

Daylight and Sunlight Impact Assessment

Mansfield Heights



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Daylight and Sunlight Impact Assessment

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Introduction

The aim of this daylight and sunlight impact assessment report is to support the planning application for the proposed development at Mansfield Heights (Tower Building) in the London Borough of Haringey. This report will evaluate the potential impact of the proposed development on the daylight and sunlight received by the neighbouring buildings. The proposal comprises the 2-storey roof extension of the central block to create 2 residential units.

The daylight and sunlight impact has been calculated and assessed according to the BRE guidance "Site layout planning for daylight and sunlight - A guide to good practice" (third edition, 2022).

The calculations are based on plans of the proposed development provided by Mutiny Architecture, issued in September 2022.

Best practice guidance

According to the BRE guidance "Site layout planning for daylight and sunlight - A guide to good practice" (third edition 2022), the impact of the new development on the daylight and sunlight received by the neighbouring buildings has to be analysed according to the loss of light from the sky and the loss of sunlight. The loss of daylight and sunlight to existing neighbouring buildings needs to be analysed where:

- The distance of each part of the new development from the existing window is less than three times its height above the centre of the existing window.
- Or the angle from the centre of the existing window to the top of the new proposed building is more than 25°.

Light from the sky

The loss of light from sky to the living room, kitchen and bedroom of existing buildings has to be assessed.

Vertical Sky Component (VSC) - This is the ratio of the direct sky illuminance on the centre of the outside pane of a window, to the simultaneous illuminance on an unobstructed horizontal plane. This must be:

- Greater than 27%.
- Or more than 0.8 times its former value (before the new development).

No-Sky Line (NSL)- This is the outline of the area that has a direct view of the sky on a working plane. Where room layouts are known, in each of the main rooms, the area that receives direct light from the sky must be:

- More than 0.8 times its former value (before the new development).

Sunlight

The loss of sunlight to the living room of existing buildings that has a window facing within 90° of due south has to be assessed.

Annual Probable Sunlight Hours (APSH) - This is the average of total number of hours during a year in which direct sunlight reaches the centre of a window. This must be:

- More than 25% of the total Annual sunlight hours (unobstructed horizontal plane), including at least 5% of the total annual sunlight hours (unobstructed horizontal plane) in the winter months (21 September - 21 March).
- Or more than 0.8 times its former value for the whole year and the winter period (before the new development).

Sunlight on gardens and open spaces

- At least half of the garden space should receive at least 2 hours of sunlight on 21st March.
- The area that receives at least 2 hours of sunlight on 21st March is more than 0.8 times its former area (before the new development).
- Where a detailed calculation cannot be carried out, the centre of the garden should receive 2 hours of sunlight on 21st March.

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Existing and Proposed

Site Layout

The figure below shows the site plan of the proposed development. The red outline indicates the boundary of the proposed development. The neighbouring buildings that could possibly experience impacts to their daylight and sunlight levels are:

- 60-64 Aylmer Road
- 54-58 Aylmer Road
- Manor Court
- The Lodge Manor Court
- 66-68 Aylmer Road
- The Chestnuts
- Noble Fields
- Mansfield Heights North Block
- Mansfield Heights South Block



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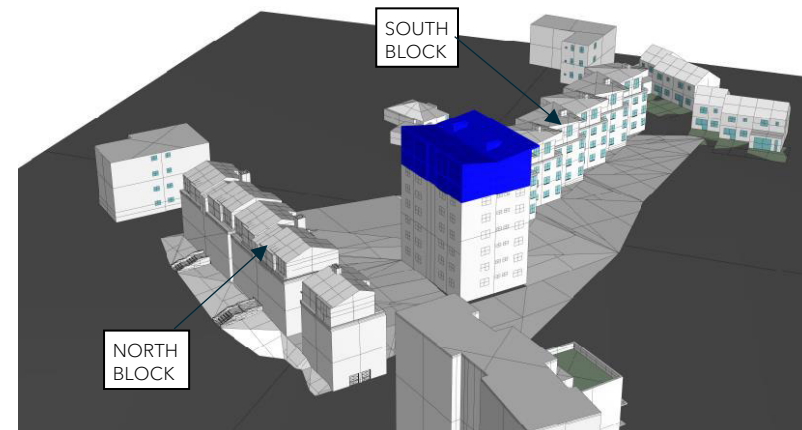
Existing and proposed development

The daylight conditions of the assessed windows will be analysed with the existing building (before) and with the proposed development (after). The figure alongside shows the two cases, before and after the proposed development. The red mass is the existing roof on the tower block and in blue is the proposed extension.

Extensions to the North and South blocks within the development have received prior approval, granted 10 September 2021 (ref: HGY/2021/2156) and have therefore been assumed as existing surrounding properties. Therefore, the impact of the tower block extension has been tested on the North and South block extensions as well.

Impact on neighbouring buildings

3D illustrations of the assessed properties and windows are presented in Appendix A.



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Light from the sky

Rationale and Methodology

According to the BRE guidance, the VSC and NSL must be calculated to assess the loss of light from the sky.

Vertical Sky Component (VSC)

According to BRE guidance, dwellings lit by windows with a VSC of less than 27% or less than 0.8 times its former value are likely to appear more gloomy and electric light will be needed more of the time. Please note that the room type and layout of each window is unknown. A table with the VSC results is presented in Appendix B. A summary of the results is presented below:

- 60-64 Aylmer Road: All windows meet the VSC recommendations
- 54-58 Aylmer Road: All windows meet the VSC recommendations
- Manor Court: All windows meet the VSC recommendations
- The Lodge Manor Court: All windows meet the VSC recommendations
- 66-68 Aylmer Road: All windows meet the VSC recommendations
- The Chestnuts: All windows meet the VSC recommendations
- Noble Fields: All windows meet the VSC recommendations
- Mansfield Heights North Block: All windows meet the VSC recommendations
- Mansfield Heights South Block: All windows meet the VSC recommendations

In summary, 100.0% of the assessed windows meet the recommendations for the VSC.

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No-Sky Line (NSL)

According to BRE guidance, the area of the room that receives direct light from the sky must be more than 0.8 times its former value (before the new development). Please note that where the room layouts are unknown, reasonable room dimensions have been assumed.

A table with the full NSL results is presented in Appendix B. A summary of the results is presented below:

- 60-64 Aylmer Road: All rooms meet the NSL recommendations
- 54-58 Aylmer Road: All rooms meet the NSL recommendations
- Manor Court: All rooms meet the NSL recommendations
- The Lodge Manor Court: All rooms meet the NSL recommendations
- 66-68 Aylmer Road: All rooms meet the NSL recommendations
- The Chestnuts: All rooms meet the NSL recommendations
- Noble Fields: All rooms meet the NSL recommendations
- Mansfield Heights North Block: All rooms meet the NSL recommendations
- Mansfield Heights South Block: All rooms meet the NSL recommendations

In summary, 100.0% of the assessed rooms meet the recommendations for the no-sky line.

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Sunlight

Annual Probable Sunlight Hours (APSH)

The calculation of the APSH is only applicable for windows of living rooms that face 90° of due south. The room use is unknown and therefore, the APSH will be calculated for all south facing windows.

According to BRE guidance, where living rooms are lit by windows with APSH of at least 25% of the total annual sunlight hours (unobstructed horizontal plane) including at least 5% of the total annual sunlight hours (unobstructed horizontal plane) in the winter months (21 September – 21 March) or more than 0.8 times its former value for the whole year and the winter period (before the new development) then the room should still receive enough sunlight. A table with the full APSH results is presented in Appendix B. A summary of the results is presented below:

- 60-64 Aylmer Road: There are no south facing windows
- 54-58 Aylmer Road: There are no south facing windows
- Manor Court: There are no south facing windows
- The Lodge Manor Court: All windows meet the APSH recommendations.
- 66-68 Aylmer Road: All windows meet the APSH recommendations.
- The Chestnuts: There are no south facing windows
- Noble Fields: All windows meet the APSH recommendations.
- Mansfield Heights North Block: All windows meet the APSH recommendations.
- Mansfield Heights South Block: All windows meet the APSH recommendations.

In summary, 100.0% of the analysed south facing windows meet the recommendations for the APSH.

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Sunlight reaching gardens and open spaces

According to BRE guidance, gardens that receive less than 2 hours of daylight on 21 March at more than 50% of their area, or less than 0.8 times its former value will tend to look more heavily overshadowed. An illustration of the sunlight hours is presented in Appendix A. A table with the sunlight hours results is presented in Appendix B.

In summary, all gardens meet the recommendations for sunlight hours.

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Conclusions

Conclusions

Based on the results of this analysis and according to the recommendations provided in the BRE guidance "Site layout planning for daylight and sunlight - A guide to good practice" (third edition 2022), the study concludes that:

- Vertical Sky Component (VSC): 100.0% of the existing windows meet the BRE recommendation for VSC.
- No-Sky Line (NSL): 100.0% of the existing rooms meet the BRE recommendation for NSL.
- Annual Probable Sunlight Hours (APSH): The APSH have been calculated for all existing south facing windows. 100% of the existing windows meet the APSH recommendations.
- The sunlight of all existing gardens would not be affected by the proposed development.

According to BRE report paragraph I6, the impact is assessed as 'minor' when only a small number of windows are affected, or the loss of light is only marginally outside the guidelines. The proposed development will have a 'minor' impact on the daylight and sunlight received by the neighbouring amenities.

Note: the BRE report is a guide for good practice and not an assessment of "Pass" and "Fail". Therefore, the failure to meet the recommended values for the VSC and APSH, do not indicate that the development is unsuitable. According to the BRE guidance the VSC does not include the light reflected by the ground and neighbouring buildings. Therefore, in reality, the reduction of the light would be less, and the neighbouring properties would receive more daylight and sunlight than numerically stated in this report.

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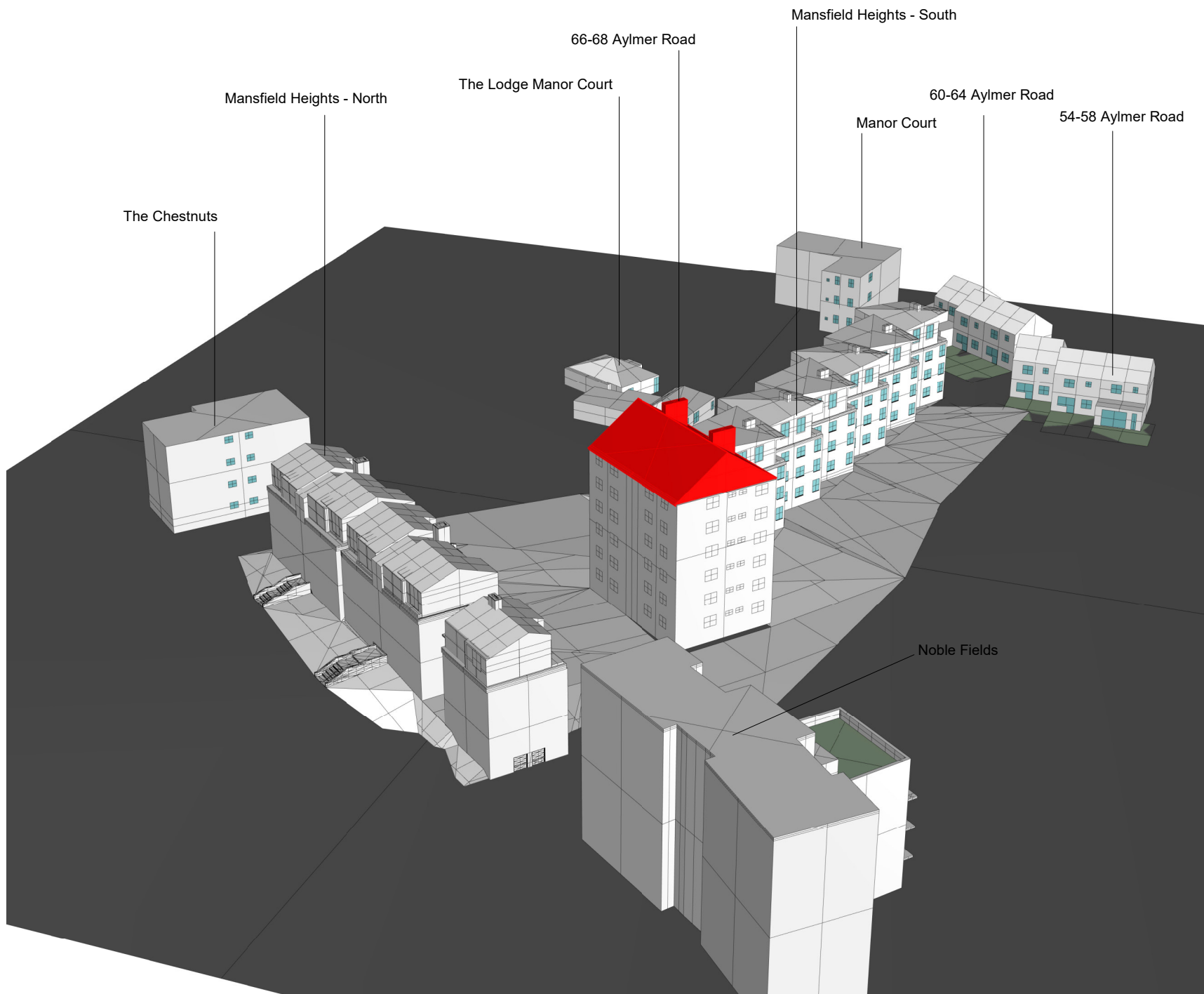
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Appendix A

3D Illustrations and Windows map



Project Name:

Mansfield Heights

Drawing Name

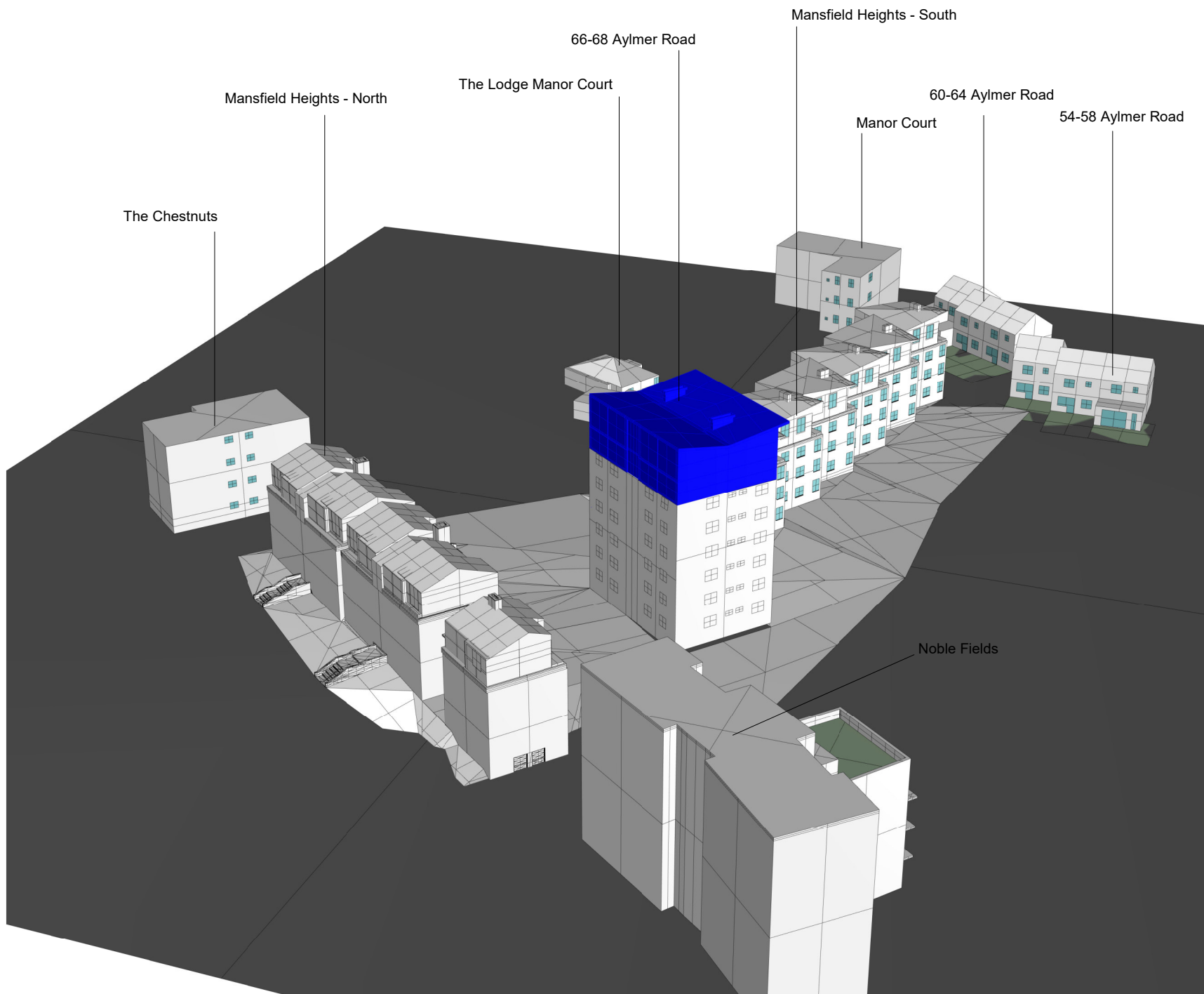
Existing development

Date:

09/09/2022

Drawing Number:

5193_A_01



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Mansfield Heights

Drawing Name

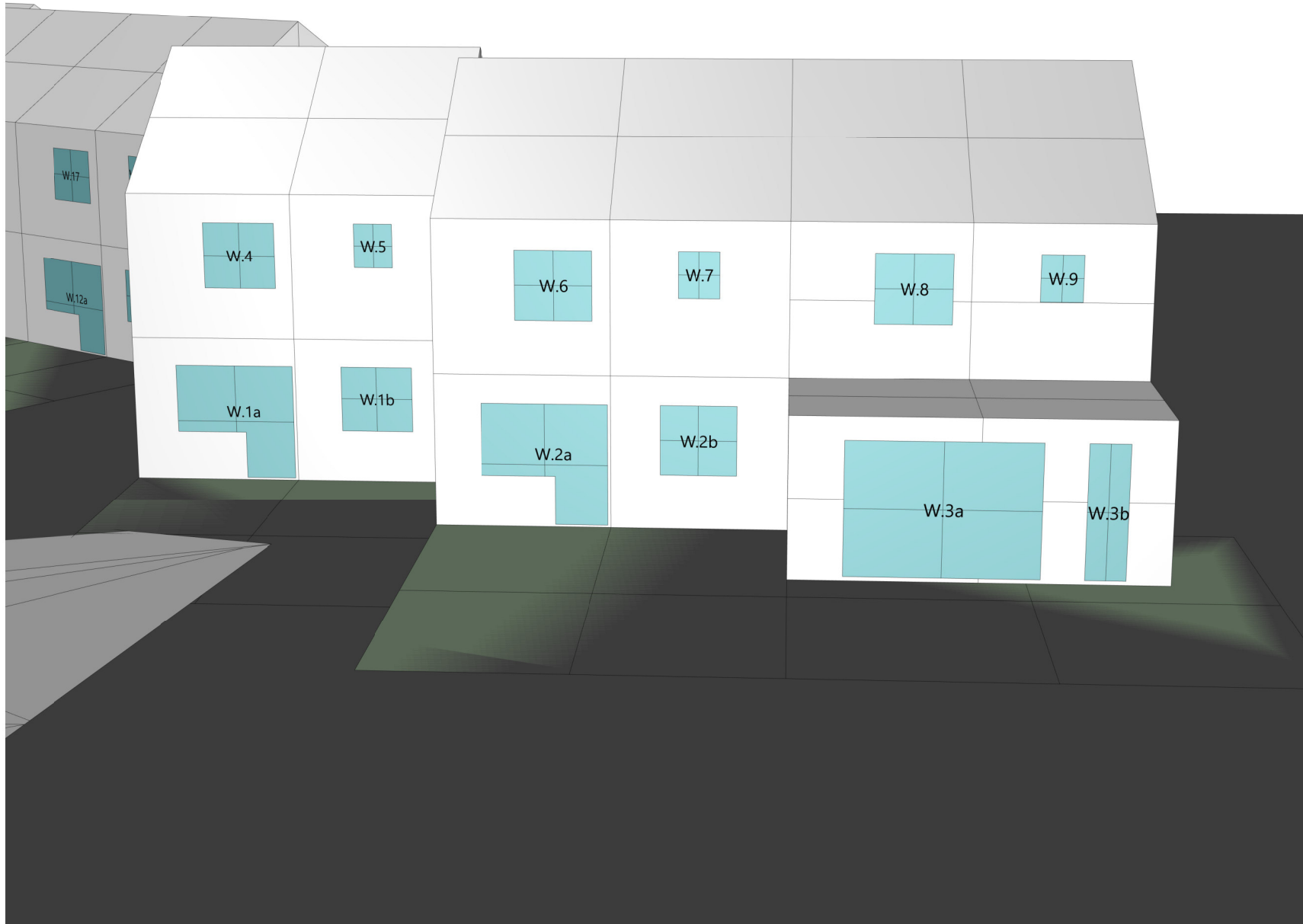
Proposed development

Date:

09/09/2022

Drawing Number:

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Mansfield Heights

Drawing Name

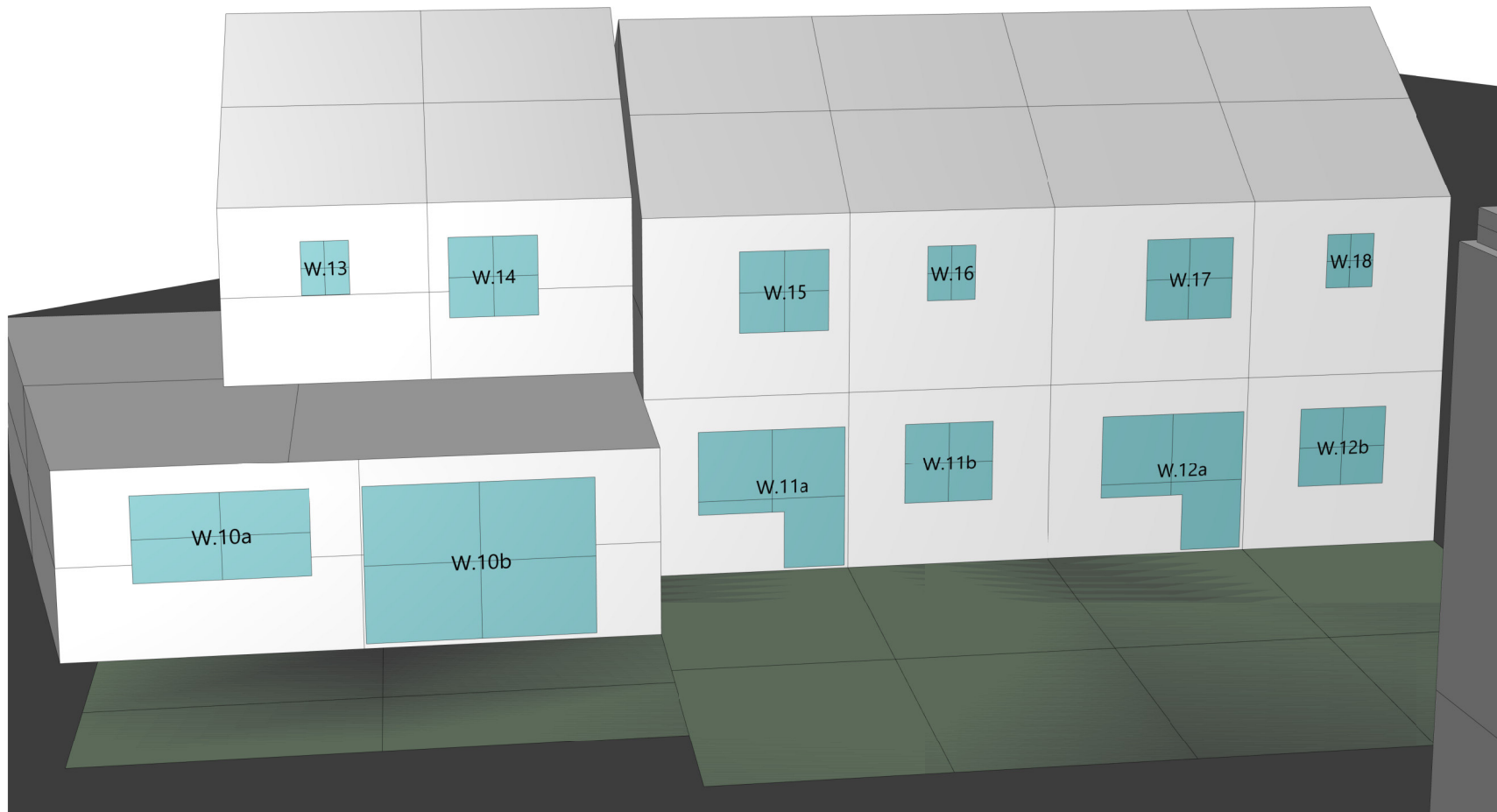
Windows Map
54-58 Aylmer Road

Date:

09/09/2022

Drawing Number:

5193_B_01



Project Name:

Mansfield Heights

Drawing Name

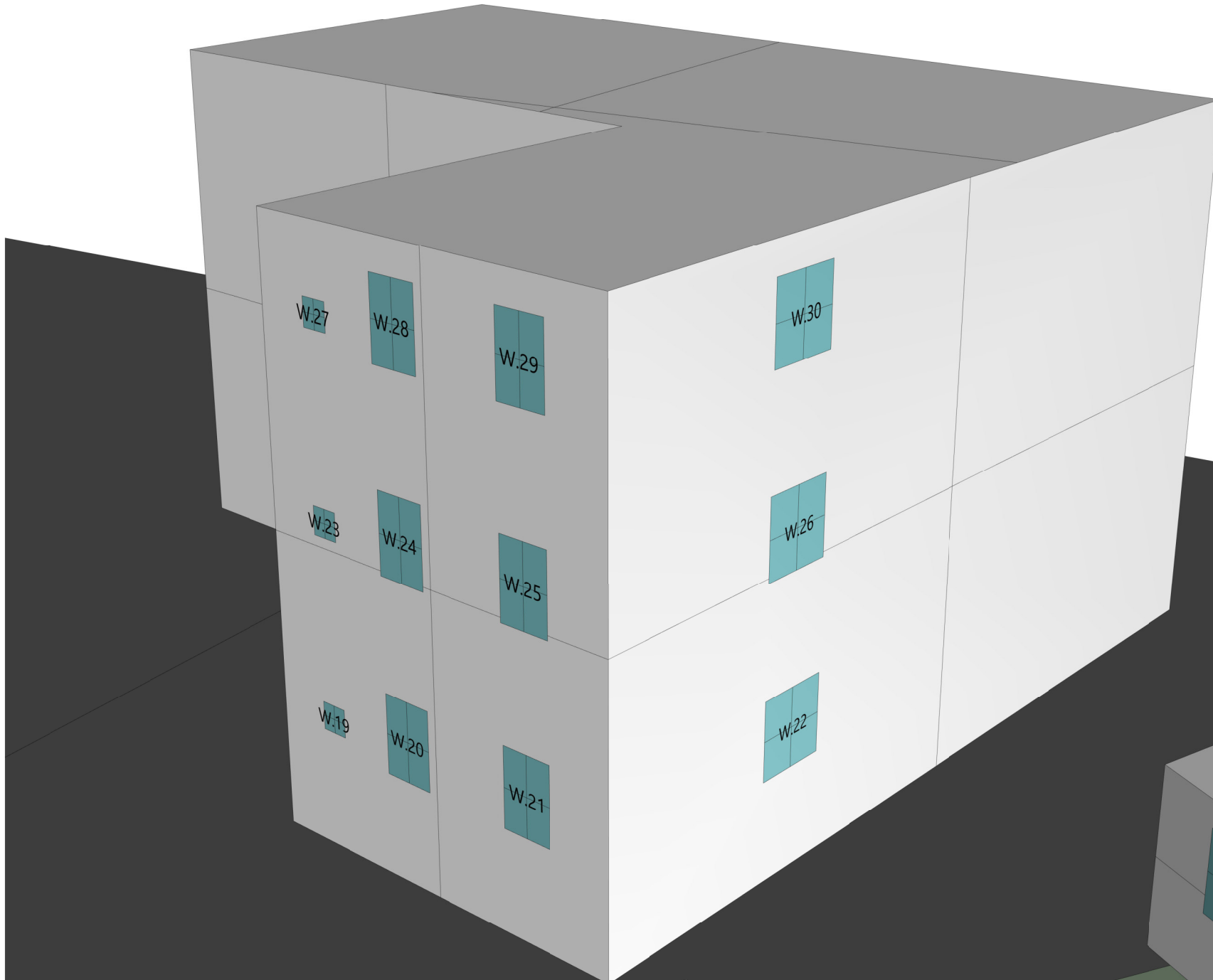
Windows Map
60-64 Aylmer Road

Date:

09/09/2022

Drawing Number:

5193_B_02



Project Name:

Mansfield Heights

Drawing Name

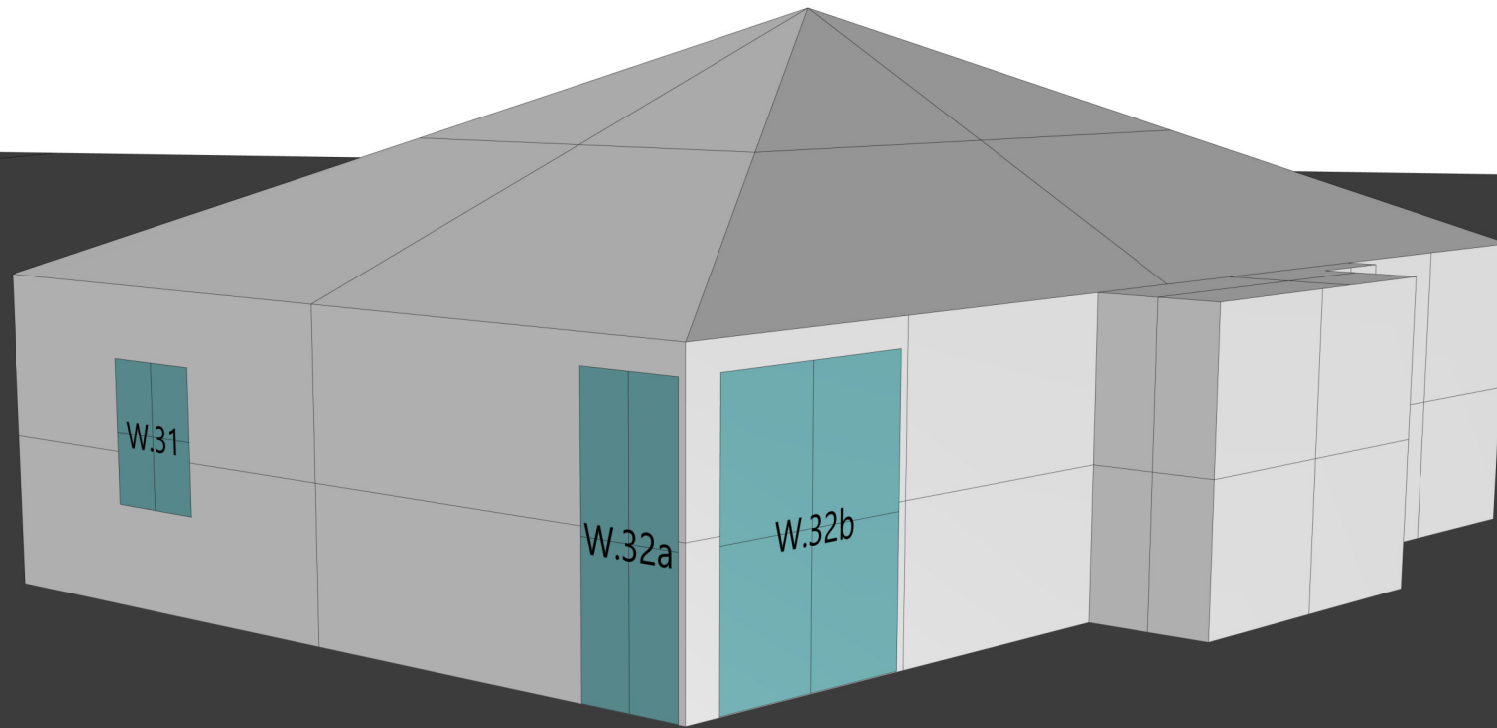
Windows Map
Manor Court

Date:

09/09/2022

Drawing Number:

5193_B_03



Project Name:

Mansfield Heights

Drawing Name

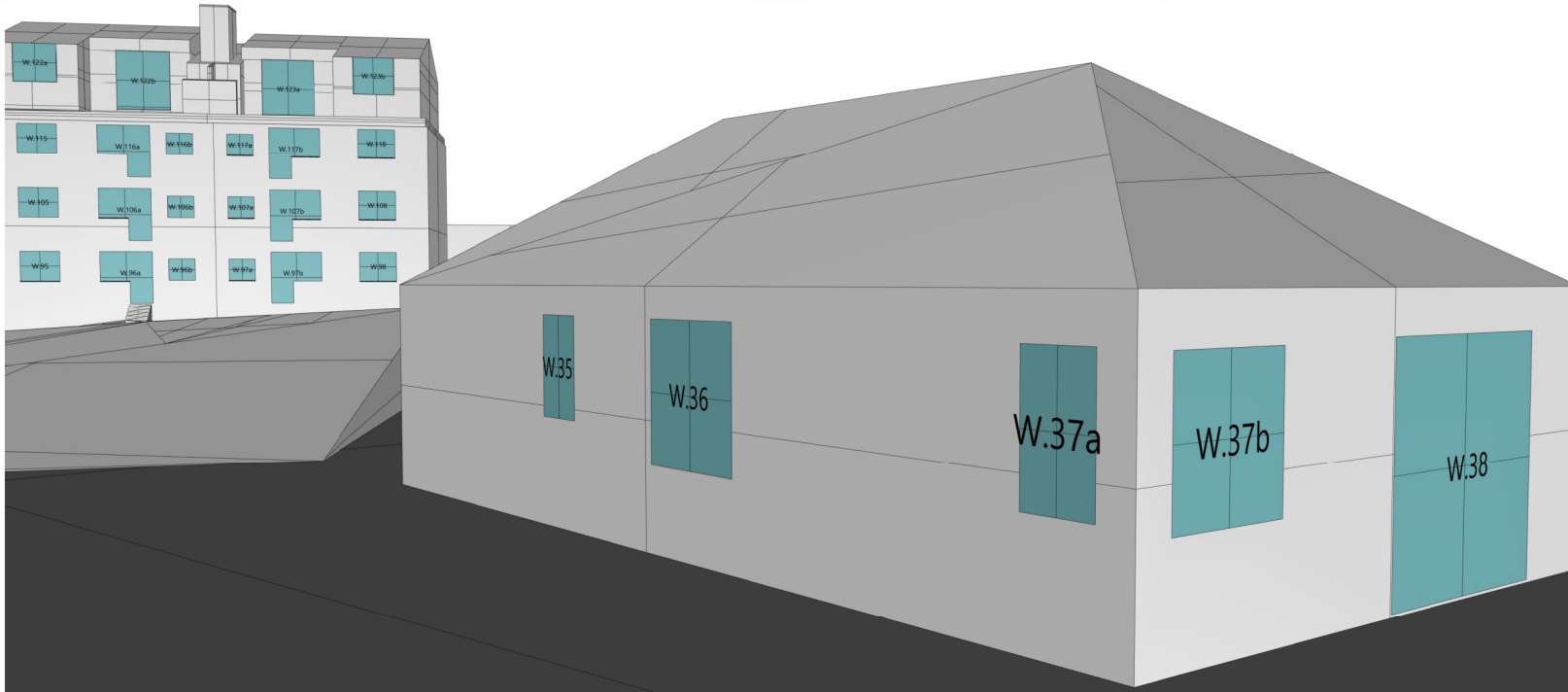
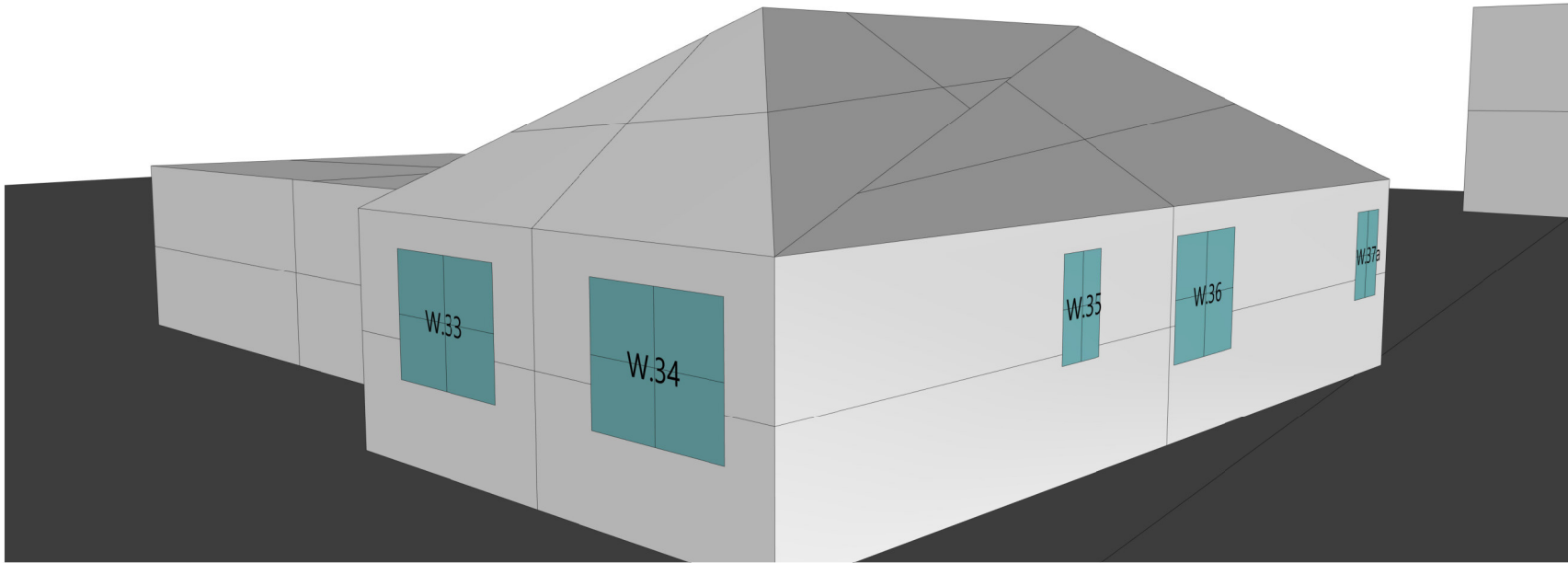
Windows Map
The Lodge Manor Court

Date:

09/09/2022

Drawing Number:

5193_B_04



Project Name:

Mansfield Heights

Drawing Name

Windows Map
66-68 Aylmer Road

Date:

09/09/2022

Drawing Number:

5193_B_05



Project Name:

Mansfield Heights

Drawing Name

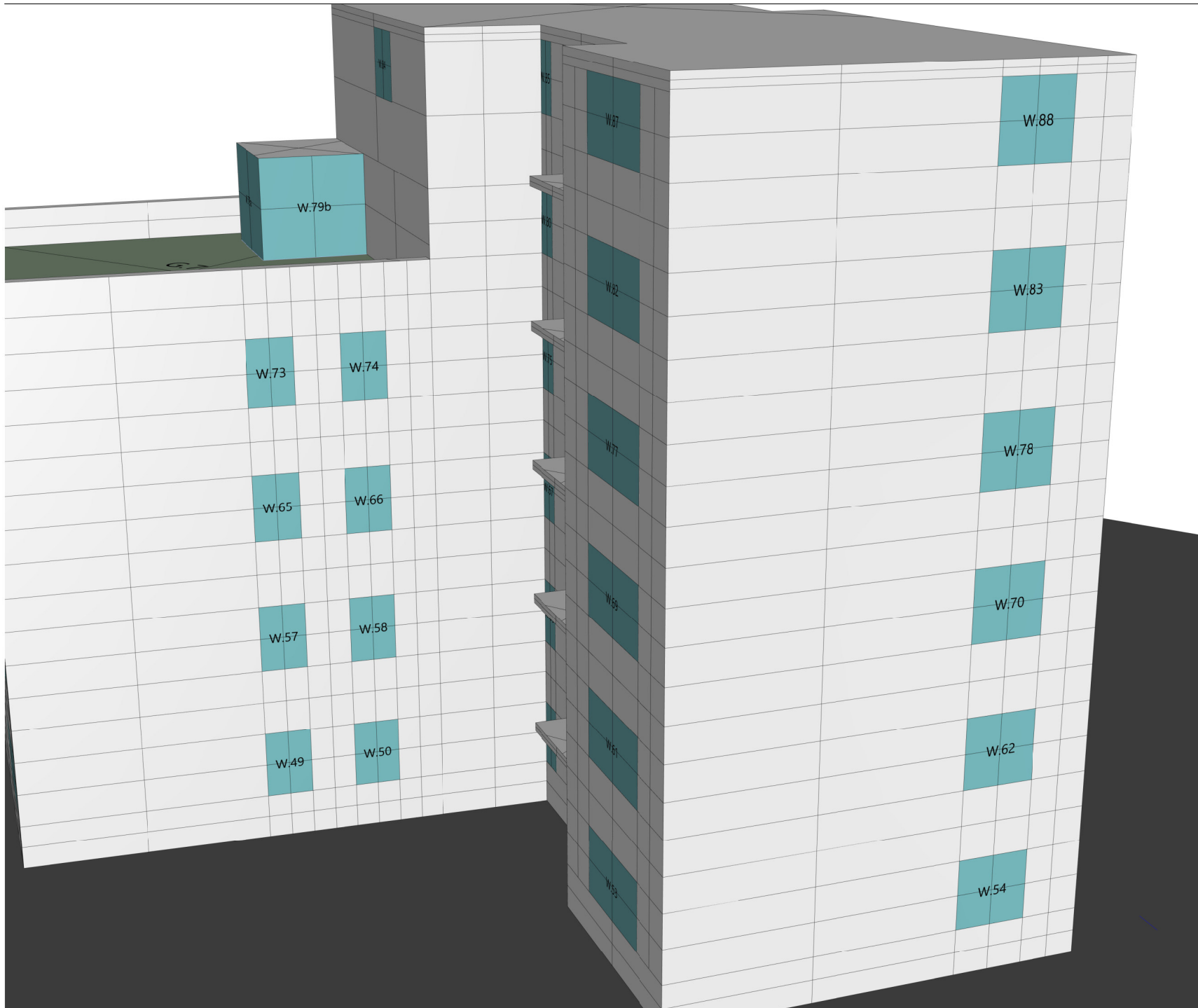
Windows Map
The Chestnuts

Date:

09/09/2022

Drawing Number:

5193_B_06



Project Name:

Mansfield Heights

Drawing Name

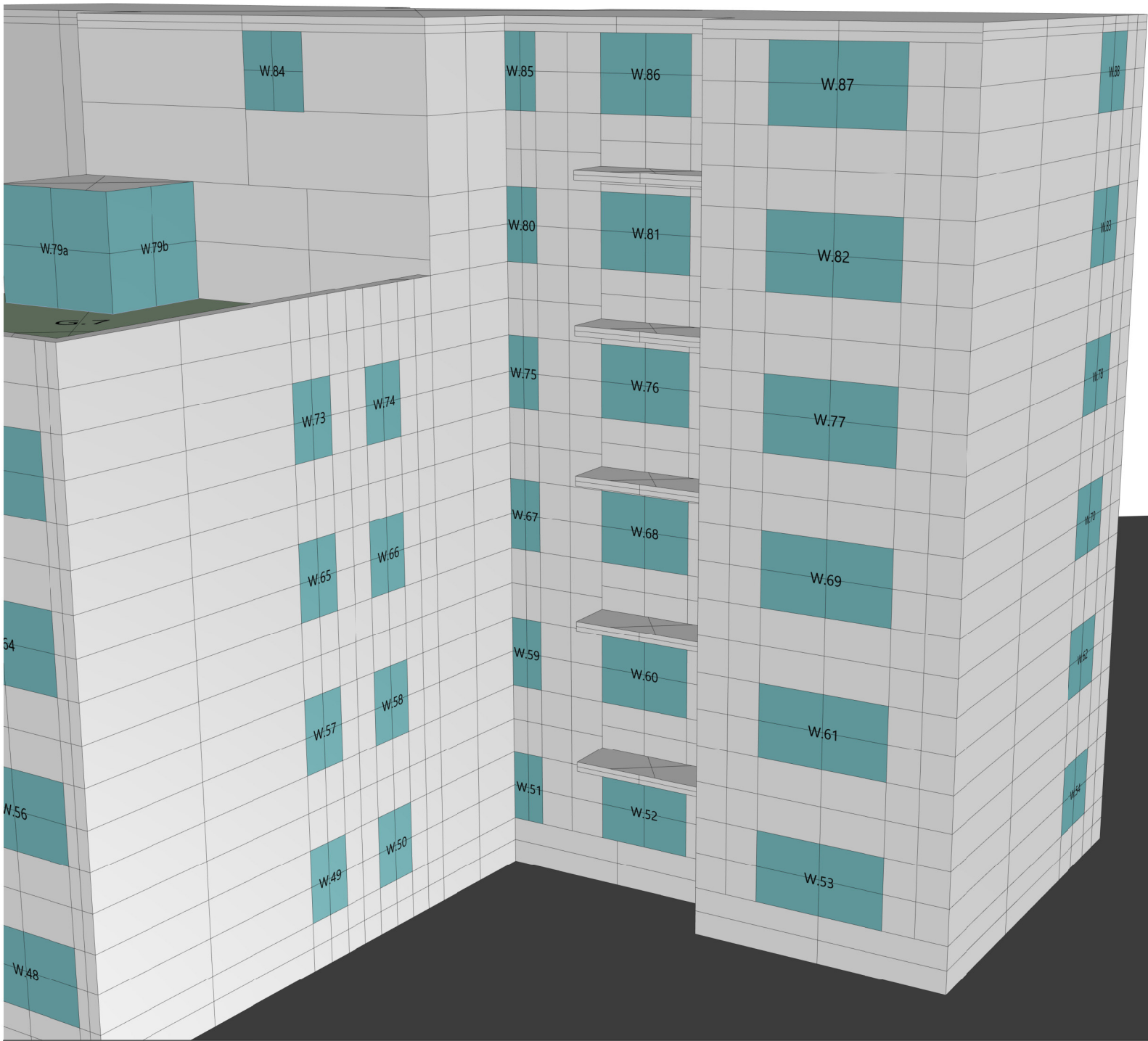
Windows Map
Noble Fields

Date:

09/09/2022

Drawing Number:

5193_B_07



Project Name:

Mansfield Heights

Drawing Name

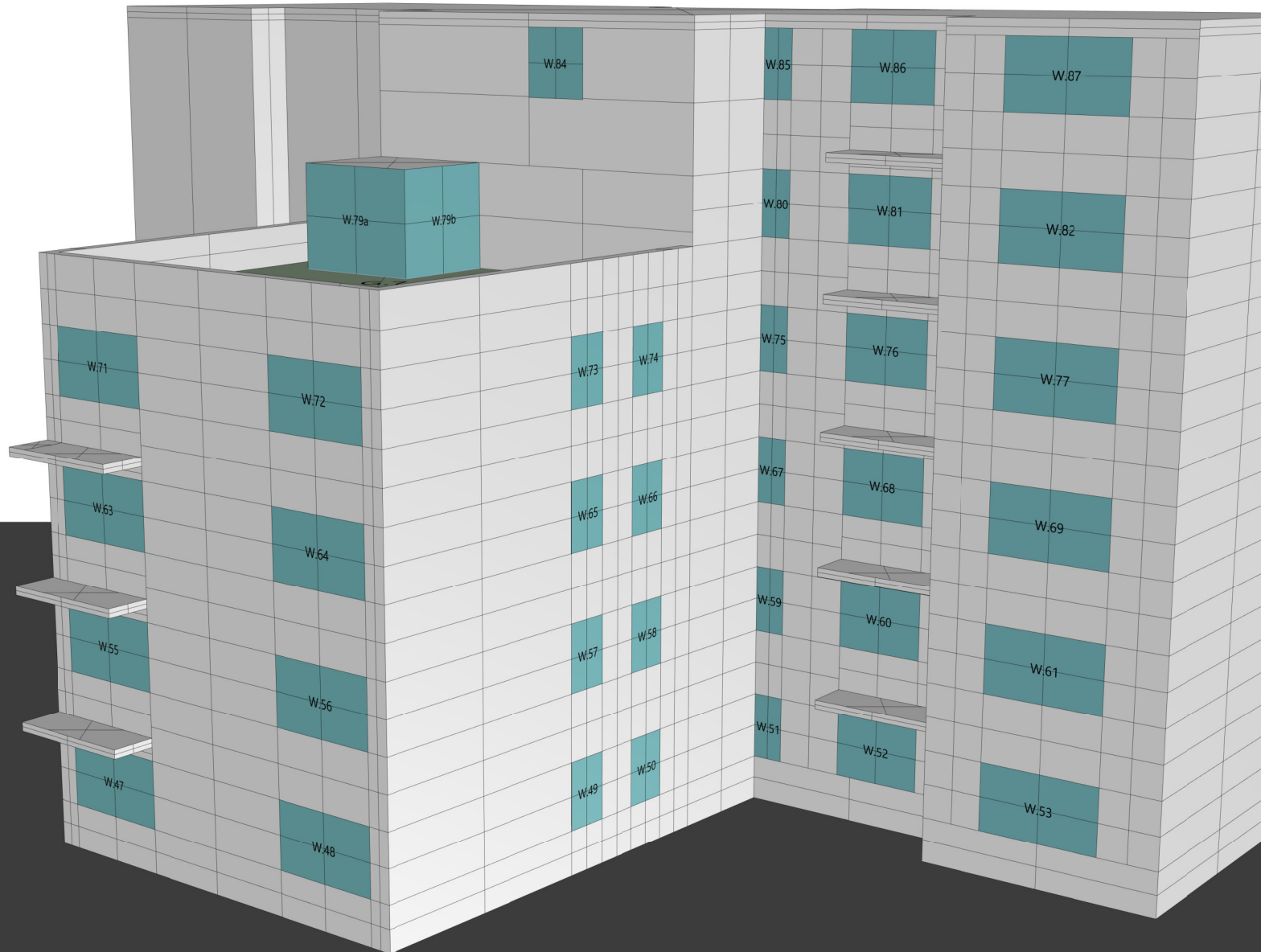
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Noble Fields

Date:

09/09/2022

Drawing Number:

5193_B_08



Project Name:

Mansfield Heights

Drawing Name

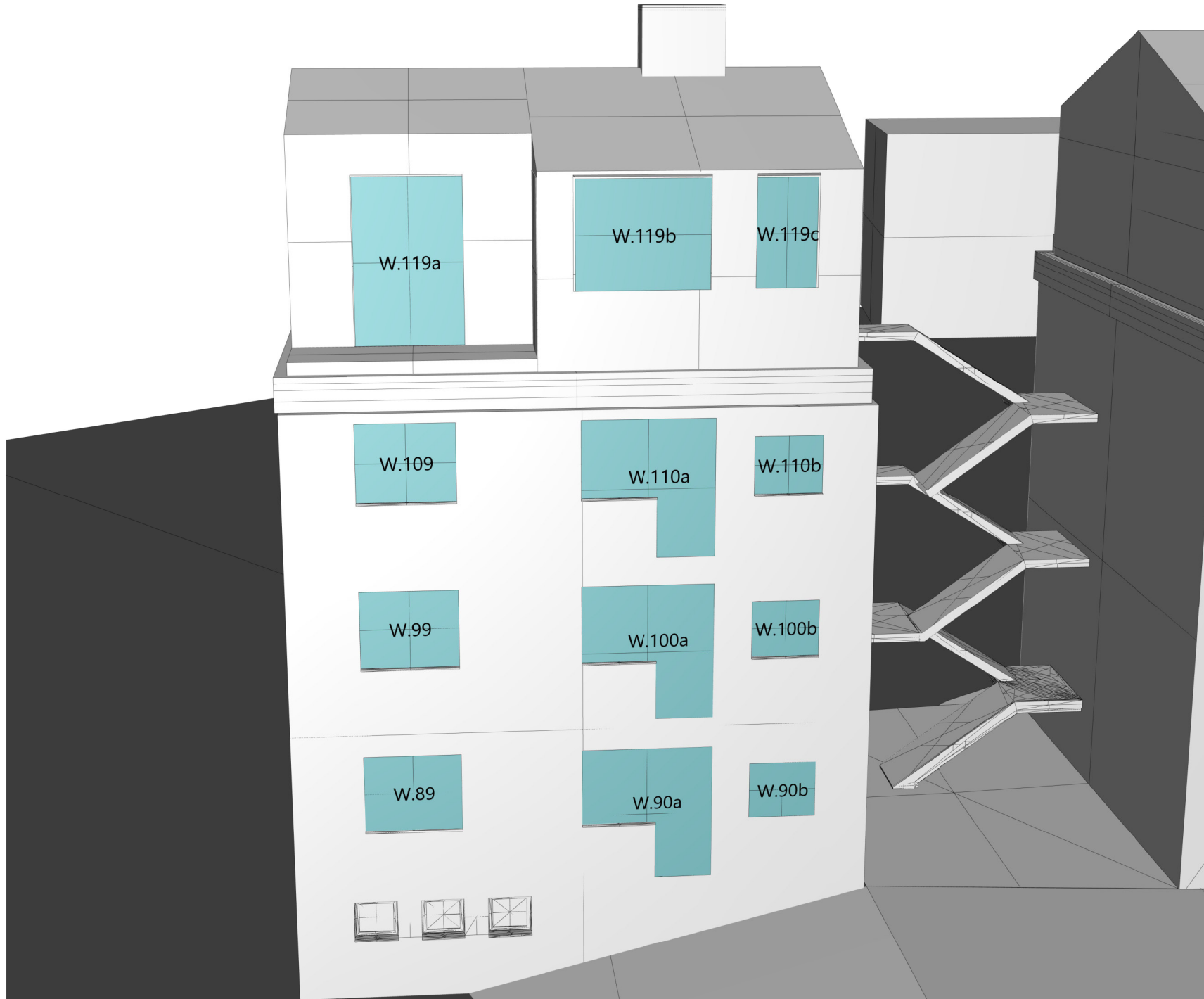
Windows Map
Noble Fields

Date:

09/09/2022

Drawing Number:

5193_B_09



Project Name:

Mansfield Heights

Drawing Name

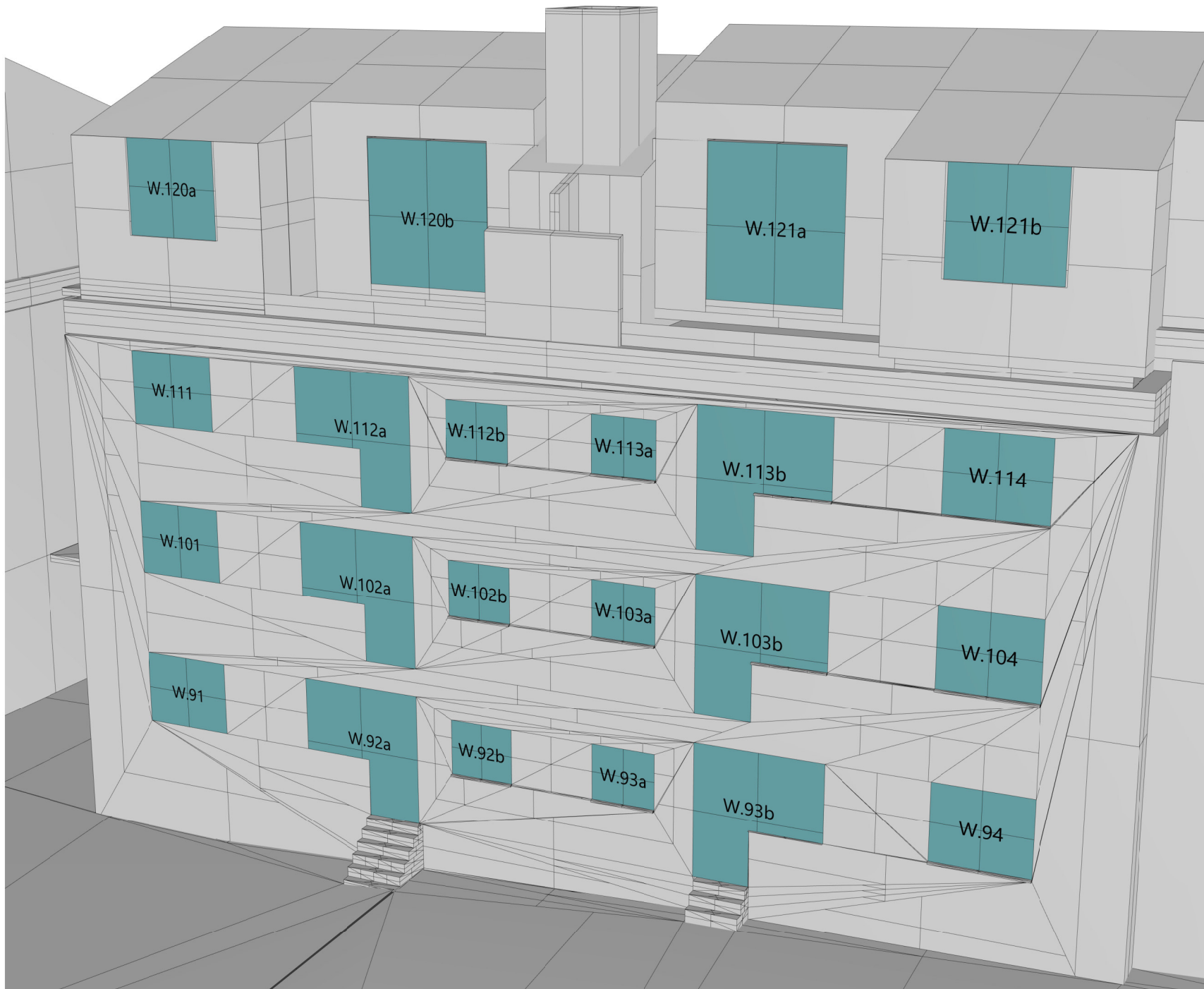
Windows Map
Mansfield Heights - North

Date:

09/09/2022

Drawing Number:

5193_B_10



Project Name:

Mansfield Heights

Drawing Name

Windows Map
Mansfield Heights - North

Date:

09/09/2022

Drawing Number:

5193_B_11



Project Name:

Mansfield Heights

Drawing Name

Windows Map
Mansfield Heights - North

Date:

09/09/2022

Drawing Number:

5193_B_12



Project Name:

Mansfield Heights

Drawing Name

Windows Map
Mansfield Heights - South

Date:

09/09/2022

Drawing Number:

5193_B_13