


Kestrel Way SEN School, Luton

Daylight and Sunlight Report

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Kestrel Way SEN School, Luton

DAYLIGHT AND SUNLIGHT REPORT

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EXECUTIVE SUMMARY

- This is a report into the impact of the proposed development at Kestrel Way SEN School, Luton on the daylight and sunlight to surrounding residential properties. This analysis has been based upon scheme drawings provided by Luton BC, a photogrammetric survey, and site imagery.
- The analysis has been carried out in accordance with the methodologies contained in the Building Research Establishment's *Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice (2022)* (known as the "BRE Guidelines"), which is used by the local authority to determine the acceptability of a proposal in terms of its effect on neighbouring daylight and sunlight amenity.
- The analysis shows that none of the surrounding residential properties will experience noticeable changes in daylight and sunlight as a result of the proposed scheme, given that the nearest properties in all directions meet the 25° test.



1 INTRODUCTION

Waldrams have been instructed to provide daylight and sunlight analysis for the proposed development of the site at Kestrel Way SEN School, Luton. This analysis is based upon scheme drawings by Luton BC, a photogrammetric survey of the site and surrounding context and site imagery.

The analysis of the potential daylight and sunlight impact on the surrounding properties has been carried out in accordance with the methodologies contained in the BRE Guidelines which is used by the local authority to determine the acceptability of a proposal in terms of its effect on neighbouring daylight and sunlight amenity.

The existing site and proposed scheme can be seen in Appendix 1. Window maps showing the locations of the windows analysed in the neighbouring property can be found in Appendix 2.

2 SUMMARY OF HOW DAYLIGHT AND SUNLIGHT ARE CONSIDERED FOR PLANNING

2.1 INTRODUCTION TO THE BRE GUIDELINES

Daylight and sunlight are planning considerations. The main reference used by local planning authorities to determine the acceptability of proposals in terms of their internal daylight and sunlight and the impact on daylight and sunlight to the surrounding properties is the BRE Guidelines, used in conjunction with British Standard *Daylight in Buildings*, BS EN 17037. The BRE Guidelines provide scientific, objective methods for establishing the acceptability of daylight and sunlight internal to the scheme and the surrounding properties and overshadowing.

2.2 DAYLIGHT AND SUNLIGHT CRITERIA TO SURROUNDING PROPERTIES

Daylight

According to the BRE Guidelines, a surrounding existing building to a proposed scheme will retain the potential for good interior daylighting if the scheme subtends less than 25 degrees from the horizontal as measured from the lowest habitable windows in the neighbouring windows. If this is not achieved, then good daylighting to the neighbouring properties is still achieved if the Vertical Sky Component (VSC) is in excess of 27% or is reduced by less than 20% from its existing level and if the area of the room that can see the sky at desk height (known as the daylight distribution or no sky contour) is reduced by less than 20% of its existing area. The BRE Guidelines state this in paragraph 2.2.23 as:

“If any part of a new building or extension, measured in a vertical section perpendicular to a main window wall of an existing building, from the centre



of the lowest window, subtends an angle of more than 25° to the horizontal, then the diffuse daylighting of the existing building may be adversely affected. This will be the case if either:

- The VSC measured at the centre of an existing main window is less than 27%, and less than 0.8 times its former value
- The area of the working plane in a room which can receive direct skylight is reduced to less than 0.8 times its former value."

The BRE Guidelines state in paragraph 2.2.2:

"The guidelines given here are intended for use for rooms in adjoining dwellings where daylight is required, including living rooms, kitchens, and bedrooms. Windows to bathrooms, toilets, storerooms, circulation areas, and garages need not be analysed. The guidelines may also be applied to any existing non-domestic building where the occupants have a reasonable expectation of daylight; this would normally include schools, hospitals, hotels and hostels, small workshops, and some offices."

Sunlight

The test for sunlight to the neighbouring properties is calculated for each living room with a main window facing within 90° of due south. Bedrooms and kitchens are considered by the BRE Guidelines as less important for sunlight. The BRE Guidelines state that any south facing window may potentially receive up to 1486 hours of sunlight per year on average, representing 100% of the annual probable sunlight hours (APSH).

The BRE Guidelines state in paragraph 3.2.13 that:

"If a living room of an existing dwelling has a main window facing within 90° of due south, and any part of a new development subtends an angle of more than 25° to the horizontal measured from the centre of the window in a vertical section perpendicular to the window, then the sunlighting of the existing dwelling may be adversely affected. This will be the case if the centre of the window:

- *receives less than 25% of annual probable sunlight hours and less than 0.80 times its former annual value; or less than 5% of annual probable sunlight hours between 21 September and 21 March and less than 0.80 times its former value during that period;*
- *and also has a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours."*

Following the BRE Guidelines recommendations, VSC and APSH are measured from a



point on the outer window wall.

2.3 METHOD USED FOR CALCULATING THE DAYLIGHT AND SUNLIGHT RESULTS

The analysis provided in this report utilizes state-of-the-art software to calculate in three dimensions the daylight and sunlight following the methods specified in the BRE Guidelines. A three dimensional accurate computer model has been created for the existing site in context of the immediate surrounding properties, based upon architect's drawings, a [photogrammetric] survey of the site and surrounding properties, site imagery and surrounding property information. The results generated are then reviewed against the BRE Guidelines' target values.

REFERENCES:

BRE Guidelines (BR 209): *Site layout planning for daylight and sunlight: a guide to good practice* (2022).

These Guidelines provide the basis of the analysis described in this report. Please refer to this document for a detailed description as to the approach, methodology, and implementation of the numerical analysis used in this report. A summary of the approach and methods recommended by the BRE Guidelines is included in Section 2 above of this report.

3 ASSUMPTIONS USED IN THE ANALYSIS

Uses of the surrounding properties have been based on external appearance to determine whether they are residential or commercial use. We have also researched the Council Tax records for the property, which if listed would indicate residential use.

It is important to note that, in some cases and where no additional information is available, the window positions in the surrounding property elevations have been estimated based on brick counts from site photographs. The floor levels for the surrounding buildings are assumed unless otherwise indicated.

We have obtained layouts for the following properties from the local planning portal and/or estate agency listings:

- 3, 5, 7, 12, 13 & 17 Coltsfoot Green
- 9 & 13 Goldcrest Close
- 16 Fieldfare Green
- 112 Kestrel Way

We have not been able to obtain layouts or gain access internally to any of the



remaining surrounding properties and so details of the internal layouts and floor level heights have been assumed from the external appearance of the building, and the locations of windows. Unless known or otherwise, appropriate the depths of rooms have been assumed at 4.27m for residential properties and 6m for commercial properties, or half the building depth if this is less than these dimensions.

All property addresses are taken from the Land Registry MapSearch website and we advise that these are checked by your solicitor prior to any action being taken based on this report.

4 SOURCES OF INFORMATION USED IN THE REPORT

Luton BC

E2225-DD-P1-00-DR-A-PL100 - Proposed Ground Floor Plan

E2225-DD-P1-01-DR-A-PL101 - Proposed First Floor Plan

E2225-DD-P1-RL-DR-A-PL102 - Proposed Roof Plan

E2225-DD-P1-ZZ-DR-A-ES100 - Proposed Elevations

E2225-DD-SI-00-DR-A-SI001 - Site Location Plan

E2225-DD-SI-00-DR-A-SI002 - Site Block Plan

Received 22/5/23

Local Authority Planning Records/Rightmove

112 Kestrel Way (Planning ref. 19/01206)

Plans & elevations

3 Coltsfoot Green

Layout

5 Coltsfoot Green

Layout

7 Coltsfoot Green

Layout

9 Goldcrest Close

Layout

12 Coltsfoot Green

Layout

13 Coltsfoot Green

Layout

13 Goldcrest Close

Layout

16 Fieldfare Green

Layout



17 Coltsfoot Green

Layout

Obtained May 2023

Waldrams Chartered Surveyors

Photogrammetry

Site Photographs



Image 1: Existing site

5 DAYLIGHT & SUNLIGHT ANALYSIS

The existing site and proposed scheme can be seen in Appendix 1. The existing site in its current condition is shown in image 1 above.

The closest properties to each of the eastern, western and southern elevation of the proposed school passes the 25° degree test in that a 25° line subtended from the horizontal and emanating from the lowest window in the nearest properties passes over the proposed massing. As per the BRE Guidelines, the proposed scheme is “*unlikely to have a substantial effect on the diffuse skylight enjoyed by the existing building*” and no further analysis is required. Plots demonstrating the results of the 25° line analysis are included in Appendix 1.



6 CONCLUSIONS

This is a report into the impact of the proposed development at Kestrel Way SEN School, Luton on the daylight and sunlight to surrounding residential properties, amenity spaces, and internally to the scheme itself. This analysis has been based upon scheme drawings provided by Luton BC, a photogrammetric survey, and site imagery.

The analysis has been carried out in accordance with the methodologies contained in the BRE Guidelines, which is used by the local authority to determine the acceptability of a proposal in terms of its effect on neighbouring daylight and sunlight amenity.

The analysis shows that none of the surrounding residential properties will experience noticeable changes in daylight and sunlight as a result of the proposed scheme, given that the nearest properties in all directions meet the 25° test.



APPENDIX 1

Drawings

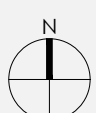
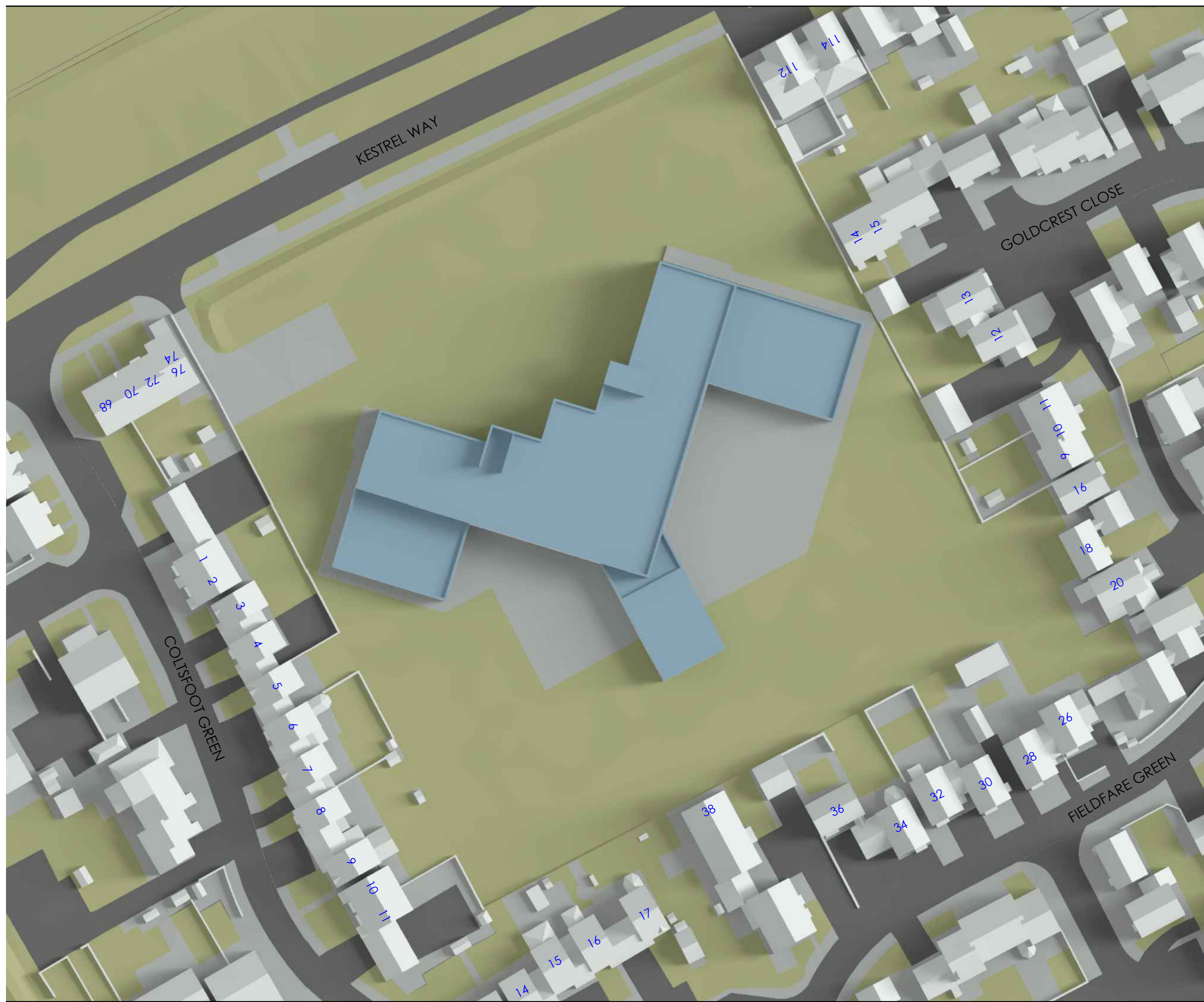
SOURCES OF INFORMATION:

RSK
IR03 (RECEIVED 22.05.2023)

ACCUCITIES
IR04 (RECEIVED 24.05.2023)

NOTES:

PROPOSED BUILDING SHOWN IN BLUE



PROJECT
KESTREL WAY
LUTON LU4

DRAWING
PLAN VIEW
PROPOSED SCHEME

SCALE @ A3
1:600

DATE
01.06.2023

MODELLED BY
EF

DRAWN BY
EF

PROJECT No.
3055

REL No. - DWG No.
01-01

SOURCES OF INFORMATION:

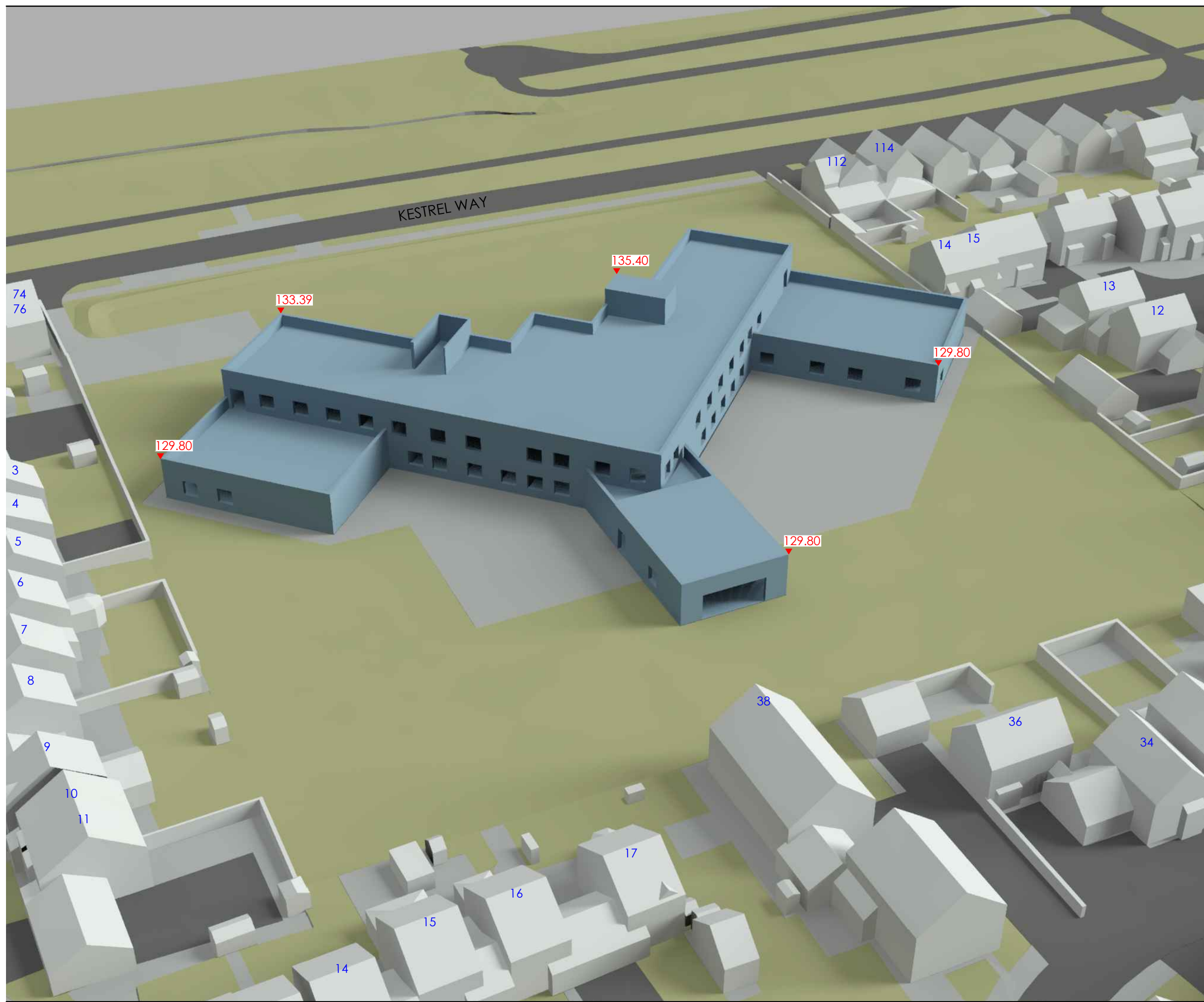
RSK
IR03 (RECEIVED 22.05.2023)

ACCUCITIES
IR04 (RECEIVED 24.05.2023)

NOTES:

PROPOSED BUILDING SHOWN IN BLUE

AOD HEIGHTS SHOWN IN METRES



PROJECT
KESTREL WAY
LUTON LU4

DRAWING
3D VIEW
PROPOSED SCHEME

SCALE @ A3 **DATE**
NTS 01.06.2023

MODELLED BY **DRAWN BY**
EF EF

PROJECT No. **REL No. - DWG No.**
3055 01-02

SOURCES OF INFORMATION:

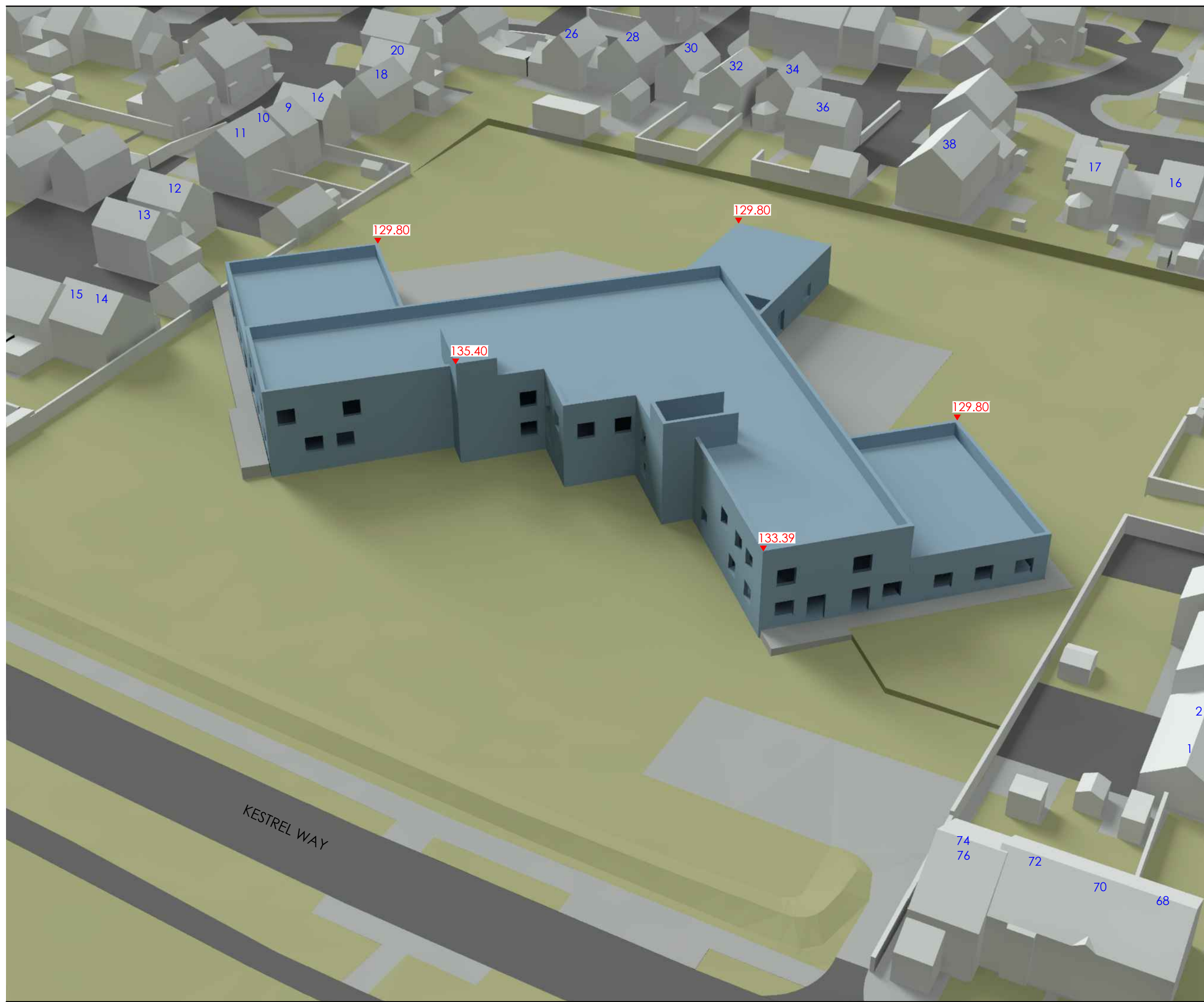
RSK
IR03 (RECEIVED 22.05.2023)

ACCUCITIES
IR04 (RECEIVED 24.05.2023)

NOTES:

PROPOSED BUILDING SHOWN IN BLUE

AOD HEIGHTS SHOWN IN METRES



PROJECT
KESTREL WAY
LUTON LU4

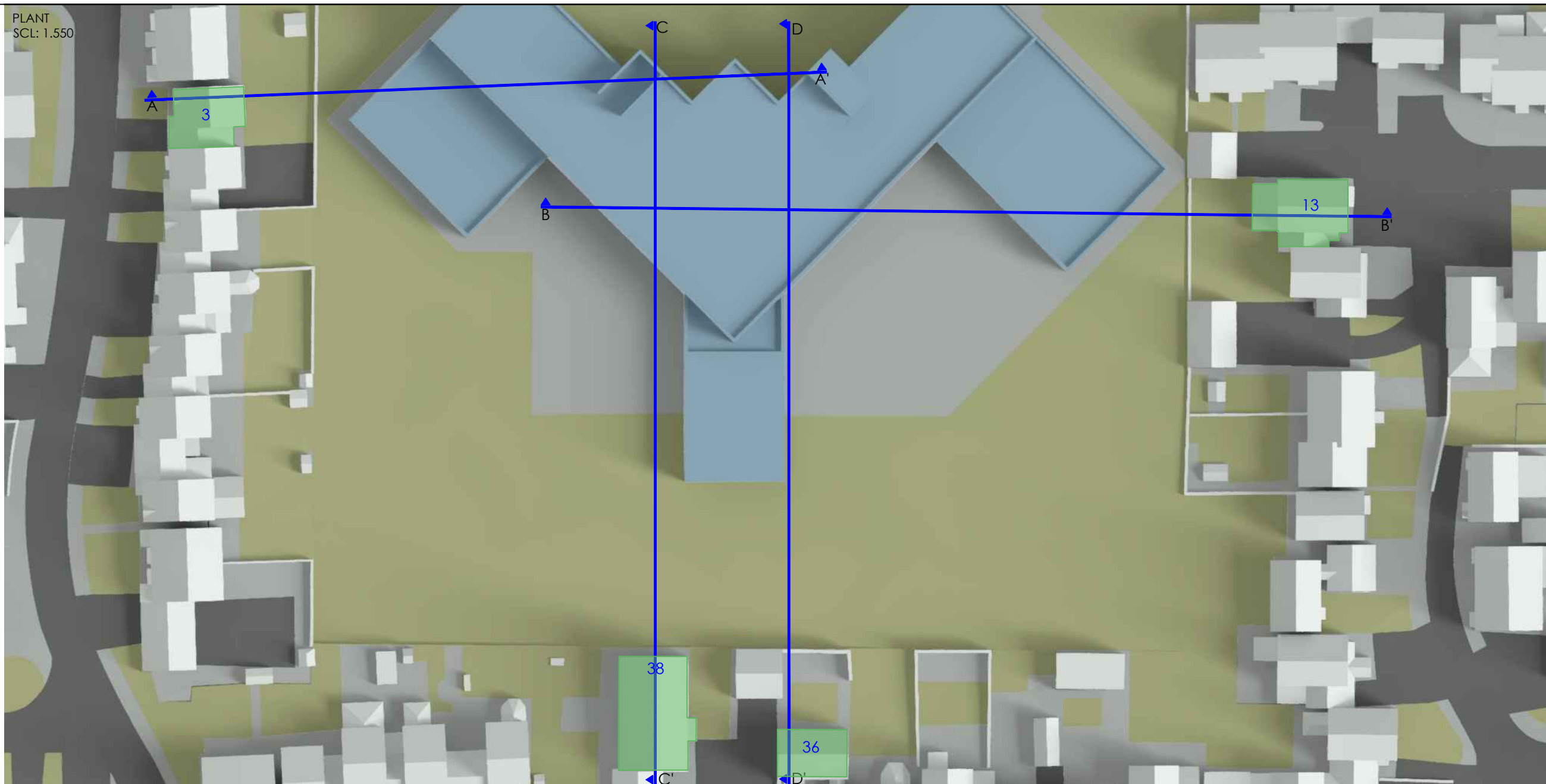
DRAWING
3D VIEW
PROPOSED SCHEME

SCALE @ A3 **DATE**
NTS 01.06.2023

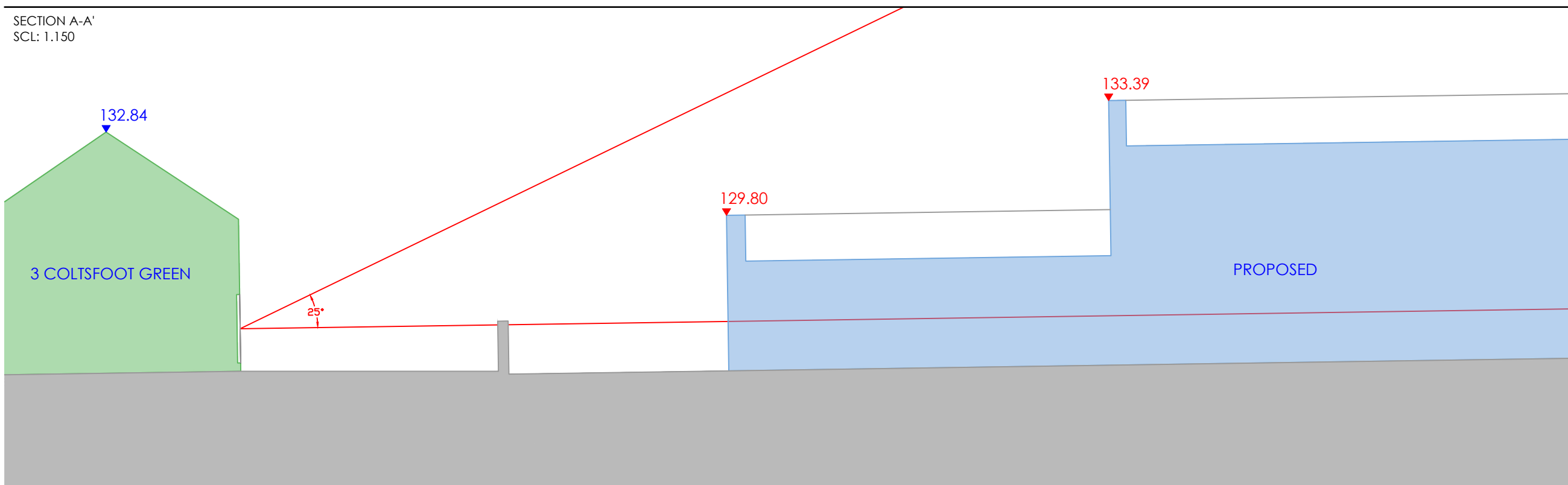
MODELLED BY **DRAWN BY**
EF EF

PROJECT No. **REL No. - DWG No.**
3055 01-03

PLANT
SCL: 1.550



SECTION A-A'
SCL: 1.150



SOURCES OF INFORMATION:

RSK
IR03 (RECEIVED 22.05.2023)

ACCUCITIES
IR04 (RECEIVED 24.05.2023)

NOTES:

HEIGHTS SHOWN ABOVE ORDNANCE DATUM

DISTANCES AND HEIGHTS SHOWN IN METRES

PROPOSED DEVELOPMENT SHOWN IN BLUE

3 COLTSFOOT GREEN SHOWN IN GREEN



PROJECT
KESTREL WAY
LUTON LU4

DRAWING
SECTIONS
25 DEGREES

SCALE @ A3
NTS

DATE
02.06.2023

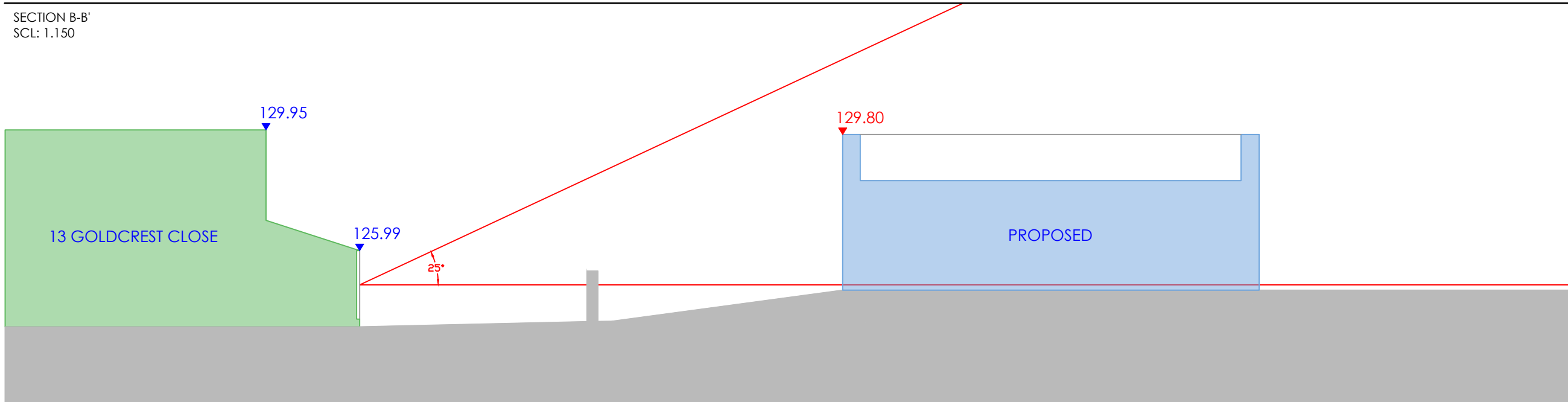
MODELLED BY
EF

DRAWN BY
EF

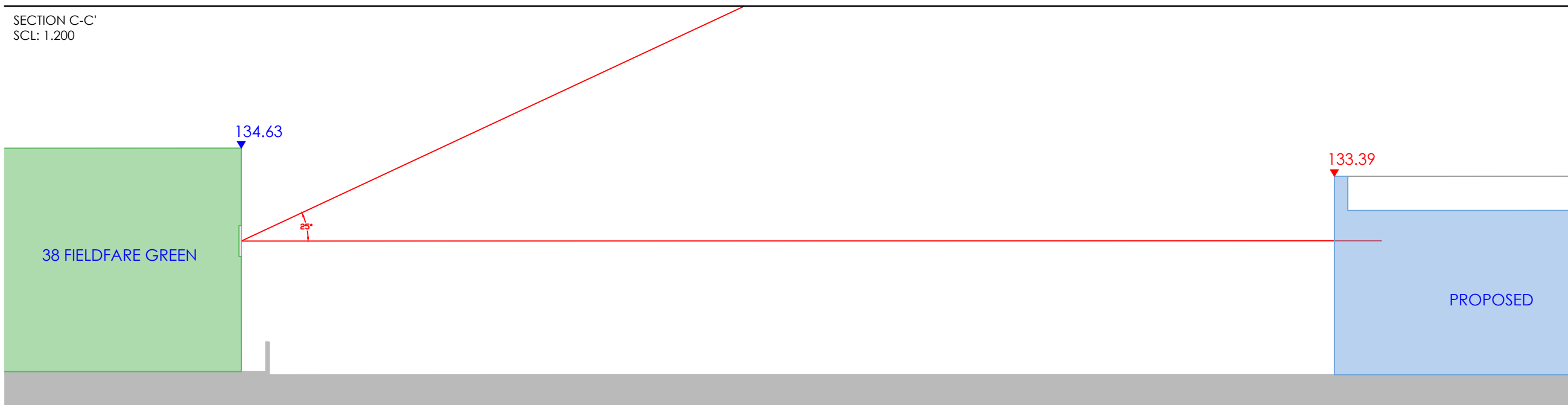
PROJECT No.
3055

REL No. - DWG No.
01-04

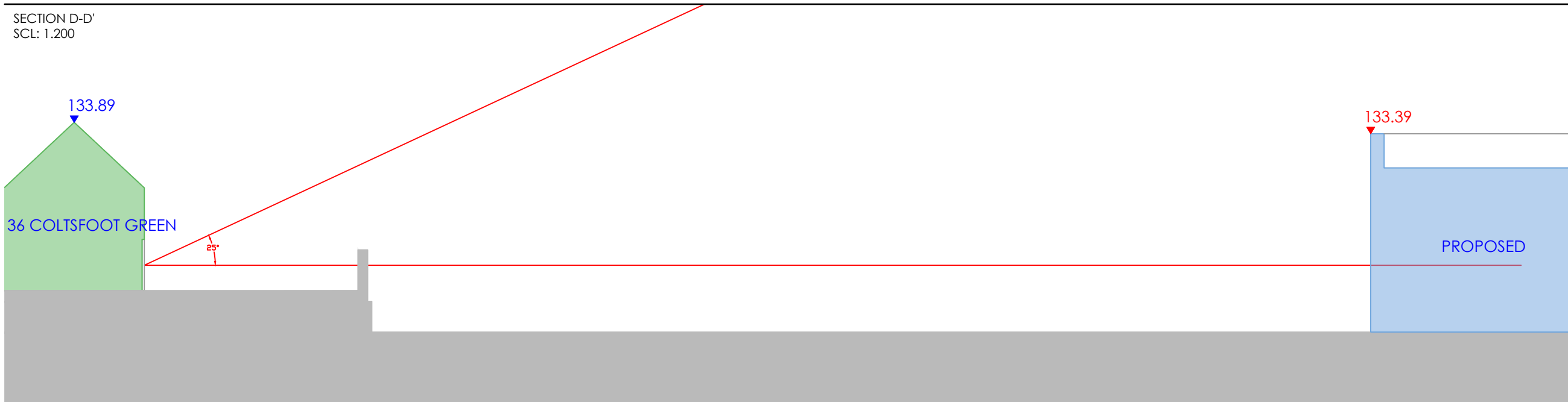
SECTION B-B'
SCL: 1.150



SECTION C-C'
SCL: 1.200



SECTION D-D'
SCL: 1.200



SOURCES OF INFORMATION:

RSK
IR03 (RECEIVED 22.05.2023)

ACCUCITIES
IR04 (RECEIVED 24.05.2023)

NOTES:

HEIGHTS SHOWN ABOVE ORDNANCE DATUM

DISTANCES AND HEIGHTS SHOWN IN METRES

PROPOSED DEVELOPMENT SHOWN IN BLUE

13 GOLDCREST CLOSE SHOW IN GREEN

38 FIELDFARE GREEN SHOW IN GREEN

36 COLTSFOOT GREEN SHOW IN GREEN

PROJECT
KESTREL WAY
LUTON LU4

DRAWING
SECTIONS
25 DEGREES

SCALE @ A3
NTS

DATE
02.06.2023

MODELLED BY
EF

DRAWN BY
EF

PROJECT No.
3055

REL No. - DWG No.
01-05

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