only. Reference should be made to the main report for detailed information and analysis.*

## 1 INTRODUCTION

### 1.1 Terms of Reference

1.1.1 Electron Holdings Management Ltd (“The Client”) has commissioned Jomas Associates Ltd, to assess the impact of the proposed development at 15 Belsize Park Mews, Camden, NW3 5BL on the neighbouring properties.

1.1.2 To this end a ground movement assessment (GMA) has been undertaken in accordance with Jomas Associates Limited’s email proposal dated 21/12/2023.

### 1.2 Proposed Development

1.2.1 The proposed development for the site comprises the construction of a basement and addition of a mansard roof to the existing two-storey mews house.

### 1.3 Objectives

1.3.1 The objective of this ground movement assessment encompasses the assessment of the potential structural damage induced by the proposed works to the neighbouring residential properties.

### 1.4 Supplied Documentation

1.4.1 A number of reports, plans and documents were previously prepared by, or supplied to Jomas Associates to support the analysis required for the GMA. Table 1.1 details the documents supplied:

**Table 1.1: Supplied Reports**

Title	Author	Reference	Date
Basic Geotechnical Assessment & Basement Impact Assessment Report	Jomas Associates Ltd	P5188J2818	November 2023
Various Structural Drawings	AMA Consulting Engineers	23066	August 2023

### 1.5 Limitations

1.5.1 Jomas Associates Ltd (‘Jomas’) has prepared this report for the sole use of Electron Holdings Management Ltd, in accordance with the generally accepted consulting practices and for the intended purposes as stated in the agreement under which this work was completed. This report may not be relied upon by any other party without the explicit written agreement of Jomas. No other third party warranty, expressed or implied, is made as to the professional advice included in this report. This report must be used in its entirety.

1.5.2 Jomas Associates does not assume any liability for the misinterpretation of information or for items not visible, accessible, or present on the subject property at the time of this study.

- 
- 1.5.3 Whilst every effort has been made to ensure the accuracy of the data supplied, and any analysis derived from it, there may be conditions at the site that have not been disclosed by the investigation, and could not therefore be taken into account. As with any site, there may be differences in soil conditions between exploratory hole positions. Furthermore, it should be noted that groundwater conditions may vary due to seasonal and other effects and may at times be significantly different from those measured by the investigation. No liability can be accepted for any such variations in these conditions.
- 1.5.4 Any reports provided to Jomas Associates Limited have been reviewed in good faith. Jomas Associates Limited cannot be held liable for any errors or omissions in these reports, or for any incorrect interpretation contained within them.
- 1.5.5 This report has been carried out in accordance with the relevant standards and guidance in place at the time of the works. Future changes to these may require a re-assessment of the impact on the neighbouring properties.
- 1.5.6 This assessment excludes consideration of impact to buried utilities, highways, railways, tunnels or other assets unless otherwise stated.

**2 SITE INFORMATION**

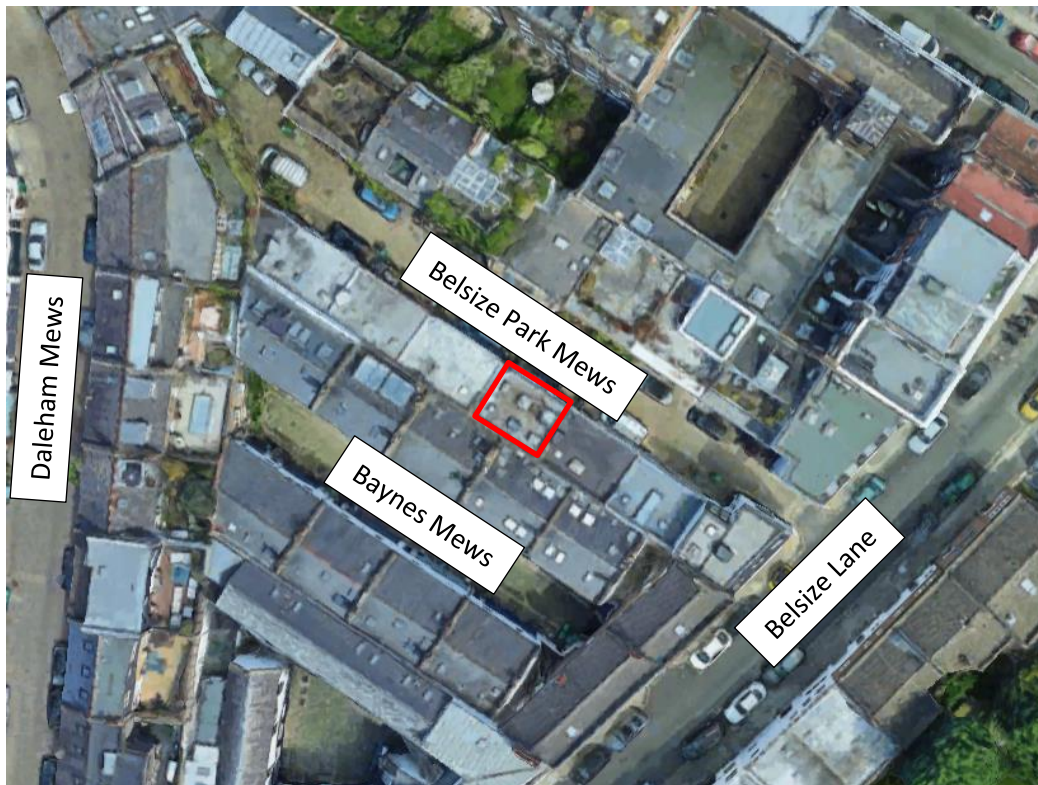
**2.1 Site Information**

2.1.1 The site location plan is shown as Figure 2.1.

**Table 2.1: Site Information**

<b>Name of Site</b>	-
<b>Address of Site</b>	15 Belsize Park Mews, Camden, NW3 5BL
<b>Approx. National Grid Ref.</b>	526806, 184822
<b>Site Area (Approx.)</b>	0.0042 hectares
<b>Site Occupation</b>	Residential property
<b>Local Authority</b>	London Borough of Camden
<b>Proposed Works</b>	Construction of a single-storey basement and the addition of a mansard roof to the existing two-storey mews house.

**Figure 2.1: Satellite view of the site - Approximate site boundary indicated by the red line**



### 3 GROUND MOVEMENT ASSESSMENT

#### 3.1 Overview

3.1.1 Ground movements will arise from a number of different sources as the works progress. These ground movements will extend over a given *zone of influence* surrounding the building footprint.

3.1.2 Ground movements are associated with the proposed works, providing a simplified account of the following.

- Installation works:
  - Ground movements associated with the installation of the underpin wall around the basement perimeter.
- Basement excavation:
  - Ground movements associated with overburden removal (heave) due to excavation works.
  - Ground movement associated with soil-structure interaction between the retaining walls and retained ground mass.
- Long-term ground movements:
  - Ground movements associated with loading of the soil resulting from the proposed structure construction.

#### 3.2 Methodology

3.2.1 The GMA has been carried out using proprietary spreadsheets and the commercially available software packages Oasys PDisp and XDisp which consider the three-dimensional ground movement field induced by the proposed works.

3.2.2 In this analysis the soil is assumed to behave as an isotropic, linear elastic medium. Structural forces applied to the foundation are represented by applying pressures within the elastic half-space representing the foundation soils.

3.2.3 Greenfield assumptions have been adopted for this analysis, where the effects of surrounding anthropogenic structures have not been considered, i.e. the inherent stiffness of the structures under consideration has not been considered.

3.2.4 In XDisp, wall installation effects have been modelled by the application of the normalised empirical CIRIA C760 curve *Installation of planar diaphragm wall in stiff clay*. The underpins are formed at an elevation of 61.5mOD (i.e. approximately 3.5m below ground level). It should be noted that the empirical data set for diaphragm wall installation is not strictly compatible with the construction technologies adopted in underpinning, however in lieu of better matched empirical relationships the diaphragm wall data set is deemed to provide a satisfactory and conservative approximation.

3.2.5 Excavation effects have been assessed by the application of the CIRIA C760 *Excavation in front of high stiffness wall in stiff clay* guidance, accounting for a propped retention



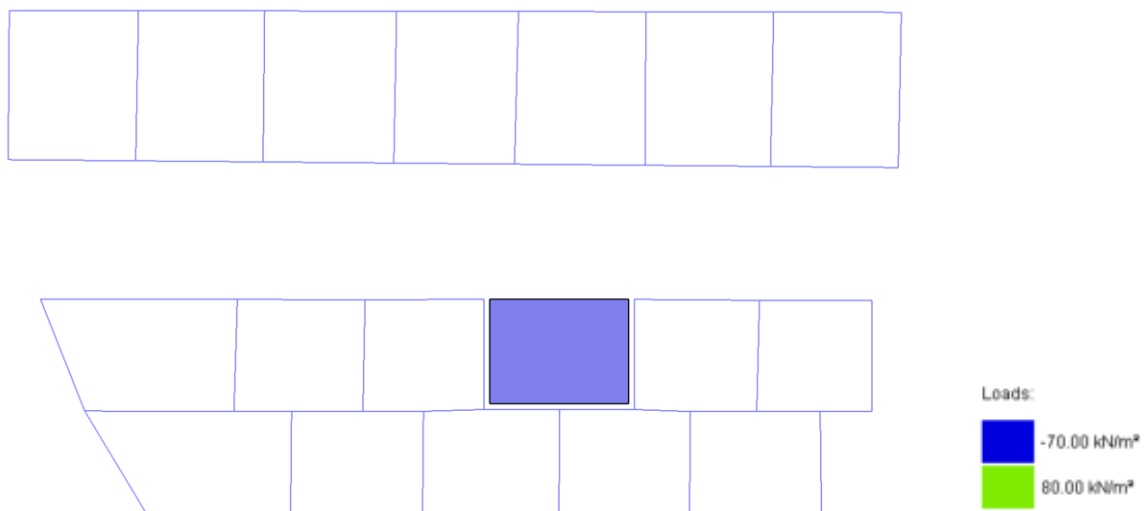
system. The excavation height adopted for the basement is 3.5m to an elevation of circa 65mOD.

3.2.6 Excavation effects have been considered in two separate ways:

- Heave movements resulting from an overburden removal mechanism (due to bulk excavation works).
- Horizontal and vertical ground movements due to excavation in front of the retaining wall based on the CIRIA C760 *excavation in front of high stiffness wall in stiff clay* empirical data set.

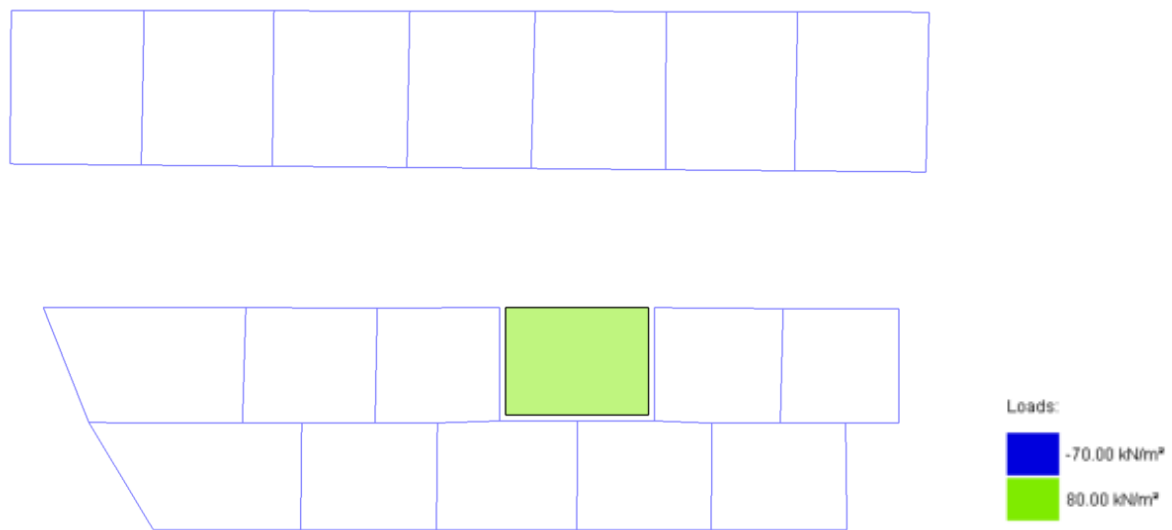
3.2.7 Within Oasys Pdisp, excavation effects (overburden removal and soil heave) are assessed by applying a (negative) uniformly distributed pressure over the proposed basement footprint. The pressures removed over the basement footprint of the building have been determined using the excavation depth required to bring the existing ground level to the proposed basement formation level. The unit weight of soil has been assumed to be 20kN/m<sup>3</sup> for a load of 70kPa. Figure 3.1 shows the uniformly loaded area and the pressures applied.

Figure 3.1: Excavation unloading pressure



3.2.8 The basement box will be formed using underpins, the underpins themselves will be tied into a concrete slab and it is proposed that the slab will act as a stiff raft distributing loads coming down from the retaining walls.

Figure 3.2: Proposed building loading pressures



- 3.2.9 A series of three-dimensional models of the proposed scheme have been developed in Oasys PDisp and Oasys XDisp and have been combined by means of superposition to represent the various ground displacement fields summarised above.
- 3.2.10 The scenarios simulated for the assessment presented herein have encompassed the following ground movements aspects.
- **Scenario 1:** Excavation of new below-ground space – ground heave effects – short-term.
  - **Scenario 2:** Installation of underpin cantilever retaining wall and excavation of proposed below-ground space (CIRIA) and application/redistribution of structural loads – long-term.
- 3.2.11 The potential impact/damage induced on the facades of the neighbouring properties within the zone of influence of the proposed scheme has been evaluated on the basis of the calculated ground movement field.
- 3.2.12 The structural walls of concern are shown in Figure 3.3. Each wall has been assumed to behave as an equivalent beam subject to a bending and extension/compression deformation mechanism, based on the evaluated greenfield ground movement, as outlined previously.
- 3.2.1 The most conservative assumptions have been made with regards to the neighbouring properties, as all the façades / walls of concern have been modelled at ground level.
- 3.2.2 Tensile strains induced within the facades of the neighbouring properties have been evaluated based on a combination of direct tension and the deflection ratios  $\Delta/L$  estimated from the analyses (Figure 3.5). The assessment considers the well-established Burland (1997) damage classification method, as presented and

summarised in Figure 3.6. This method involves a simple but robust means of assessment, which is widely adopted and is considered to comprise an industry standard/best practice basis for impact assessments of this type.

3.2.3 Potential damage categories are related to the tensile strains induced by the assessed interim (short-term) and long-term phases of construction, arising from a combination of direct tension, and bending induced tension mechanisms.

3.2.4 A perspective view of the XDisp 3D model is depicted in Figure 3.4.

**Figure 3.3: Neighbouring buildings within zone of influence**

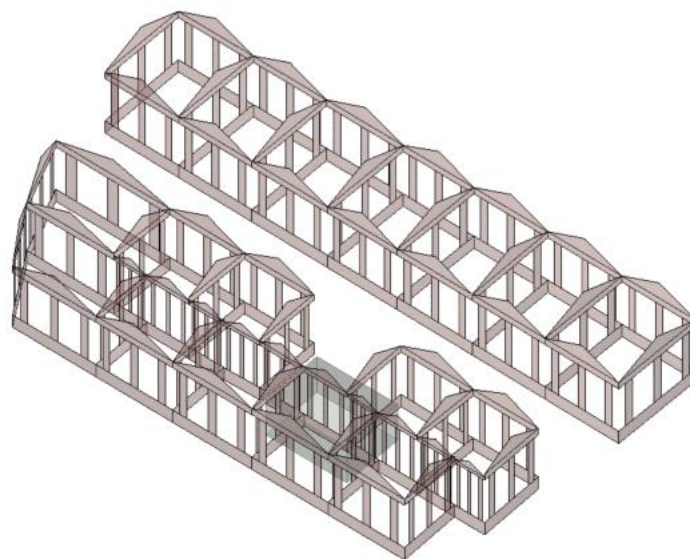


Figure 3.4: Perspective view of Xdisp 3d model indicating the excavation zone and neighbouring properties.

Figure 3.5: Definition of relative deflection  $\Delta$  and deflection ratio  $\Delta/L$ .

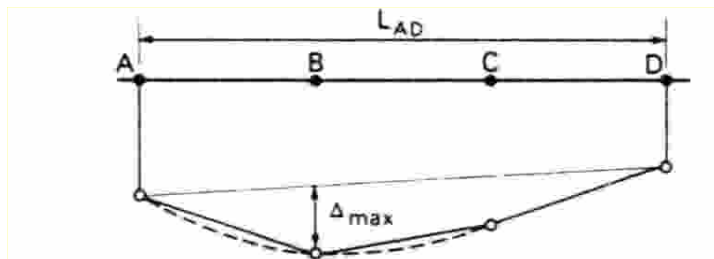


Figure 3.6: Damage categorisation – relationship between category of damage and limiting strain  $\epsilon_{lim}$ .

Building damage classification, after Burland et al 1977 and Boscardin and Cording 1989				
Category of damage		Description of typical damage (ease of repair is underlined)	Approximate crack width (mm)	Limiting tensile strain %
0	Negligible	Hairline cracks of less than about 0.1mm are classes as negligible.	< 0.1	0.0-0.05
1	Very Slight	<u>Fine cracks that can easily be treated during normal decoration.</u> Perhaps isolated slight fracture in building. Cracks in external brickwork visible on inspection.	< 1	0.05-0.075
2	Slight	<u>Cracks easily filled. Redecoration probably required.</u> Several slight fractures showing inside of building. Cracks are visible externally and <u>some repointing may be required externally</u> to ensure weathertightness. Doors and windows may stick slightly.	< 5	0.075-0.15
3	Moderate	<u>The cracks require some opening up and can be patched by a mason.</u> Recurrent cracks can be masked by <u>suitable linings. Repointing of external brickwork and possibly a small amount of brickwork to be replaced.</u> Doors and windows sticking. Service pipes may fracture. Weather-tightness often impaired.	5-15 or a number of cracks >3	0.15-0.3
4	Severe	<u>Extensive repair work involving breaking-out and replacing sections of walls, especially over doors and windows.</u> Windows and frames distorted, floors sloping noticeably. Walls leaning or bulging noticeably, some loss of bearing in beams. Service pipes disrupted.	15-25 but also depends on number of cracks	>0.3
5	Very Severe	<u>This requires a major repair involving partial or complete rebuilding.</u> Beams lose bearings, walls lean badly and require shoring. Windows broken with distortion. Danger of instability.	Usually >25 but depends on number of cracks	

### 3.3 Ground Model

3.3.1 The following section summarises the ground model adopted for this analysis.

3.3.2 The stratigraphy discussed herein is based on:

- P5188J2818 – Ground Investigation & Basement Impact Assessment for 15 Belsize Park Mews, Camden NW3 5BL, produced by Jomas in November 2023.
- Logs of historical borehole investigation and well installations accessed through the British Geological Survey (BGS) Geology of Britain web map service.

3.3.3 Table 3.1 presents the ground model adopted for this analysis.

**Table 3.1: Ground model and geotechnical parameters adopted for the GMA**

Stratum	Top of Stratum (m AOD)	Undrained Young's Modulus $E_u$ (MPa)	Undrained Young's Modulus $E_u$ (MPa)
Made Ground	65.0	10	8
London Clay Formation	63.8	$30 + 1.6z$ <sup>1)</sup>	$24 + 1.3z$ <sup>1)</sup>

<sup>1)</sup> Z = depth from top of stratum.

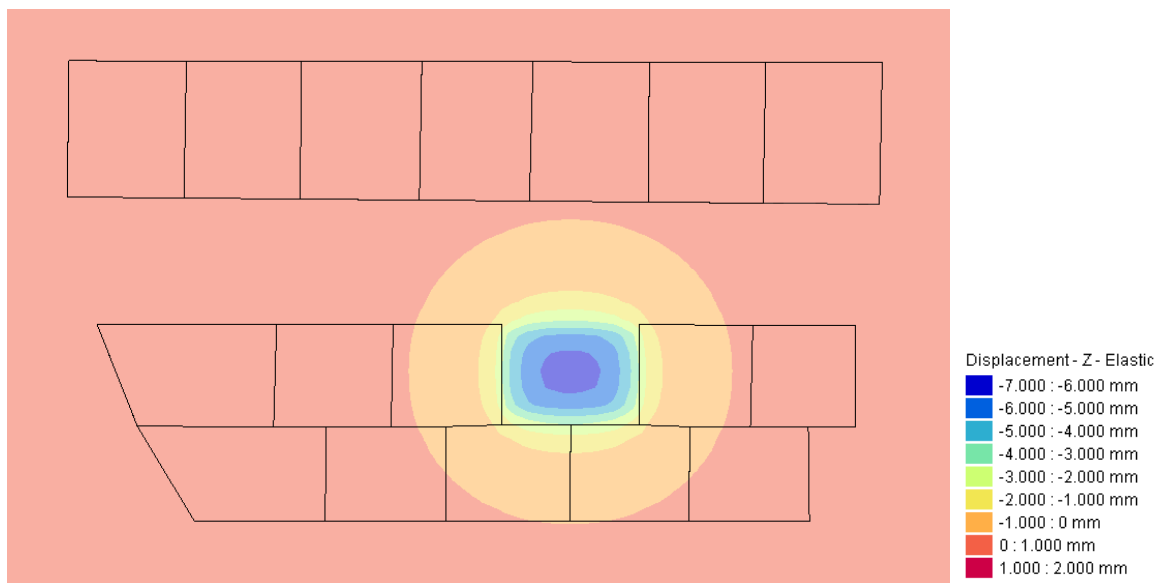
### 3.4 Impact Assessment Outcome

3.4.1 The assessment results indicate minimal impact to the neighbouring properties as a result of the proposed works. The obtained damage categories vary between *Category 0 - Negligible* and *Category 1 - Very Slight* for all analysed scenarios, with respect to the Burland structural damage assessment criteria. The results of the assessment are presented at the end of this section in Table 3.2.

3.4.2 These results are within the typical acceptable limits of anticipated structural damage for developments within the London Borough of Camden.

3.4.3 Figure 3.7 depicts the vertical ground surface movements calculated in PDisp for Scenario 1. As it can be observed the ground heave has been calculated to vary between 3mm and 7mm within the proposed excavation area. Ground heave values of up to 4mm have been calculated outside the proposed basement perimeter.

Figure 3.7: Ground surface movements - vertical - Scenario 1



- 3.4.4 Figures 3.8 and 3.9 depict the vertical and resultant horizontal ground surface movements, respectively, calculated for Scenario 2. It can be observed that the maximum settlements resulting from the installation of the underpins, basement excavation and proposed building loading have been calculated to be up to 13mm at the perimeter of the basement. The resultant maximum horizontal ground surface movements have been calculated to be approximately 5-6mm at the top of the underpins/walls.
- 3.4.5 In order to ensure that the damage categories of the neighbouring facades do not exceed Category 1, the horizontal movements from the “Excavation in front of high stiffness wall in stiff clay” surface movement curve modelled in XDisp have been scaled to 75%. This is reflected in the basement excavation criteria presented in the next section.

Figure 3.8: Ground surface movements - vertical - Scenario 2

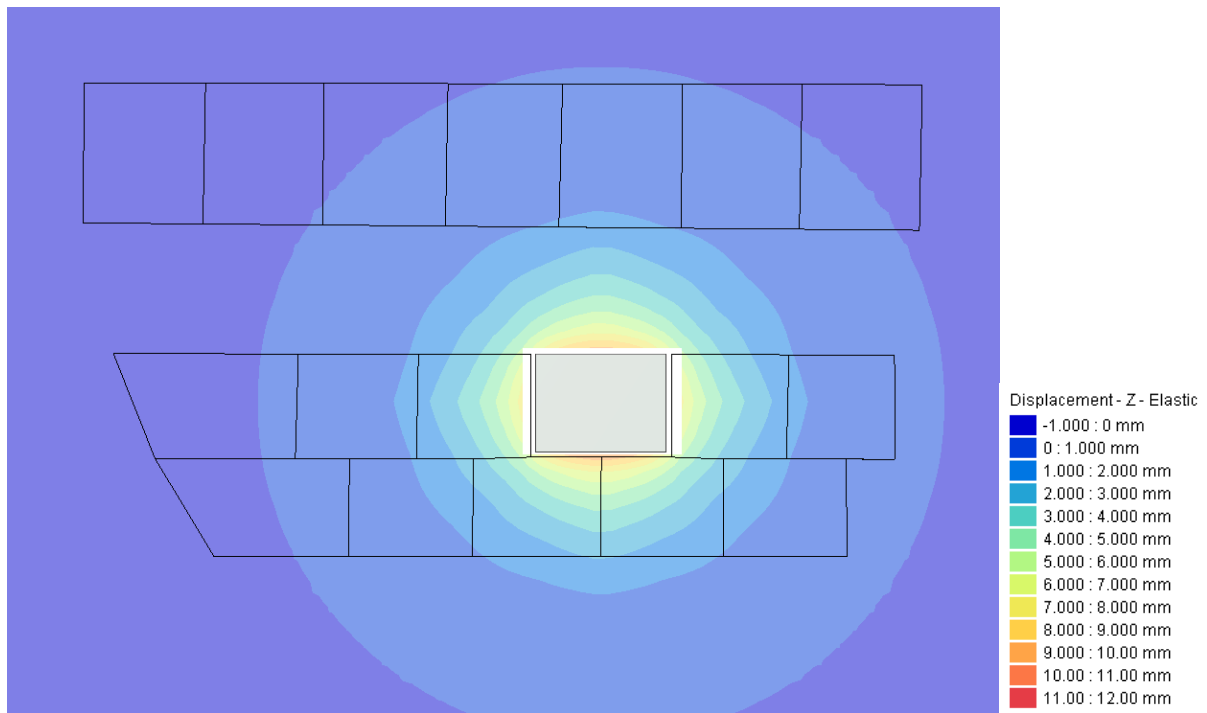
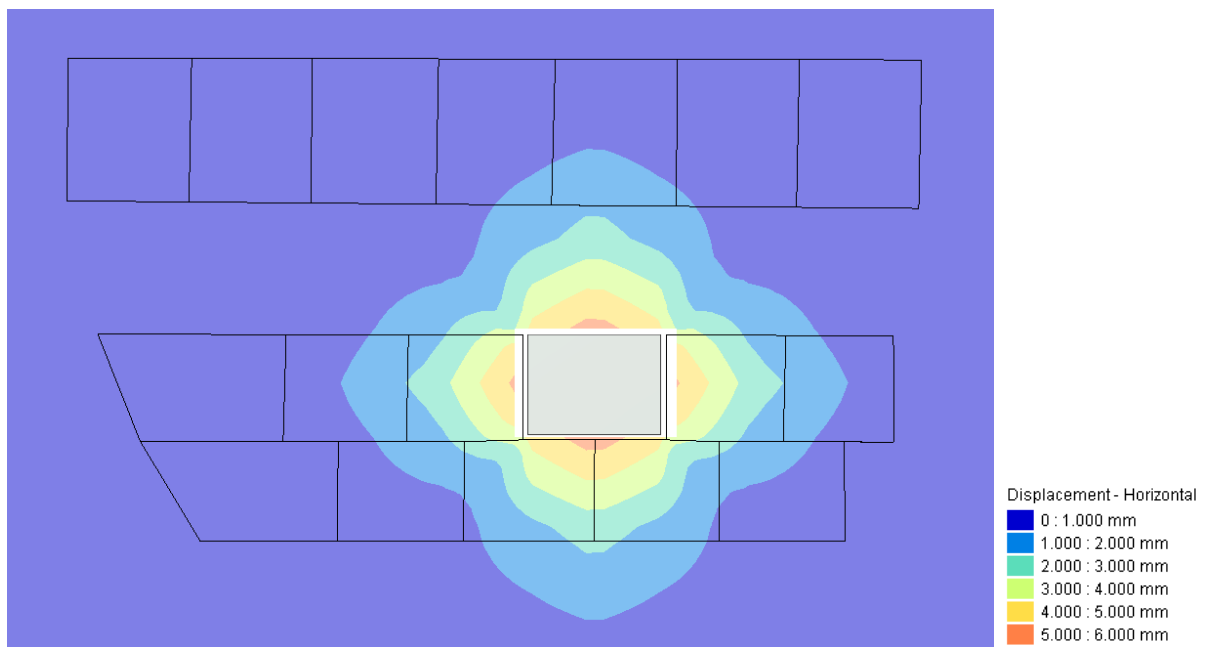


Figure 3.9: Ground surface movements - horizontal - Scenario 2



**Table 3.2: Evaluated damage categories from XDisp**

Façade Reference	Scenario 1	Scenario 2
2BelsizeParkMews_0.01	0 (Negligible)	0 (Negligible)
2BelsizeParkMews_0.02	0 (Negligible)	0 (Negligible)
2BelsizeParkMews_0.03	0 (Negligible)	0 (Negligible)
3BelsizeParkMews_0.01	0 (Negligible)	0 (Negligible)
3BelsizeParkMews_0.02	0 (Negligible)	0 (Negligible)
3BelsizeParkMews_0.03	0 (Negligible)	0 (Negligible)
4BelsizeParkMews_0.01	0 (Negligible)	0 (Negligible)
4BelsizeParkMews_0.02	0 (Negligible)	0 (Negligible)
4BelsizeParkMews_0.03	0 (Negligible)	0 (Negligible)
5BelsizeParkMews_0.01	0 (Negligible)	0 (Negligible)
5BelsizeParkMews_0.02	0 (Negligible)	0 (Negligible)
5BelsizeParkMews_0.03	0 (Negligible)	0 (Negligible)
6BelsizeParkMews_0.01	0 (Negligible)	0 (Negligible)
6BelsizeParkMews_0.02	0 (Negligible)	0 (Negligible)
6BelsizeParkMews_0.03	0 (Negligible)	0 (Negligible)
7BelsizeParkMews_0.01	0 (Negligible)	0 (Negligible)
7BelsizeParkMews_0.02	0 (Negligible)	0 (Negligible)
7BelsizeParkMews_0.03	0 (Negligible)	0 (Negligible)
8BelsizeParkMews_0.01	0 (Negligible)	0 (Negligible)
8BelsizeParkMews_0.02	0 (Negligible)	0 (Negligible)
8BelsizeParkMews_0.03	0 (Negligible)	0 (Negligible)
8BelsizeParkMews_0.04	0 (Negligible)	0 (Negligible)
11BelsizeParkMews_0.01	0 (Negligible)	0 (Negligible)
11BelsizeParkMews_0.02	0 (Negligible)	0 (Negligible)
11BelsizeParkMews_0.03	0 (Negligible)	0 (Negligible)
11BelsizeParkMews_0.04	0 (Negligible)	0 (Negligible)
12BelsizeParkMews_0.01	0 (Negligible)	0 (Negligible)
12BelsizeParkMews_0.02	0 (Negligible)	0 (Negligible)
12BelsizeParkMews_0.03	0 (Negligible)	0 (Negligible)
12BelsizeParkMews_0.04	0 (Negligible)	0 (Negligible)
14BelsizeParkMews_0.01	0 (Negligible)	0 (Negligible)
14BelsizeParkMews_0.02	0 (Negligible)	0 (Negligible)
14BelsizeParkMews_0.03	0 (Negligible)	0 (Negligible)



**SECTION 3**  
**GROUND MOVEMENT ASSESSMENT**

Façade Reference	Scenario 1	Scenario 2
14BelsizeParkMews_0.04	0 (Negligible)	1 (Very Slight)
16BelsizeParkMews_0.01	0 (Negligible)	0 (Negligible)
16BelsizeParkMews_0.02	0 (Negligible)	0 (Negligible)
16BelsizeParkMews_0.03	0 (Negligible)	0 (Negligible)
16BelsizeParkMews_0.04	0 (Negligible)	0 (Negligible)
16BelsizeParkMews_0.05	0 (Negligible)	1 (Very Slight)
17BelsizeParkMews_0.01	0 (Negligible)	0 (Negligible)
17BelsizeParkMews_0.02	0 (Negligible)	0 (Negligible)
17BelsizeParkMews_0.03	0 (Negligible)	0 (Negligible)
17BelsizeParkMews_0.04	0 (Negligible)	0 (Negligible)
1BaynesMews_0.01	0 (Negligible)	0 (Negligible)
1BaynesMews_0.02	0 (Negligible)	0 (Negligible)
2BaynesMews_0.01	0 (Negligible)	0 (Negligible)
2BaynesMews_0.02	0 (Negligible)	0 (Negligible)
2BaynesMews_0.03	0 (Negligible)	0 (Negligible)
3BaynesMews_0.01	0 (Negligible)	0 (Negligible)
3BaynesMews_0.02	0 (Negligible)	1 (Very Slight)
3BaynesMews_0.03	0 (Negligible)	0 (Negligible)
4BaynesMews_0.01	0 (Negligible)	0 (Negligible)
4BaynesMews_0.02	0 (Negligible)	0 (Negligible)
5BaynesMews_0.01	0 (Negligible)	0 (Negligible)
5BaynesMews_0.02	0 (Negligible)	0 (Negligible)
5BaynesMews_0.03	0 (Negligible)	0 (Negligible)

**4 EXCAVATION PERFORMANCE CRITERIA**

4.1.1 The results of this analysis show that all buildings will fall within the acceptable damage classification (i.e. not exceeding Category 1 – Very Slight), if the ground movements caused by the wall installation and excavation and scheme construction are limited to the values presented in Table 4.1. The values in the table below represent the worst-case ground movements and consider the reduction of the excavation movement curve in XDisp to 75%.

4.1.2 It is noted that the GMA should be supplemented by a project-specific monitoring regime and Action Plan, which will delineate lines of responsibility, trigger levels in accordance with those presented in this GMA and appropriate mitigation measures. It is understood these details are included within the Structural Engineer’s report.

**Table 4.1: Maximum cumulative ground movement from XDisp**

Stage	Maximum Cumulative Ground Movement (mm)	
	Vertical	Horizontal
Underpinning (Installation and excavation)	3	5
Building Construction (Long-Term)	13	5

*Movement at top of underpin walls*

## 5 CONCLUSIONS AND SUMMARY

- 5.1.1 The interaction between the proposed development at 15 Belsize Park Mews, Camden, NW3 5BL and the neighbouring properties has been reviewed as part of the Ground Movement Assessment (GMA) study presented herein.
- 5.1.2 The impact of the basement excavation stage of construction has been assessed using Oasys Pdisp and Xdisp and proprietary spreadsheets. Ground movements arising from installation of the underpins has been taken into consideration using CIRIA C760 empirical data sets. Ground movements arising from the proposed excavation works have been assessed as an overburden removal mechanism and with respect to CIRIA C760 empirical data sets.
- 5.1.3 The geology found within the site under consideration comprises Made Ground to a depth of 1.2m, underlain by London Clay Formation.
- 5.1.4 The scenarios simulated for the assessment presented herein have encompassed the following ground movements aspects.
- **Scenario 1:** Excavation - ground heave effects - short-term.
  - **Scenario 2:** Installation of underpins & excavation (CIRIA) and application / redistribution of structural loads – long term.
- 5.1.5 The results from the analysis are presented in Figures 3.7 to 3.9.
- 5.1.6 Maximum vertical and resultant horizontal displacements of 13mm and 5-6mm respectively at basement footprint, have been observed for the worst-case scenario representing the long-term effects of the proposed scheme.
- 5.1.7 All façades have been evaluated to fall within damage *Category 1 – Negligible* based on the Burland damage criteria, which is within the acceptable limits of anticipated structural damage for developments within the London Borough of Camden.
- 5.1.8 The design of the earth retention system will need to be coordinated closely with the findings and performance criteria presented herein, in particular the excavation performance criteria detailed in Section 4 of this report.
- 5.1.9 It is noted that the predicted ground movements are considered to be moderately conservative in light of the relatively cautious ground model assumptions and simplified *greenfield* nature of the assessment undertaken.
- 5.1.10 The assessment presented herein is dependent and reliant on the works being undertaken by an experienced contractor, high quality workmanship and appropriate supervision of construction means and methods by experienced personnel.
- 5.1.11 It is also noted that the GMA should be supplemented by a project specific monitoring regime and Action Plan, which will delineate lines of responsibility, monitor trigger levels and appropriate mitigation measures. It is understood these details are included within the Structural Engineer's report.

**6 REFERENCES**

British Standards Institution BS 5930:2015+A1:2020 Code of practice for ground investigations. BSI: London

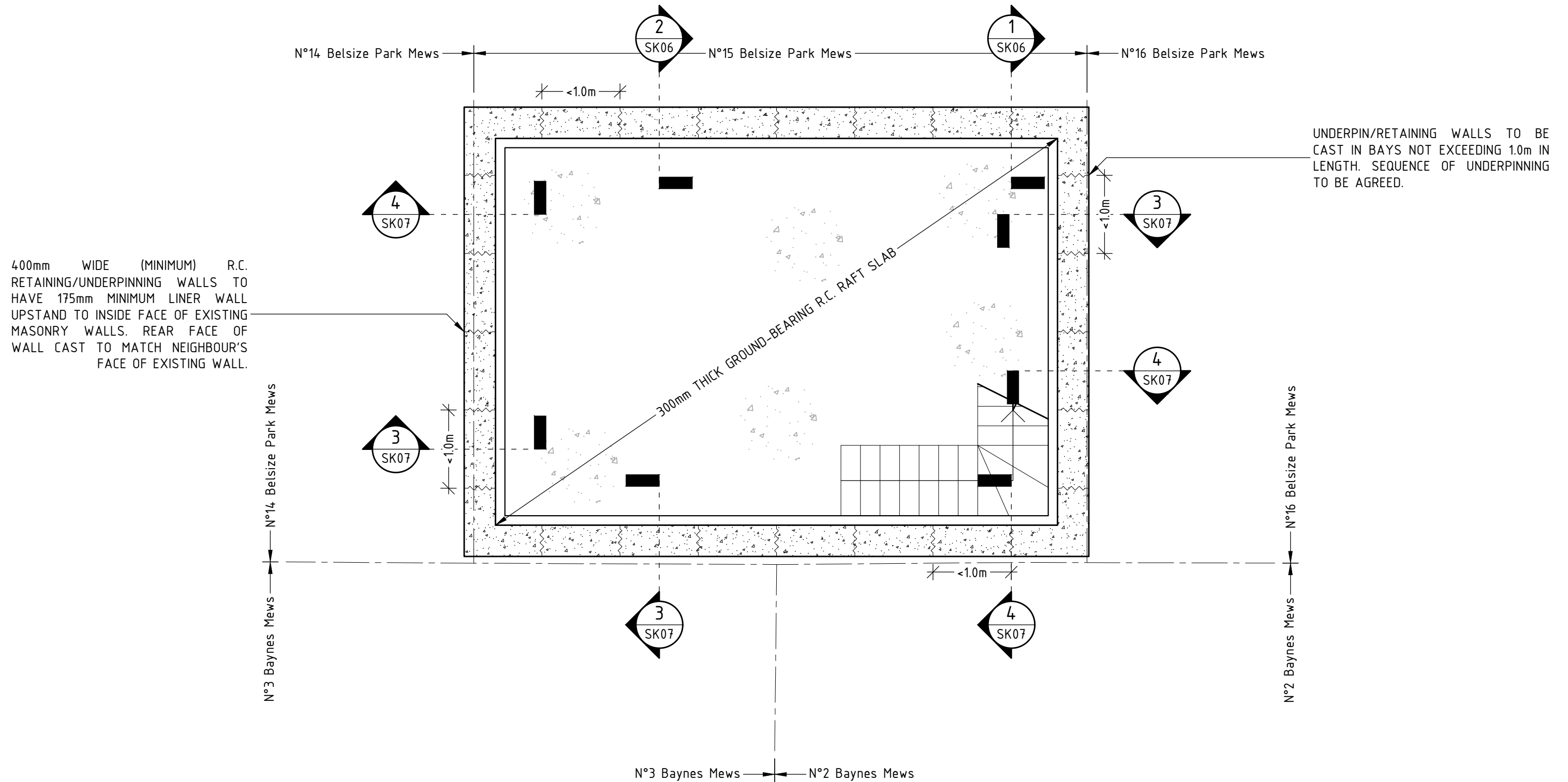
CIRIA Report C760 (2017) Guidance on embedded retaining wall design. CIRIA: London

Tomlinson M.J (2001): Foundation Design and Construction 7<sup>th</sup> Edition. Pearson prentice Hall: Harlow

## APPENDICES

## **APPENDIX 1 – SELECTED SUPPORTING INFORMATION**

REV	DETAIL	Dr	Ch	DATE
00	Sketch	JL	CC	2023/08/17



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Client: <b>Electron Holdings Management Ltd.</b>	Title: <b>Proposed Basement Floor Layout</b>	Drawing N°: <b>SK01</b>	Rev: <b>00</b>
Project: <b>15 Belsize Park Mews, London, NW3 5BL</b>	Project N°: <b>23066</b>	Date: <b>Aug 2023</b>	Drawn: <b>JL</b>
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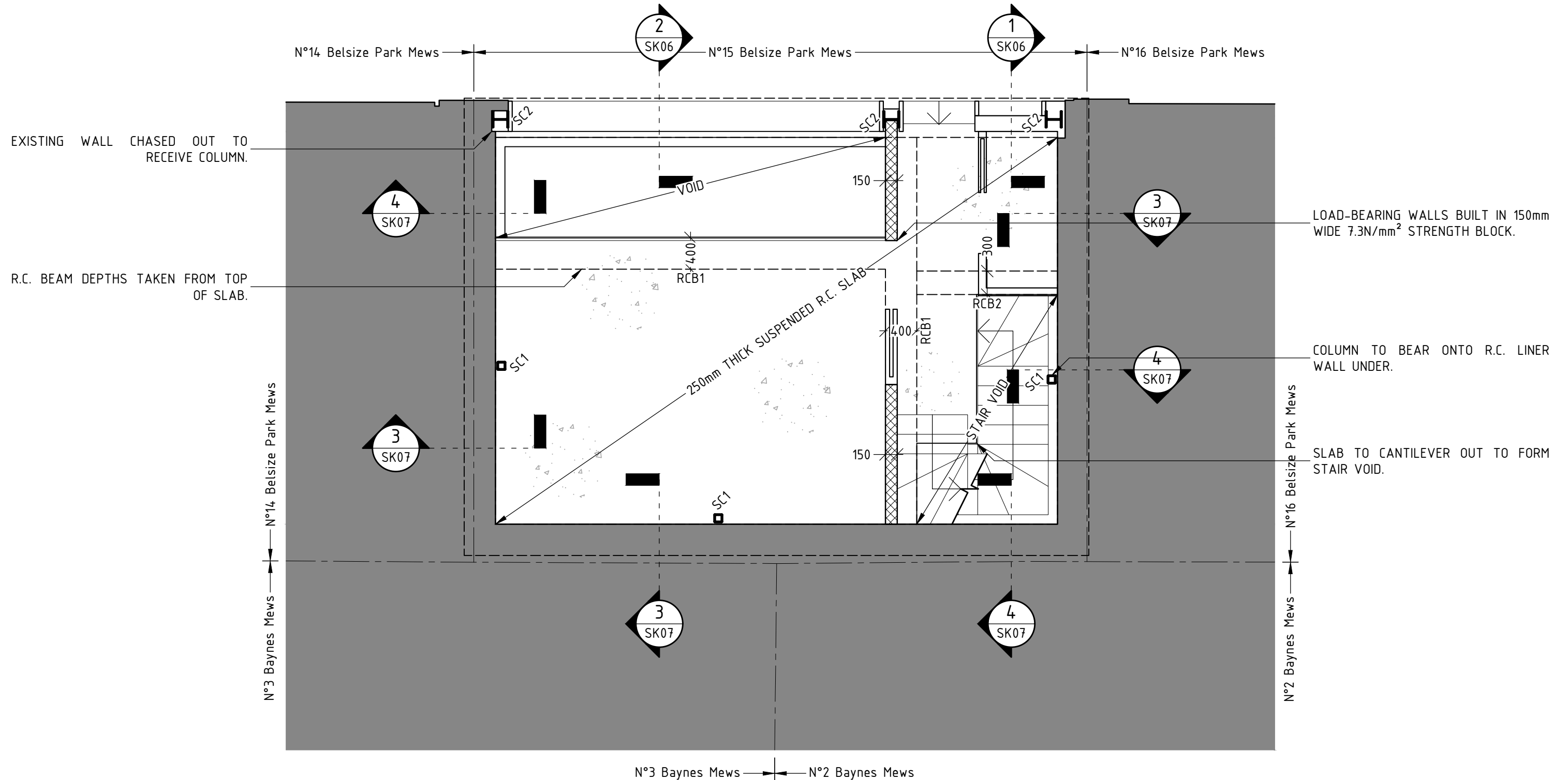
**AMA**  
Consulting Engineers  
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www.amac.co.uk

STEEL COLUMN SCHEDULE	
MARK	DESIGNATION
SC1	SHS 100
SC2	UC 203

GROUND FLOOR BEAM SCHEDULE	
MARK	DESIGNATION
GB1	400mm WIDE x600mm DEEP REINFORCED CONCRETE
GB2	400mm WIDE x600mm DEEP REINFORCED CONCRETE

GROUND FLOOR BEAM SCHEDULE	
MARK	DESIGNATION
GB3	300mm WIDE x300mm DEEP REINFORCED CONCRETE

REV	DETAIL	Dr	Ch	DATE
00	Sketch	JL	CC	2023/08/17

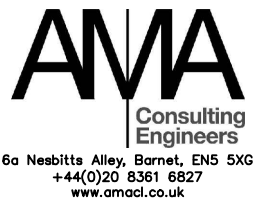


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Client: **Electron Holdings Management Ltd.**  
 Project: **15 Belsize Park Mews, London, NW3 5BL**

Title: **Proposed Ground Floor Layout**  
 Project N°: **23066**

Drawing N°: **SK02**  
 Rev: **00**  
 Date: **Aug 2023**  
 Scale @A3: **1:50**  
 Drawn: **JL**  
 Engineer: **CC**





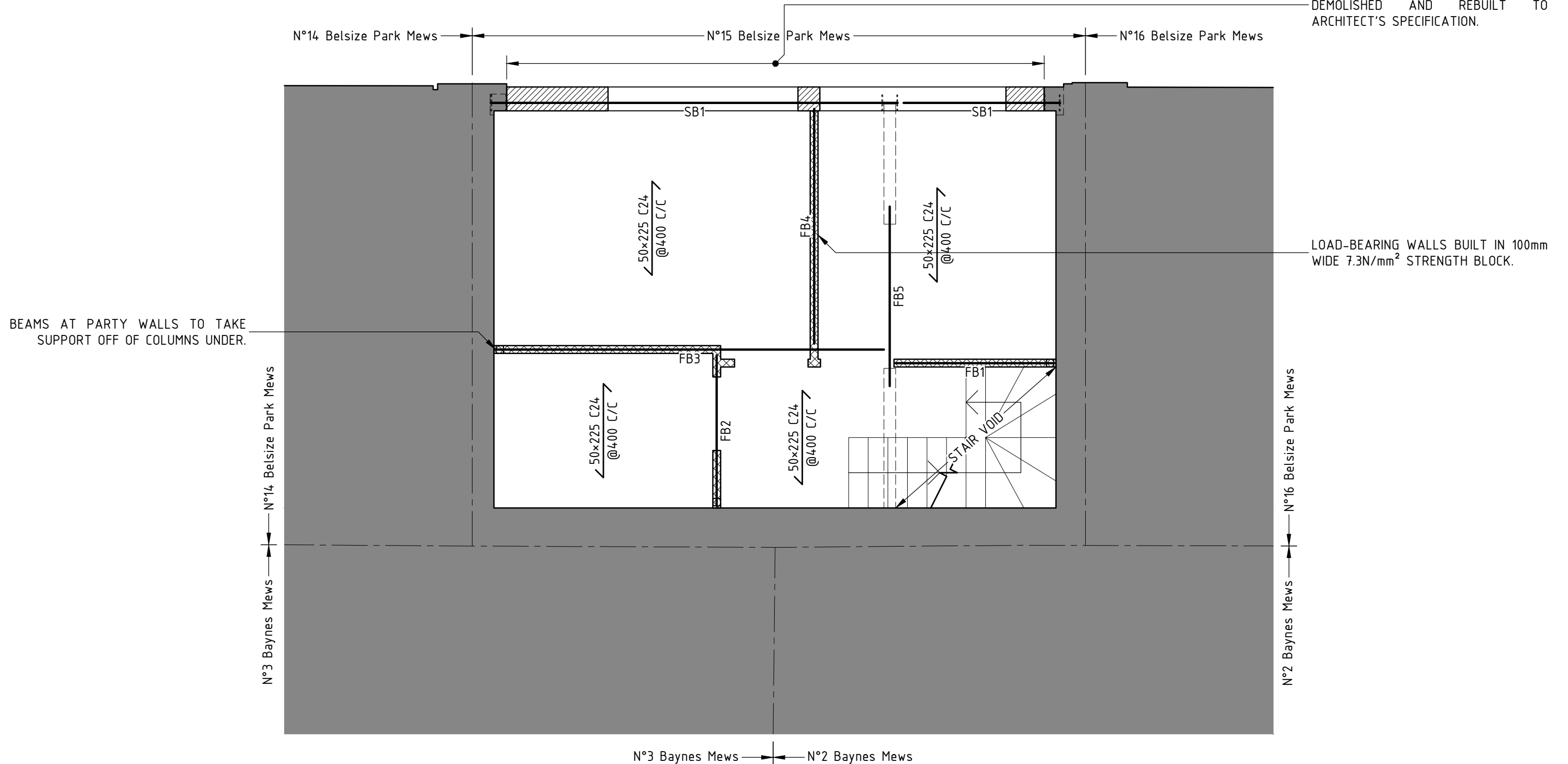
STEEL COLUMN SCHEDULE	
MARK	DESIGNATION
SC1	SHS 100
SC2	UC 203

FIRST FLOOR BEAM SCHEDULE	
MARK	DESIGNATION
FB1	UB 203
FB2	UB 203
FB3	UC 203

FIRST FLOOR BEAM SCHEDULE	
MARK	DESIGNATION
FB4	UC 203
FB5	UB 203

REV	DETAIL	Dr	Ch	DATE
00	Sketch	JL	CC	2023/08/17

EXTENTS OF EXISTING WALL TO BE DEMOLISHED AND REBUILT TO ARCHITECT'S SPECIFICATION.

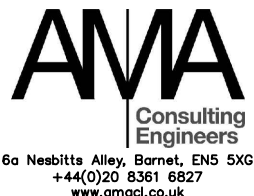


BEAMS AT PARTY WALLS TO TAKE SUPPORT OFF OF COLUMNS UNDER.

LOAD-BEARING WALLS BUILT IN 100mm WIDE 7.3N/mm<sup>2</sup> STRENGTH BLOCK.

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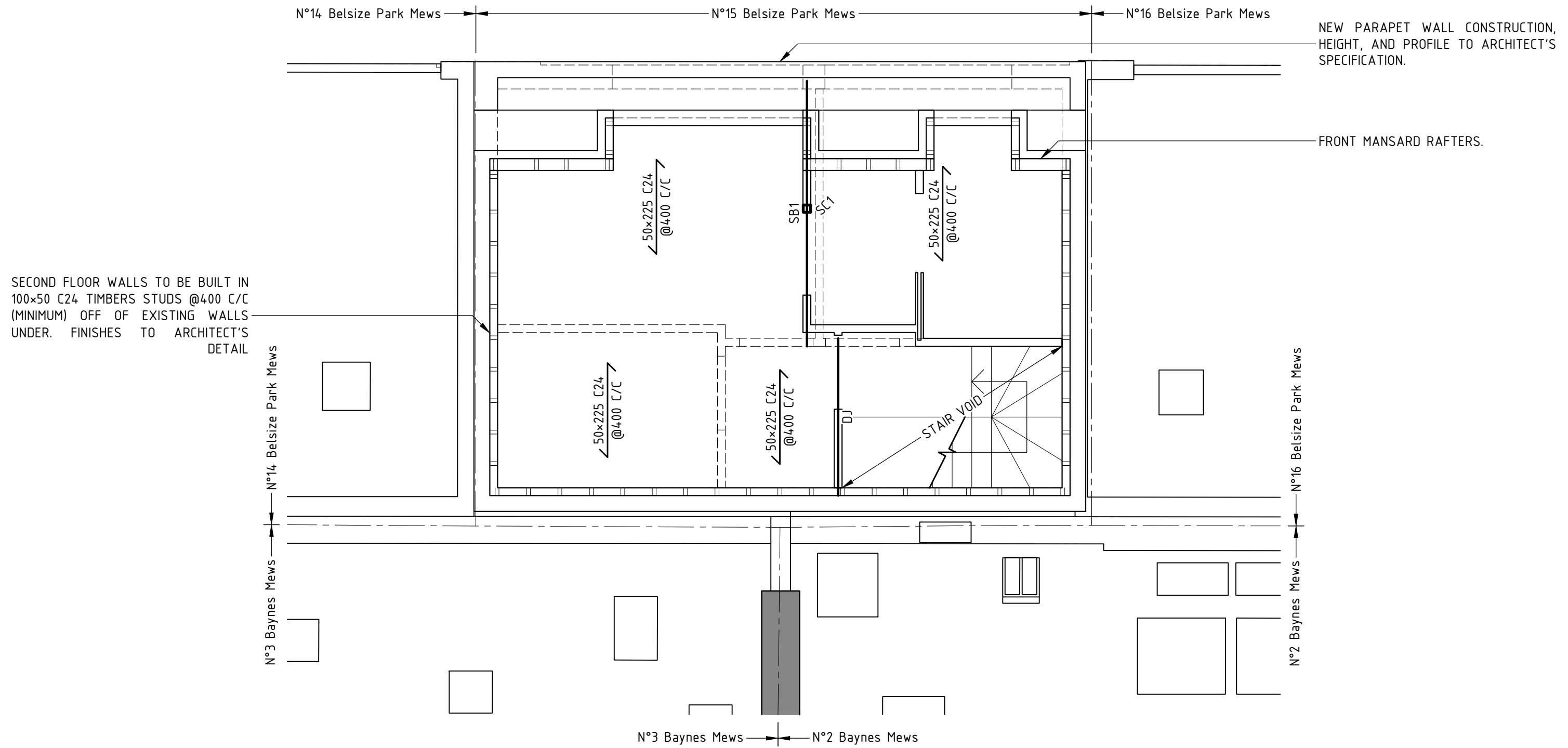
Client: <b>Electron Holdings Management Ltd.</b>	Title: <b>Proposed First Floor Layout</b>	Drawing N°: <b>SK03</b>	Rev: <b>00</b>
Project: <b>15 Belsize Park Mews, London, NW3 5BL</b>	Project N°: <b>23066</b>	Date: <b>Aug 2023</b>	Drawn: <b>JL</b>
		Scale @A3: <b>1:50</b>	Engineer: <b>CC</b>



STEEL COLUMN SCHEDULE	
MARK	DESIGNATION
SC1	SHS 100
SC2	UC 203

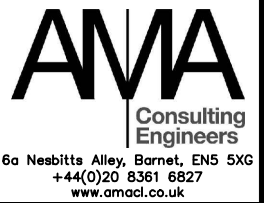
SECOND FLOOR BEAM SCHEDULE	
MARK	DESIGNATION
SB1	UC 152

REV	DETAIL	Dr	Ch	DATE
00	Sketch	JL	CC	2023/08/17



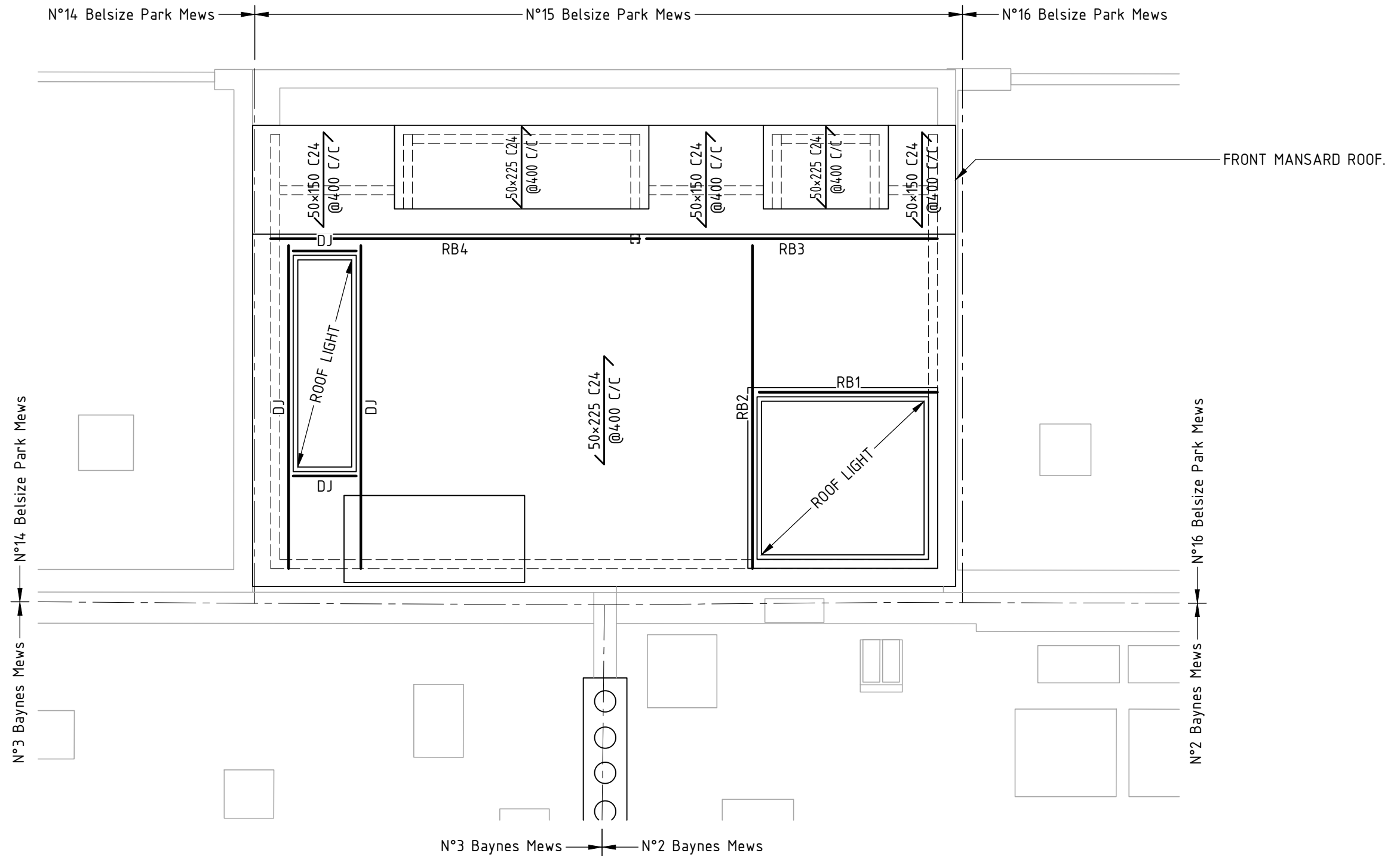
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Client: <b>Electron Holdings Management Ltd.</b>	Title: <b>Proposed Second Floor Layout</b>	Drawing N°: <b>SK04</b>	Rev: <b>00</b>
Project: <b>15 Belsize Park Mews, London, NW3 5BL</b>	Project N°: <b>23066</b>	Date: <b>Aug 2023</b>	Drawn: <b>JL</b>
		Scale @A3: <b>1:50</b>	Engineer: <b>CC</b>



ROOF BEAM SCHEDULE	
MARK	DESIGNATION
RB1	UC 152
RB2	UC 152
RB3	UC 152
RB4	UC 152

REV	DETAIL	Dr	Ch	DATE
00	Sketch	JL	CC	2023/08/17



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Client: **Electron Holdings Management Ltd.**  
 Project: **15 Belsize Park Mews, London, NW3 5BL**

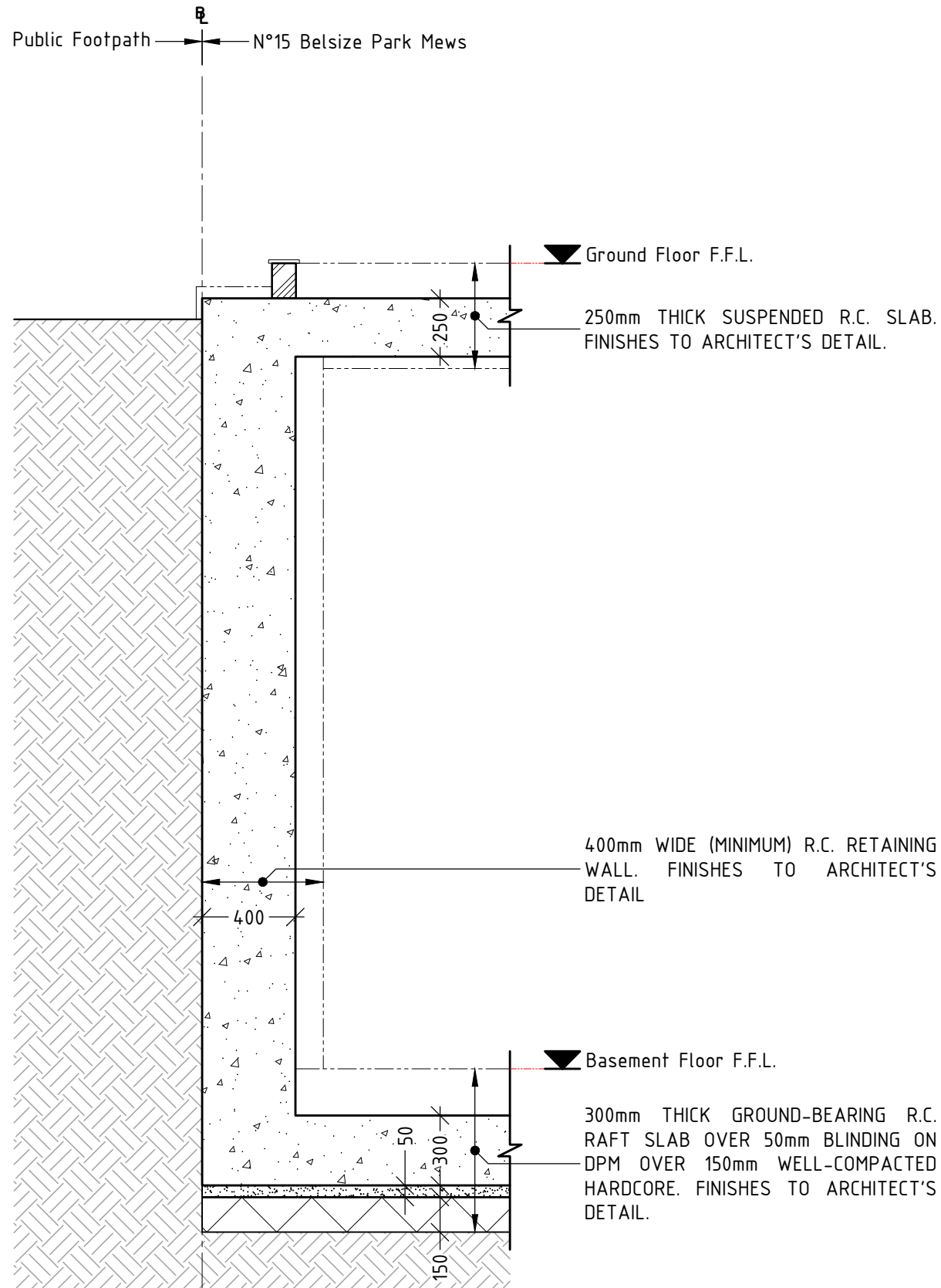
Title: **Proposed Roof Layout**  
 Project N°: **23066**

Drawing N°: **SK05**  
 Date: **Aug 2023**  
 Scale @A3: **1:50**  
 Rev: **00**  
 Drawn: **JL**  
 Engineer: **CC**



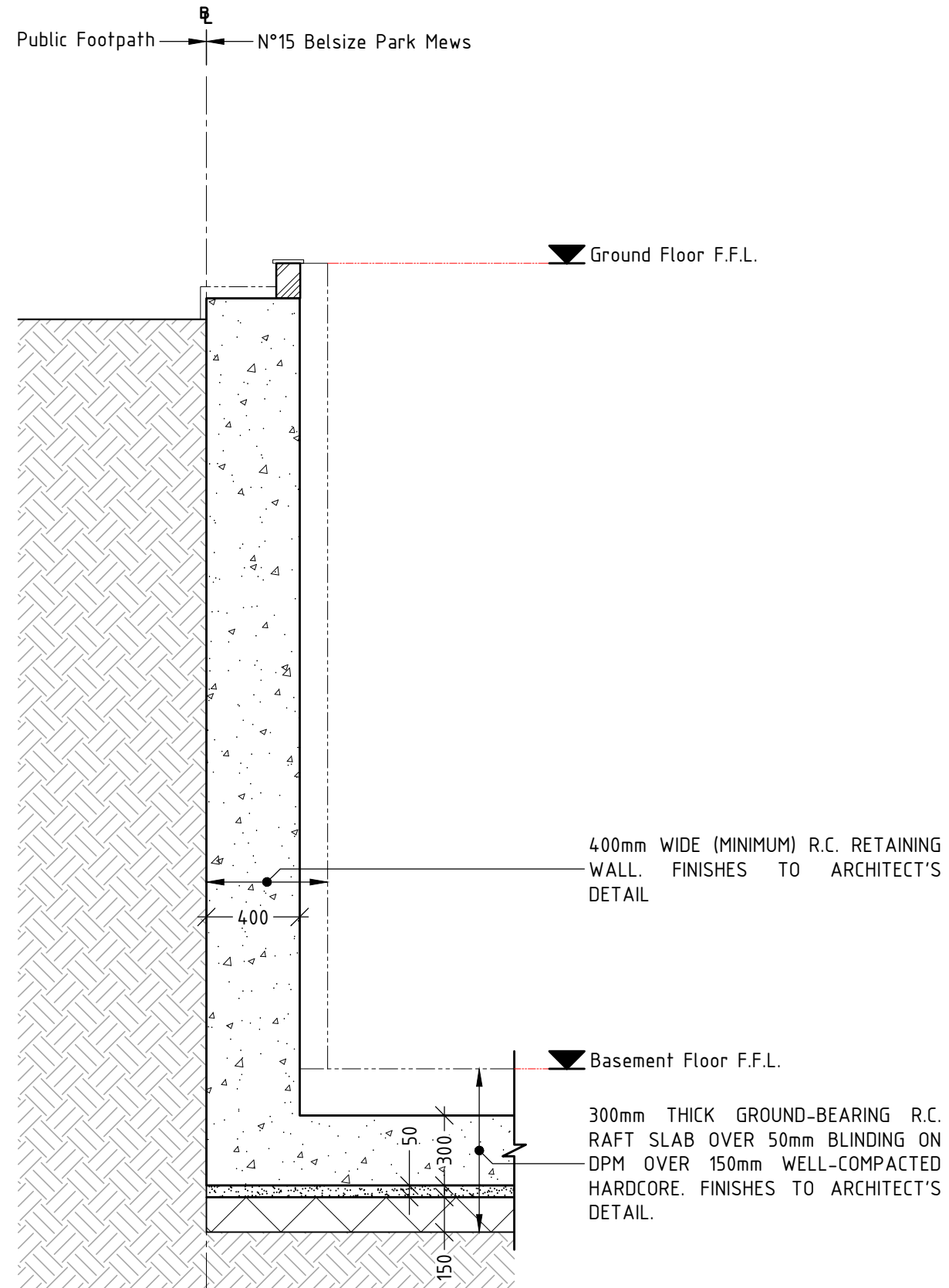
SECTION 1-1

1:25 @ A3



SECTION 2-2

1:25 @ A3



Drawing Status

INFORMATION

REV	DETAIL	Dr	Ch	DATE
00	Sketch	JL	CC	2023/08/17

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Client: **Electron Holdings Management Ltd.**

Project: **15 Belsize Park Mews, London, NW3 5BL**

Title: **Proposed Sections 1 & 2**

Project N°: **23066**

Drawing N°: **SK06**

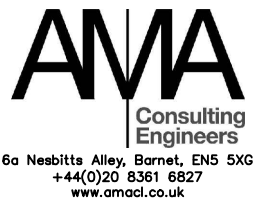
Date: **Aug 2023**

Scale @A3: **1:25**

Rev: **00**

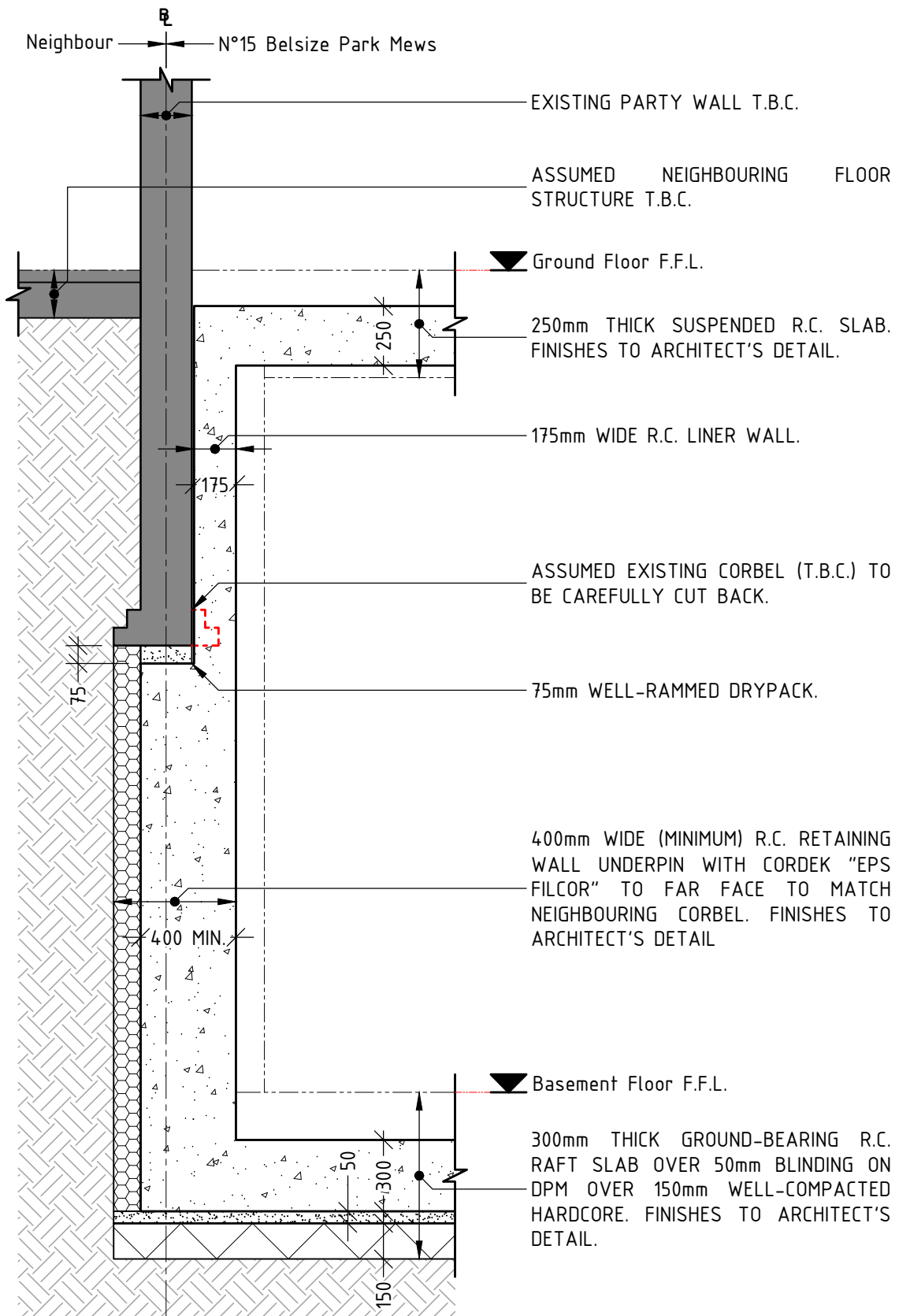
Drawn: **JL**

Engineer: **CC**



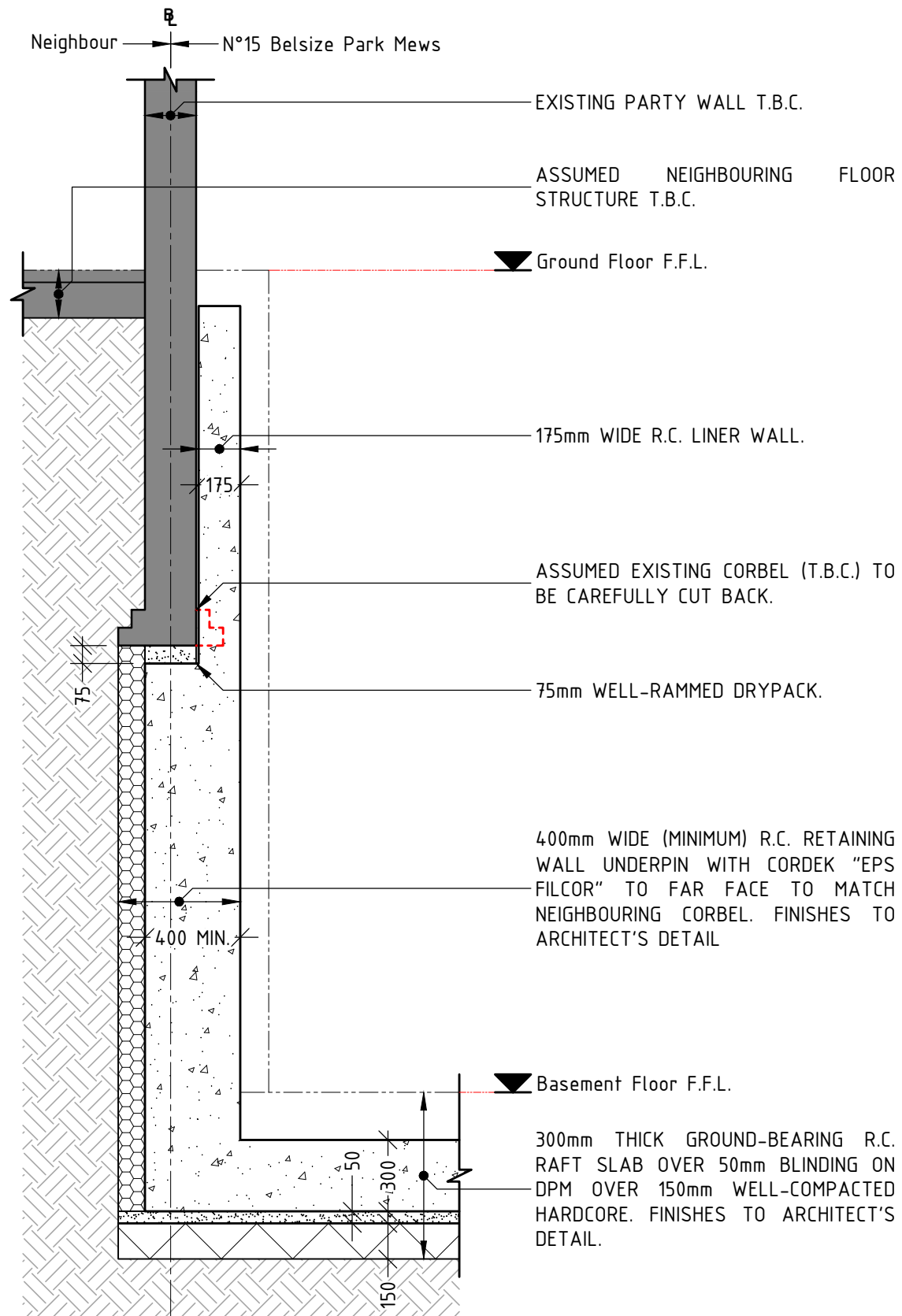
**SECTION 3-3**

1:25 @ A3



**SECTION 4-4**

1:25 @ A3



REV	DETAIL	Dr	Ch	DATE
00	Sketch	JL	CC	2023/08/17

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Client: **Electron Holdings Management Ltd.**

Project: **15 Belsize Park Mews, London, NW3 5BL**

Title: **Proposed Sections 3 & 4**

Project N°: **23066**

Drawing N°: **SK07**  
 Date: **Aug 2023**  
 Scale @A3: **1:25**

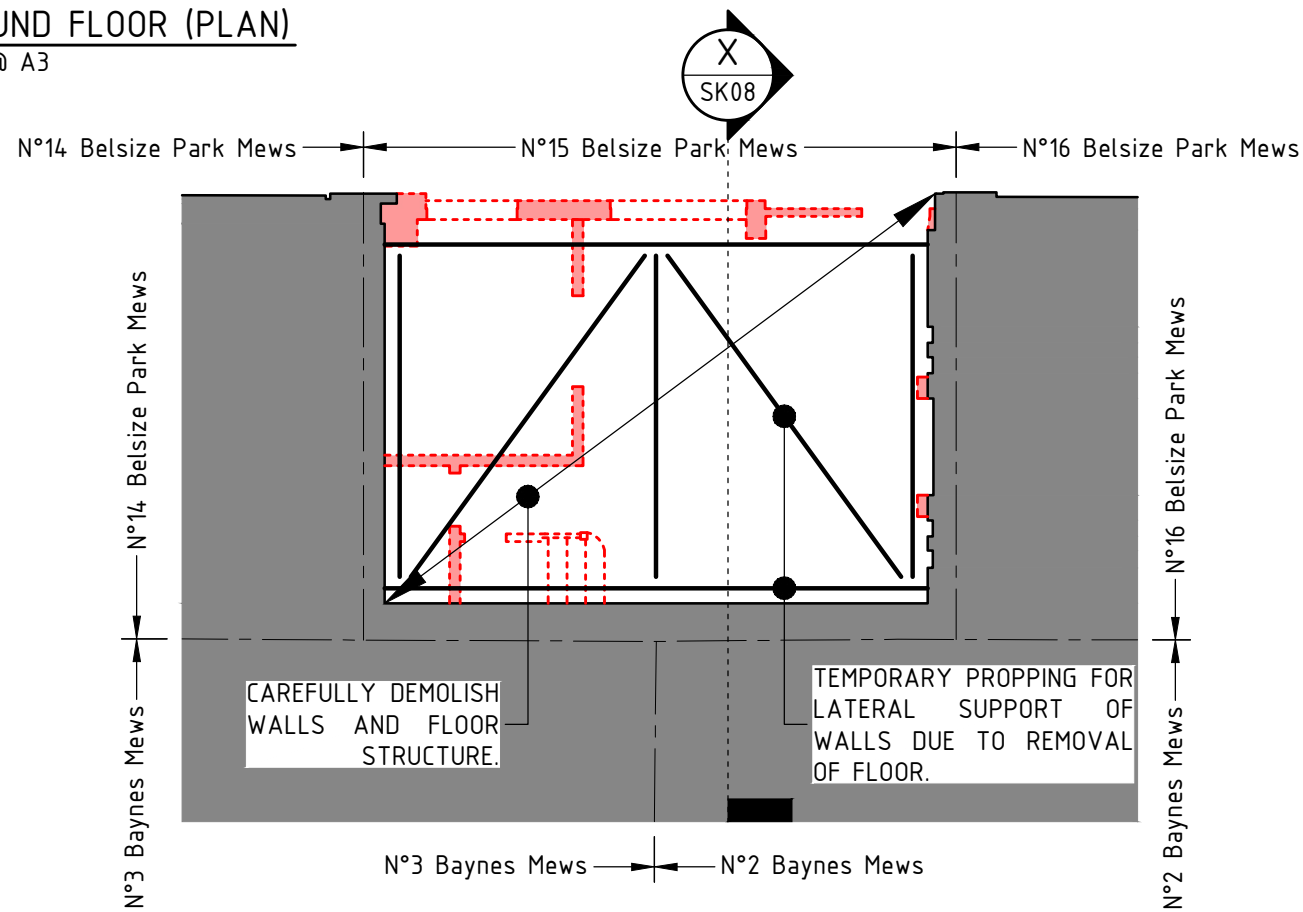
Rev: **00**  
 Drawn: **JL**  
 Engineer: **CC**

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REV	DETAIL	Dr	Ch	DATE
00	Sketch	JL	CC	2023/08/17

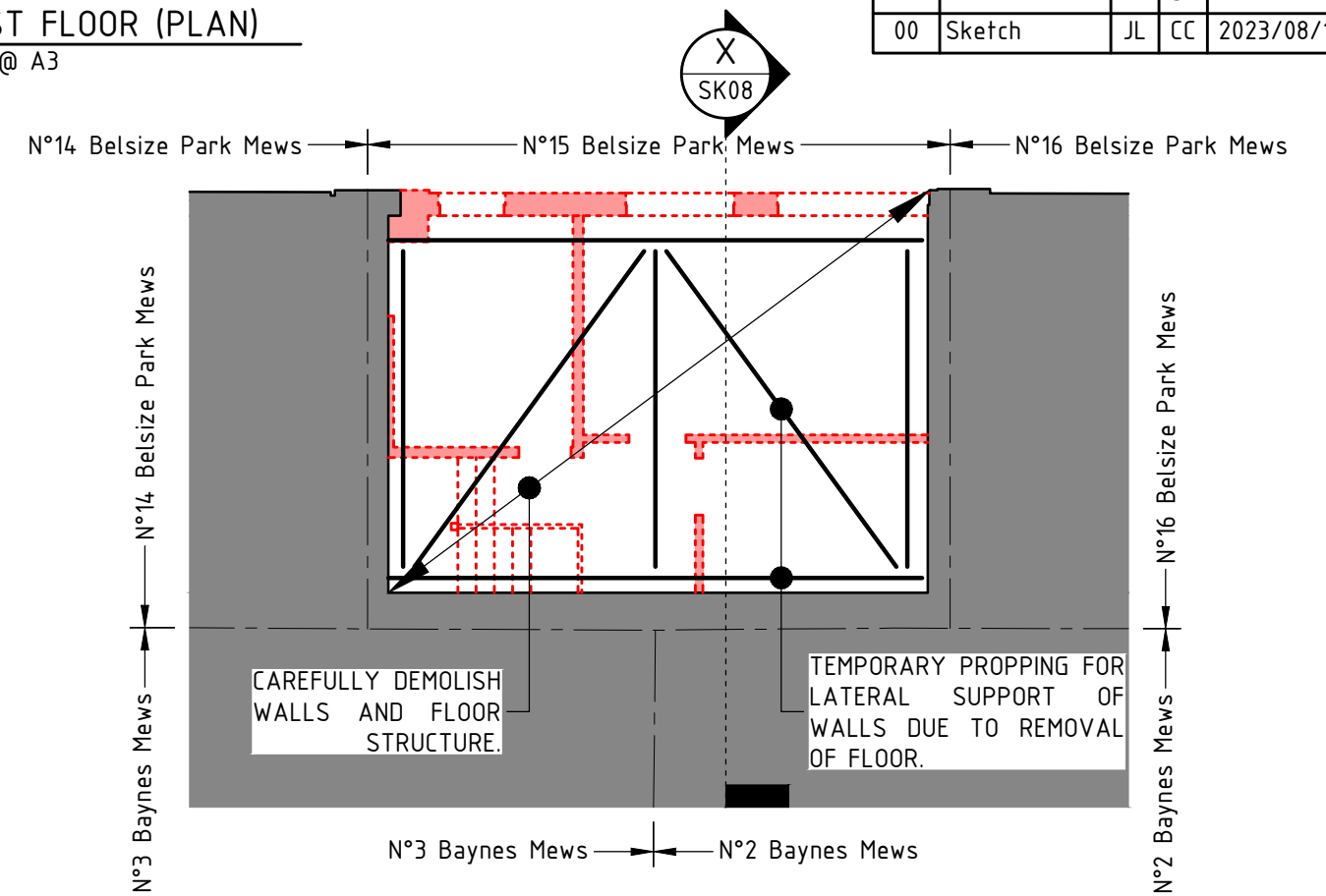
**GROUND FLOOR (PLAN)**

1:100 @ A3



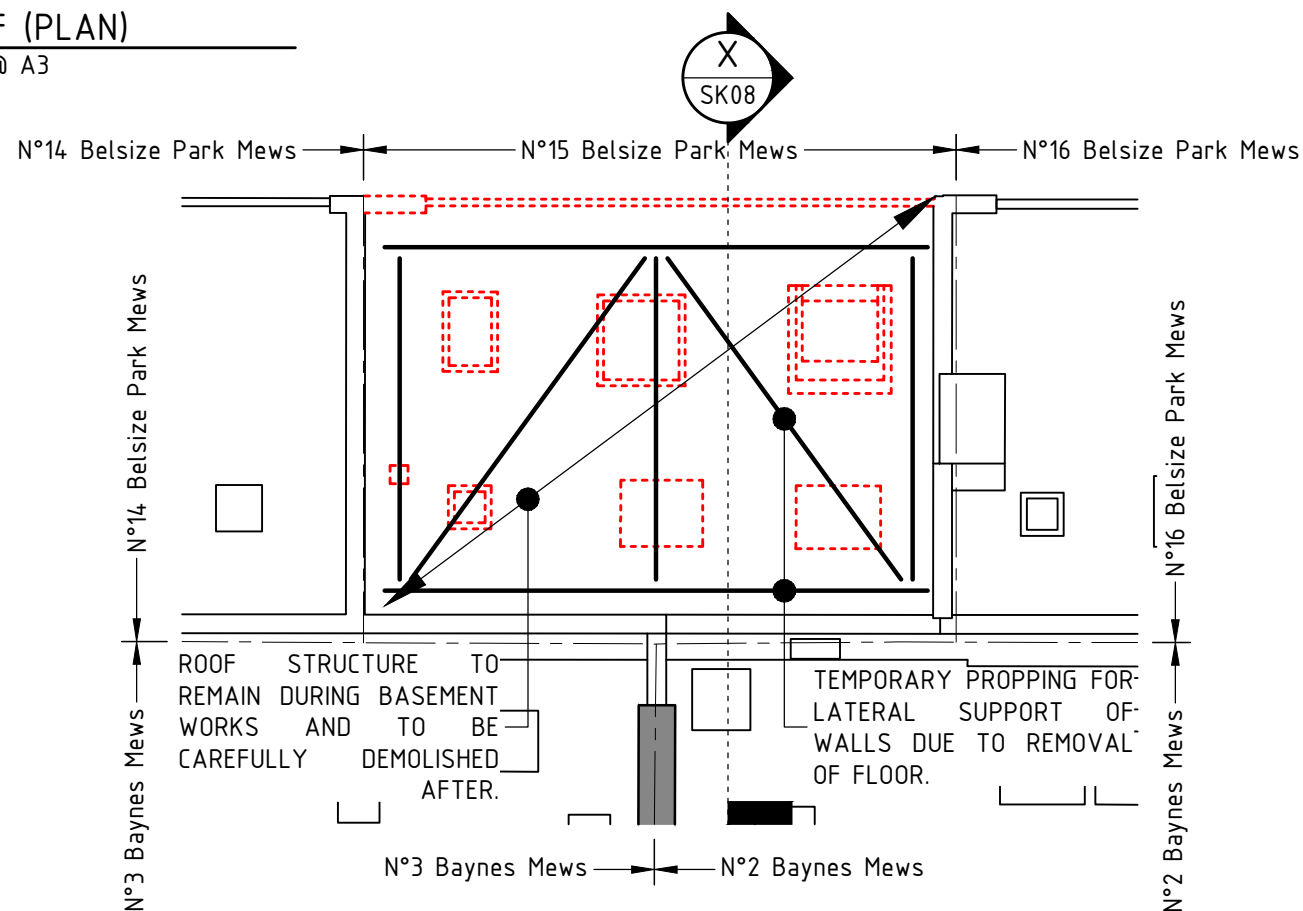
**FIRST FLOOR (PLAN)**

1:100 @ A3



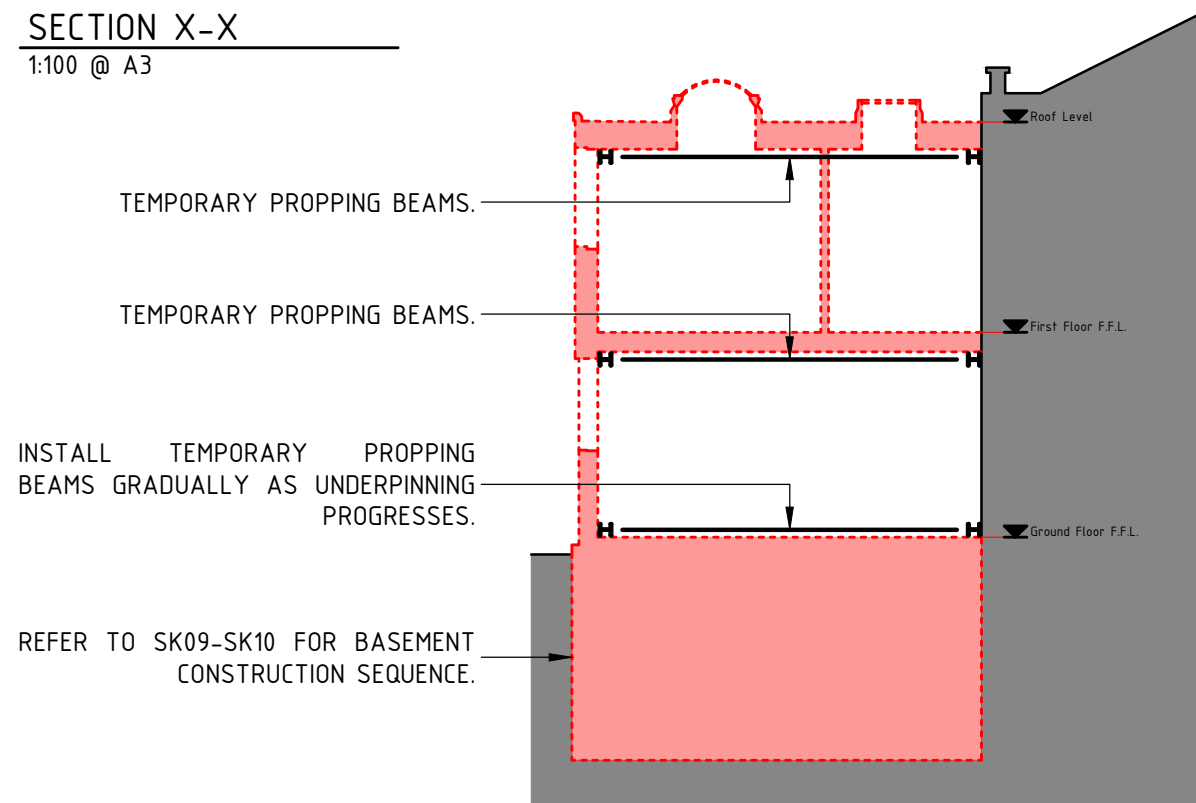
**ROOF (PLAN)**

1:100 @ A3



**SECTION X-X**

1:100 @ A3

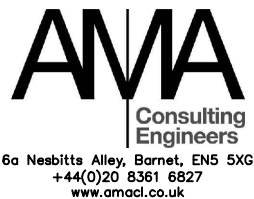


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Client: **Electron Holdings Management Ltd.**  
 Project: **15 Belsize Park Mews, London, NW3 5BL**

Title: **Temporary Works Sequencing Sheet 1**  
 Project N°: **23066**

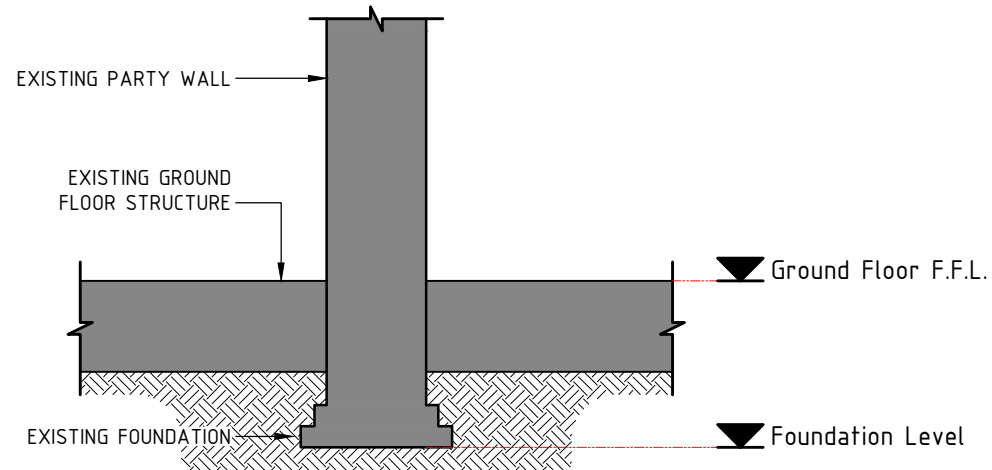
Drawing N°: **SK08**  
 Rev: **00**  
 Date: **Aug 2023**  
 Scale @A3: **1:100**  
 Drawn: **JL**  
 Engineer: **CC**



REV	DETAIL	Dr	Ch	DATE
00	Sketch	JL	CC	2023/08/17

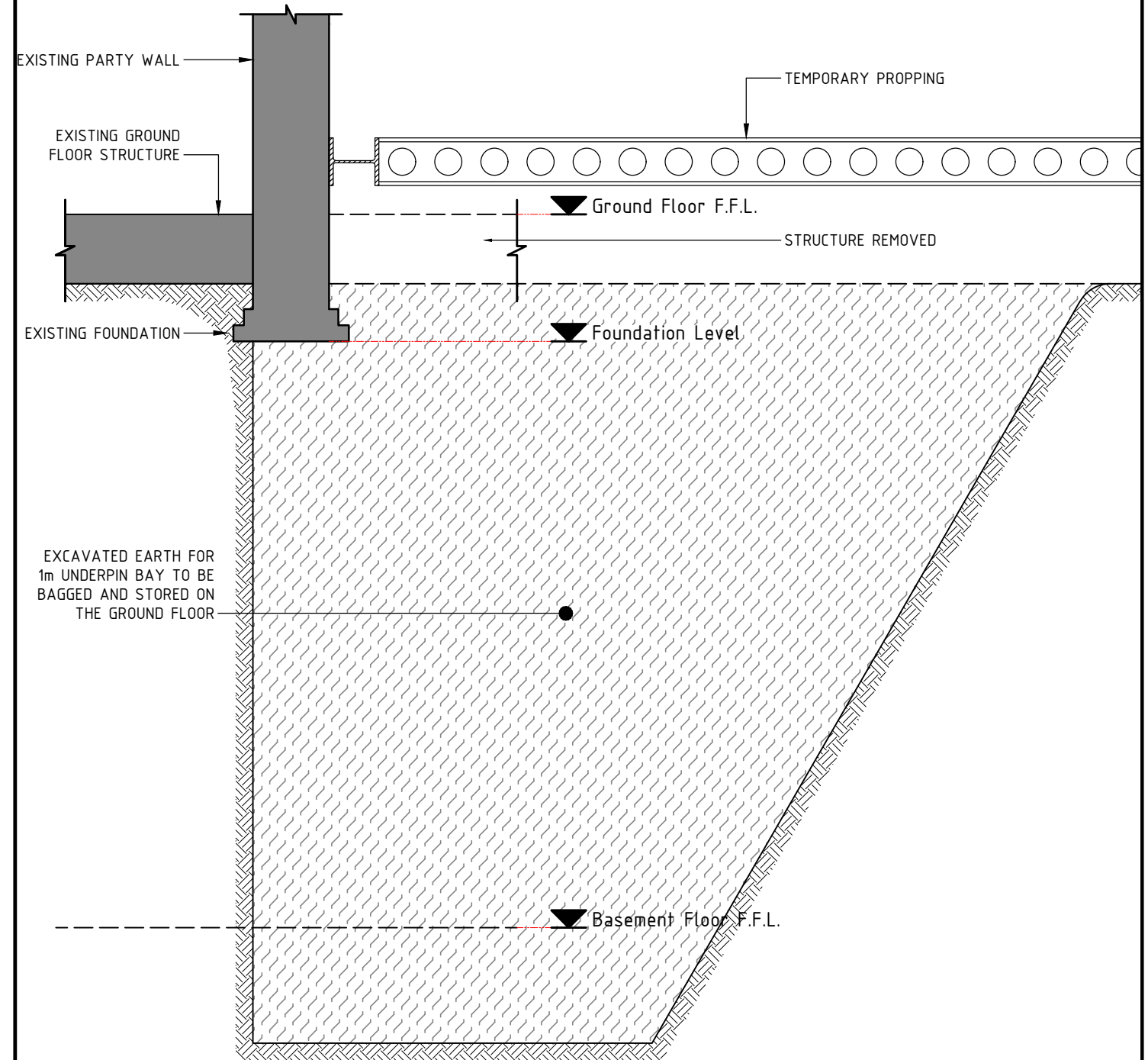
SECTION THROUGH PARTY WALL

EXISTING



SECTION THROUGH PARTY WALL

STAGE 1



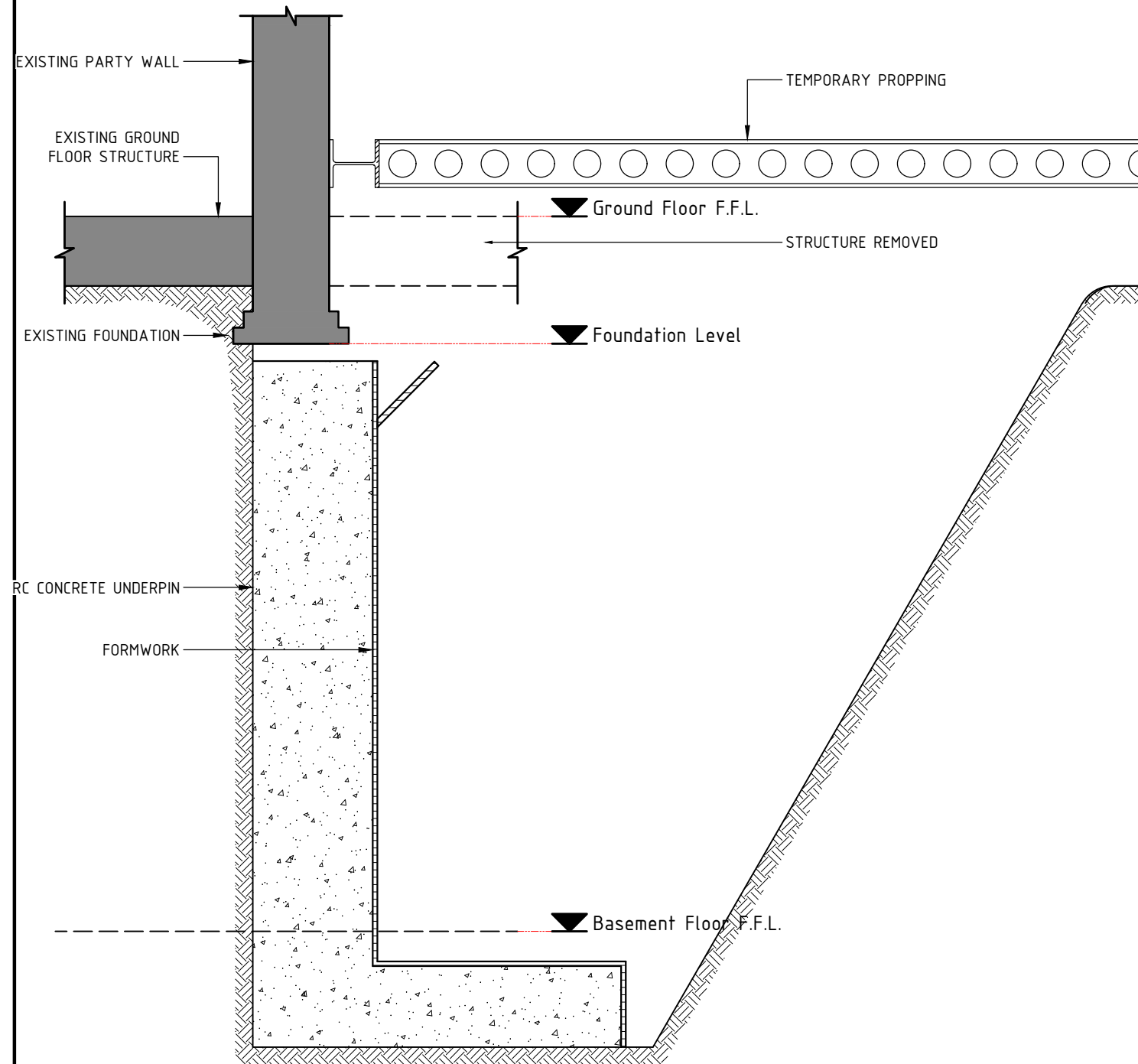
EXCAVATED EARTH FOR 1m UNDERPIN BAY TO BE BAGGED AND STORED ON THE GROUND FLOOR

- STAGE 1
1. DEMOLITION OF THE GROUND FLOOR SLAB AND INSTALL TEMPORARY PROPPING.
  2. EXCAVATE 1m WIDTH EARTH FOR UNDERPIN BAY (IN NUMBERED SEQUENCE).
  3. EARTH TO BE BAGGED AND MOVED/STORED ON GROUND FLOOR READY FOR COLLECTION.

REV	DETAIL	Dr	Ch	DATE
00	Sketch	JL	CC	2023/08/17

**SECTION THROUGH PARTY WALL**

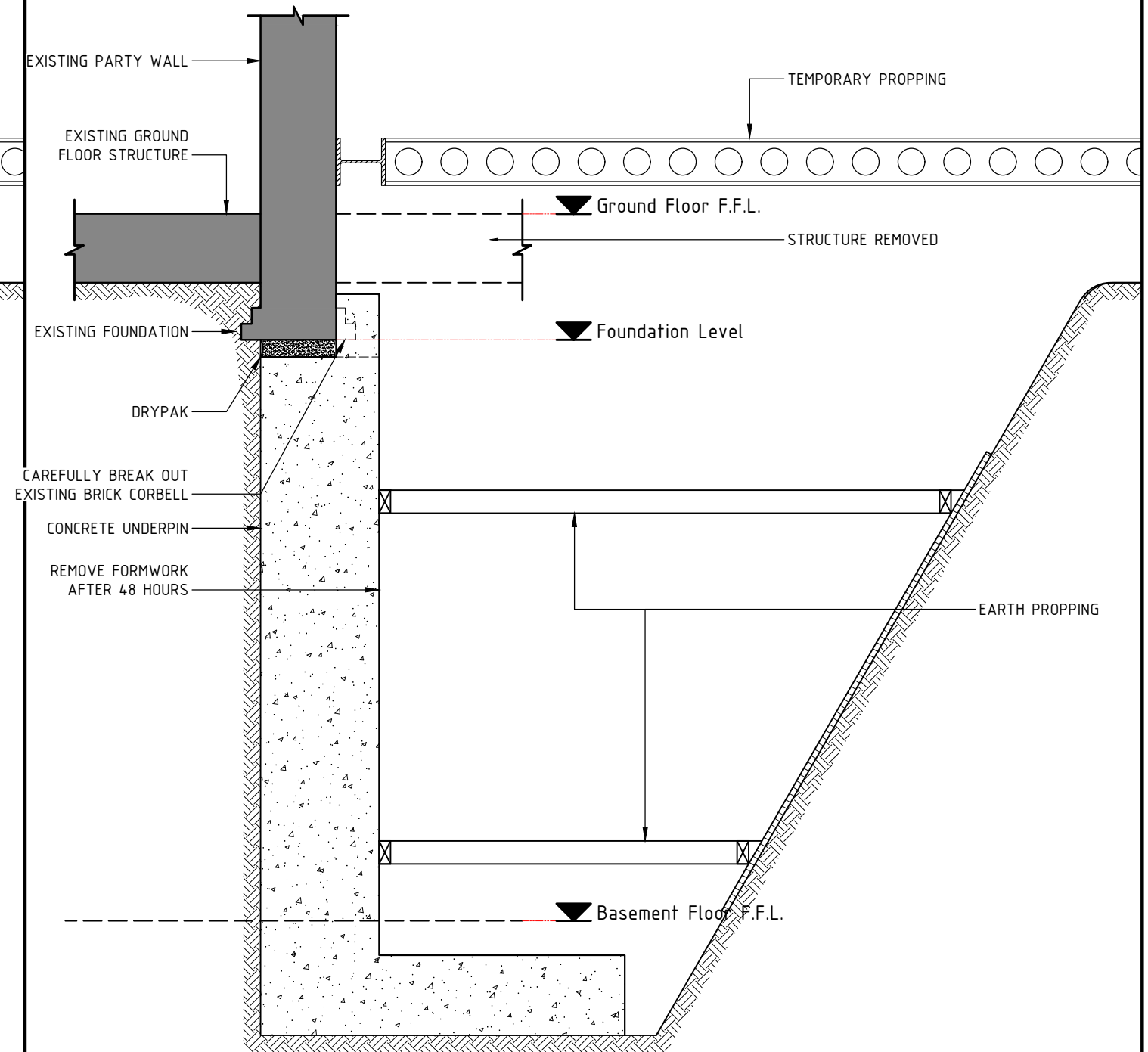
**STAGE 2**



- STAGE 2**
1. INSTALL FORMWORK.
  2. POUR CONCRETE TO 75mm BELOW EXISTING FOUNDATION LEVEL. LEAVE CONCRETE FOR 24 HOURS TO SET.

**SECTION THROUGH PARTY WALL**

**STAGE 3**



- STAGE 3**
1. 24 HOURS AFTER POURING CONCRETE IN TO UNDERPIN BAY DRYPAK BETWEEN UNDERSIDE OF EXISTING FOUNDATION AND TOP OF UNDERPIN. DRYPAK TO BE WELL RAMMED.
  2. 24 HOURS AFTER DRYPACKING REMOVE FORMWORK AND INSTALL EARTH PROPPING.
  3. CAREFULLY REMOVE EXISTING BRICK CORBELL AND CAST CONCRETE KEY.
  4. COMMENCE WITH NEXT UNDERPIN BAY IN THE NUMBERED SEQUENCE.
  5. ONCE ALL BAYS COMPLETE, CAST BASEMENT SLAB.



## Shaw Carter

---

**From:** Chris Christou <chris.christou@amacl.co.uk>  
**Sent:** 04 January 2024 16:32  
**To:** Shaw Carter; Eli Cohen  
**Cc:** Nicholas Papas | N V Papas Ltd; Paul uk>; Derek Grange; Jomas Quotes; Lionel  
**Subject:** RE: P5188J2818 - Urgent enquiry: Validation enquiry 15 Belsize Park Mews - 2023/3492/NEW (PP-12398660)  
**Attachments:** Binder1.pdf

**Caution:** This email originated from outside of the Jomas Associates organisation. Do not open attachments or links unless you recognise the sender and know the content is safe

Hi Shaw

Please see below:

1. Attached.
2. The line load at the party wall boundaries (base of retaining wall) are as follows:
  - a. Permanent load = 100kN/m
  - b. Variable load = 10kN/m

The underside of the basement slab is 3.5m from existing ground level. The slab itself will act as a stiff raft to distribute the loads coming down on it from the retaining walls.

If you need anything else, please let me know.

Regards

**Christos Christou**

BEng CEng MStructE  
Director

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