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BREEAM HEA01 Study (Daylighting)
Elleray Hall, London TW11 0HN

20 May 2021



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DAYLIGHT STUDY
Elleray Hall, London TW11 0HN

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1 EXECUTIVE SUMMARY

1.1 Overview

- 1.1.1 Right of Light Consulting has been commissioned by London Borough of Richmond upon Thames to undertake a BREEAM Daylighting Assessment of the proposed community hall development at Elleray Hall, London TW11 0HN.
- 1.1.2 The aim of the study is to assess whether the proposed building achieves 1 credit for the Daylighting under HEA 01. The study is based on the numerical tests laid down in the BREEAM New Construction 2018 Manual.
- 1.1.3 The BREEAM criteria for Daylighting has been achieved and therefore the proposed development can be awarded 1 credit.

2 INFORMATION SOURCES

2.1 Documents Considered

2.1.1 This report is based on the following drawings:

Clive Chapman Architects

EHT-01	Location Plan	Rev
EHT-02	Master Plan - Proposed Site Layout & Roof Plans	Rev
EHT-03	Proposed Ground and First Floor Plans	Rev
EHT-04	Proposed Elevations & Sections	Rev
ERH-01	Proposed Ground and First Floor Plans	Rev
ERH-02	Proposed Elevations & Sections	Rev

3 METHODOLOGY OF THE STUDY

3.1 BREEAM – HEA 01 – Daylighting

- 3.1.1 The following information has been extracted from the BREEAM New Construction 2018 manual. The criteria required to award one credit for the Daylighting within HEA 01 has been detailed.
- 3.1.2 For the purpose of this study, we have assumed BRE internal reflectance coefficients pertaining to medium wooden floors (0.4), light painted walls (0.8) and matt white painted ceilings (0.85). We have assumed that each window is double-glazed and has a glazed area that equates to 80% of the structural opening size.
- 3.1.3 Daylighting criteria have been met using either of the following options:
- 3.1.4 The relevant building areas meet good practice daylight factors and other criteria as outlined in Table 5.1 below and Table 5.2

Table 5.1. Minimum values of average daylight factor required

Building or Area Type	Credits	Average Daylight Factor Required	Minimum Area (M2) to comply	Other Requirements
All occupied spaces unless indicated in Hea 01 – Visual Comfort	1	2%	80%	Either – (a) or (b) and (c) in Table 5.2.

Table 5.2. Daylight Uniformity Criteria

Ref	Criteria
(a)	A uniformity Ratio of at least 0.3. Or, a

	<p>minimum point daylight factor of at least 0.3 times the relevant Average Daylight factor value in Table 5.1. Spaces with glazed roofs, such as Atria, must achieve a uniformity ratio of at least 0.7. Or, a minimum point Daylight Factor of at least 0.7 times the relevant Average Daylight Factor value in Table 5.1.</p>
(b)	<p>At least 80% of the room has a view of sky from desk or table top height (0.85m in multi-residential buildings, 0.7m in other buildings).</p>
(c)	<p>The room depth criterion $d/w+d/HW < 2/(1-RB)$ is satisfied where:</p> <p>D= Room Depth</p> <p>W=Room Width</p> <p>HW = Window Head Height from Floor Level</p> <p>RB = Average Reflectance of Surfaces in rear half of the room</p>

4 RESULTS OF THE STUDY

4.1 Windows & Room Areas Considered

4.1.1 Appendix 1 provides a plan to indicate the positions of the windows and room areas analysed in this study.

4.2 HEA 01 – Daylighting

4.2.1 In order to award the Daylighting credit the occupied spaces should meet the recommendations as set out in 3.1.4 above.

Room Name	Floor Area (m ²)	Average DF	Area (%) >= Target DF	Sky View	Room Depth
Room 1 - Kitchen	29.17	3.99%	55.9%	Pass	Pass
Room 2 - Hall	142.09	7.85%	98.4%	Pass	Pass
Room 3 - Restaurant	74.22	4.30%	72.8%	Pass	Pass
Room 4 - Occupied Space	10.32	2.97%	39.4%	Pass	Pass
Room 5 - Occupied Space	9.70	3.88%	56.4%	Pass	Pass
Room 6 - Occupied Space	9.81	3.71%	54.1%	Pass	Pass

Room 7 - Office	16.04	6.81%	100%	Pass	Pass
Room 8 - Communal Space	28.13	4.91%	89.2%	Pass	Pass
Room 9 - Staff Area	12.01	3.97%	39.4%	Pass	Pass
Room 10 - Communal Space	39.14	5.14%	90.3%	Pass	Pass
Total	370.62	n/a	82.6%	n/a	n/a

4.3 Conclusion

- 4.3.1 An average Daylight Factor of 2% or above has been achieved in 82.6% of the areas included in the calculation.
- 4.3.2 The BREEAM criteria has been achieved therefore 1 credit can be awarded for Daylighting.

5 CLARIFICATIONS

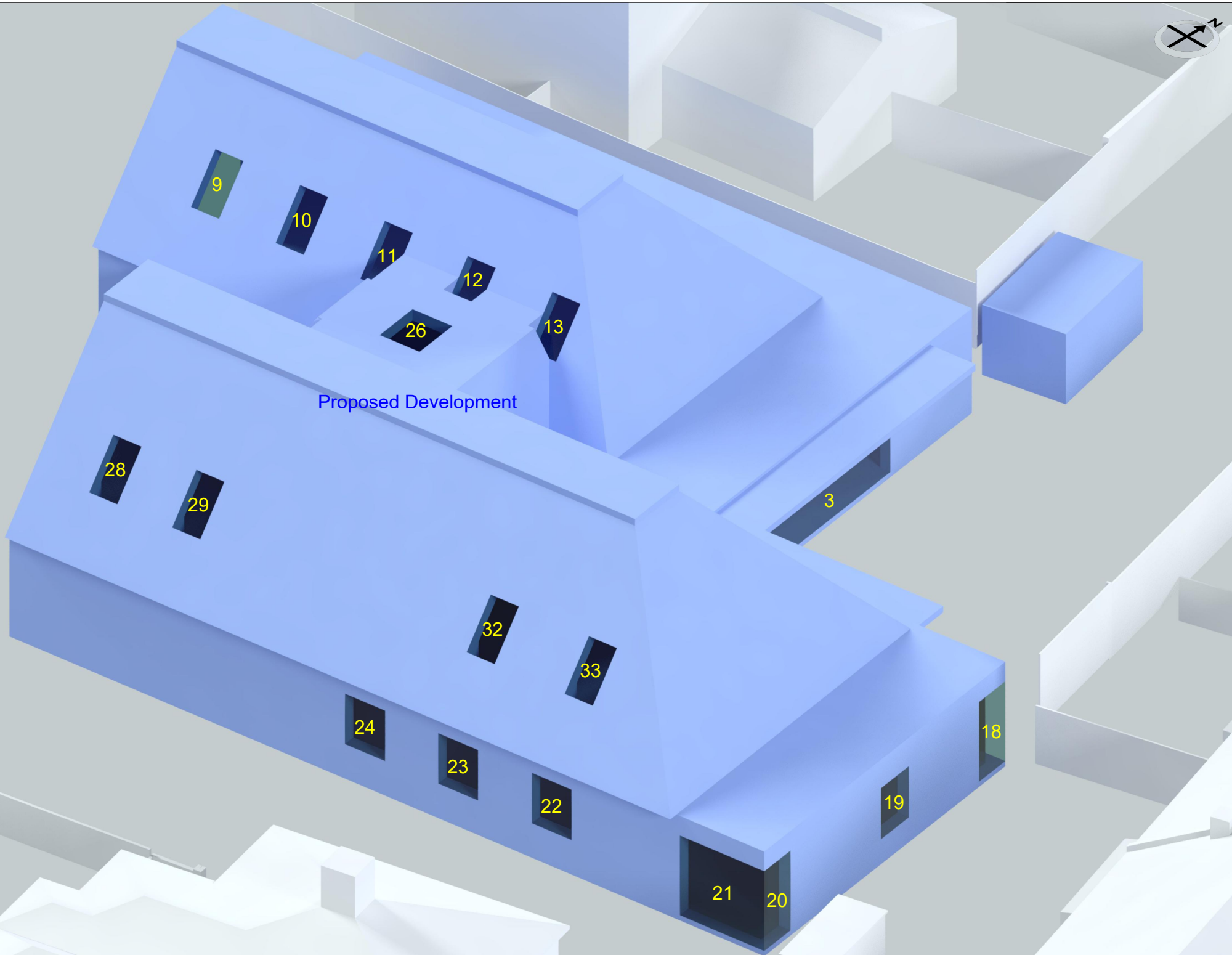
5.1 General

- 5.1.1 The report provided is solely for the use of the client and no liability to anyone else is accepted.
- 5.1.2 The study is based on the information listed in section 2 of this report and a site visit undertaken on 23 February 2021.
- 5.1.3 We have undertaken the study following the guidelines of the RICS publication “Surveying Safely”. Where limited access or information is available, assumptions will have been made which may affect the conclusions reached in this report. For example, where neighbouring room uses are not known, we will either make an assumption regarding the use, or take the prudent approach of treating the use of the room as being used for domestic purposes. Therefore, the report may need to be updated if room uses are confirmed by the local authority or by the consultation responses.
- 5.1.4 This report is based upon and subject to the scope of work set out in Right of Light Consulting’s quotation and standard terms and conditions.

APPENDICES

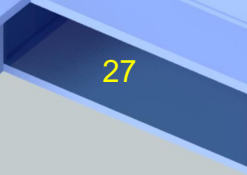
APPENDIX 1

ROOM KEY & 3D MODEL IMAGES



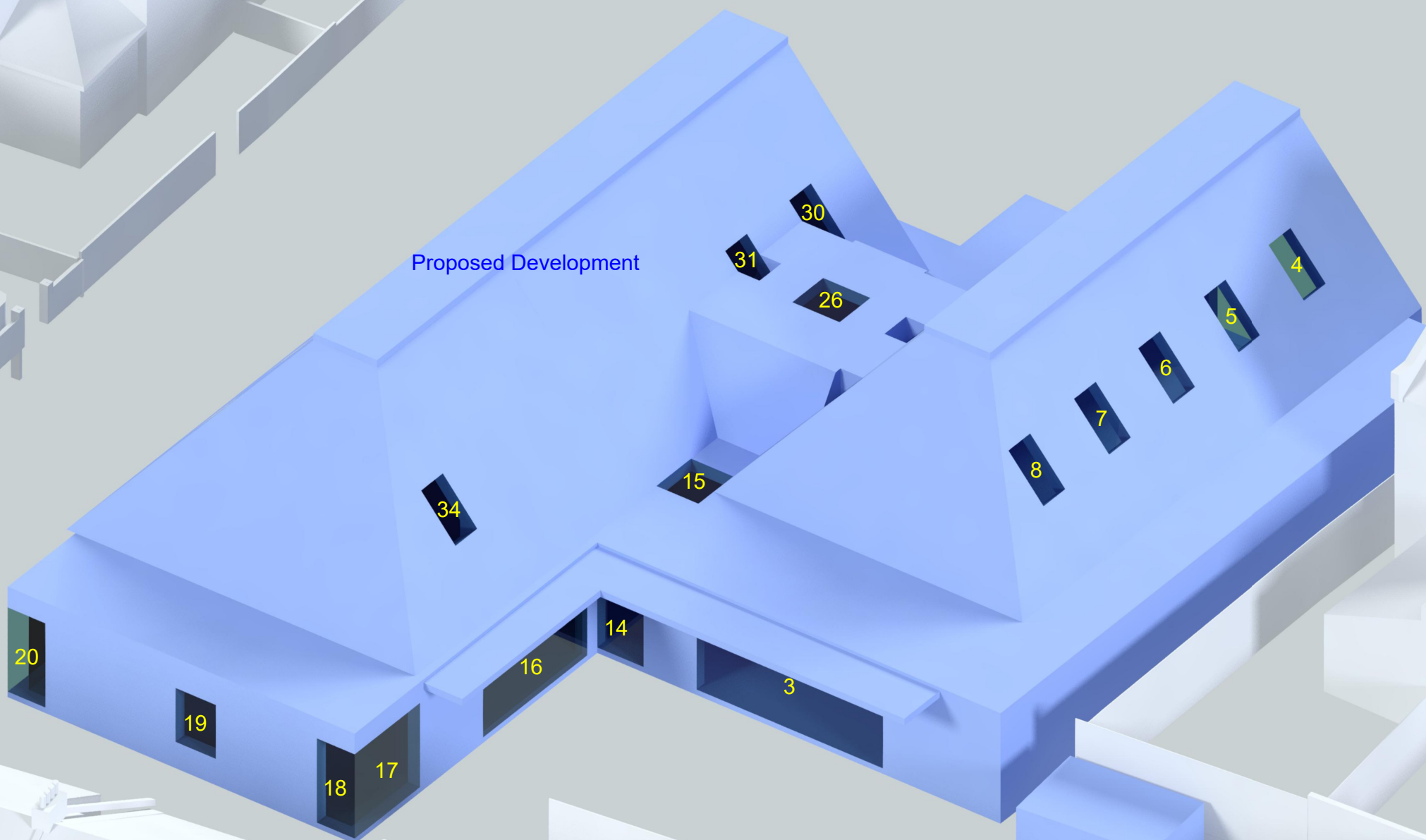


Proposed Development



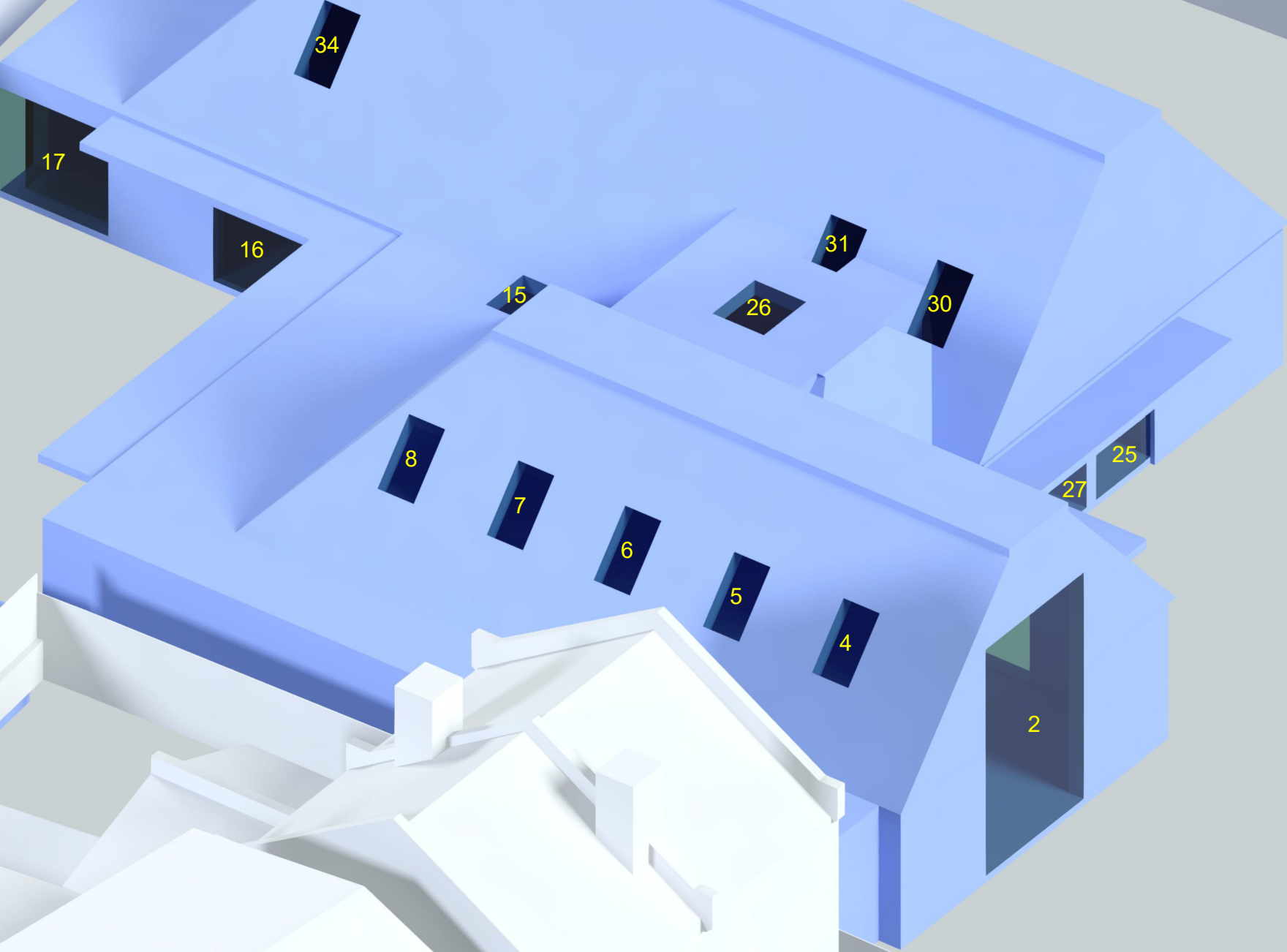


Proposed Development





Proposed Development



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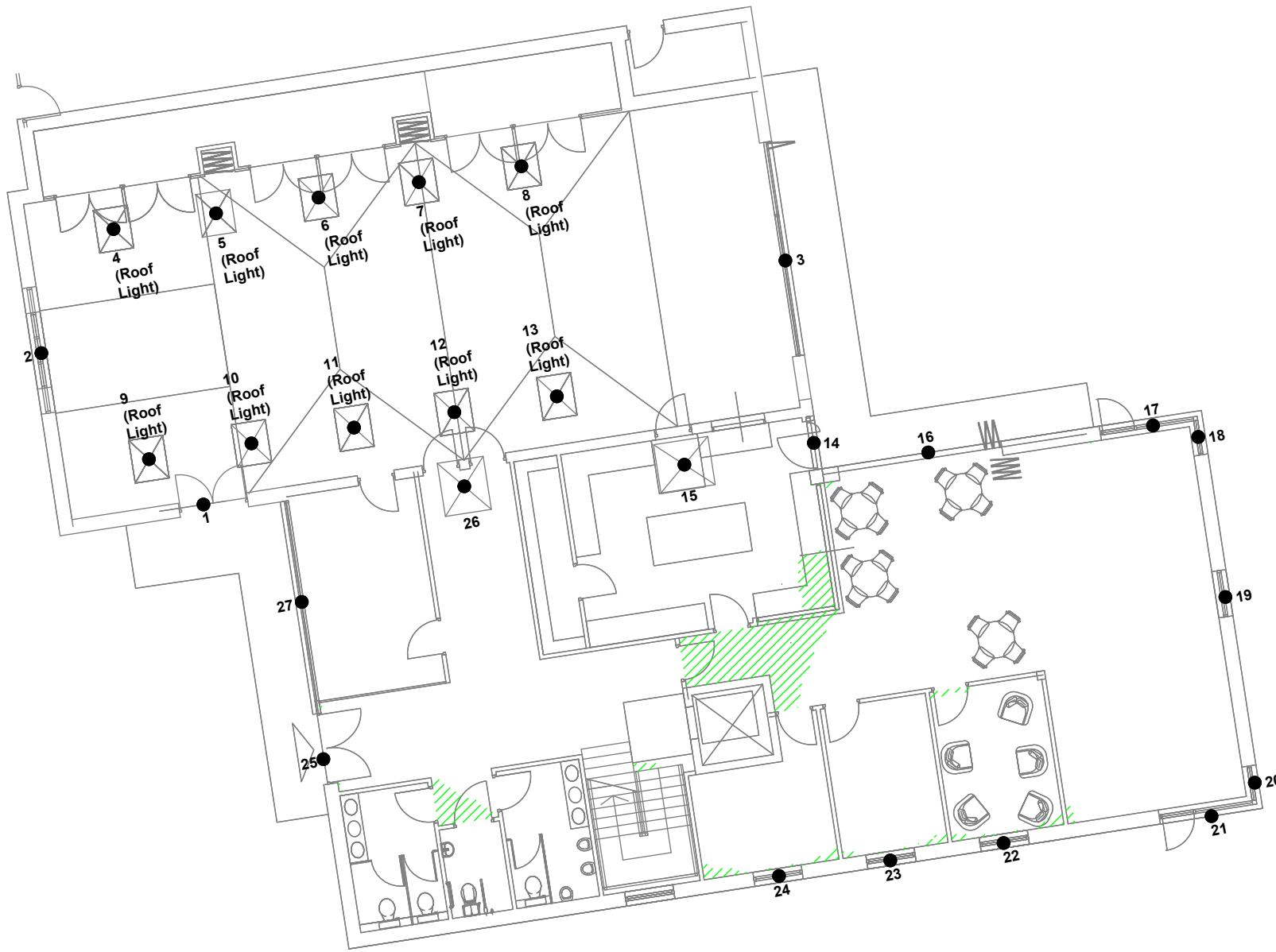
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2



Key:

● Window reference

 Area receives no direct sky light (applied to habitable rooms)

 Area does receive direct sky light.

 Light aperture.

Project Name: Elleray Hall and East Car Park, London TW11 0HN

Drawing Title: Window Key and No Sky Line Contours

Scale: Do not scale

Drawing No: 1 of 2 Rev. .

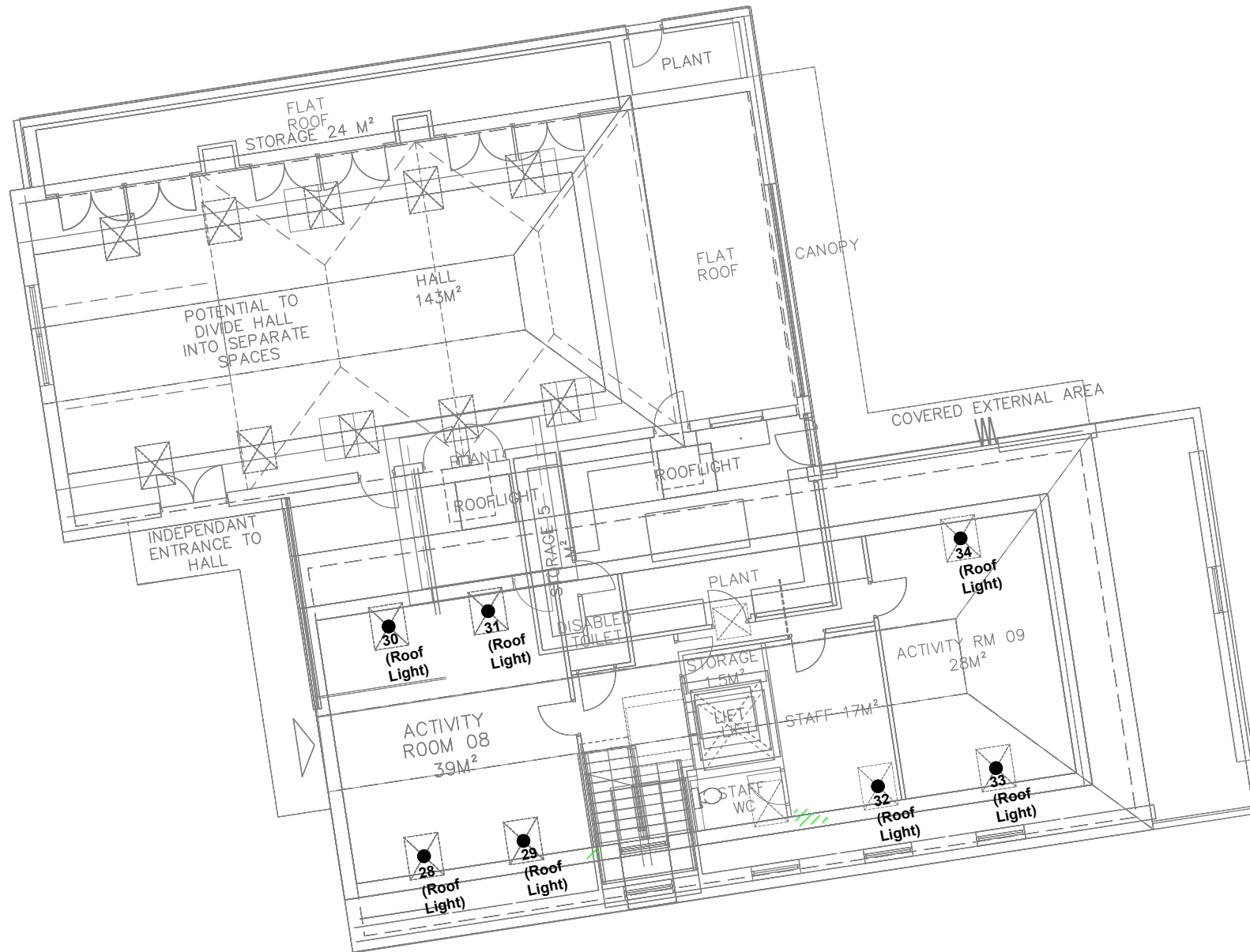
Rev	Date	Details of revision






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Key:

- Window reference
-  Area receives no direct sky light (applied to habitable rooms)
-  Area does receive direct sky light.
-  Light aperture.

Project Name: Elleray Hall and East Car Park, London TW11 0HN

Drawing Title: Window Key and No Sky Line Contours

Scale: Do not scale

Drawing No: 2 of 2 Rev. .

Rev	Date	Details of revision



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