



RIGHT OF LIGHT
CONSULTING
Chartered Surveyors

Daylight and Sunlight Report

(Within Development)

11 May 2022

Former Police Station
Windmill Street
Gravesend
Kent
DA12 1LQ

Right of Light Consulting Ltd

Burley House
15-17 High Street
Rayleigh
Essex SS6 7EW

Tel: 0800 197 4836

www.right-of-light.co.uk

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1 EXECUTIVE SUMMARY

1.1 Overview

- 1.1.1 Right of Light Consulting has been commissioned by Churchill Retirement Living to undertake a daylight and sunlight assessment in connection with the development at the former Police Station, Windmill Street, Gravesend, Kent DA12 1LQ. The aim of the assessment is to check whether the proposed accommodation will provide its future occupiers with adequate levels of natural light.
- 1.1.2 The assessment is based on the numerical tests laid down in the Building Research Establishment (BRE) guide 'Site Layout Planning for Daylight and Sunlight: a good practice guide, 2nd Edition' by P J Littlefair 2011.
- 1.1.3 Appendix 1 identifies the windows analysed in this assessment. The no sky line contours for the habitable rooms are also presented in Appendix 1. The numerical results of the BRE daylight and sunlight tests are provided in Appendix 2.
- 1.1.4 The numerical results demonstrate that the proposed development design achieves a very high level of compliance with the BRE recommendations. In our professional opinion, the proposed design will provide the development's future occupiers with adequate levels of natural light. We consider the proposed development to be consistent with the NPPF, which requires developments to provide acceptable living standards whilst making efficient use of land.

2 INFORMATION SOURCES

2.1 Documents Considered

2.1.1 This report is based on the following drawings:

D & H Surveys Ltd

SU-01	Architect 3D Model	Rev -
	Topographic Survey	Rev -

Churchill Retirement Living

	Architect 3D Model	Rev -
20085GD_PL_001	Site Plan Red File	Rev P0.4
20085GD_PL_001	Site Plan Planning	Rev P1
20085GD_PL_002	Proposed Floor Plan Ground Planning	Rev P1
20085GD_PL_003	Proposed Floor Plan 01 Planning	Rev P1
20085GD_PL_004	Proposed Floor Plan 02 Planning	Rev P1
20085GD_PL_005	Proposed Floor Plan 03 Planning	Rev P1
20085GD_PL_006	Proposed Floor Plan 04 Planning	Rev P1
20085GD_PL_007	Proposed Roof Plan Planning	Rev P1
20085GD_PL_008	Site Sections Planning	Rev P1
20085GD_PL_009	East Elevation Planning	Rev P1
20085GD_PL_010	North & South Elevation Planning	Rev P1
20085GD_PL_011	West Elevation Planning	Rev P0.2
20085GD_PL_011	West Elevation Planning	Rev P1
20085GD_PL_020	Site Distances & Levels Plan Planning	Rev P0.2
20085GD_PL_020	Site Distances & Levels Plan Planning	Rev P1
21SE018_GF_007	Indicative Sections AA & BB Grey File	Rev P1

Barrell Tree Consultancy

21203-1 A	Tree Constraints Plan	Rev -
21203-1 B	Tree Constraints Plan	Rev -

3 METHODOLOGY OF THE ASSESSMENT

3.1 Local Planning Policy

3.1.1 We understand that the Local Authority takes the conventional approach of considering daylight and sunlight amenity with reference to the various numerical tests laid down in the Building Research Establishment (BRE) guide 'Site Layout Planning for Daylight and Sunlight: a guide to good practice, 2nd Edition' by P J Littlefair 2011. A new European standard BS EN 17037 'Daylight in Buildings' was published in May 2019. An update to the BRE guide to take into account the European standard is expected sometime in 2022. It is not yet clear how, and to what extent, the European recommendations will be adopted by the BRE and Local Authorities.

3.1.2 The standards set out in the BRE guide are intended to be used flexibly. The BRE guide states:

"The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly, since natural lighting is only one of many factors in site layout design."

3.2 National Planning Policy Framework

3.2.1 The BRE numerical guidelines should be considered in the context of the National Planning Policy Framework (NPPF), which stipulates that local planning authorities should take a flexible approach to daylight and sunlight to ensure the efficient use of land. The NPPF states:

"Local planning authorities should refuse applications which they consider fail to make efficient use of land, taking into account the policies in this Framework. In this context, when considering applications for housing, authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight, where they would otherwise inhibit making efficient use of a site (as long as the resulting scheme would provide acceptable living standards)."

3.3 Interior Daylighting

- 3.3.1 The interior daylighting recommendations set out in the BRE guide are based on British Standard BS 8206 Part 2 and the Chartered Institute of Building Services Engineers Applications Manual on window design. Collectively, the guides set out three main criteria for interior daylighting. These are summarised as follows:

Test 1 - Average Daylight Factor

- 3.3.2 The Average Daylight Factor (ADF) can be calculated using the following formula:

$$df = \frac{T A_w \theta}{A (1-R^2)} \%$$

where

T is the diffuse visible transmittance of the glazing
A_w is the net glazed area of the window (m²)
A is the total area of the room surfaces (m²)
R is their average reflectance
θ is the angle of visible sky in degrees

- 3.3.3 The ADF test is applied to habitable rooms within domestic properties. A kitchen is generally deemed to be a habitable room if it is large enough to accommodate a dining area. If the kitchen is small, or if the property has a separate dining area, then the accepted practice is to treat the kitchen as a non-habitable room.
- 3.3.4 For the purpose of this assessment, 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).
- 3.3.5 We have assumed that each window is double-glazed and has a glazed area that equates to 80% of the structural opening size. A glazing transmittance value, inclusive of a maintenance to allow for the effect of dirt and grime on the glazing, of 0.68 has been used.
- 3.3.6 To achieve a predominately daylit appearance, the guide recommends an ADF of 5% or more if there is no supplementary electric lighting, or 2% or more if supplementary lighting is provided. The guide also gives minimum recommendations for dwellings of 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. The minimum targets have been adopted for the purpose of this assessment.

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- 3.3.7 The BRE guide does not give guidance on how to apply the ADF test to spaces which contain a mix of room uses e.g. open plan living, dining and kitchen areas. For this assessment we have set a target of 2% with the aim of reaching the predominately daylight benchmark.
- 3.3.8 A special procedure is required for floor to ceiling windows such as patio doors. If part of a window is below the height of the working plane (a horizontal plane 0.85m above the floor in housing), this portion should be treated as a separate window. The ADF for this window has an extra factor applied to it, to take account of the reduced effectiveness of low level glazing in lighting the room. A value equal to the floor reflectance may be taken for this factor. The ADF for the portion of the window above the working plane is calculated in the normal way without this additional factor, and the ADFs for the two portions are added together.
- 3.3.9 Reflected light can be factored into the ADF calculation. For example, where a window has a large obstruction in front of it, the angle of visible sky can be increased by around 6°, assuming the obstruction is painted a light colour.

Test 2 - Room Depth

- 3.3.10 If a daylight room is lit by windows in one wall only, the depth of the room L should not exceed the limiting value given by:

$$\frac{L}{W} + \frac{L}{H} \leq \frac{2}{1-R_b}$$

where

W is the room width

H is the window-head height above floor level

R_b is the average reflectance of the surfaces in the rear half of the room

Test 3 - Position of the no sky line (Daylight Distribution)

- 3.3.11 If a significant area of the working plane lies beyond the no sky line (i.e. it receives no direct skylight), then the distribution of daylight in the room will look poor and supplementary electric lighting will be required.

3.3.12 The no sky line assessment is not applicable where a room derives its daylight solely from a light well or atrium. In these situations the room relies on borrowed light instead of direct skylight.

3.4 Sunlight to Windows

3.4.1 The BRE guide states that, in general, a dwelling or non-domestic building which has a particular requirement for sunlight, will appear reasonably sunlit if:

- at least one main window wall faces within 90 degrees of due south, and
- the centre of at least one window to a main living room can receive 25% of annual probable sunlight hours, including at least 5% of the annual probable sunlight hours during the winter months between 21st September and 21st March.

3.4.2 The guide states that, where groups of dwellings are planned, site layout design should aim to maximise the number of dwellings with a main living room that meets the above recommendations.

3.4.3 The guide states that sunlight is viewed as less important in kitchens and bedrooms.

3.5 Trees and Hedges

3.5.1 Appendix H of the BRE guide gives guidance on trees and hedges. Trees and hedges vary in their effects on skylight and sunlight. Most tree species will cast partial shade; for deciduous trees, this will vary with the time of year. It is generally more difficult to calculate the effects of trees on daylight and sunlight because of their irregular shape and because some light will generally penetrate through the tree crown. Modern computer programmes do allow daylight and sunlight consultants to predict the impact of trees with a relatively high degree of accuracy.

3.5.2 To account for the effect of trees, it is necessary to run the daylight and sunlight simulation twice. For example, with daylight, the first set of calculations treats the trees as solid obstructions. The second set of calculations ignores the trees altogether. The true effect of the trees is somewhere between the two sets of results. To interpolate between the two sets of results, it is necessary to factor in how much light is able to pass through the trees.

-
- 3.5.3 Appendix H of the BRE guide gives approximate transparency values for various types of trees. The transparency value is a measure of how much light will pass through a tree. When analysing daylight and sunlight, we have applied the average transparency value of 20% in the summer months and 55% in the winter months i.e. 20% of the light will pass through and 80% will be blocked in the summer and 55% of light will pass through and 45% will be blocked in the winter.
- 3.5.4 Because there are two different values of transparency for winter and summer, there will be two different values of equivalent visible sky angle θ . These values are then used in the Average Daylight Factor (ADF) equation to give two different ADF scores for winter and summer.
- 3.5.5 The BRE guide notes that, if the recommended values of ADF are exceeded in both summer and winter, then daylight would be considered adequate. The guide adds that, for a room where the minimum value is exceeded in winter but not in summer, daylight provision year round is still likely to be adequate, but it is clear that the trees are having some effect on daylight.
- 3.5.6 To assess the effect of trees on sunlight, a modified form of the above procedure is used. In the calculation, the θ is replaced by the annual probable sunlight hours (APSH) and winter probable sunlight hours (WPSH). As with the ADF, the results showing the effect of trees on APSH will lie somewhere between if the trees are treated as opaque and if they are not there at all.

4 RESULTS OF THE ASSESSMENT

4.1 Window Reference Points and No Sky Line Contours

4.1.1 Appendix 1 identifies the positions of the windows analysed in this assessment. The no skyline contours for the habitable rooms are also presented in Appendix 1.

4.2 Daylight & Sunlight Data

4.2.1 The numerical results of the BRE daylight and sunlight tests are provided in Appendix 2.

4.3 Interior Daylighting

4.3.1 For completeness, we have provided Average Daylight Factor (ADF) results for both the summer and winter months. The BRE Guide explains that, providing the ADF target is met in the winter months, daylight provision year-round is likely to be adequate. In the case of the proposed development, all habitable rooms tested meet or surpass the BRE minimum Average Daylight Factor (ADF) targets, with the exception of only 6 rooms (i.e. only 6 of the total 235 rooms tested fall short of their ADF targets in the winter months). This is a very high level of compliance in the context of an urban development site.

4.3.2 All rooms pass the room depth test.

4.3.3 The BRE guide does not give fixed numerical pass/fail criteria for the No Sky Line test when applied to new dwellings. However, for completeness, we have illustrated the no sky line contours in Appendix 1. The contours illustrate good access to direct skylight over a significant part of the working plane.

4.4 Sunlight to Windows

4.4.1 The BRE guide acknowledges that, in some cases, it may not be possible for every dwelling to achieve ideal levels of sunlight. The guide explains that, where groups of dwellings are planned, the aim should be to maximise the number of dwellings that:

- have at least one main window that faces within 90 degrees of due south, and
- have at least one window to a main living room that meets the BRE numerical targets.

4.4.2 In the case of the proposed development, 47 of the 75 living room units have a living room window which faces within 90 degrees of due south. We note that 27 of the 47 units have a living room window which meets the BRE numerical targets.

4.4.3 In our opinion, the proposed development represents good site layout design. Since the design maximises sunlight availability, as far as practically possible given the constraints of the site, the BRE direct sunlight to windows recommendations for groups of dwellings have been met.

4.5 Conclusion

4.5.1 The numerical results demonstrate that the proposed development design achieves a very high level of compliance with the BRE recommendations. In our professional opinion, the proposed design will provide the development's future occupiers with adequate levels of natural light. We consider the proposed development to be consistent with the NPPF, which requires developments to provide acceptable living standards whilst making efficient use of land.

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 assessment is limited to assessing daylight and sunlight of the proposed development as set out in section 2.1 and 3.1 of the BRE Guide.

5.1.3 The assessment is based on the information listed in section 2 of this report and a site visit undertaken on 2 March 2022.

We have undertaken the survey following the guidelines of the RICS publication "Surveying Safely". Where limited access is available, assumptions will have been made.

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

WINDOW KEY & NO SKY LINE CONTOURS

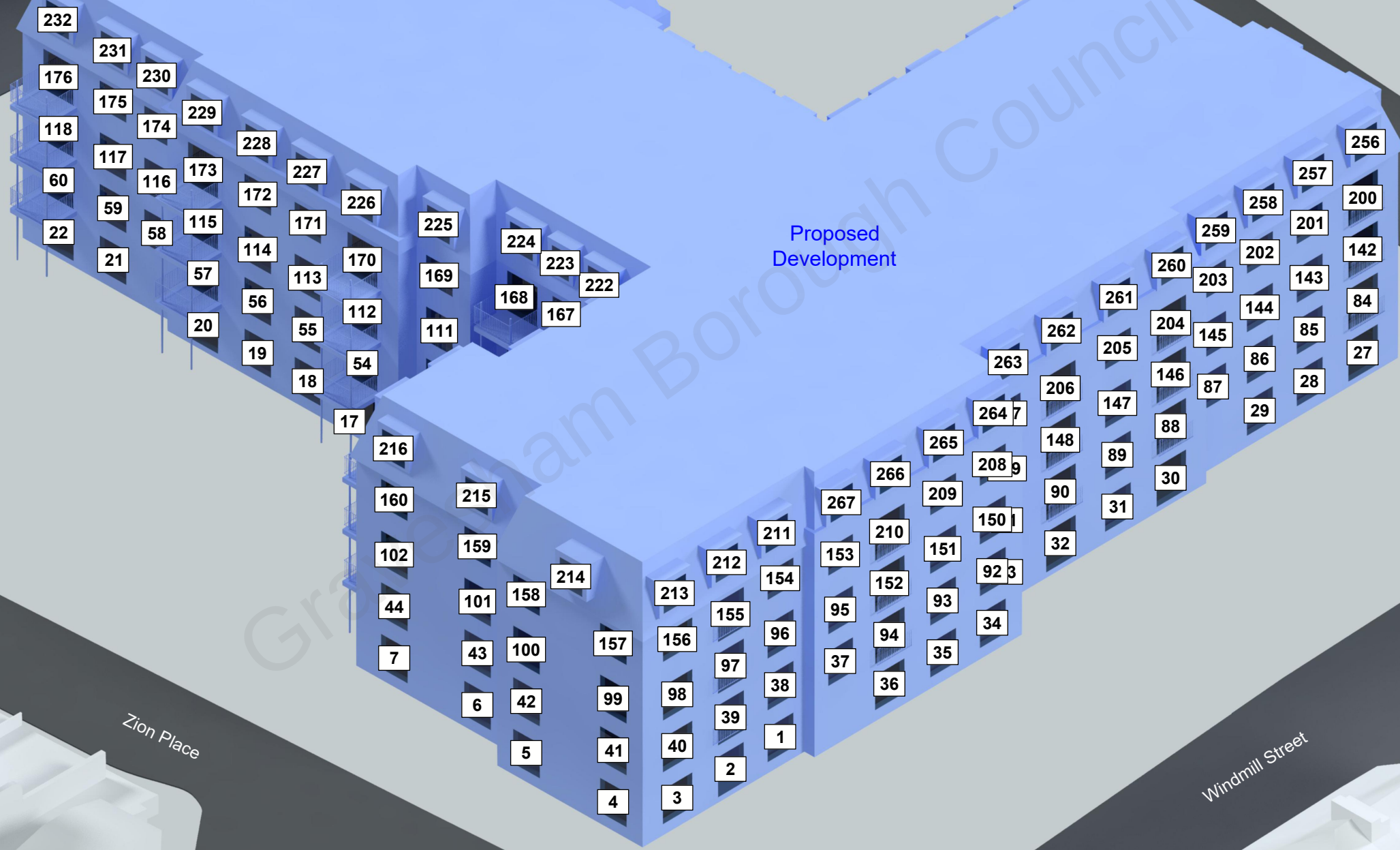


Woodville Place

Proposed
Development

Zion Place

Windmill Street





Woodville Place

Windmill Street

Zion Place

Proposed Development

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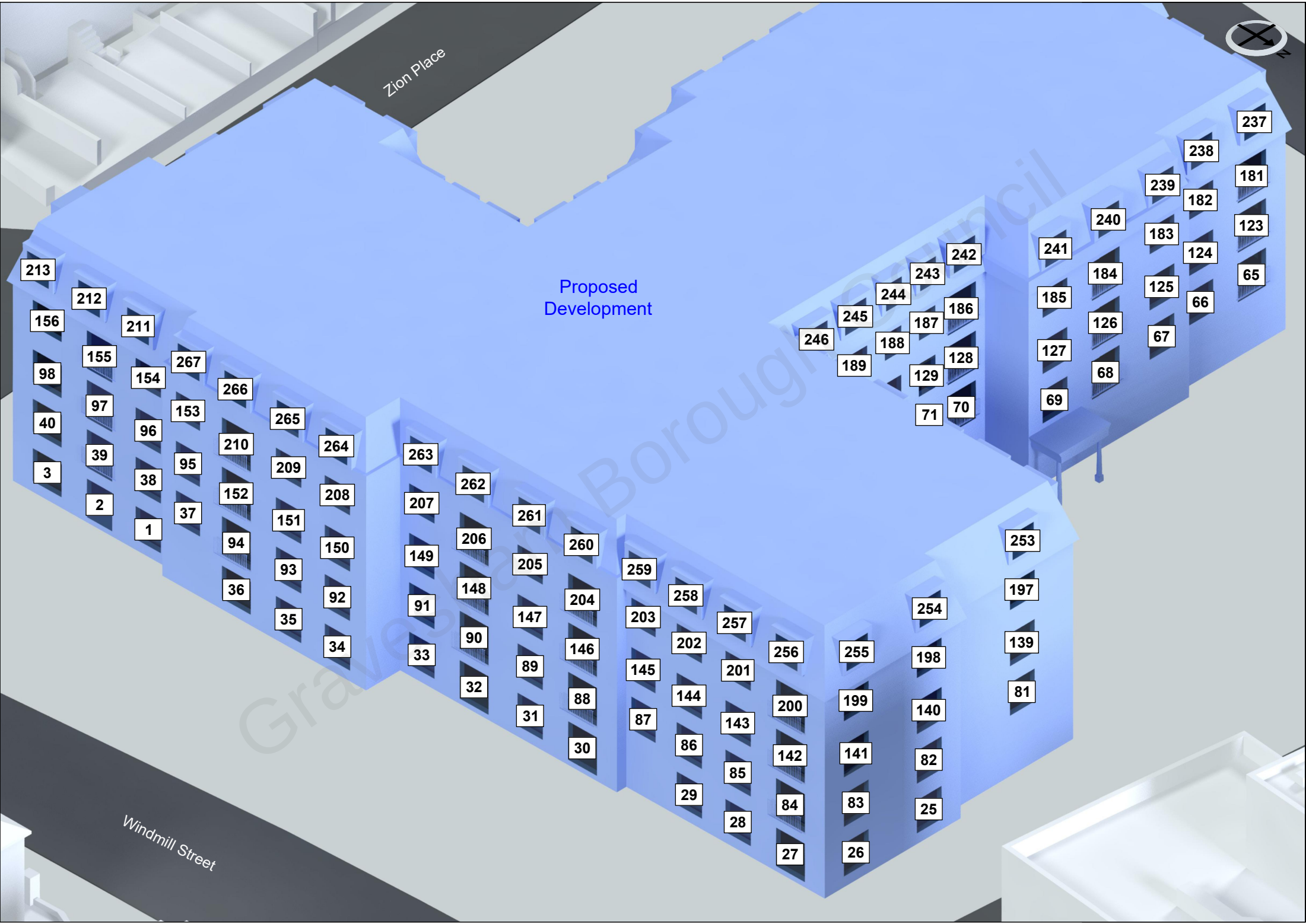
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Planning Council



Zion Place

Proposed
Development



Windmill Street

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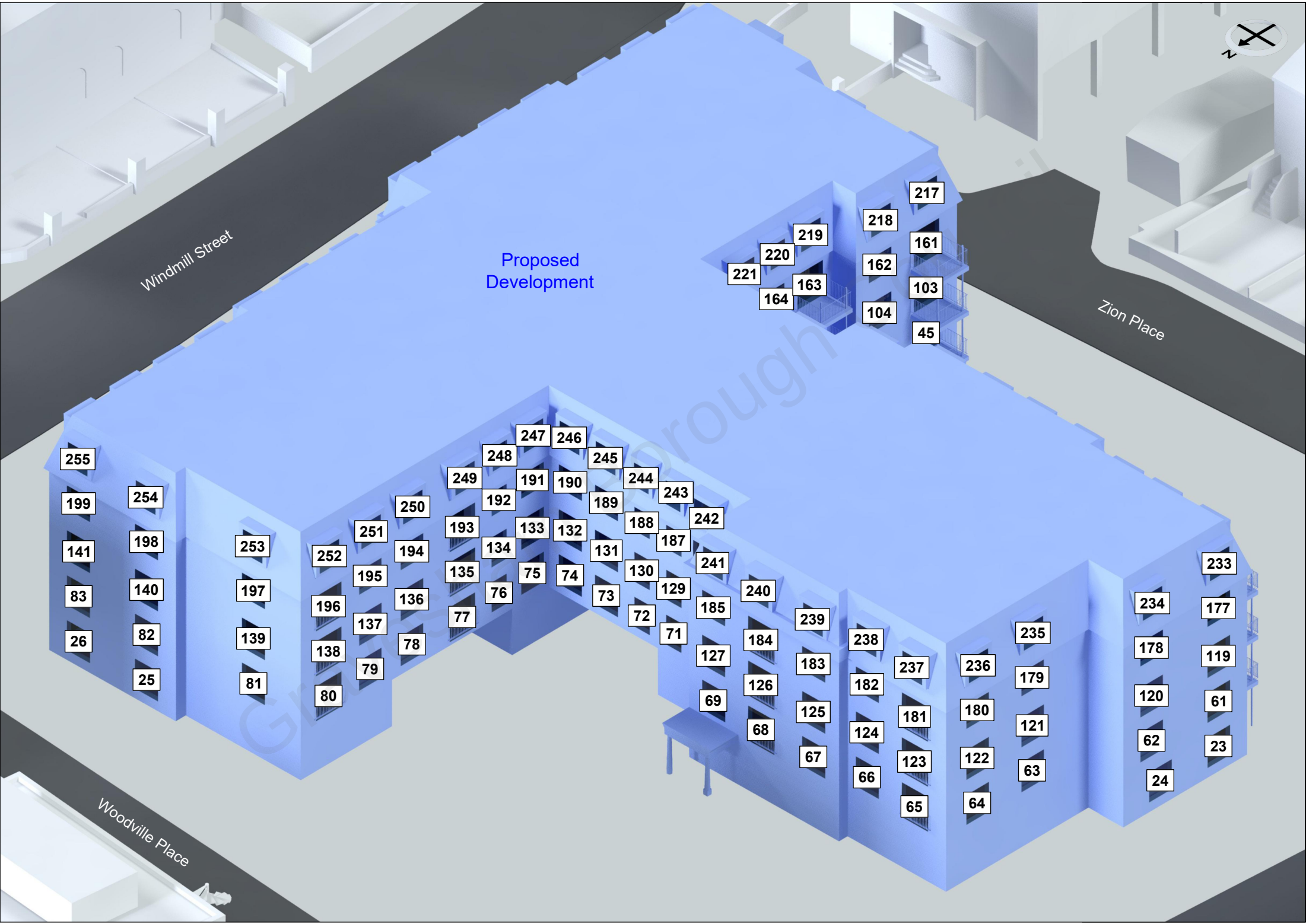
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Proposed
Development

Windmill Street

Zion Place

Woodville Place



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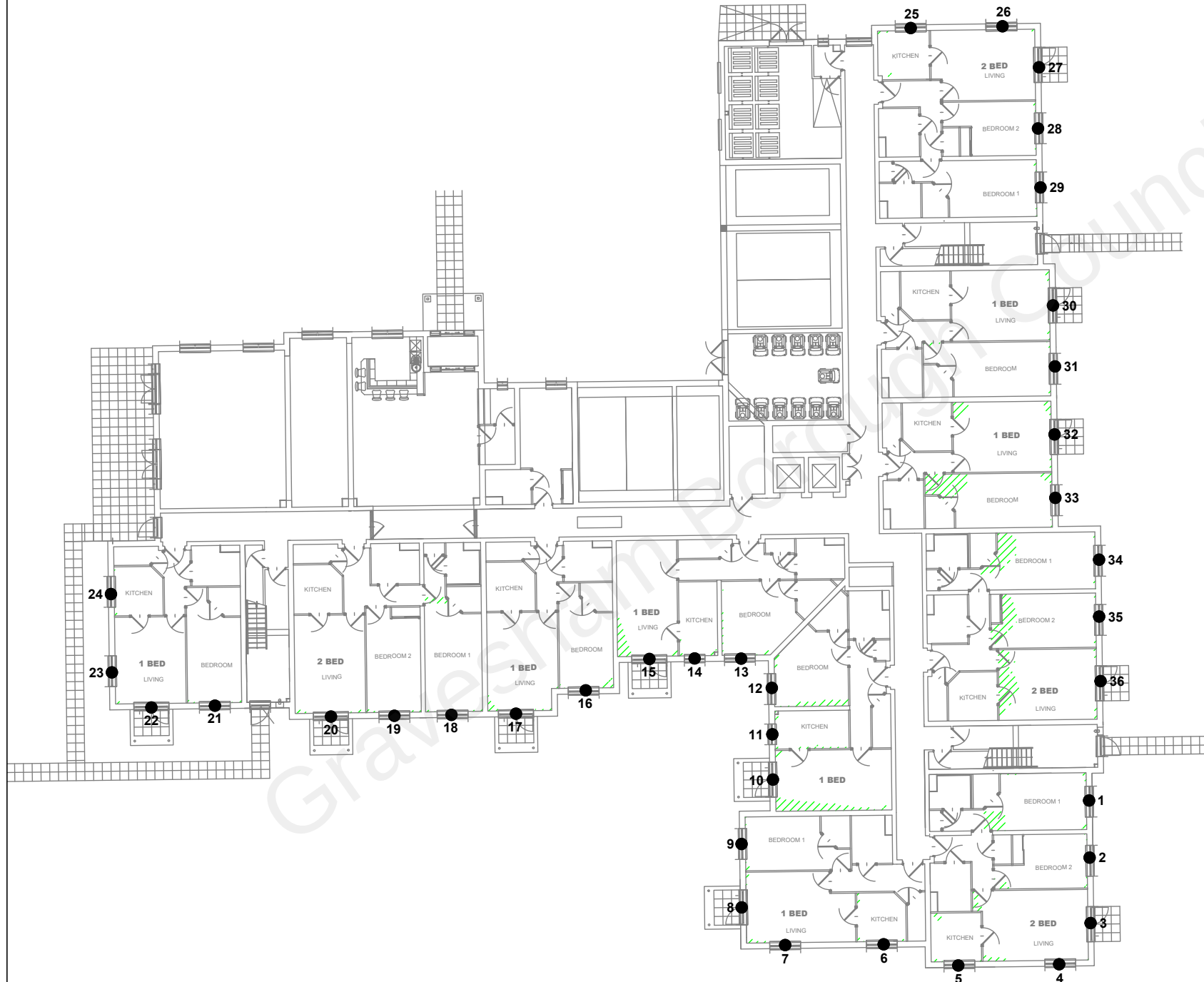
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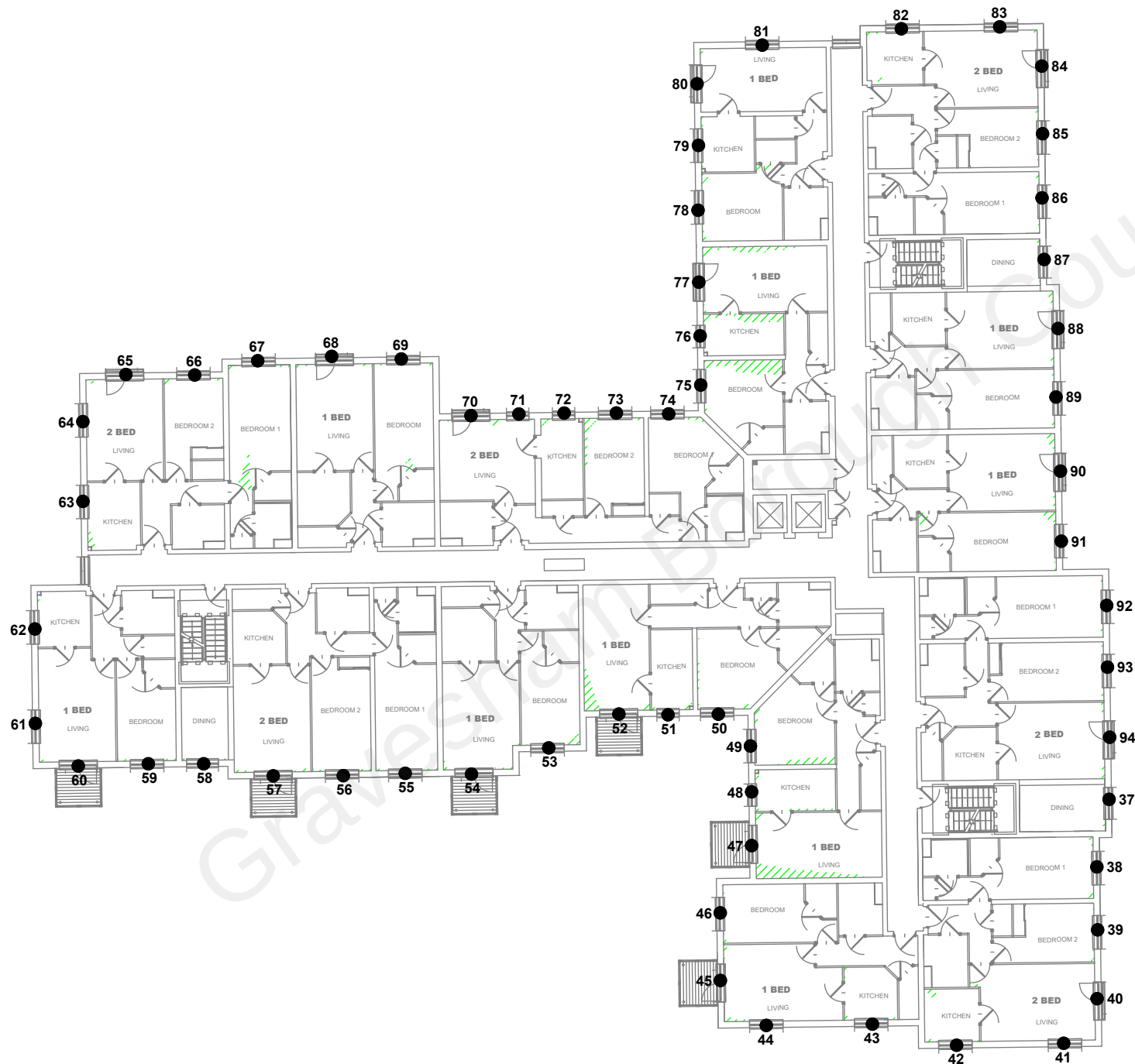
- Window reference
- G1 Gardens and Amenity Areas
- Area receives no direct sky light (applied to habitable rooms)
- Area does receive direct sky light.
- Light aperture.

Drawing Title: Window Key and No Sky Line Contours

Scale: Do not scale

Drawing No: 1 of 5 Rev. .

Rev	Date	Details of revision



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- Window reference
- G1 Gardens and Amenity Areas
- Area receives no direct sky light (applied to habitable rooms)
- Area does receive direct sky light.
- Light aperture.

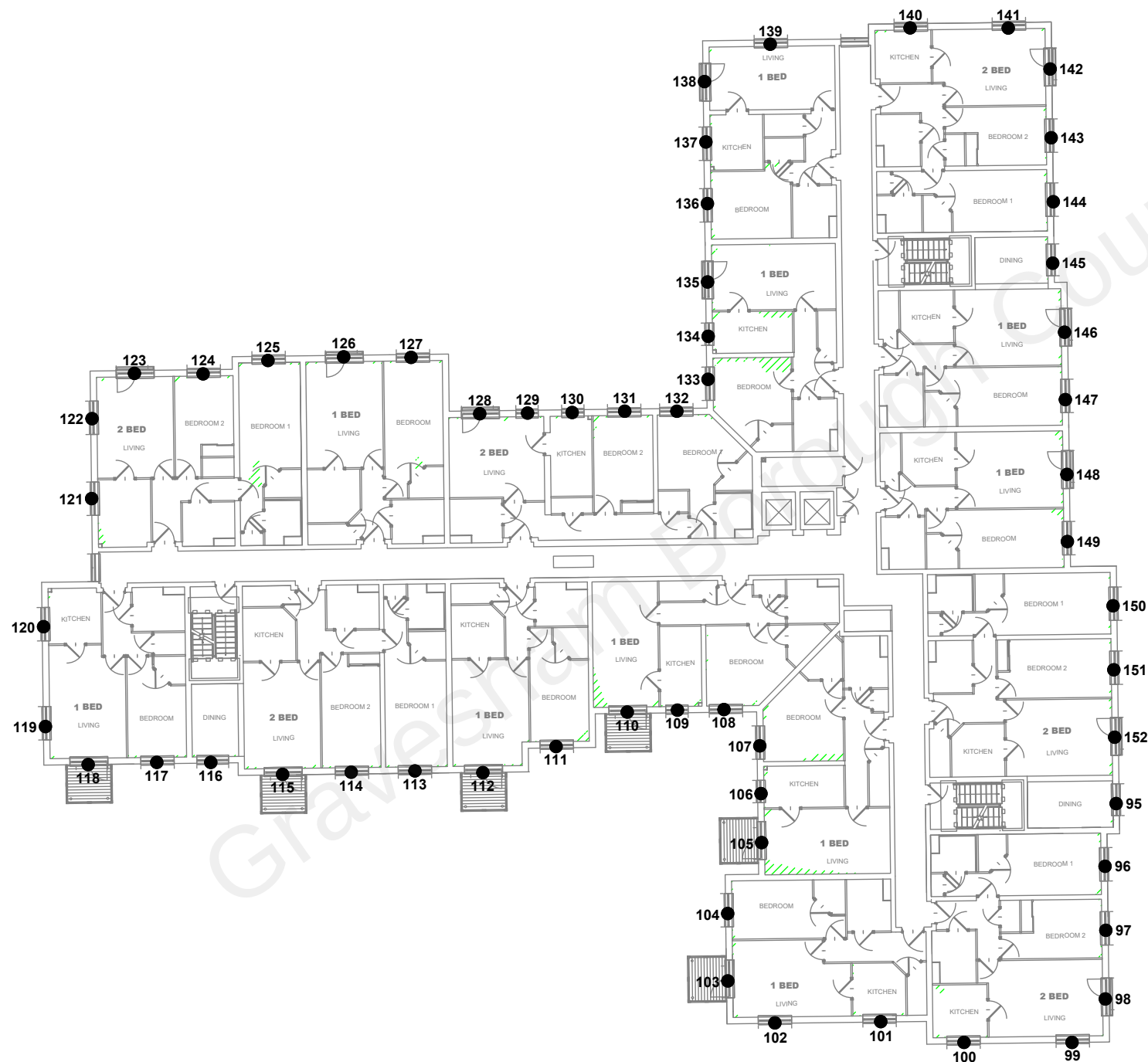
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Rev	Date	Details of revision



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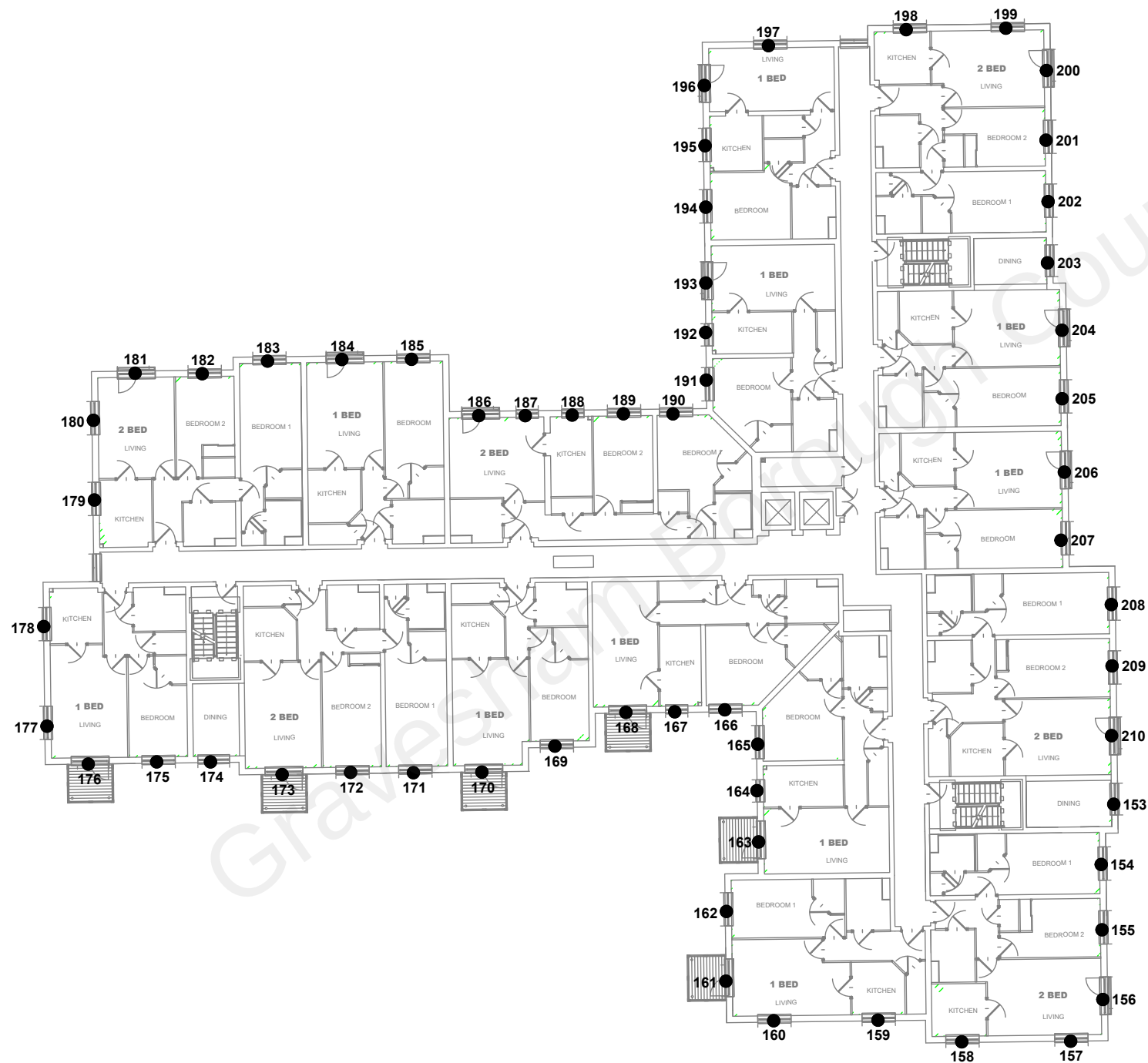
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Right of Light Consulting
Burley House
15 - 17 High Street
Rayleigh
Essex
SS6 7EW
TEL 0800 197 4836
E-MAIL enquiries@right-of-light.co.uk
WEBSITE www.right-of-light.co.uk



Key:

- Window reference
- G1 Gardens and Amenity Areas
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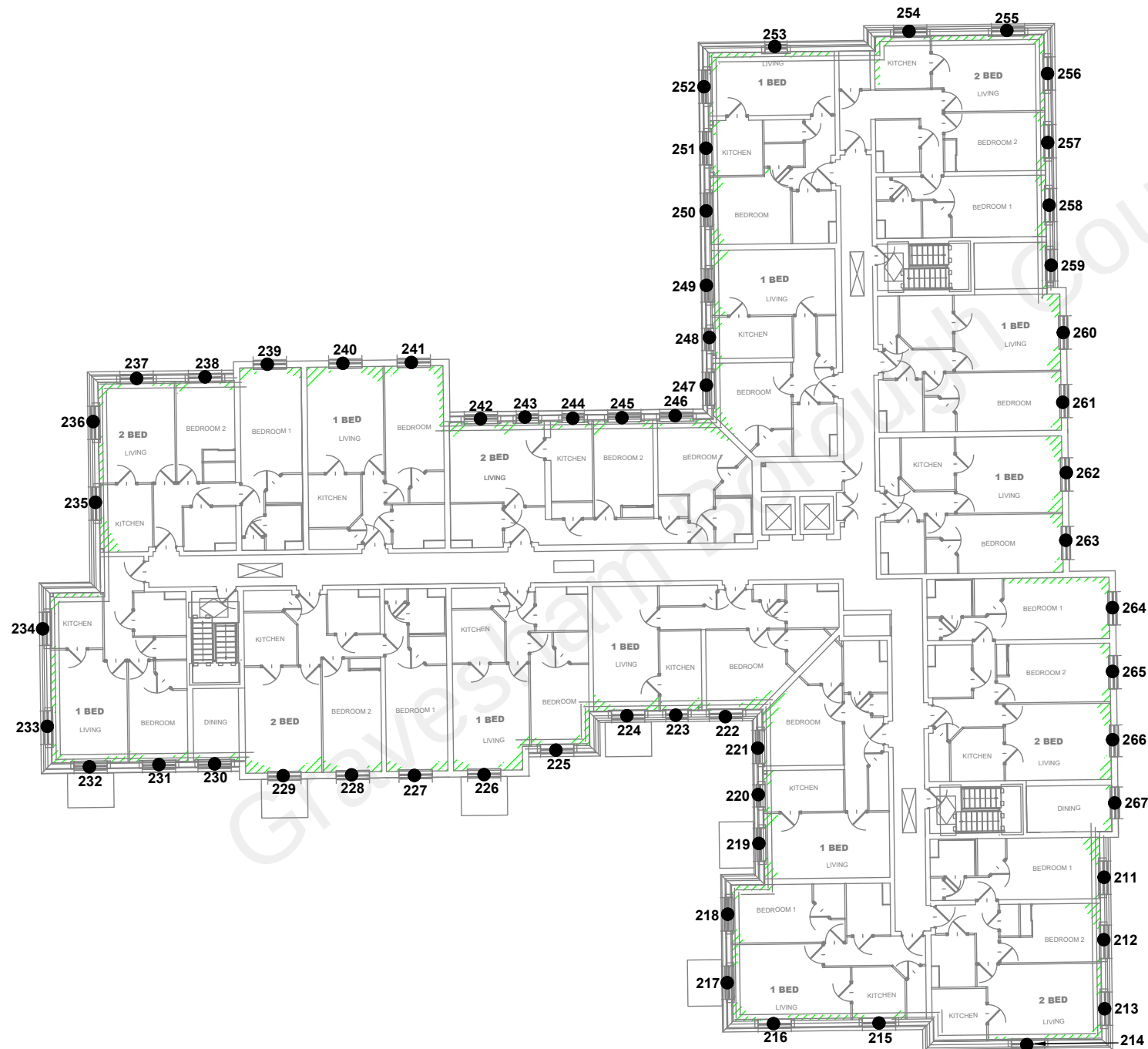
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- Area receives no direct sky light (applied to habitable rooms)
- Area does receive direct sky light.
- Light aperture.

Drawing Title: Window Key and No Sky Line Contours

Scale: Do not scale

Drawing No: 5 of 5

Rev. .

Rev	Date	Details of revision



Right of Light Consulting
Burley House
15 - 17 High Street
Rayleigh
Essex
SS6 7EW
TEL 0800 197 4836
E-MAIL enquiries@right-of-light.co.uk
WEBSITE www.right-of-light.co.uk

APPENDIX 2

DAYLIGHT & SUNLIGHT DATA

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter	
	Primary room use	ADF	T	Aw	A	R	θ		θ _{no trees}	Tp _{summer}	ADF	Tp _{winter}	ADF
<u>Former Police Station Gravesend</u>													
<u>Ground Floor</u>													
Window 1 (lower)	Bedroom	1.0%	0.68	0.7	68.84	0.71	51.4	0.3%	67.6	0.2	0.3%	0.55	0.3%
Window 1 (upper)			0.68	1.58	68.84	0.71	51.9	1.6%	68.9	0.2	1.7%	0.55	1.9%
Total ADF for room									1.9%			2.0%	
Window 2 (lower)	Bedroom	1.0%	0.68	1.08	60.35	0.71	56.5	0.5%	69.4	0.2	0.6%	0.55	0.6%
Window 2 (upper)			0.68	1.58	60.35	0.71	57.6	2.1%	71.0	0.2	2.1%	0.55	2.3%
Total ADF for room									2.6%			2.7%	
Window 3 (lower)	Living Room	1.5%	0.68	0.79	88.93	0.68	60.2	0.3%	69.3	0.2	0.3%	0.55	0.3%
Window 3 (upper)			0.68	1.8	88.93	0.68	61.3	1.6%	70.6	0.2	1.6%	0.55	1.7%
Window 4 (lower)			0.68	0.7	88.93	0.68	59.2	0.2%	59.2	0.2	0.2%	0.55	0.2%
Window 4 (upper)			0.68	1.58	88.93	0.68	60.3	1.4%	60.3	0.2	1.4%	0.55	1.4%
Total ADF for room									3.5%			3.5%	
Window 5 (lower)	Kitchen	2.0%	0.68	0.7	38.91	0.7	61.3	0.6%	61.9	0.2	0.6%	0.55	0.6%
Window 5 (upper)			0.68	1.58	38.91	0.7	62.6	3.4%	63.0	0.2	3.4%	0.55	3.4%
Total ADF for room									4.0%			4.0%	
Window 6 (lower)	Kitchen	2.0%	0.68	0.7	36.96	0.7	59.8	0.6%	61.1	0.2	0.6%	0.55	0.6%
Window 6 (upper)			0.68	1.58	36.96	0.7	61.2	3.5%	62.3	0.2	3.5%	0.55	3.5%
Total ADF for room									4.1%			4.1%	
Window 7 (lower)	Living Room	1.5%	0.68	0.79	85.01	0.68	48.2	0.2%	49.1	0.2	0.2%	0.55	0.2%
Window 7 (upper)			0.68	1.8	85.01	0.68	32.1	0.9%	33.2	0.2	0.9%	0.55	0.9%
Window 8 (lower)			0.68	0.7	85.01	0.68	62.0	0.3%	64.2	0.2	0.3%	0.55	0.3%
Window 8 (upper)			0.68	1.58	85.01	0.68	63.6	1.5%	65.6	0.2	1.5%	0.55	1.5%
Total ADF for room									2.9%			2.9%	
Window 9 (lower)			0.68	0.7	65.44	0.71	56.8	0.3%	57.7	0.2	0.3%	0.55	0.3%
Window 9 (upper)			0.68	1.58	65.44	0.71	57.6	1.9%	58.5	0.2	1.9%	0.55	1.9%

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients						Trees				
	Primary room use	ADF	T	Aw	A	R	θ	ADF	θ _{no trees}	Tp _{summer}	Summer ADF	Tp _{winter}	Winter ADF
Total ADF for room	Bedroom	1.0%						2.2%			2.2%		2.2%
Window 10 (lower)			0.68	1.22	83.51	0.7	40.9	0.3%	41.8	0.2	0.3%	0.55	0.3%
Window 10 (upper)			0.68	1.8	83.51	0.7	29.5	0.8%	30.8	0.2	0.8%	0.55	0.9%
Total ADF for room	Living Room	1.5%						1.1%			1.1%		1.2%
Window 11 (lower)			0.68	0.47	44.17	0.72	49.8	0.3%	50.1	0.2	0.3%	0.55	0.3%
Window 11 (upper)			0.68	1.06	44.17	0.72	49.2	1.7%	49.6	0.2	1.7%	0.55	1.7%
Total ADF for room	Kitchen	2.0%						2.0%			2.0%		2.0%
Window 12 (lower)			0.68	0.7	65.2	0.7	43.1	0.2%	43.1	0.2	0.2%	0.55	0.2%
Window 12 (upper)			0.68	1.58	65.2	0.7	43.8	1.4%	43.8	0.2	1.4%	0.55	1.4%
Total ADF for room	Bedroom	1.0%						1.6%			1.6%		1.6%
Window 13 (lower)			0.68	0.7	65.14	0.7	43.6	0.3%	43.6	0.2	0.3%	0.55	0.3%
Window 13 (upper)			0.68	1.58	65.14	0.7	44.3	1.4%	44.3	0.2	1.4%	0.55	1.4%
Total ADF for room	Bedroom	1.0%						1.7%			1.7%		1.7%
Window 14 (lower)			0.68	0.47	44.45	0.72	51.1	0.3%	51.3	0.2	0.3%	0.55	0.3%
Window 14 (upper)			0.68	1.06	44.45	0.72	50.8	1.7%	50.9	0.2	1.7%	0.55	1.7%
Total ADF for room	Kitchen	2.0%						2.0%			2.0%		2.0%
Window 15 (lower)			0.68	1.22	83.18	0.7	42.4	0.3%	42.7	0.2	0.3%	0.55	0.3%
Window 15 (upper)			0.68	1.8	83.18	0.7	30.8	0.9%	31.0	0.2	0.9%	0.55	0.9%
Total ADF for room	Living Room	1.5%						1.2%			1.2%		1.2%
Window 16 (lower)			0.68	0.7	65.8	0.71	54.8	0.3%	54.9	0.2	0.3%	0.55	0.3%
Window 16 (upper)			0.68	1.58	65.8	0.71	55.8	1.8%	55.8	0.2	1.8%	0.55	1.8%
Total ADF for room	Bedroom	1.0%						2.1%			2.1%		2.1%
Window 17 (lower)			0.68	1.22	80.18	0.7	57.5	0.5%	57.6	0.2	0.5%	0.55	0.5%
Window 17 (upper)			0.68	1.8	80.18	0.7	39.2	1.2%	39.3	0.2	1.2%	0.55	1.2%
Total ADF for room	Living Room	1.5%						1.7%			1.7%		1.7%
Window 18 (lower)			0.68	0.7	75.5	0.71	65.1	0.3%	65.3	0.2	0.3%	0.55	0.3%

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients						Trees				
	Primary room use	ADF	T	Aw	A	R	θ	ADF	θ _{no trees}	Tp _{summer}	Summer ADF	Tp _{winter}	Winter ADF
Window 18 (upper)	Bedroom	1.0%	0.68	1.58	75.5	0.71	66.5	1.9%	66.7	0.2	1.9%	0.55	1.9%
Total ADF for room								2.2%			2.2%		2.2%
Window 19 (lower)			0.68	0.7	69.87	0.71	65.0	0.4%	65.4	0.2	0.4%	0.55	0.4%
Window 19 (upper)	Bedroom	1.0%	0.68	1.58	69.87	0.71	65.9	2.0%	66.1	0.2	2.0%	0.55	2.0%
Total ADF for room								2.4%			2.4%		2.4%
Window 20 (lower)			0.68	1.22	81.8	0.69	54.8	0.4%	55.7	0.2	0.4%	0.55	0.4%
Window 20 (upper)	Living Room	1.5%	0.68	1.8	81.8	0.69	36.7	1.1%	37.5	0.2	1.1%	0.55	1.1%
Total ADF for room								1.5%			1.5%		1.5%
Window 21 (lower)			0.68	0.7	66.4	0.71	64.9	0.4%	66.9	0.2	0.4%	0.55	0.4%
Window 21 (upper)	Bedroom	1.0%	0.68	1.58	66.4	0.71	65.9	2.1%	67.7	0.2	2.1%	0.55	2.2%
Total ADF for room								2.5%			2.5%		2.6%
Window 22 (lower)			0.68	0.7	73.46	0.67	47.6	0.2%	69.7	0.2	0.2%	0.55	0.3%
Window 22 (upper)	Living Room	1.5%	0.68	1.58	73.46	0.67	51.9	1.4%	71.5	0.2	1.5%	0.55	1.7%
Window 23 (lower)			0.68	1.22	73.46	0.67	51.2	0.4%	56.6	0.2	0.4%	0.55	0.4%
Window 23 (upper)			0.68	1.8	73.46	0.67	34.0	1.0%	38.6	0.2	1.1%	0.55	1.1%
Total ADF for room								3.0%			3.2%		3.5%
Window 24 (lower)			0.68	0.7	36.9	0.7	47.6	0.5%	69.2	0.2	0.5%	0.55	0.6%
Window 24 (upper)	Kitchen	2.0%	0.68	1.58	36.9	0.7	53.1	3.0%	71.0	0.2	3.2%	0.55	3.6%
Total ADF for room								3.5%			3.7%		4.2%
Window 25 (lower)			0.68	0.7	39.44	0.7	61.9	0.6%	63.3	0.2	0.6%	0.55	0.6%
Window 25 (upper)	Kitchen	2.0%	0.68	1.58	39.44	0.7	63.1	3.4%	64.7	0.2	3.4%	0.55	3.4%
Total ADF for room								4.0%			4.0%		4.0%
Window 26 (lower)			0.68	1.22	83.32	0.68	35.0	0.3%	72.7	0.2	0.3%	0.55	0.4%
Window 26 (upper)	Living Room	1.5%	0.68	1.8	83.32	0.68	32.3	0.9%	73.2	0.2	1.1%	0.55	1.5%
Window 27 (lower)			0.68	0.7	83.32	0.68	59.5	0.3%	62.8	0.2	0.3%	0.55	0.3%
Window 27 (upper)			0.68	1.58	83.32	0.68	60.4	1.4%	64.0	0.2	1.5%	0.55	1.5%
Total ADF for room								2.9%			3.2%		3.7%

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter	
	Primary room use	ADF	T	Aw	A	R	θ		θ _{no trees}	Tp _{summer}	ADF	Tp _{winter}	ADF
Window 28 (lower)	Bedroom	1.0%	0.68	0.7	60.67	0.71	32.3	0.2%	73.7	0.2	0.3%	0.55	0.3%
Window 28 (upper)			0.68	1.58	60.67	0.71	30.8	1.1%	74.9	0.2	1.4%	0.55	2.0%
Total ADF for room								1.3%			1.7%		2.3%
Window 29 (lower)	Bedroom	1.0%	0.68	0.7	69.54	0.71	31.3	0.2%	74.0	0.2	0.2%	0.55	0.3%
Window 29 (upper)			0.68	1.58	69.54	0.71	30.0	0.9%	75.2	0.2	1.2%	0.55	1.7%
Total ADF for room								1.1%			1.4%		2.0%
Window 30 (lower)	Living Room	1.5%	0.68	1.22	80.53	0.7	29.6	0.2%	73.8	0.2	0.3%	0.55	0.4%
Window 30 (upper)			0.68	1.8	80.53	0.7	26.7	0.8%	74.3	0.2	1.1%	0.55	1.6%
Total ADF for room								1.0%			1.4%		2.0%
Window 31 (lower)	Bedroom	1.0%	0.68	0.7	77.89	0.71	28.2	0.1%	73.5	0.2	0.2%	0.55	0.3%
Window 31 (upper)			0.68	1.58	77.89	0.71	26.7	0.7%	74.6	0.2	1.0%	0.55	1.5%
Total ADF for room								0.8%			1.2%		1.8%
Window 32 (lower)	Living Room	1.5%	0.68	1.22	80.49	0.7	26.1	0.2%	70.6	0.2	0.3%	0.55	0.4%
Window 32 (upper)			0.68	1.8	80.49	0.7	23.4	0.7%	71.2	0.2	1.0%	0.55	1.5%
Total ADF for room								0.9%			1.3%		1.9%
Window 33 (lower)	Bedroom	1.0%	0.68	0.7	77.87	0.71	22.8	0.1%	60.2	0.2	0.1%	0.55	0.2%
Window 33 (upper)			0.68	1.58	77.87	0.71	21.5	0.6%	61.1	0.2	0.8%	0.55	1.2%
Total ADF for room								0.7%			0.9%		1.4%
Window 34 (lower)	Bedroom	1.0%	0.68	0.7	75.4	0.71	28.3	0.1%	72.4	0.2	0.2%	0.55	0.3%
Window 34 (upper)			0.68	1.58	75.4	0.71	25.4	0.7%	73.6	0.2	1.0%	0.55	1.5%
Total ADF for room								0.8%			1.2%		1.8%
Window 35 (lower)	Bedroom	1.0%	0.68	0.7	69.87	0.71	32.4	0.2%	71.7	0.2	0.2%	0.55	0.3%
Window 35 (upper)			0.68	1.58	69.87	0.71	30.1	0.9%	73.0	0.2	1.2%	0.55	1.7%
Total ADF for room								1.1%			1.4%		2.0%
Window 36 (lower)			0.68	0.79	80.66	0.7	39.0	0.2%	70.9	0.2	0.2%	0.55	0.3%
Window 36 (upper)			0.68	1.8	80.66	0.7	37.1	1.1%	71.3	0.2	1.3%	0.55	1.7%

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients						Trees				
	Primary room use	ADF	T	Aw	A	R	θ	ADF	θ _{no trees}	Tp _{summer}	Summer ADF	Tp _{winter}	Winter ADF
Total ADF for room	Living Room	1.5%						1.3%			1.5%		2.0%
<u>First Floor</u>													
Window 37 (lower)			0.68	0.66	48.99	0.71	46.0	0.3%	75.0	0.2	0.4%	0.55	0.5%
Window 37 (upper)			0.68	1.5	48.99	0.71	46.4	1.9%	76.4	0.2	2.2%	0.55	2.6%
Total ADF for room	Dining	1.5%						2.2%			2.6%		3.1%
Window 38 (lower)			0.68	0.7	67.88	0.7	53.9	0.3%	71.9	0.2	0.3%	0.55	0.4%
Window 38 (upper)			0.68	1.57	67.88	0.7	55.1	1.7%	73.2	0.2	1.8%	0.55	2.0%
Total ADF for room	Bedroom	1.0%						2.0%			2.1%		2.4%
Window 39 (lower)			0.68	1.08	59.44	0.71	49.7	0.5%	59.9	0.2	0.5%	0.55	0.5%
Window 39 (upper)			0.68	1.57	59.44	0.71	61.8	2.2%	75.5	0.2	2.3%	0.55	2.5%
Total ADF for room	Bedroom	1.0%						2.7%			2.8%		3.0%
Window 40 (lower)			0.68	0.7	87.79	0.68	62.9	0.3%	62.9	0.2	0.3%	0.55	0.3%
Window 40 (upper)			0.68	1.57	87.79	0.68	63.9	1.5%	63.9	0.2	1.5%	0.55	1.5%
Window 41 (lower)			0.68	0.79	87.79	0.68	64.4	0.3%	73.8	0.2	0.3%	0.55	0.3%
Window 41 (upper)			0.68	1.78	87.79	0.68	65.9	1.7%	75.1	0.2	1.7%	0.55	1.8%
Total ADF for room	Living Room	1.5%						3.8%			3.8%		3.9%
Window 42 (lower)			0.68	0.7	38.3	0.7	65.6	0.6%	65.8	0.2	0.6%	0.55	0.6%
Window 42 (upper)			0.68	1.57	38.3	0.7	66.7	3.6%	66.8	0.2	3.7%	0.55	3.7%
Total ADF for room	Kitchen	2.0%						4.2%			4.3%		4.3%
Window 43 (lower)			0.68	0.7	36.38	0.7	64.4	0.7%	65.2	0.2	0.7%	0.55	0.7%
Window 43 (upper)			0.68	1.57	36.38	0.7	65.7	3.8%	66.2	0.2	3.8%	0.55	3.8%
Total ADF for room	Kitchen	2.0%						4.5%			4.5%		4.5%
Window 44 (lower)			0.68	1.22	83.9	0.68	52.0	0.4%	52.7	0.2	0.4%	0.55	0.4%
Window 44 (upper)			0.68	1.8	83.9	0.68	35.5	1.0%	36.5	0.2	1.0%	0.55	1.0%
Window 45 (lower)			0.68	0.7	83.9	0.68	67.6	0.3%	69.0	0.2	0.3%	0.55	0.3%
Window 45 (upper)			0.68	1.57	83.9	0.68	69.3	1.6%	70.2	0.2	1.6%	0.55	1.6%

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter	
	Primary room use	ADF	T	Aw	A	R	θ		θ _{no trees}	T _{psummer}	ADF	T _{pwinter}	ADF
Total ADF for room	Living Room	1.5%						3.3%			3.3%		3.3%
Window 46 (lower)			0.68	0.7	64.49	0.71	61.3	0.4%	62.2	0.2	0.4%	0.55	0.4%
Window 46 (upper)			0.68	1.58	64.49	0.71	62.4	2.1%	63.3	0.2	2.1%	0.55	2.1%
Total ADF for room	Bedroom	1.0%						2.5%			2.5%		2.5%
Window 47 (lower)			0.68	1.22	82.42	0.7	42.5	0.3%	43.3	0.2	0.3%	0.55	0.3%
Window 47 (upper)			0.68	1.8	82.42	0.7	31.1	0.9%	32.2	0.2	0.9%	0.55	0.9%
Total ADF for room	Living Room	1.5%						1.2%			1.2%		1.2%
Window 48 (lower)			0.68	0.47	43.48	0.72	52.8	0.3%	53.2	0.2	0.3%	0.55	0.3%
Window 48 (upper)			0.68	1.06	43.48	0.72	53.3	1.8%	53.6	0.2	1.8%	0.55	1.8%
Total ADF for room	Kitchen	2.0%						2.1%			2.1%		2.1%
Window 49 (lower)			0.68	0.7	64.31	0.7	46.0	0.3%	46.0	0.2	0.3%	0.55	0.3%
Window 49 (upper)			0.68	1.58	64.31	0.7	47.0	1.5%	47.1	0.2	1.5%	0.55	1.5%
Total ADF for room	Bedroom	1.0%						1.8%			1.8%		1.8%
Window 50 (lower)			0.68	0.7	64.25	0.7	46.8	0.3%	46.8	0.2	0.3%	0.55	0.3%
Window 50 (upper)			0.68	1.57	64.25	0.7	47.7	1.6%	47.7	0.2	1.6%	0.55	1.6%
Total ADF for room	Bedroom	1.0%						1.9%			1.9%		1.9%
Window 51 (lower)			0.68	0.47	43.75	0.72	54.4	0.3%	54.5	0.2	0.3%	0.55	0.3%
Window 51 (upper)			0.68	1.05	43.75	0.72	54.9	1.8%	55.0	0.2	1.8%	0.55	1.8%
Total ADF for room	Kitchen	2.0%						2.1%			2.1%		2.1%
Window 52 (lower)			0.68	1.22	82.09	0.7	44.4	0.3%	44.5	0.2	0.3%	0.55	0.3%
Window 52 (upper)			0.68	1.78	82.09	0.7	33.2	1.0%	33.3	0.2	1.0%	0.55	1.0%
Total ADF for room	Living Room	1.5%						1.3%			1.3%		1.3%
Window 53 (lower)			0.68	0.7	64.85	0.71	58.9	0.3%	59.0	0.2	0.3%	0.55	0.3%
Window 53 (upper)			0.68	1.57	64.85	0.71	60.2	2.0%	60.2	0.2	2.0%	0.55	2.0%
Total ADF for room	Bedroom	1.0%						2.3%			2.3%		2.3%
Window 54 (lower)			0.68	1.22	79.13	0.69	53.7	0.4%	53.8	0.2	0.4%	0.55	0.4%

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter			
	Primary room use	ADF	T	Aw	A	R	θ		θ _{no trees}	Tp _{summer}	ADF	Tp _{winter}	ADF		
Window 54 (upper)	Living Room	1.5%	0.68	1.78	79.13	0.69	37.5	1.1%	37.6	0.2	1.1%	0.55	1.1%		
Total ADF for room									1.5%			1.5%		1.5%	
Window 55 (lower)					0.68	0.7	74.48	0.7	69.2	0.3%	69.3	0.2	0.3%	0.55	0.3%
Window 55 (upper)	Bedroom	1.0%	0.68	1.57	74.48	0.7	71.0	2.0%	71.1	0.2	2.0%	0.55	2.0%		
Total ADF for room									2.3%			2.3%		2.3%	
Window 56 (lower)					0.68	0.7	68.89	0.71	69.5	0.4%	69.6	0.2	0.4%	0.55	0.4%
Window 56 (upper)	Bedroom	1.0%	0.68	1.57	68.89	0.71	70.5	2.2%	70.6	0.2	2.2%	0.55	2.2%		
Total ADF for room									2.6%			2.6%		2.6%	
Window 57 (lower)					0.68	1.22	79.62	0.69	56.4	0.5%	56.8	0.2	0.5%	0.55	0.5%
Window 57 (upper)	Living Room	1.5%	0.68	1.78	79.62	0.69	40.9	1.2%	41.3	0.2	1.2%	0.55	1.2%		
Total ADF for room									1.7%			1.7%		1.7%	
Window 58 (lower)					0.68	0.66	43.36	0.7	68.4	0.6%	69.2	0.2	0.6%	0.55	0.6%
Window 58 (upper)	Dining	1.5%	0.68	1.5	43.36	0.7	69.6	3.2%	70.2	0.2	3.2%	0.55	3.3%		
Total ADF for room									3.8%			3.8%		3.9%	
Window 59 (lower)					0.68	0.7	59.4	0.71	69.8	0.4%	71.1	0.2	0.4%	0.55	0.4%
Window 59 (upper)	Bedroom	1.0%	0.68	1.57	59.4	0.71	71.0	2.5%	72.0	0.2	2.6%	0.55	2.6%		
Total ADF for room									2.9%			3.0%		3.0%	
Window 60 (lower)					0.68	0.7	82.42	0.68	55.5	0.2%	75.7	0.2	0.3%	0.55	0.3%
Window 60 (upper)	Living Room	1.5%	0.68	1.57	82.42	0.68	56.3	1.3%	77.4	0.2	1.4%	0.55	1.6%		
Window 61 (lower)					0.68	1.22	82.42	0.68	53.2	0.4%	57.6	0.2	0.4%	0.55	0.4%
Window 61 (upper)					0.68	1.78	82.42	0.68	38.8	1.1%	42.4	0.2	1.1%	0.55	1.1%
Total ADF for room								3.0%			3.2%		3.4%		
Window 62 (lower)	Kitchen	2.0%	0.68	0.7	38.55	0.7	57.8	0.6%	75.2	0.2	0.6%	0.55	0.7%		
Window 62 (upper)					0.68	1.57	38.55	0.7	59.2	3.2%	76.9	0.2	3.4%	0.55	3.8%
Total ADF for room										3.8%			4.0%		4.5%
Window 63 (lower)			0.68	0.7	44.34	0.7	49.3	0.4%	71.6	0.2	0.5%	0.55	0.5%		

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter		
	Primary room use	ADF	T	Aw	A	R	θ		θ _{no trees}	Tp _{summer}	ADF	Tp _{winter}	ADF	
Window 63 (upper)	Kitchen	2.0%	0.68	1.57	44.34	0.7	50.2	2.4%	73.1	0.2	2.6%	0.55	3.0%	
Total ADF for room									2.8%			3.1%		3.5%
Window 64 (lower)	Living Room	1.5%	0.68	1.22	76.63	0.67	62.6	0.5%	62.8	0.2	0.5%	0.55	0.5%	
Window 64 (upper)			0.68	1.78	76.63	0.67	76.8	2.2%	77.4	0.2	2.2%	0.55	2.2%	
Window 65 (lower)			0.68	0.7	76.63	0.67	46.6	0.2%	75.8	0.2	0.2%	0.55	0.3%	
Window 65 (upper)			0.68	1.57	76.63	0.67	46.7	1.2%	77.5	0.2	1.3%	0.55	1.6%	
Total ADF for room									4.1%			4.2%		4.6%
Window 66 (lower)			Bedroom	1.0%	0.68	0.7	47.99	0.7	73.6	0.6%	73.8	0.2	0.6%	0.55
Window 66 (upper)	0.68	1.57			47.99	0.7	74.4	3.3%	74.7	0.2	3.3%	0.55	3.3%	
Total ADF for room									3.9%			3.9%		3.9%
Window 67 (lower)	Bedroom	1.0%	0.68	0.7	74.38	0.7	75.3	0.4%	75.3	0.2	0.4%	0.55	0.4%	
Window 67 (upper)			0.68	1.57	74.38	0.7	76.3	2.2%	76.3	0.2	2.2%	0.55	2.2%	
Total ADF for room									2.6%			2.6%		2.6%
Window 68 (lower)	Living Room	1.5%	0.68	1.22	79.62	0.69	60.4	0.5%	60.4	0.2	0.5%	0.55	0.5%	
Window 68 (upper)			0.68	1.78	79.62	0.69	74.9	2.2%	74.9	0.2	2.2%	0.55	2.2%	
Total ADF for room									2.7%			2.7%		2.7%
Window 69 (lower)	Bedroom	1.0%	0.68	0.7	71.7	0.7	72.4	0.4%	72.4	0.2	0.4%	0.55	0.4%	
Window 69 (upper)			0.68	1.57	71.7	0.7	73.5	2.2%	73.5	0.2	2.2%	0.55	2.2%	
Total ADF for room									2.6%			2.6%		2.6%
Window 70 (lower)	Living Room	1.5%	0.68	0.47	77.41	0.68	61.4	0.2%	61.4	0.2	0.2%	0.55	0.2%	
Window 70 (upper)			0.68	1.05	77.41	0.68	62.7	1.1%	62.7	0.2	1.1%	0.55	1.1%	
Window 71 (lower)			0.68	1.22	77.41	0.68	46.7	0.4%	46.7	0.2	0.4%	0.55	0.4%	
Window 71 (upper)			0.68	1.78	77.41	0.68	54.3	1.6%	54.3	0.2	1.6%	0.55	1.6%	
Total ADF for room									3.3%			3.3%		3.3%
Window 72 (lower)	Kitchen	2.0%	0.68	0.47	43.65	0.72	61.5	0.4%	61.5	0.2	0.4%	0.55	0.4%	
Window 72 (upper)			0.68	1.05	43.65	0.72	62.8	2.1%	62.8	0.2	2.1%	0.55	2.1%	
Total ADF for room									2.5%			2.5%		2.5%

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter	
	Primary room use	ADF	T	Aw	A	R	θ		θ _{no trees}	Tp _{summer}	ADF	Tp _{winter}	ADF
Window 73 (lower)	Bedroom	1.0%	0.68	0.7	61.27	0.71	57.8	0.4%	57.8	0.2	0.4%	0.55	0.4%
Window 73 (upper)			0.68	1.57	61.27	0.71	58.9	2.0%	58.9	0.2	2.0%	0.55	2.0%
Total ADF for room								2.4%			2.4%		2.4%
Window 74 (lower)	Bedroom	1.0%	0.68	0.7	57.44	0.7	51.6	0.3%	51.6	0.2	0.3%	0.55	0.3%
Window 74 (upper)			0.68	1.57	57.44	0.7	52.2	1.9%	52.2	0.2	1.9%	0.55	1.9%
Total ADF for room								2.2%			2.2%		2.2%
Window 75 (lower)	Bedroom	1.0%	0.68	0.7	60.5	0.7	49.2	0.3%	49.2	0.2	0.3%	0.55	0.3%
Window 75 (upper)			0.68	1.58	60.5	0.7	49.9	1.7%	49.9	0.2	1.7%	0.55	1.7%
Total ADF for room								2.0%			2.0%		2.0%
Window 76 (lower)	Kitchen	2.0%	0.68	0.47	43.65	0.72	55.9	0.3%	56.2	0.2	0.3%	0.55	0.3%
Window 76 (upper)			0.68	1.06	43.65	0.72	57.0	1.9%	57.3	0.2	1.9%	0.55	1.9%
Total ADF for room								2.2%			2.2%		2.2%
Window 77 (lower)	Living Room	1.5%	0.68	1.22	81.26	0.7	52.1	0.4%	52.5	0.2	0.4%	0.55	0.4%
Window 77 (upper)			0.68	1.8	81.26	0.7	62.6	1.8%	63.0	0.2	1.8%	0.55	1.8%
Total ADF for room								2.2%			2.2%		2.2%
Window 78 (lower)	Bedroom	1.0%	0.68	0.7	62.18	0.7	66.7	0.4%	67.3	0.2	0.4%	0.55	0.4%
Window 78 (upper)			0.68	1.58	62.18	0.7	68.1	2.3%	68.7	0.2	2.3%	0.55	2.3%
Total ADF for room								2.7%			2.7%		2.7%
Window 79 (lower)	Kitchen	2.0%	0.68	0.7	38.49	0.7	69.6	0.7%	70.4	0.2	0.7%	0.55	0.7%
Window 79 (upper)			0.68	1.58	38.49	0.7	71.0	3.9%	71.7	0.2	3.9%	0.55	3.9%
Total ADF for room								4.6%			4.6%		4.6%
Window 80 (lower)	Living Room	1.5%	0.68	0.7	80.48	0.68	68.1	0.3%	68.6	0.2	0.3%	0.55	0.3%
Window 80 (upper)			0.68	1.57	80.48	0.68	69.4	1.7%	69.9	0.2	1.7%	0.55	1.7%
Window 81 (lower)			0.68	1.22	80.48	0.68	59.7	0.5%	60.5	0.2	0.5%	0.55	0.5%
Window 81 (upper)			0.68	1.8	80.48	0.68	72.8	2.0%	73.6	0.2	2.0%	0.55	2.1%
Total ADF for room								4.5%			4.5%		4.6%

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter	
	Primary room use	ADF	T	Aw	A	R	θ		θ _{no trees}	Tp _{summer}	ADF	Tp _{winter}	ADF
Window 82 (lower)	Kitchen	2.0%	0.68	0.7	38.82	0.7	66.3	0.6%	68.0	0.2	0.6%	0.55	0.6%
Window 82 (upper)			0.68	1.57	38.82	0.7	67.6	3.7%	69.3	0.2	3.7%	0.55	3.7%
Total ADF for room								4.3%			4.3%		4.3%
Window 83 (lower)	Living Room	1.5%	0.68	1.22	82.24	0.68	29.3	0.2%	66.1	0.2	0.3%	0.55	0.4%
Window 83 (upper)			0.68	1.78	82.24	0.68	28.8	0.8%	77.4	0.2	1.0%	0.55	1.5%
Window 84 (lower)			0.68	0.7	82.24	0.68	62.5	0.3%	67.1	0.2	0.3%	0.55	0.3%
Window 84 (upper)			0.68	1.57	82.24	0.68	63.1	1.5%	68.4	0.2	1.5%	0.55	1.6%
Total ADF for room								2.8%			3.1%		3.8%
Window 85 (lower)	Bedroom	1.0%	0.68	0.7	59.76	0.71	29.6	0.2%	77.9	0.2	0.3%	0.55	0.4%
Window 85 (upper)			0.68	1.57	59.76	0.71	29.5	1.1%	79.1	0.2	1.4%	0.55	2.0%
Total ADF for room								1.3%			1.7%		2.4%
Window 86 (lower)	Bedroom	1.0%	0.68	0.7	68.58	0.7	29.6	0.2%	78.1	0.2	0.2%	0.55	0.3%
Window 86 (upper)			0.68	1.57	68.58	0.7	30.1	0.9%	79.2	0.2	1.2%	0.55	1.8%
Total ADF for room								1.1%			1.4%		2.1%
Window 87 (lower)	Dining	1.5%	0.68	0.66	43.36	0.7	27.2	0.2%	73.6	0.2	0.3%	0.55	0.4%
Window 87 (upper)			0.68	1.5	43.36	0.7	27.6	1.3%	74.6	0.2	1.7%	0.55	2.5%
Total ADF for room								1.5%			2.0%		2.9%
Window 88 (lower)	Living Room	1.5%	0.68	1.22	79.49	0.69	27.0	0.2%	66.9	0.2	0.3%	0.55	0.4%
Window 88 (upper)			0.68	1.78	79.49	0.69	26.4	0.8%	78.2	0.2	1.1%	0.55	1.6%
Total ADF for room								1.0%			1.4%		2.0%
Window 89 (lower)	Bedroom	1.0%	0.68	0.7	76.8	0.71	26.1	0.1%	77.5	0.2	0.2%	0.55	0.3%
Window 89 (upper)			0.68	1.57	76.8	0.71	26.4	0.7%	78.6	0.2	1.0%	0.55	1.5%
Total ADF for room								0.8%			1.2%		1.8%
Window 90 (lower)	Living Room	1.5%	0.68	1.22	79.45	0.69	23.9	0.2%	64.3	0.2	0.3%	0.55	0.4%
Window 90 (upper)			0.68	1.78	79.45	0.69	23.8	0.7%	75.0	0.2	1.0%	0.55	1.5%
Total ADF for room								0.9%			1.3%		1.9%

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter	
	Primary room use	ADF	T	Aw	A	R	θ		θ _{no trees}	Tp _{summer}	ADF	Tp _{winter}	ADF
Window 91 (lower)	Bedroom	1.0%	0.68	0.7	76.78	0.71	21.4	0.1%	63.1	0.2	0.1%	0.55	0.2%
Window 91 (upper)			0.68	1.57	76.78	0.71	22.0	0.6%	63.9	0.2	0.8%	0.55	1.3%
Total ADF for room									0.7%			0.9%	
Window 92 (lower)	Bedroom	1.0%	0.68	0.7	74.38	0.7	22.0	0.1%	76.8	0.2	0.2%	0.55	0.3%
Window 92 (upper)			0.68	1.57	74.38	0.7	20.5	0.6%	78.0	0.2	0.9%	0.55	1.5%
Total ADF for room									0.7%			1.1%	
Window 93 (lower)	Bedroom	1.0%	0.68	0.7	68.89	0.71	26.8	0.1%	76.2	0.2	0.2%	0.55	0.3%
Window 93 (upper)			0.68	1.57	68.89	0.71	25.3	0.8%	77.4	0.2	1.1%	0.55	1.7%
Total ADF for room									0.9%			1.3%	
Window 94 (lower)	Living Room	1.5%	0.68	1.22	79.62	0.69	33.2	0.3%	65.0	0.2	0.3%	0.55	0.4%
Window 94 (upper)			0.68	1.78	79.62	0.69	35.6	1.0%	75.8	0.2	1.3%	0.55	1.7%
Total ADF for room									1.3%			1.6%	
Second Floor													
Window 95 (lower)	Dining	1.5%	0.68	0.66	48.99	0.71	48.8	0.4%	79.8	0.2	0.4%	0.55	0.5%
Window 95 (upper)			0.68	1.5	48.99	0.71	49.9	2.1%	81.1	0.2	2.3%	0.55	2.8%
Total ADF for room									2.5%			2.7%	
Window 96 (lower)	Bedroom	1.0%	0.68	0.7	67.88	0.7	58.2	0.3%	76.3	0.2	0.3%	0.55	0.4%
Window 96 (upper)			0.68	1.57	67.88	0.7	59.9	1.9%	77.6	0.2	2.0%	0.55	2.2%
Total ADF for room									2.2%			2.3%	
Window 97 (lower)	Bedroom	1.0%	0.68	1.08	59.44	0.71	53.6	0.5%	63.0	0.2	0.5%	0.55	0.6%
Window 97 (upper)			0.68	1.57	59.44	0.71	67.4	2.4%	80.2	0.2	2.5%	0.55	2.7%
Total ADF for room									2.9%			3.0%	
Window 98 (lower)			0.68	0.79	87.79	0.68	69.7	0.3%	78.4	0.2	0.3%	0.55	0.3%
Window 98 (upper)			0.68	1.78	87.79	0.68	71.4	1.8%	79.7	0.2	1.9%	0.55	2.0%
Window 99 (lower)			0.68	0.7	87.79	0.68	66.5	0.3%	66.5	0.2	0.3%	0.55	0.3%
Window 99 (upper)			0.68	1.57	87.79	0.68	67.7	1.5%	67.7	0.2	1.5%	0.55	1.5%

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients						Trees				
	Primary room use	ADF	T	Aw	A	R	θ	ADF	θ _{no trees}	Tp _{summer}	Summer ADF	Tp _{winter}	Winter ADF
Total ADF for room	Living Room	1.5%						3.9%			4.0%		4.1%
Window 100 (lower)			0.68	0.7	38.3	0.7	69.4	0.7%	69.4	0.2	0.7%	0.55	0.7%
Window 100 (upper)			0.68	1.57	38.3	0.7	70.6	3.9%	70.6	0.2	3.9%	0.55	3.9%
Total ADF for room	Kitchen	2.0%						4.6%			4.6%		4.6%
Window 101 (lower)			0.68	0.7	36.38	0.7	68.8	0.7%	68.8	0.2	0.7%	0.55	0.7%
Window 101 (upper)			0.68	1.57	36.38	0.7	70.0	4.0%	70.0	0.2	4.0%	0.55	4.0%
Total ADF for room	Kitchen	2.0%						4.7%			4.7%		4.7%
Window 102 (lower)			0.68	1.22	83.9	0.68	56.1	0.4%	56.7	0.2	0.4%	0.55	0.4%
Window 102 (upper)			0.68	1.8	83.9	0.68	40.7	1.1%	41.4	0.2	1.1%	0.55	1.1%
Window 103 (lower)			0.68	0.7	83.9	0.68	73.3	0.3%	73.3	0.2	0.3%	0.55	0.3%
Window 103 (upper)			0.68	1.57	83.9	0.68	74.6	1.8%	74.6	0.2	1.8%	0.55	1.8%
Total ADF for room	Living Room	1.5%						3.6%			3.6%		3.6%
Window 104 (lower)			0.68	0.7	64.49	0.71	67.4	0.4%	68.2	0.2	0.4%	0.55	0.4%
Window 104 (upper)			0.68	1.58	64.49	0.71	69.5	2.3%	70.3	0.2	2.3%	0.55	2.3%
Total ADF for room	Bedroom	1.0%						2.7%			2.7%		2.7%
Window 105 (lower)			0.68	1.22	82.42	0.7	47.1	0.4%	47.8	0.2	0.4%	0.55	0.4%
Window 105 (upper)			0.68	1.8	82.42	0.7	33.2	1.0%	34.1	0.2	1.0%	0.55	1.0%
Total ADF for room	Living Room	1.5%						1.4%			1.4%		1.4%
Window 106 (lower)			0.68	0.47	43.48	0.72	52.3	0.3%	52.7	0.2	0.3%	0.55	0.3%
Window 106 (upper)			0.68	1.06	43.48	0.72	54.3	1.8%	54.7	0.2	1.8%	0.55	1.9%
Total ADF for room	Kitchen	2.0%						2.1%			2.1%		2.2%
Window 107 (lower)			0.68	0.7	64.31	0.7	50.1	0.3%	50.1	0.2	0.3%	0.55	0.3%
Window 107 (upper)			0.68	1.58	64.31	0.7	51.6	1.7%	51.7	0.2	1.7%	0.55	1.7%
Total ADF for room	Bedroom	1.0%						2.0%			2.0%		2.0%
Window 108 (lower)			0.68	0.7	64.25	0.7	50.8	0.3%	50.8	0.2	0.3%	0.55	0.3%
Window 108 (upper)			0.68	1.57	64.25	0.7	52.3	1.7%	52.3	0.2	1.7%	0.55	1.7%

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients						Trees				
	Primary room use	ADF	T	Aw	A	R	θ	ADF	θ _{no trees}	Tp _{summer}	Summer ADF	Tp _{winter}	Winter ADF
Total ADF for room	Bedroom	1.0%						2.0%			2.0%		2.0%
Window 109 (lower)			0.68	0.47	43.75	0.72	54.0	0.3%	54.0	0.2	0.3%	0.55	0.3%
Window 109 (upper)			0.68	1.05	43.75	0.72	56.0	1.9%	56.0	0.2	1.9%	0.55	1.9%
Total ADF for room	Kitchen	2.0%						2.2%			2.2%		2.2%
Window 110 (lower)			0.68	1.22	82.09	0.7	48.9	0.4%	48.9	0.2	0.4%	0.55	0.4%
Window 110 (upper)			0.68	1.78	82.09	0.7	35.7	1.0%	35.7	0.2	1.0%	0.55	1.0%
Total ADF for room	Living Room	1.5%						1.4%			1.4%		1.4%
Window 111 (lower)			0.68	0.7	64.85	0.71	63.8	0.4%	63.8	0.2	0.4%	0.55	0.4%
Window 111 (upper)			0.68	1.57	64.85	0.71	65.4	2.2%	65.4	0.2	2.2%	0.55	2.2%
Total ADF for room	Bedroom	1.0%						2.6%			2.6%		2.6%
Window 112 (lower)			0.68	1.22	79.13	0.69	57.3	0.5%	57.4	0.2	0.5%	0.55	0.5%
Window 112 (upper)			0.68	1.78	79.13	0.69	42.1	1.2%	42.2	0.2	1.2%	0.55	1.2%
Total ADF for room	Living Room	1.5%						1.7%			1.7%		1.7%
Window 113 (lower)			0.68	0.7	74.48	0.7	74.3	0.4%	74.4	0.2	0.4%	0.55	0.4%
Window 113 (upper)			0.68	1.57	74.48	0.7	76.6	2.2%	76.7	0.2	2.2%	0.55	2.2%
Total ADF for room	Bedroom	1.0%						2.6%			2.6%		2.6%
Window 114 (lower)			0.68	0.7	68.89	0.71	74.8	0.4%	75.0	0.2	0.4%	0.55	0.4%
Window 114 (upper)			0.68	1.57	68.89	0.71	76.7	2.4%	76.8	0.2	2.4%	0.55	2.4%
Total ADF for room	Bedroom	1.0%						2.8%			2.8%		2.8%
Window 115 (lower)			0.68	1.22	79.62	0.69	59.4	0.5%	59.6	0.2	0.5%	0.55	0.5%
Window 115 (upper)			0.68	1.78	79.62	0.69	44.6	1.3%	44.9	0.2	1.3%	0.55	1.3%
Total ADF for room	Living Room	1.5%						1.8%			1.8%		1.8%
Window 116 (lower)			0.68	0.66	43.36	0.7	73.1	0.6%	73.8	0.2	0.6%	0.55	0.6%
Window 116 (upper)			0.68	1.5	43.36	0.7	74.3	3.5%	75.0	0.2	3.5%	0.55	3.5%
Total ADF for room	Dining	1.5%						4.1%			4.1%		4.1%
Window 117 (lower)			0.68	0.7	59.4	0.71	75.4	0.5%	76.1	0.2	0.5%	0.55	0.5%

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter			
	Primary room use	ADF	T	Aw	A	R	θ		θ _{no trees}	Tp _{summer}	ADF	Tp _{winter}	ADF		
Window 117 (upper)	Bedroom	1.0%	0.68	1.57	59.4	0.71	77.0	2.8%	77.9	0.2	2.8%	0.55	2.8%		
Total ADF for room									3.3%			3.3%		3.3%	
Window 118 (lower)					0.68	0.7	82.42	0.68	58.7	0.2%	81.4	0.2	0.3%	0.55	0.3%
Window 118 (upper)	Living Room	1.5%	0.68	1.57	82.42	0.68	59.9	1.4%	83.0	0.2	1.5%	0.55	1.7%		
Window 119 (lower)					0.68	1.22	82.42	0.68	56.2	0.4%	60.3	0.2	0.4%	0.55	0.4%
Window 119 (upper)					0.68	1.78	82.42	0.68	42.4	1.1%	45.8	0.2	1.2%	0.55	1.2%
Total ADF for room										3.1%			3.4%		3.6%
Window 120 (lower)					0.68	0.7	38.55	0.7	62.9	0.6%	81.1	0.2	0.6%	0.55	0.7%
Window 120 (upper)	Kitchen	2.0%	0.68	1.57	38.55	0.7	64.7	3.5%	82.9	0.2	3.7%	0.55	4.1%		
Total ADF for room									4.1%			4.3%		4.8%	
Window 121 (lower)					0.68	0.7	44.34	0.7	53.3	0.4%	77.0	0.2	0.5%	0.55	0.6%
Window 121 (upper)	Kitchen	2.0%	0.68	1.57	44.34	0.7	55.1	2.6%	78.7	0.2	2.8%	0.55	3.2%		
Total ADF for room									3.0%			3.3%		3.8%	
Window 122 (lower)					0.68	1.22	76.63	0.67	64.6	0.5%	64.9	0.2	0.5%	0.55	0.5%
Window 122 (upper)	Living Room	1.5%	0.68	1.78	76.63	0.67	80.2	2.3%	80.9	0.2	2.3%	0.55	2.3%		
Window 123 (lower)					0.68	0.7	76.63	0.67	49.1	0.2%	81.4	0.2	0.3%	0.55	0.3%
Window 123 (upper)					0.68	1.57	76.63	0.67	50.7	1.3%	83.1	0.2	1.5%	0.55	1.7%
Total ADF for room										4.3%			4.6%		4.8%
Window 124 (lower)					0.68	0.7	47.99	0.7	76.6	0.6%	76.8	0.2	0.6%	0.55	0.6%
Window 124 (upper)	Bedroom	1.0%	0.68	1.57	47.99	0.7	77.4	3.4%	77.6	0.2	3.4%	0.55	3.4%		
Total ADF for room									4.0%			4.0%		4.0%	
Window 125 (lower)					0.68	0.7	74.38	0.7	78.9	0.4%	78.9	0.2	0.4%	0.55	0.4%
Window 125 (upper)	Bedroom	1.0%	0.68	1.57	74.38	0.7	79.9	2.3%	80.0	0.2	2.3%	0.55	2.3%		
Total ADF for room									2.7%			2.7%		2.7%	
Window 126 (lower)					0.68	1.22	79.62	0.69	62.8	0.5%	62.8	0.2	0.5%	0.55	0.5%
Window 126 (upper)	Living Room	1.5%	0.68	1.78	79.62	0.69	78.8	2.3%	78.8	0.2	2.3%	0.55	2.3%		
Total ADF for room										2.8%			2.8%		2.8%

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter	
	Primary room use	ADF	T	Aw	A	R	θ		θ _{no trees}	Tp _{summer}	ADF	Tp _{winter}	ADF
Window 127 (lower)	Bedroom	1.0%	0.68	0.7	71.7	0.7	76.5	0.4%	76.5	0.2	0.4%	0.55	0.4%
Window 127 (upper)			0.68	1.57	71.7	0.7	77.7	2.3%	77.7	0.2	2.3%	0.55	2.3%
Total ADF for room								2.7%			2.7%		2.7%
Window 128 (lower)	Living Room	1.5%	0.68	0.47	77.41	0.68	66.0	0.2%	66.0	0.2	0.2%	0.55	0.2%
Window 128 (upper)			0.68	1.05	77.41	0.68	67.6	1.2%	67.6	0.2	1.2%	0.55	1.2%
Window 129 (lower)			0.68	1.22	77.41	0.68	49.5	0.4%	49.5	0.2	0.4%	0.55	0.4%
Window 129 (upper)			0.68	1.78	77.41	0.68	58.2	1.7%	58.2	0.2	1.7%	0.55	1.7%
Total ADF for room								3.5%			3.5%		3.5%
Window 130 (lower)	Kitchen	2.0%	0.68	0.47	43.65	0.72	66.2	0.4%	66.2	0.2	0.4%	0.55	0.4%
Window 130 (upper)			0.68	1.05	43.65	0.72	68.0	2.3%	68.0	0.2	2.3%	0.55	2.3%
Total ADF for room								2.7%			2.7%		2.7%
Window 131 (lower)	Bedroom	1.0%	0.68	0.7	61.27	0.71	62.0	0.4%	62.0	0.2	0.4%	0.55	0.4%
Window 131 (upper)			0.68	1.57	61.27	0.71	63.6	2.2%	63.6	0.2	2.2%	0.55	2.2%
Total ADF for room								2.6%			2.6%		2.6%
Window 132 (lower)	Bedroom	1.0%	0.68	0.7	57.44	0.7	54.1	0.4%	54.1	0.2	0.4%	0.55	0.4%
Window 132 (upper)			0.68	1.57	57.44	0.7	55.1	2.0%	55.1	0.2	2.0%	0.55	2.0%
Total ADF for room								2.4%			2.4%		2.4%
Window 133 (lower)	Bedroom	1.0%	0.68	0.7	60.5	0.7	52.0	0.3%	52.0	0.2	0.3%	0.55	0.3%
Window 133 (upper)			0.68	1.58	60.5	0.7	53.1	1.9%	53.1	0.2	1.9%	0.55	1.9%
Total ADF for room								2.2%			2.2%		2.2%
Window 134 (lower)	Kitchen	2.0%	0.68	0.47	43.65	0.72	60.2	0.4%	60.5	0.2	0.4%	0.55	0.4%
Window 134 (upper)			0.68	1.06	43.65	0.72	62.0	2.1%	62.2	0.2	2.1%	0.55	2.1%
Total ADF for room								2.5%			2.5%		2.5%
Window 135 (lower)	Living Room	1.5%	0.68	1.22	81.26	0.7	55.9	0.4%	56.3	0.2	0.4%	0.55	0.4%
Window 135 (upper)			0.68	1.8	81.26	0.7	68.3	2.0%	68.7	0.2	2.0%	0.55	2.0%
Total ADF for room								2.4%			2.4%		2.4%

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter	
	Primary room use	ADF	T	Aw	A	R	θ		θ _{no trees}	Tp _{summer}	ADF	Tp _{winter}	ADF
Window 136 (lower)	Bedroom	1.0%	0.68	0.7	62.18	0.7	71.9	0.4%	72.4	0.2	0.4%	0.55	0.4%
Window 136 (upper)			0.68	1.58	62.18	0.7	73.6	2.5%	74.2	0.2	2.5%	0.55	2.5%
Total ADF for room								2.9%			2.9%		2.9%
Window 137 (lower)	Kitchen	2.0%	0.68	0.7	38.49	0.7	74.5	0.7%	75.2	0.2	0.7%	0.55	0.7%
Window 137 (upper)			0.68	1.58	38.49	0.7	76.1	4.2%	76.8	0.2	4.2%	0.55	4.2%
Total ADF for room								4.9%			4.9%		4.9%
Window 138 (lower)	Living Room	1.5%	0.68	0.7	80.48	0.68	72.7	0.3%	73.1	0.2	0.3%	0.55	0.3%
Window 138 (upper)			0.68	1.57	80.48	0.68	73.9	1.8%	74.4	0.2	1.8%	0.55	1.8%
Window 139 (lower)			0.68	1.22	80.48	0.68	62.6	0.5%	63.3	0.2	0.5%	0.55	0.5%
Window 139 (upper)			0.68	1.8	80.48	0.68	77.4	2.2%	78.2	0.2	2.2%	0.55	2.2%
Total ADF for room								4.8%			4.8%		4.8%
Window 140 (lower)	Kitchen	2.0%	0.68	0.7	38.82	0.7	70.7	0.7%	72.5	0.2	0.7%	0.55	0.7%
Window 140 (upper)			0.68	1.57	38.82	0.7	72.0	3.9%	73.8	0.2	3.9%	0.55	3.9%
Total ADF for room								4.6%			4.6%		4.6%
Window 141 (lower)	Living Room	1.5%	0.68	1.22	82.24	0.68	29.4	0.2%	69.1	0.2	0.3%	0.55	0.4%
Window 141 (upper)			0.68	1.78	82.24	0.68	31.4	0.9%	81.6	0.2	1.1%	0.55	1.6%
Window 142 (lower)			0.68	0.7	82.24	0.68	65.0	0.3%	71.5	0.2	0.3%	0.55	0.3%
Window 142 (upper)			0.68	1.57	82.24	0.68	65.8	1.6%	72.8	0.2	1.6%	0.55	1.7%
Total ADF for room								3.0%			3.3%		4.0%
Window 143 (lower)	Bedroom	1.0%	0.68	0.7	59.76	0.71	32.2	0.2%	82.1	0.2	0.3%	0.55	0.4%
Window 143 (upper)			0.68	1.57	59.76	0.71	34.3	1.2%	83.2	0.2	1.6%	0.55	2.2%
Total ADF for room								1.4%			1.9%		2.6%
Window 144 (lower)	Bedroom	1.0%	0.68	0.7	68.58	0.7	33.3	0.2%	82.1	0.2	0.2%	0.55	0.3%
Window 144 (upper)			0.68	1.57	68.58	0.7	35.6	1.1%	83.2	0.2	1.4%	0.55	1.9%
Total ADF for room								1.3%			1.6%		2.2%
Window 145 (lower)			0.68	0.66	43.36	0.7	30.7	0.3%	77.1	0.2	0.3%	0.55	0.5%
Window 145 (upper)			0.68	1.5	43.36	0.7	33.2	1.5%	78.1	0.2	2.0%	0.55	2.7%

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter	
	Primary room use	ADF	T	Aw	A	R	θ		θ _{no trees}	Tp _{summer}	ADF	Tp _{winter}	ADF
Total ADF for room	Dining	1.5%						1.8%			2.3%		3.2%
Window 146 (lower)			0.68	1.22	79.49	0.69	30.2	0.2%	69.6	0.2	0.3%	0.55	0.4%
Window 146 (upper)			0.68	1.78	79.49	0.69	32.4	1.0%	82.1	0.2	1.2%	0.55	1.8%
Total ADF for room	Living Room	1.5%						1.2%			1.5%		2.2%
Window 147 (lower)			0.68	0.7	76.8	0.71	30.7	0.2%	81.6	0.2	0.2%	0.55	0.3%
Window 147 (upper)			0.68	1.57	76.8	0.71	32.8	0.9%	82.6	0.2	1.2%	0.55	1.7%
Total ADF for room	Bedroom	1.0%						1.1%			1.4%		2.0%
Window 148 (lower)			0.68	1.22	79.45	0.69	28.6	0.2%	67.2	0.2	0.3%	0.55	0.4%
Window 148 (upper)			0.68	1.78	79.45	0.69	30.5	0.9%	79.0	0.2	1.2%	0.55	1.7%
Total ADF for room	Living Room	1.5%						1.1%			1.5%		2.1%
Window 149 (lower)			0.68	0.7	76.78	0.71	25.4	0.1%	66.1	0.2	0.2%	0.55	0.2%
Window 149 (upper)			0.68	1.57	76.78	0.71	27.4	0.8%	66.9	0.2	1.0%	0.55	1.4%
Total ADF for room	Bedroom	1.0%						0.9%			1.2%		1.6%
Window 150 (lower)			0.68	0.7	74.38	0.7	20.7	0.1%	81.2	0.2	0.2%	0.55	0.3%
Window 150 (upper)			0.68	1.57	74.38	0.7	21.8	0.6%	82.3	0.2	1.0%	0.55	1.6%
Total ADF for room	Bedroom	1.0%						0.7%			1.2%		1.9%
Window 151 (lower)			0.68	0.7	68.89	0.71	22.8	0.1%	80.7	0.2	0.2%	0.55	0.3%
Window 151 (upper)			0.68	1.57	68.89	0.71	22.5	0.7%	81.9	0.2	1.1%	0.55	1.7%
Total ADF for room	Bedroom	1.0%						0.8%			1.3%		2.0%
Window 152 (lower)			0.68	1.22	79.62	0.69	33.8	0.3%	68.3	0.2	0.3%	0.55	0.4%
Window 152 (upper)			0.68	1.78	79.62	0.69	37.1	1.1%	80.4	0.2	1.3%	0.55	1.8%
Total ADF for room	Living Room	1.5%						1.4%			1.6%		2.2%
Third Floor													
Window 153 (lower)			0.68	0.22	48.99	0.71	54.6	0.1%	84.8	0.2	0.2%	0.55	0.2%
Window 153 (upper)			0.68	1.5	48.99	0.71	56.5	2.4%	85.7	0.2	2.6%	0.55	3.1%

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients						Trees				
	Primary room use	ADF	T	Aw	A	R	θ	ADF	θ _{no trees}	Summer Tp _{summer}	ADF	Winter Tp _{winter}	ADF
Total ADF for room	Dining	1.5%						2.5%			2.8%		3.3%
Window 154 (lower)			0.68	0.24	67.88	0.71	64.2	0.1%	80.3	0.2	0.1%	0.55	0.1%
Window 154 (upper)			0.68	1.57	67.88	0.71	64.8	2.0%	79.7	0.2	2.1%	0.55	2.3%
Total ADF for room	Bedroom	1.0%						2.1%			2.2%		2.4%
Window 155 (lower)			0.68	1.08	59.44	0.71	57.7	0.6%	65.4	0.2	0.6%	0.55	0.6%
Window 155 (upper)			0.68	1.57	59.44	0.71	71.5	2.6%	81.8	0.2	2.6%	0.55	2.8%
Total ADF for room	Bedroom	1.0%						3.2%			3.2%		3.4%
Window 156 (lower)			0.68	0.24	87.79	0.69	70.1	0.1%	70.1	0.2	0.1%	0.55	0.1%
Window 156 (upper)			0.68	1.57	87.79	0.69	69.5	1.6%	69.5	0.2	1.6%	0.55	1.6%
Window 157 (lower)			0.68	0.27	87.79	0.69	75.2	0.1%	82.4	0.2	0.1%	0.55	0.1%
Window 157 (upper)			0.68	1.78	87.79	0.69	74.9	2.0%	81.3	0.2	2.0%	0.55	2.1%
Total ADF for room	Living Room	1.5%						3.8%			3.8%		3.9%
Window 158 (lower)			0.68	0.24	38.3	0.71	72.9	0.2%	72.9	0.2	0.2%	0.55	0.2%
Window 158 (upper)			0.68	1.57	38.3	0.71	72.2	4.0%	72.2	0.2	4.0%	0.55	4.0%
Total ADF for room	Kitchen	2.0%						4.2%			4.2%		4.2%
Window 159 (lower)			0.68	0.24	36.38	0.71	72.5	0.3%	72.5	0.2	0.3%	0.55	0.3%
Window 159 (upper)			0.68	1.57	36.38	0.71	72.2	4.2%	72.2	0.2	4.2%	0.55	4.2%
Total ADF for room	Kitchen	2.0%						4.5%			4.5%		4.5%
Window 160 (lower)			0.68	1.22	83.9	0.68	74.3	0.6%	74.9	0.2	0.6%	0.55	0.6%
Window 160 (upper)			0.68	1.8	83.9	0.68	78.8	2.1%	79.5	0.2	2.1%	0.55	2.2%
Window 161 (lower)			0.68	0.24	83.9	0.68	77.2	0.1%	77.2	0.2	0.1%	0.55	0.1%
Window 161 (upper)			0.68	1.57	83.9	0.68	76.4	1.8%	76.4	0.2	1.8%	0.55	1.8%
Total ADF for room	Living Room	1.5%						4.6%			4.6%		4.7%
Window 162 (lower)			0.68	0.24	64.49	0.71	76.3	0.2%	77.0	0.2	0.2%	0.55	0.2%
Window 162 (upper)			0.68	1.57	64.49	0.71	76.4	2.6%	77.1	0.2	2.6%	0.55	2.6%
Total ADF for room	Bedroom	1.0%						2.8%			2.8%		2.8%

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter	
	Primary room use	ADF	T	Aw	A	R	θ		θ _{no trees}	Tp _{summer}	ADF	Tp _{winter}	ADF
Window 163 (lower)	Living Room	1.5%	0.68	1.22	82.42	0.7	60.4	0.5%	61.0	0.2	0.5%	0.55	0.5%
Window 163 (upper)			0.68	1.8	82.42	0.7	64.3	1.8%	64.8	0.2	1.9%	0.55	1.9%
Total ADF for room								2.3%			2.4%		2.4%
Window 164 (lower)	Kitchen	2.0%	0.68	0.16	43.48	0.72	64.2	0.1%	64.7	0.2	0.1%	0.55	0.1%
Window 164 (upper)			0.68	1.06	43.48	0.72	66.1	2.3%	66.7	0.2	2.3%	0.55	2.3%
Total ADF for room								2.4%			2.4%		2.4%
Window 165 (lower)	Bedroom	1.0%	0.68	0.24	64.31	0.71	56.2	0.1%	56.2	0.2	0.1%	0.55	0.1%
Window 165 (upper)			0.68	1.58	64.31	0.71	57.2	1.9%	57.2	0.2	1.9%	0.55	1.9%
Total ADF for room								2.0%			2.0%		2.0%
Window 166 (lower)	Bedroom	1.0%	0.68	0.24	64.25	0.71	57.0	0.1%	57.0	0.2	0.1%	0.55	0.1%
Window 166 (upper)			0.68	1.57	64.25	0.71	58.0	1.9%	58.0	0.2	1.9%	0.55	1.9%
Total ADF for room								2.0%			2.0%		2.0%
Window 167 (lower)	Kitchen	2.0%	0.68	0.16	43.75	0.72	65.8	0.1%	65.8	0.2	0.1%	0.55	0.1%
Window 167 (upper)			0.68	1.05	43.75	0.72	67.7	2.3%	67.7	0.2	2.3%	0.55	2.3%
Total ADF for room								2.4%			2.4%		2.4%
Window 168 (lower)	Living Room	1.5%	0.68	1.22	82.09	0.7	61.8	0.5%	61.8	0.2	0.5%	0.55	0.5%
Window 168 (upper)			0.68	1.78	82.09	0.7	65.7	1.9%	65.7	0.2	1.9%	0.55	1.9%
Total ADF for room								2.4%			2.4%		2.4%
Window 169 (lower)	Bedroom	1.0%	0.68	0.24	64.85	0.71	69.4	0.1%	69.4	0.2	0.1%	0.55	0.1%
Window 169 (upper)			0.68	1.57	64.85	0.71	69.3	2.3%	69.3	0.2	2.3%	0.55	2.3%
Total ADF for room								2.4%			2.4%		2.4%
Window 170 (lower)	Living Room	1.5%	0.68	1.22	79.13	0.69	75.1	0.6%	75.2	0.2	0.6%	0.55	0.6%
Window 170 (upper)			0.68	1.78	79.13	0.69	79.6	2.4%	79.6	0.2	2.4%	0.55	2.4%
Total ADF for room								3.0%			3.0%		3.0%
Window 171 (lower)			0.68	0.24	74.48	0.71	81.4	0.1%	81.6	0.2	0.1%	0.55	0.1%
Window 171 (upper)			0.68	1.57	74.48	0.71	80.5	2.3%	80.6	0.2	2.3%	0.55	2.3%

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter	
	Primary room use	ADF	T	Aw	A	R	θ		θ _{no trees}	Tp _{summer}	ADF	Tp _{winter}	ADF
Total ADF for room	Bedroom	1.0%						2.4%			2.4%		2.4%
Window 172 (lower)			0.68	0.24	68.89	0.71	81.8	0.2%	82.0	0.2	0.2%	0.55	0.2%
Window 172 (upper)			0.68	1.57	68.89	0.71	81.1	2.5%	81.3	0.2	2.5%	0.55	2.5%
Total ADF for room	Bedroom	1.0%						2.7%			2.7%		2.7%
Window 173 (lower)			0.68	1.22	79.62	0.69	76.8	0.6%	77.1	0.2	0.6%	0.55	0.6%
Window 173 (upper)			0.68	1.78	79.62	0.69	81.6	2.4%	81.9	0.2	2.4%	0.55	2.4%
Total ADF for room	Living Room	1.5%						3.0%			3.0%		3.0%
Window 174 (lower)			0.68	0.22	43.36	0.71	78.0	0.2%	78.9	0.2	0.2%	0.55	0.2%
Window 174 (upper)			0.68	1.5	43.36	0.71	76.7	3.6%	77.5	0.2	3.6%	0.55	3.7%
Total ADF for room	Dining	1.5%						3.8%			3.8%		3.9%
Window 175 (lower)			0.68	0.24	59.4	0.71	81.2	0.2%	83.2	0.2	0.2%	0.55	0.2%
Window 175 (upper)			0.68	1.57	59.4	0.71	80.5	2.9%	82.3	0.2	2.9%	0.55	3.0%
Total ADF for room	Bedroom	1.0%						3.1%			3.1%		3.2%
Window 176 (lower)			0.68	0.24	82.42	0.68	63.1	0.1%	85.9	0.2	0.1%	0.55	0.1%
Window 176 (upper)			0.68	1.57	82.42	0.68	63.0	1.5%	84.6	0.2	1.6%	0.55	1.8%
Window 177 (lower)			0.68	1.22	82.42	0.68	73.1	0.5%	77.7	0.2	0.6%	0.55	0.6%
Window 177 (upper)			0.68	1.78	82.42	0.68	77.8	2.1%	82.8	0.2	2.2%	0.55	2.2%
Total ADF for room	Living Room	1.5%						4.2%			4.5%		4.7%
Window 178 (lower)			0.68	0.24	38.55	0.71	69.0	0.2%	86.1	0.2	0.2%	0.55	0.3%
Window 178 (upper)			0.68	1.57	38.55	0.71	69.1	3.8%	84.7	0.2	4.0%	0.55	4.3%
Total ADF for room	Kitchen	2.0%						4.0%			4.2%		4.6%
Window 179 (lower)			0.68	0.24	44.34	0.71	60.1	0.2%	82.1	0.2	0.2%	0.55	0.2%
Window 179 (upper)			0.68	1.57	44.34	0.71	60.9	3.0%	81.3	0.2	3.2%	0.55	3.5%
Total ADF for room	Kitchen	2.0%						3.2%			3.4%		3.7%
Window 180 (lower)			0.68	1.22	76.63	0.68	66.1	0.5%	66.3	0.2	0.5%	0.55	0.5%
Window 180 (upper)			0.68	1.78	76.63	0.68	80.6	2.4%	81.0	0.2	2.4%	0.55	2.4%

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter	
	Primary room use	ADF	T	Aw	A	R	θ		θ _{no trees}	Tp _{summer}	ADF	Tp _{winter}	ADF
Window 181 (lower)	Living Room	1.5%	0.68	0.24	76.63	0.68	55.7	0.1%	86.0	0.2	0.1%	0.55	0.1%
Window 181 (upper)			0.68	1.57	76.63	0.68	56.5	1.5%	84.5	0.2	1.6%	0.55	1.9%
Total ADF for room								4.5%			4.6%		4.9%
Window 182 (lower)	Bedroom	1.0%	0.68	0.24	47.99	0.71	78.5	0.2%	78.7	0.2	0.2%	0.55	0.2%
Window 182 (upper)			0.68	1.57	47.99	0.71	76.8	3.4%	77.0	0.2	3.4%	0.55	3.4%
Total ADF for room								3.6%			3.6%		3.6%
Window 183 (lower)	Bedroom	1.0%	0.68	0.24	74.38	0.71	81.7	0.1%	81.7	0.2	0.1%	0.55	0.1%
Window 183 (upper)			0.68	1.57	74.38	0.71	80.2	2.3%	80.2	0.2	2.3%	0.55	2.3%
Total ADF for room								2.4%			2.4%		2.4%
Window 184 (lower)	Living Room	1.5%	0.68	1.22	79.62	0.69	64.5	0.5%	64.5	0.2	0.5%	0.55	0.5%
Window 184 (upper)			0.68	1.78	79.62	0.69	79.5	2.3%	79.5	0.2	2.3%	0.55	2.3%
Total ADF for room								2.8%			2.8%		2.8%
Window 185 (lower)	Bedroom	1.0%	0.68	0.24	71.7	0.71	79.9	0.1%	79.9	0.2	0.1%	0.55	0.1%
Window 185 (upper)			0.68	1.57	71.7	0.71	78.7	2.4%	78.7	0.2	2.4%	0.55	2.4%
Total ADF for room								2.5%			2.5%		2.5%
Window 186 (lower)	Living Room	1.5%	0.68	0.16	77.41	0.68	71.5	0.1%	71.5	0.2	0.1%	0.55	0.1%
Window 186 (upper)			0.68	1.05	77.41	0.68	71.6	1.2%	71.6	0.2	1.2%	0.55	1.2%
Window 187 (lower)			0.68	1.22	77.41	0.68	52.6	0.4%	52.6	0.2	0.4%	0.55	0.4%
Window 187 (upper)			0.68	1.78	77.41	0.68	62.3	1.8%	62.3	0.2	1.8%	0.55	1.8%
Total ADF for room								3.5%			3.5%		3.5%
Window 188 (lower)	Kitchen	2.0%	0.68	0.16	43.65	0.72	72.4	0.1%	72.4	0.2	0.1%	0.55	0.1%
Window 188 (upper)			0.68	1.05	43.65	0.72	72.5	2.5%	72.5	0.2	2.5%	0.55	2.5%
Total ADF for room								2.6%			2.6%		2.6%
Window 189 (lower)	Bedroom	1.0%	0.68	0.24	61.27	0.71	68.1	0.1%	68.1	0.2	0.1%	0.55	0.1%
Window 189 (upper)			0.68	1.57	61.27	0.71	68.7	2.4%	68.7	0.2	2.4%	0.55	2.4%
Total ADF for room								2.5%			2.5%		2.5%

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter	
	Primary room use	ADF	T	Aw	A	R	θ		θ _{no trees}	Tp _{summer}	ADF	Tp _{winter}	ADF
Window 190 (lower)	Bedroom	1.0%	0.68	0.24	57.44	0.71	57.9	0.1%	57.9	0.2	0.1%	0.55	0.1%
Window 190 (upper)			0.68	1.57	57.44	0.71	58.3	2.2%	58.3	0.2	2.2%	0.55	2.2%
Total ADF for room								2.3%			2.3%		2.3%
Window 191 (lower)	Bedroom	1.0%	0.68	0.24	60.5	0.71	55.9	0.1%	55.9	0.2	0.1%	0.55	0.1%
Window 191 (upper)			0.68	1.58	60.5	0.71	56.3	2.0%	56.3	0.2	2.0%	0.55	2.0%
Total ADF for room								2.1%			2.1%		2.1%
Window 192 (lower)	Kitchen	2.0%	0.68	0.16	43.65	0.72	66.7	0.1%	66.9	0.2	0.1%	0.55	0.1%
Window 192 (upper)			0.68	1.06	43.65	0.72	67.5	2.3%	67.6	0.2	2.3%	0.55	2.3%
Total ADF for room								2.4%			2.4%		2.4%
Window 193 (lower)	Living Room	1.5%	0.68	1.22	81.26	0.7	60.1	0.5%	60.4	0.2	0.5%	0.55	0.5%
Window 193 (upper)			0.68	1.8	81.26	0.7	73.1	2.1%	73.5	0.2	2.1%	0.55	2.1%
Total ADF for room								2.6%			2.6%		2.6%
Window 194 (lower)	Bedroom	1.0%	0.68	0.24	62.18	0.71	77.2	0.2%	77.8	0.2	0.2%	0.55	0.2%
Window 194 (upper)			0.68	1.58	62.18	0.71	76.6	2.7%	77.2	0.2	2.7%	0.55	2.7%
Total ADF for room								2.9%			2.9%		2.9%
Window 195 (lower)	Kitchen	2.0%	0.68	0.24	38.49	0.71	79.1	0.3%	79.8	0.2	0.3%	0.55	0.3%
Window 195 (upper)			0.68	1.58	38.49	0.71	78.2	4.4%	78.8	0.2	4.4%	0.55	4.4%
Total ADF for room								4.7%			4.7%		4.7%
Window 196 (lower)	Living Room	1.5%	0.68	0.24	80.48	0.68	76.4	0.1%	76.7	0.2	0.1%	0.55	0.1%
Window 196 (upper)			0.68	1.57	80.48	0.68	75.5	1.9%	75.8	0.2	1.9%	0.55	1.9%
Window 197 (lower)			0.68	1.22	80.48	0.68	64.9	0.5%	65.5	0.2	0.5%	0.55	0.5%
Window 197 (upper)			0.68	1.8	80.48	0.68	79.1	2.2%	79.8	0.2	2.2%	0.55	2.3%
Total ADF for room								4.7%			4.7%		4.8%
Window 198 (lower)	Kitchen	2.0%	0.68	0.24	38.82	0.71	74.7	0.2%	76.3	0.2	0.2%	0.55	0.3%
Window 198 (upper)			0.68	1.57	38.82	0.71	74.1	4.1%	75.4	0.2	4.1%	0.55	4.1%
Total ADF for room								4.3%			4.3%		4.4%

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter	
	Primary room use	ADF	T	Aw	A	R	θ		θ _{no trees}	T _{psummer}	ADF	T _{pwinter}	ADF
Window 199 (lower)	Living Room	1.5%	0.68	1.22	82.24	0.68	35.0	0.3%	71.5	0.2	0.3%	0.55	0.4%
Window 199 (upper)			0.68	1.78	82.24	0.68	39.2	1.1%	83.8	0.2	1.3%	0.55	1.7%
Window 200 (lower)			0.68	0.24	82.24	0.68	68.7	0.1%	75.5	0.2	0.1%	0.55	0.1%
Window 200 (upper)			0.68	1.57	82.24	0.68	68.5	1.7%	74.8	0.2	1.7%	0.55	1.7%
Total ADF for room								3.2%			3.4%		3.9%
Window 201 (lower)	Bedroom	1.0%	0.68	0.24	59.76	0.71	40.8	0.1%	85.4	0.2	0.1%	0.55	0.1%
Window 201 (upper)			0.68	1.57	59.76	0.71	42.1	1.5%	83.9	0.2	1.8%	0.55	2.4%
Total ADF for room								1.6%			1.9%		2.5%
Window 202 (lower)	Bedroom	1.0%	0.68	0.24	68.58	0.71	42.3	0.1%	85.2	0.2	0.1%	0.55	0.1%
Window 202 (upper)			0.68	1.57	68.58	0.71	43.8	1.4%	83.8	0.2	1.6%	0.55	2.1%
Total ADF for room								1.5%			1.7%		2.2%
Window 203 (lower)	Dining	1.5%	0.68	0.22	43.36	0.71	39.9	0.1%	80.0	0.2	0.1%	0.55	0.2%
Window 203 (upper)			0.68	1.5	43.36	0.71	41.7	2.0%	79.2	0.2	2.3%	0.55	3.0%
Total ADF for room								2.1%			2.4%		3.2%
Window 204 (lower)	Living Room	1.5%	0.68	1.22	79.49	0.69	36.7	0.3%	72.3	0.2	0.4%	0.55	0.5%
Window 204 (upper)			0.68	1.78	79.49	0.69	43.3	1.3%	87.1	0.2	1.5%	0.55	2.0%
Total ADF for room								1.6%			1.9%		2.5%
Window 205 (lower)	Bedroom	1.0%	0.68	0.24	76.8	0.71	39.7	0.1%	85.9	0.2	0.1%	0.55	0.1%
Window 205 (upper)			0.68	1.57	76.8	0.71	42.3	1.2%	86.6	0.2	1.4%	0.55	1.9%
Total ADF for room								1.3%			1.5%		2.0%
Window 206 (lower)	Living Room	1.5%	0.68	1.22	79.45	0.69	35.1	0.3%	70.4	0.2	0.3%	0.55	0.4%
Window 206 (upper)			0.68	1.78	79.45	0.69	41.5	1.2%	84.7	0.2	1.5%	0.55	1.9%
Total ADF for room								1.5%			1.8%		2.3%
Window 207 (lower)	Bedroom	1.0%	0.68	0.24	76.78	0.71	34.8	0.1%	70.4	0.2	0.1%	0.55	0.1%
Window 207 (upper)			0.68	1.57	76.78	0.71	37.8	1.1%	72.0	0.2	1.3%	0.55	1.6%
Total ADF for room								1.2%			1.4%		1.7%

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter	
	Primary room use	ADF	T	Aw	A	R	θ		θ _{no trees}	Tp _{summer}	ADF	Tp _{winter}	ADF
Window 208 (lower)	Bedroom	1.0%	0.68	0.24	74.38	0.71	27.3	0.0%	85.7	0.2	0.1%	0.55	0.1%
Window 208 (upper)			0.68	1.57	74.38	0.71	29.6	0.9%	86.4	0.2	1.2%	0.55	1.8%
Total ADF for room									0.9%			1.3%	
Window 209 (lower)	Bedroom	1.0%	0.68	0.24	68.89	0.71	26.6	0.0%	85.4	0.2	0.1%	0.55	0.1%
Window 209 (upper)			0.68	1.57	68.89	0.71	28.4	0.9%	86.2	0.2	1.3%	0.55	1.9%
Total ADF for room									0.9%			1.4%	
Window 210 (lower)	Living Room	1.5%	0.68	1.22	79.62	0.69	37.0	0.3%	71.4	0.2	0.4%	0.55	0.5%
Window 210 (upper)			0.68	1.78	79.62	0.69	42.1	1.2%	86.0	0.2	1.5%	0.55	1.9%
Total ADF for room									1.5%			1.9%	
Fourth Floor													
Window 211 (lower)	Bedroom	1.0%	0.68	0.2	65.03	0.71	75.3	0.1%	87.9	0.2	0.1%	0.55	0.1%
Window 211 (upper)			0.68	1.35	65.03	0.71	77.5	2.2%	88.2	0.2	2.2%	0.55	2.4%
Total ADF for room									2.3%			2.3%	
Window 212 (lower)	Bedroom	1.0%	0.68	0.2	56.72	0.71	80.2	0.2%	87.9	0.2	0.2%	0.55	0.2%
Window 212 (upper)			0.68	1.35	56.72	0.71	81.7	2.7%	88.2	0.2	2.7%	0.55	2.8%
Total ADF for room									2.9%			2.9%	
Window 213 (lower)	Living Room	1.5%	0.68	0.2	84.36	0.69	75.8	0.1%	75.8	0.2	0.1%	0.55	0.1%
Window 213 (upper)			0.68	1.35	84.36	0.69	76.7	1.6%	76.7	0.2	1.6%	0.55	1.6%
Window 214 (lower)			0.68	0.2	84.36	0.69	82.7	0.1%	87.6	0.2	0.1%	0.55	0.1%
Window 214 (upper)			0.68	1.35	84.36	0.69	83.7	1.7%	87.9	0.2	1.8%	0.55	1.8%
Total ADF for room									3.5%			3.6%	
Window 215 (lower)	Kitchen	2.0%	0.68	0.2	34.64	0.71	79.5	0.3%	79.5	0.2	0.3%	0.55	0.3%
Window 215 (upper)			0.68	1.35	34.64	0.71	80.6	4.3%	80.6	0.2	4.3%	0.55	4.3%
Total ADF for room									4.6%			4.6%	
Window 216 (lower)			0.68	0.19	80.57	0.69	85.6	0.1%	86.3	0.2	0.1%	0.55	0.1%
Window 216 (upper)			0.68	1.36	80.57	0.69	86.5	1.9%	87.1	0.2	1.9%	0.55	1.9%

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter	
	Primary room use	ADF	T	Aw	A	R	θ		θ _{no trees}	Tp _{summer}	ADF	Tp _{winter}	ADF
Window 217 (lower)	Living Room	1.5%	0.68	0.2	80.57	0.69	81.8	0.1%	81.8	0.2	0.1%	0.55	0.1%
Window 217 (upper)			0.68	1.35	80.57	0.69	82.3	1.8%	82.3	0.2	1.8%	0.55	1.8%
Total ADF for room								3.9%			3.9%		3.9%
Window 218 (lower)	Bedroom	1.0%	0.68	0.19	61.65	0.71	84.3	0.1%	84.9	0.2	0.1%	0.55	0.1%
Window 218 (upper)			0.68	1.36	61.65	0.71	85.6	2.6%	86.2	0.2	2.6%	0.55	2.6%
Total ADF for room								2.7%			2.7%		2.7%
Window 219 (lower)	Living Room	1.5%	0.68	0.19	79.15	0.7	77.4	0.1%	77.9	0.2	0.1%	0.55	0.1%
Window 219 (upper)			0.68	1.36	79.15	0.7	81.2	1.9%	81.6	0.2	1.9%	0.55	1.9%
Total ADF for room								2.0%			2.0%		2.0%
Window 220 (lower)	Kitchen	2.0%	0.68	0.14	41.41	0.72	77.8	0.2%	78.3	0.2	0.2%	0.55	0.2%
Window 220 (upper)			0.68	1.01	41.41	0.72	81.2	2.8%	81.7	0.2	2.8%	0.55	2.8%
Total ADF for room								3.0%			3.0%		3.0%
Window 221 (lower)	Bedroom	1.0%	0.68	0.19	61.65	0.7	69.3	0.1%	69.4	0.2	0.1%	0.55	0.1%
Window 221 (upper)			0.68	1.36	61.65	0.7	75.4	2.2%	75.6	0.2	2.2%	0.55	2.2%
Total ADF for room								2.3%			2.3%		2.3%
Window 222 (lower)	Bedroom	1.0%	0.68	0.2	61.59	0.7	69.6	0.1%	69.6	0.2	0.1%	0.55	0.1%
Window 222 (upper)			0.68	1.35	61.59	0.7	75.8	2.2%	75.8	0.2	2.2%	0.55	2.2%
Total ADF for room								2.3%			2.3%		2.3%
Window 223 (lower)	Kitchen	2.0%	0.68	0.15	41.68	0.72	78.9	0.2%	78.9	0.2	0.2%	0.55	0.2%
Window 223 (upper)			0.68	1.0	41.68	0.72	81.8	2.8%	81.8	0.2	2.8%	0.55	2.8%
Total ADF for room								3.0%			3.0%		3.0%
Window 224 (lower)	Living Room	1.5%	0.68	0.2	78.83	0.7	78.3	0.1%	78.3	0.2	0.1%	0.55	0.1%
Window 224 (upper)			0.68	1.35	78.83	0.7	81.3	1.9%	81.3	0.2	1.9%	0.55	1.9%
Total ADF for room								2.0%			2.0%		2.0%
Window 225 (lower)			0.68	0.2	61.99	0.71	81.4	0.1%	81.4	0.2	0.1%	0.55	0.1%
Window 225 (upper)			0.68	1.35	61.99	0.71	83.6	2.5%	83.6	0.2	2.5%	0.55	2.5%

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients						Trees				
	Primary room use	ADF	T	Aw	A	R	θ	ADF	θ _{no trees}	Tp _{summer}	Summer ADF	Tp _{winter}	Winter ADF
Total ADF for room	Bedroom	1.0%						2.6%			2.6%		2.6%
Window 226 (lower)			0.68	0.2	76.01	0.7	85.2	0.1%	85.3	0.2	0.1%	0.55	0.1%
Window 226 (upper)			0.68	1.35	76.01	0.7	85.7	2.0%	85.7	0.2	2.0%	0.55	2.0%
Total ADF for room	Living Room	1.5%						2.1%			2.1%		2.1%
Window 227 (lower)			0.68	0.2	71.4	0.71	85.8	0.1%	85.9	0.2	0.1%	0.55	0.1%
Window 227 (upper)			0.68	1.35	71.4	0.71	86.1	2.2%	86.2	0.2	2.2%	0.55	2.2%
Total ADF for room	Bedroom	1.0%						2.3%			2.3%		2.3%
Window 228 (lower)			0.68	0.2	65.95	0.71	86.2	0.1%	86.4	0.2	0.1%	0.55	0.1%
Window 228 (upper)			0.68	1.35	65.95	0.71	86.4	2.4%	86.6	0.2	2.4%	0.55	2.4%
Total ADF for room	Bedroom	1.0%						2.5%			2.5%		2.5%
Window 229 (lower)			0.68	0.2	76.51	0.7	86.5	0.1%	86.8	0.2	0.1%	0.55	0.1%
Window 229 (upper)			0.68	1.35	76.51	0.7	86.7	2.1%	86.9	0.2	2.1%	0.55	2.1%
Total ADF for room	Living Room	1.5%						2.2%			2.2%		2.2%
Window 230 (lower)			0.68	0.2	40.98	0.71	85.5	0.2%	86.2	0.2	0.2%	0.55	0.2%
Window 230 (upper)			0.68	1.35	40.98	0.71	86.0	3.9%	86.7	0.2	3.9%	0.55	3.9%
Total ADF for room	Dining	1.5%						4.1%			4.1%		4.1%
Window 231 (lower)			0.68	0.2	56.77	0.71	85.7	0.2%	87.3	0.2	0.2%	0.55	0.2%
Window 231 (upper)			0.68	1.35	56.77	0.71	86.0	2.8%	87.3	0.2	2.8%	0.55	2.8%
Total ADF for room	Bedroom	1.0%						3.0%			3.0%		3.0%
Window 232 (lower)			0.68	0.19	79.18	0.69	70.3	0.1%	89.6	0.2	0.1%	0.55	0.1%
Window 232 (upper)			0.68	1.36	79.18	0.69	72.2	1.6%	89.4	0.2	1.7%	0.55	1.8%
Window 233 (lower)			0.68	0.2	79.18	0.69	83.1	0.1%	87.6	0.2	0.1%	0.55	0.1%
Window 233 (upper)			0.68	1.35	79.18	0.69	83.7	1.8%	87.5	0.2	1.9%	0.55	1.9%
Total ADF for room	Living Room	1.5%						3.6%			3.8%		3.9%
Window 234 (lower)			0.68	0.19	36.7	0.71	76.5	0.2%	89.6	0.2	0.2%	0.55	0.2%
Window 234 (upper)			0.68	1.36	36.7	0.71	78.0	3.9%	89.4	0.2	4.1%	0.55	4.3%

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients						Trees				
	Primary room use	ADF	T	Aw	A	R	θ	ADF	θ _{no trees}	Tp _{summer}	Summer ADF	Tp _{winter}	Winter ADF
Total ADF for room	Kitchen	2.0%						4.1%			4.3%		4.5%
Window 235 (lower)			0.68	0.19	42.28	0.71	70.4	0.2%	87.8	0.2	0.2%	0.55	0.2%
Window 235 (upper)			0.68	1.36	42.28	0.71	73.0	3.2%	88.2	0.2	3.3%	0.55	3.6%
Total ADF for room	Kitchen	2.0%						3.4%			3.5%		3.8%
Window 236 (lower)			0.68	0.19	73.6	0.69	85.6	0.1%	85.8	0.2	0.1%	0.55	0.1%
Window 236 (upper)			0.68	1.36	73.6	0.69	85.8	2.0%	86.0	0.2	2.0%	0.55	2.0%
Window 237 (lower)			0.68	0.19	73.6	0.69	67.0	0.1%	89.3	0.2	0.1%	0.55	0.1%
Window 237 (upper)			0.68	1.36	73.6	0.69	70.2	1.7%	89.2	0.2	1.8%	0.55	1.9%
Total ADF for room	Living Room	1.5%						3.9%			4.0%		4.1%
Window 238 (lower)			0.68	0.19	45.83	0.71	84.4	0.2%	84.5	0.2	0.2%	0.55	0.2%
Window 238 (upper)			0.68	1.36	45.83	0.71	85.1	3.4%	85.1	0.2	3.4%	0.55	3.4%
Total ADF for room	Bedroom	1.0%						3.6%			3.6%		3.6%
Window 239 (lower)			0.68	0.19	71.31	0.71	85.1	0.1%	85.1	0.2	0.1%	0.55	0.1%
Window 239 (upper)			0.68	1.36	71.31	0.71	85.3	2.2%	85.4	0.2	2.2%	0.55	2.2%
Total ADF for room	Bedroom	1.0%						2.3%			2.3%		2.3%
Window 240 (lower)			0.68	0.19	76.51	0.7	84.6	0.1%	84.7	0.2	0.1%	0.55	0.1%
Window 240 (upper)			0.68	1.36	76.51	0.7	85.0	2.0%	85.1	0.2	2.0%	0.55	2.0%
Total ADF for room	Living Room	1.5%						2.1%			2.1%		2.1%
Window 241 (lower)			0.68	0.19	68.7	0.71	84.2	0.1%	84.2	0.2	0.1%	0.55	0.1%
Window 241 (upper)			0.68	1.36	68.7	0.71	84.7	2.3%	84.8	0.2	2.3%	0.55	2.3%
Total ADF for room	Bedroom	1.0%						2.4%			2.4%		2.4%
Window 242 (lower)			0.68	0.14	74.34	0.69	80.5	0.1%	80.5	0.2	0.1%	0.55	0.1%
Window 242 (upper)			0.68	1.01	74.34	0.69	82.5	1.5%	82.5	0.2	1.5%	0.55	1.5%
Window 243 (lower)			0.68	0.19	74.34	0.69	74.4	0.1%	74.4	0.2	0.1%	0.55	0.1%
Window 243 (upper)			0.68	1.36	74.34	0.69	78.2	1.9%	78.2	0.2	1.9%	0.55	1.9%
Total ADF for room	Living Room	1.5%						3.6%			3.6%		3.6%

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter	
	Primary room use	ADF	T	Aw	A	R	θ		θ _{no trees}	T _{psummer}	ADF	T _{pwinter}	ADF
Window 244 (lower)	Kitchen	2.0%	0.68	0.14	41.57	0.72	80.9	0.2%	80.9	0.2	0.2%	0.55	0.2%
Window 244 (upper)			0.68	1.01	41.57	0.72	82.7	2.8%	82.7	0.2	2.8%	0.55	2.8%
Total ADF for room								3.0%			3.0%		3.0%
Window 245 (lower)	Bedroom	1.0%	0.68	0.19	58.59	0.71	78.8	0.1%	78.8	0.2	0.1%	0.55	0.1%
Window 245 (upper)			0.68	1.36	58.59	0.71	81.3	2.6%	81.3	0.2	2.6%	0.55	2.6%
Total ADF for room								2.7%			2.7%		2.7%
Window 246 (lower)	Bedroom	1.0%	0.68	0.19	55.0	0.71	69.2	0.1%	69.2	0.2	0.1%	0.55	0.1%
Window 246 (upper)			0.68	1.36	55.0	0.71	75.2	2.5%	75.2	0.2	2.5%	0.55	2.5%
Total ADF for room								2.6%			2.6%		2.6%
Window 247 (lower)	Bedroom	1.0%	0.68	0.19	57.94	0.71	66.7	0.1%	66.7	0.2	0.1%	0.55	0.1%
Window 247 (upper)			0.68	1.36	57.94	0.71	73.4	2.3%	73.4	0.2	2.3%	0.55	2.3%
Total ADF for room								2.4%			2.4%		2.4%
Window 248 (lower)	Kitchen	2.0%	0.68	0.14	41.57	0.72	78.2	0.2%	78.3	0.2	0.2%	0.55	0.2%
Window 248 (upper)			0.68	1.01	41.57	0.72	81.2	2.8%	81.4	0.2	2.8%	0.55	2.8%
Total ADF for room								3.0%			3.0%		3.0%
Window 249 (lower)	Living Room	1.5%	0.68	0.19	78.02	0.7	81.8	0.1%	82.2	0.2	0.1%	0.55	0.1%
Window 249 (upper)			0.68	1.36	78.02	0.7	83.7	2.0%	84.1	0.2	2.0%	0.55	2.0%
Total ADF for room								2.1%			2.1%		2.1%
Window 250 (lower)	Bedroom	1.0%	0.68	0.19	59.52	0.71	83.8	0.1%	84.4	0.2	0.1%	0.55	0.1%
Window 250 (upper)			0.68	1.36	59.52	0.71	85.0	2.6%	85.6	0.2	2.6%	0.55	2.7%
Total ADF for room								2.7%			2.7%		2.8%
Window 251 (lower)	Kitchen	2.0%	0.68	0.19	36.65	0.71	84.6	0.2%	85.3	0.2	0.2%	0.55	0.2%
Window 251 (upper)			0.68	1.36	36.65	0.71	85.5	4.3%	86.1	0.2	4.3%	0.55	4.3%
Total ADF for room								4.5%			4.5%		4.5%
Window 252 (lower)			0.68	0.2	77.25	0.69	81.2	0.1%	81.5	0.2	0.1%	0.55	0.1%
Window 252 (upper)			0.68	1.35	77.25	0.69	81.9	1.9%	82.1	0.2	1.9%	0.55	1.9%

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter	
	Primary room use	ADF	T	Aw	A	R	θ		θ _{no trees}	Tp _{summer}	ADF	Tp _{winter}	ADF
Window 253 (lower)	Living Room	1.5%	0.68	0.19	77.25	0.69	85.1	0.1%	85.7	0.2	0.1%	0.55	0.1%
Window 253 (upper)			0.68	1.36	77.25	0.69	85.7	2.0%	86.3	0.2	2.0%	0.55	2.0%
Total ADF for room								4.1%			4.1%		4.1%
Window 254 (lower)	Kitchen	2.0%	0.68	0.2	36.97	0.71	80.3	0.2%	81.2	0.2	0.2%	0.55	0.2%
Window 254 (upper)			0.68	1.35	36.97	0.71	81.3	4.1%	82.0	0.2	4.1%	0.55	4.1%
Total ADF for room								4.3%			4.3%		4.3%
Window 255 (lower)	Living Room	1.5%	0.68	0.2	79.01	0.69	50.9	0.1%	88.7	0.2	0.1%	0.55	0.1%
Window 255 (upper)			0.68	1.35	79.01	0.69	55.1	1.2%	88.7	0.2	1.4%	0.55	1.6%
Window 256 (lower)			0.68	0.2	79.01	0.69	76.3	0.1%	80.8	0.2	0.1%	0.55	0.1%
Window 256 (upper)			0.68	1.35	79.01	0.69	78.1	1.7%	81.7	0.2	1.7%	0.55	1.8%
Total ADF for room								3.1%			3.3%		3.6%
Window 257 (lower)	Bedroom	1.0%	0.68	0.2	59.8	0.71	54.0	0.1%	88.9	0.2	0.1%	0.55	0.1%
Window 257 (upper)			0.68	1.35	59.8	0.71	58.1	1.8%	88.8	0.2	2.0%	0.55	2.3%
Total ADF for room								1.9%			2.1%		2.4%
Window 258 (lower)	Bedroom	1.0%	0.68	0.2	65.7	0.71	56.2	0.1%	88.9	0.2	0.1%	0.55	0.1%
Window 258 (upper)			0.68	1.35	65.7	0.71	60.5	1.7%	88.8	0.2	1.8%	0.55	2.1%
Total ADF for room								1.8%			1.9%		2.2%
Window 259 (lower)	Dining	1.5%	0.68	0.2	40.65	0.71	55.9	0.2%	88.3	0.2	0.2%	0.55	0.2%
Window 259 (upper)			0.68	1.35	40.65	0.71	60.1	2.7%	88.5	0.2	3.0%	0.55	3.4%
Total ADF for room								2.9%			3.2%		3.6%
Window 260 (lower)	Living Room	1.5%	0.68	0.2	76.38	0.7	52.9	0.1%	88.9	0.2	0.1%	0.55	0.1%
Window 260 (upper)			0.68	1.35	76.38	0.7	56.9	1.3%	88.9	0.2	1.5%	0.55	1.8%
Total ADF for room								1.4%			1.6%		1.9%
Window 261 (lower)	Bedroom	1.0%	0.68	0.2	73.54	0.71	51.7	0.1%	88.8	0.2	0.1%	0.55	0.1%
Window 261 (upper)			0.68	1.35	73.54	0.71	55.5	1.4%	88.8	0.2	1.6%	0.55	1.9%
Total ADF for room								1.5%			1.7%		2.0%

Appendix 2 - Average Daylight Factor (ADF)

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF	Trees	Summer		Winter	
	Primary room use	ADF	T	Aw	A	R	θ		θ _{no trees}	Tp _{summer}	ADF	Tp _{winter}	ADF
Window 262 (lower)	Living Room	1.5%	0.68	0.2	76.34	0.7	51.4	0.1%	87.9	0.2	0.1%	0.55	0.1%
Window 262 (upper)			0.68	1.35	76.34	0.7	55.5	1.3%	88.3	0.2	1.5%	0.55	1.7%
Total ADF for room								1.4%			1.6%		1.8%
Window 263 (lower)	Bedroom	1.0%	0.68	0.2	73.52	0.71	49.2	0.1%	80.3	0.2	0.1%	0.55	0.1%
Window 263 (upper)			0.68	1.35	73.52	0.71	54.2	1.4%	82.9	0.2	1.5%	0.55	1.8%
Total ADF for room								1.5%			1.6%		1.9%
Window 264 (lower)	Bedroom	1.0%	0.68	0.2	71.3	0.71	38.8	0.1%	88.8	0.2	0.1%	0.55	0.1%
Window 264 (upper)			0.68	1.35	71.3	0.71	43.2	1.1%	88.8	0.2	1.3%	0.55	1.8%
Total ADF for room								1.2%			1.4%		1.9%
Window 265 (lower)	Bedroom	1.0%	0.68	0.2	65.95	0.71	36.4	0.1%	88.7	0.2	0.1%	0.55	0.1%
Window 265 (upper)			0.68	1.35	65.95	0.71	40.6	1.1%	88.7	0.2	1.4%	0.55	1.9%
Total ADF for room								1.2%			1.5%		2.0%
Window 266 (lower)	Living Room	1.5%	0.68	0.2	76.51	0.7	48.5	0.1%	88.5	0.2	0.1%	0.55	0.1%
Window 266 (upper)			0.68	1.35	76.51	0.7	52.6	1.2%	88.6	0.2	1.4%	0.55	1.7%
Total ADF for room								1.3%			1.5%		1.8%
Window 267 (lower)	Dining	1.5%	0.68	0.2	46.74	0.71	64.4	0.2%	88.4	0.2	0.2%	0.55	0.2%
Window 267 (upper)			0.68	1.35	46.74	0.71	67.7	2.7%	88.6	0.2	2.8%	0.55	3.1%
Total ADF for room								2.9%			3.0%		3.3%

Appendix 2 - Room Depth Calculation

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Room Depth Coefficients				Room Depth Calculation		
	L	W	H	Rb	$L/W + L/H$	$\leq$	$2/1-Rb$

Former Police Station Gravesend

Ground Floor

Window 1	5.3	2.9	2.1	0.71	4.35	$\leq$	6.78
Window 2	4.8	2.8	2.1	0.71	4.0	$\leq$	6.82
Window 5	2.5	2.6	2.1	0.7	2.15	$\leq$	6.7
Window 6	2.5	2.5	2.1	0.7	2.19	$\leq$	6.66
Window 9	5.4	2.8	2.1	0.71	4.5	$\leq$	6.87
Window 10	6.0	3.1	2.1	0.7	4.79	$\leq$	6.6
Window 11	3.8	2.0	2.1	0.72	3.71	$\leq$	7.08
Window 12	3.8	4.2	2.1	0.7	2.71	$\leq$	6.71
Window 13	3.8	4.2	2.1	0.7	2.71	$\leq$	6.71
Window 14	3.8	2.0	2.1	0.72	3.71	$\leq$	7.08
Window 15	6.0	3.1	2.1	0.7	4.79	$\leq$	6.61
Window 16	5.4	2.8	2.1	0.71	4.5	$\leq$	6.87
Window 17	5.1	3.6	2.1	0.7	3.85	$\leq$	6.57
Window 18	5.9	2.9	2.1	0.71	4.84	$\leq$	6.79
Window 19	5.4	2.8	2.1	0.71	4.5	$\leq$	6.82
Window 20	5.0	3.7	2.1	0.69	3.73	$\leq$	6.56
Window 21	5.2	2.8	2.1	0.71	4.33	$\leq$	6.79
Window 24	2.5	2.5	2.1	0.7	2.19	$\leq$	6.66
Window 25	2.5	2.7	2.1	0.7	2.12	$\leq$	6.71
Window 28	4.8	2.8	2.1	0.71	4.0	$\leq$	6.91
Window 29	5.3	2.9	2.1	0.71	4.35	$\leq$	6.78
Window 30	5.0	3.6	2.1	0.7	3.77	$\leq$	6.56
Window 31	6.5	2.8	2.1	0.71	5.42	$\leq$	6.86

Appendix 2 - Room Depth Calculation

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Room Depth Coefficients				Room Depth Calculation		
	L	W	H	Rb	L/W + L/H	<=	2/1-Rb
Window 32	5.0	3.6	2.1	0.7	3.77	<=	6.56
Window 33	6.5	2.8	2.1	0.71	5.42	<=	6.86
Window 34	5.9	2.9	2.1	0.71	4.84	<=	6.79
Window 35	5.4	2.8	2.1	0.71	4.5	<=	6.82
Window 36	5.0	3.6	2.1	0.7	3.77	<=	6.64

First Floor

Window 37	4.1	2.2	2.1	0.71	3.82	<=	6.8
Window 38	5.3	2.9	2.1	0.7	4.35	<=	6.76
Window 39	4.8	2.8	2.1	0.71	4.0	<=	6.79
Window 42	2.5	2.6	2.1	0.7	2.15	<=	6.67
Window 43	2.5	2.5	2.1	0.7	2.19	<=	6.63
Window 46	5.4	2.8	2.1	0.71	4.5	<=	6.84
Window 47	6.0	3.1	2.1	0.7	4.79	<=	6.57
Window 48	3.8	2.0	2.1	0.72	3.71	<=	7.05
Window 49	3.8	4.2	2.1	0.7	2.71	<=	6.68
Window 50	3.8	4.2	2.1	0.7	2.71	<=	6.69
Window 51	3.8	2.0	2.1	0.72	3.71	<=	7.05
Window 52	6.0	3.1	2.1	0.7	4.79	<=	6.58
Window 53	5.4	2.8	2.1	0.71	4.5	<=	6.84
Window 54	5.1	3.6	2.1	0.69	3.85	<=	6.55
Window 55	5.9	2.9	2.1	0.7	4.84	<=	6.76
Window 56	5.4	2.8	2.1	0.71	4.5	<=	6.8
Window 57	5.0	3.6	2.1	0.69	3.77	<=	6.53
Window 58	3.5	2.2	2.1	0.7	3.26	<=	6.77
Window 59	4.8	2.8	2.1	0.71	4.0	<=	6.81

Appendix 2 - Room Depth Calculation

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Room Depth Coefficients				Room Depth Calculation		
	L	W	H	Rb	L/W + L/H	<=	2/1-Rb
Window 62	2.5	2.6	2.1	0.7	2.15	<=	6.68
Window 63	2.5	3.2	2.1	0.7	1.97	<=	6.71
Window 66	3.2	2.8	2.1	0.7	2.67	<=	6.71
Window 67	5.9	2.9	2.1	0.7	4.84	<=	6.76
Window 68	5.0	3.6	2.1	0.69	3.77	<=	6.53
Window 69	5.8	2.8	2.1	0.7	4.83	<=	6.77
Window 72	3.8	2.0	2.1	0.72	3.71	<=	7.05
Window 73	4.6	2.8	2.1	0.71	3.83	<=	6.79
Window 74	3.5	4.2	2.1	0.7	2.5	<=	6.68
Window 75	3.7	4.2	2.1	0.7	2.64	<=	6.7
Window 76	3.8	2.0	2.1	0.72	3.71	<=	7.05
Window 77	5.9	3.1	2.1	0.7	4.71	<=	6.57
Window 78	3.8	3.6	2.1	0.7	2.87	<=	6.75
Window 79	2.5	2.6	2.1	0.7	2.15	<=	6.67
Window 82	2.5	2.7	2.1	0.7	2.12	<=	6.68
Window 85	4.8	2.8	2.1	0.71	4.0	<=	6.88
Window 86	5.3	2.9	2.1	0.7	4.35	<=	6.76
Window 87	3.5	2.2	2.1	0.7	3.26	<=	6.77
Window 88	5.0	3.6	2.1	0.69	3.77	<=	6.53
Window 89	6.5	2.8	2.1	0.71	5.42	<=	6.84
Window 90	5.0	3.6	2.1	0.69	3.77	<=	6.53
Window 91	6.5	2.8	2.1	0.71	5.42	<=	6.84
Window 92	5.9	2.9	2.1	0.7	4.84	<=	6.76
Window 93	5.4	2.8	2.1	0.71	4.5	<=	6.8
Window 94	5.0	3.6	2.1	0.69	3.77	<=	6.53

Appendix 2 - Room Depth Calculation

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Room Depth Coefficients				Room Depth Calculation		
	L	W	H	Rb	$L/W + L/H$	$\leq$	$2/1-Rb$
<u>Second Floor</u>							
Window 95	4.1	2.2	2.1	0.71	3.82	$\leq$	6.8
Window 96	5.3	2.9	2.1	0.7	4.35	$\leq$	6.76
Window 97	4.8	2.8	2.1	0.71	4.0	$\leq$	6.79
Window 100	2.5	2.6	2.1	0.7	2.15	$\leq$	6.67
Window 101	2.5	2.5	2.1	0.7	2.19	$\leq$	6.63
Window 104	5.4	2.8	2.1	0.71	4.5	$\leq$	6.84
Window 105	6.0	3.1	2.1	0.7	4.79	$\leq$	6.57
Window 106	3.8	2.0	2.1	0.72	3.71	$\leq$	7.05
Window 107	3.8	4.2	2.1	0.7	2.71	$\leq$	6.68
Window 108	3.8	4.2	2.1	0.7	2.71	$\leq$	6.69
Window 109	3.8	2.0	2.1	0.72	3.71	$\leq$	7.05
Window 110	6.0	3.1	2.1	0.7	4.79	$\leq$	6.58
Window 111	5.4	2.8	2.1	0.71	4.5	$\leq$	6.84
Window 112	5.1	3.6	2.1	0.69	3.85	$\leq$	6.55
Window 113	5.9	2.9	2.1	0.7	4.84	$\leq$	6.76
Window 114	5.4	2.8	2.1	0.71	4.5	$\leq$	6.8
Window 115	5.0	3.6	2.1	0.69	3.77	$\leq$	6.53
Window 116	3.5	2.2	2.1	0.7	3.26	$\leq$	6.77
Window 117	4.8	2.8	2.1	0.71	4.0	$\leq$	6.81
Window 120	2.5	2.6	2.1	0.7	2.15	$\leq$	6.68
Window 121	2.5	3.2	2.1	0.7	1.97	$\leq$	6.71
Window 124	3.2	2.8	2.1	0.7	2.67	$\leq$	6.71
Window 125	5.9	2.9	2.1	0.7	4.84	$\leq$	6.76
Window 126	5.0	3.6	2.1	0.69	3.77	$\leq$	6.53
Window 127	5.8	2.8	2.1	0.7	4.83	$\leq$	6.77

Appendix 2 - Room Depth Calculation

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Room Depth Coefficients				Room Depth Calculation		
	L	W	H	Rb	L/W + L/H	<=	2/1-Rb
Window 130	3.8	2.0	2.1	0.72	3.71	<=	7.05
Window 131	4.6	2.8	2.1	0.71	3.83	<=	6.79
Window 132	3.5	4.2	2.1	0.7	2.5	<=	6.68
Window 133	3.7	4.2	2.1	0.7	2.64	<=	6.7
Window 134	3.8	2.0	2.1	0.72	3.71	<=	7.05
Window 135	5.9	3.1	2.1	0.7	4.71	<=	6.57
Window 136	3.8	3.6	2.1	0.7	2.87	<=	6.75
Window 137	2.5	2.6	2.1	0.7	2.15	<=	6.67
Window 140	2.5	2.7	2.1	0.7	2.12	<=	6.68
Window 143	4.8	2.8	2.1	0.71	4.0	<=	6.88
Window 144	5.3	2.9	2.1	0.7	4.35	<=	6.76
Window 145	3.5	2.2	2.1	0.7	3.26	<=	6.77
Window 146	5.0	3.6	2.1	0.69	3.77	<=	6.53
Window 147	6.5	2.8	2.1	0.71	5.42	<=	6.84
Window 148	5.0	3.6	2.1	0.69	3.77	<=	6.53
Window 149	6.5	2.8	2.1	0.71	5.42	<=	6.84
Window 150	5.9	2.9	2.1	0.7	4.84	<=	6.76
Window 151	5.4	2.8	2.1	0.71	4.5	<=	6.8
Window 152	5.0	3.6	2.1	0.69	3.77	<=	6.53

Third Floor

Window 153	4.1	2.2	2.1	0.71	3.82	<=	6.95
Window 154	5.3	2.9	2.1	0.71	4.35	<=	6.86
Window 155	4.8	2.8	2.1	0.71	4.0	<=	6.79
Window 158	2.5	2.6	2.1	0.71	2.15	<=	6.86
Window 159	2.5	2.5	2.1	0.71	2.19	<=	6.82

Appendix 2 - Room Depth Calculation

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Room Depth Coefficients				Room Depth Calculation		
	L	W	H	Rb	L/W + L/H	<=	2/1-Rb
Window 162	5.4	2.8	2.1	0.71	4.5	<=	6.96
Window 163	6.0	3.1	2.1	0.7	4.79	<=	6.57
Window 164	3.8	2.0	2.1	0.72	3.71	<=	7.17
Window 165	3.8	4.2	2.1	0.71	2.71	<=	6.8
Window 166	3.8	4.2	2.1	0.71	2.71	<=	6.8
Window 167	3.8	2.0	2.1	0.72	3.71	<=	7.17
Window 168	6.0	3.1	2.1	0.7	4.79	<=	6.58
Window 169	5.4	2.8	2.1	0.71	4.5	<=	6.95
Window 170	5.1	3.6	2.1	0.69	3.85	<=	6.55
Window 171	5.9	2.9	2.1	0.71	4.84	<=	6.86
Window 172	5.4	2.8	2.1	0.71	4.5	<=	6.9
Window 173	5.0	3.6	2.1	0.69	3.77	<=	6.53
Window 174	3.5	2.2	2.1	0.71	3.26	<=	6.93
Window 175	4.8	2.8	2.1	0.71	4.0	<=	6.93
Window 178	2.5	2.6	2.1	0.71	2.15	<=	6.87
Window 179	2.5	3.2	2.1	0.71	1.97	<=	6.88
Window 182	3.2	2.8	2.1	0.71	2.67	<=	6.86
Window 183	5.9	2.9	2.1	0.71	4.84	<=	6.86
Window 184	5.0	3.6	2.1	0.69	3.77	<=	6.53
Window 185	5.8	2.8	2.1	0.71	4.83	<=	6.88
Window 188	3.8	2.0	2.1	0.72	3.71	<=	7.17
Window 189	4.6	2.8	2.1	0.71	3.83	<=	6.91
Window 190	3.5	4.2	2.1	0.71	2.5	<=	6.81
Window 191	3.7	4.2	2.1	0.71	2.64	<=	6.82
Window 192	3.8	2.0	2.1	0.72	3.71	<=	7.17
Window 193	5.9	3.1	2.1	0.7	4.71	<=	6.57

Appendix 2 - Room Depth Calculation

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Room Depth Coefficients				Room Depth Calculation		
	L	W	H	Rb	L/W + L/H	<=	2/1-Rb
Window 194	3.8	3.6	2.1	0.71	2.87	<=	6.86
Window 195	2.5	2.6	2.1	0.71	2.15	<=	6.86
Window 198	2.5	2.7	2.1	0.71	2.12	<=	6.86
Window 201	4.8	2.8	2.1	0.71	4.0	<=	7.01
Window 202	5.3	2.9	2.1	0.71	4.35	<=	6.86
Window 203	3.5	2.2	2.1	0.71	3.26	<=	6.93
Window 204	5.0	3.6	2.1	0.69	3.77	<=	6.53
Window 205	6.5	2.8	2.1	0.71	5.42	<=	6.94
Window 206	5.0	3.6	2.1	0.69	3.77	<=	6.53
Window 207	6.5	2.8	2.1	0.71	5.42	<=	6.94
Window 208	5.9	2.9	2.1	0.71	4.84	<=	6.86
Window 209	5.4	2.8	2.1	0.71	4.5	<=	6.9
Window 210	5.0	3.6	2.1	0.69	3.77	<=	6.53

Fourth Floor

Window 211	5.3	2.9	2.1	0.71	4.35	<=	6.83
Window 212	4.8	2.8	2.1	0.71	4.0	<=	7.0
Window 215	2.5	2.5	2.1	0.71	2.19	<=	6.83
Window 218	5.4	2.8	2.1	0.71	4.5	<=	6.93
Window 219	6.0	3.1	2.1	0.7	4.79	<=	6.76
Window 220	3.8	2.0	2.1	0.72	3.71	<=	7.1
Window 221	3.8	4.2	2.1	0.7	2.71	<=	6.77
Window 222	3.8	4.2	2.1	0.7	2.71	<=	6.77
Window 223	3.8	2.0	2.1	0.72	3.71	<=	7.09
Window 224	6.0	3.1	2.1	0.7	4.79	<=	6.77
Window 225	5.4	2.8	2.1	0.71	4.5	<=	6.93

Appendix 2 - Room Depth Calculation

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Room Depth Coefficients				Room Depth Calculation		
	L	W	H	Rb	L/W + L/H	<=	2/1-Rb
Window 226	5.1	3.6	2.1	0.7	3.85	<=	6.74
Window 227	5.9	2.9	2.1	0.71	4.84	<=	6.82
Window 228	5.4	2.8	2.1	0.71	4.5	<=	6.87
Window 229	5.0	3.6	2.1	0.7	3.77	<=	6.72
Window 230	3.5	2.2	2.1	0.71	3.26	<=	6.9
Window 231	4.8	2.8	2.1	0.71	4.0	<=	6.91
Window 234	2.5	2.6	2.1	0.71	2.15	<=	6.87
Window 235	2.5	3.2	2.1	0.71	1.97	<=	6.87
Window 238	3.2	2.8	2.1	0.71	2.67	<=	6.85
Window 239	5.9	2.9	2.1	0.71	4.84	<=	6.82
Window 240	5.0	3.6	2.1	0.7	3.77	<=	6.72
Window 241	5.8	2.8	2.1	0.71	4.83	<=	6.84
Window 244	3.8	2.0	2.1	0.72	3.71	<=	7.1
Window 245	4.6	2.8	2.1	0.71	3.83	<=	6.88
Window 246	3.5	4.2	2.1	0.71	2.5	<=	6.79
Window 247	3.7	4.2	2.1	0.71	2.64	<=	6.8
Window 248	3.8	2.0	2.1	0.72	3.71	<=	7.1
Window 249	5.9	3.1	2.1	0.7	4.71	<=	6.77
Window 250	3.8	3.6	2.1	0.71	2.87	<=	6.84
Window 251	2.5	2.6	2.1	0.71	2.15	<=	6.87
Window 254	2.5	2.7	2.1	0.71	2.12	<=	6.87
Window 257	4.8	2.8	2.1	0.71	4.0	<=	6.89
Window 258	5.3	2.9	2.1	0.71	4.35	<=	6.83
Window 259	3.4	2.2	2.1	0.71	3.16	<=	6.89
Window 260	5.0	3.6	2.1	0.7	3.77	<=	6.73
Window 261	6.5	2.8	2.1	0.71	5.42	<=	6.9

Appendix 2 - Room Depth Calculation

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Room Depth Coefficients				Room Depth Calculation		
	L	W	H	Rb	$L/W + L/H$	$\leq$	$2/1-Rb$
Window 262	5.0	3.6	2.1	0.7	3.77	$\leq$	6.73
Window 263	6.5	2.8	2.1	0.71	5.42	$\leq$	6.9
Window 264	5.9	2.9	2.1	0.71	4.84	$\leq$	6.82
Window 265	5.4	2.8	2.1	0.71	4.5	$\leq$	6.87
Window 266	5.0	3.6	2.1	0.7	3.77	$\leq$	6.72
Window 267	4.1	2.2	2.1	0.71	3.82	$\leq$	6.91

Appendix 2 - Sunlight to Windows

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Room Use	APSH _{no trees}		APSH _{opaque tree}		Transparency, Tp		APSH	
		Total	Winter	Total	Winter	Tp _{summer}	Tp _{winter}	Total	Winter
<u>Former Police Station Gravesend</u>									
<u>Ground Floor</u>									
Window 3	Living Room	31%	6%	31%	6%	0.2	0.55	31%	6%
Window 4	Living Room	50%	11%	50%	11%	0.2	0.55	50%	11%
Window 7	Living Room	57%	16%	56%	15%	0.2	0.55	56%	15%
Window 8	Living Room	13%	7%	12%	7%	0.2	0.55	13%	7%
Window 10	Living Room	4%	2%	3%	2%	0.2	0.55	4%	2%
Window 15	Living Room	4%	4%	4%	4%	0.2	0.55	4%	4%
Window 17	Living Room	11%	9%	11%	9%	0.2	0.55	11%	9%
Window 20	Living Room	15%	11%	15%	11%	0.2	0.55	15%	11%
Window 22	Living Room	18%	14%	14%	11%	0.2	0.55	16%	12%
Window 23	Living Room	30%	7%	13%	4%	0.2	0.55	26%	5%
Window 26	Living Room	1%	0%	1%	0%	0.2	0.55	1%	0%
Window 27	Living Room	30%	7%	1%	1%	0.2	0.55	22%	4%
Window 30	Living Room	30%	7%	1%	0%	0.2	0.55	22%	3%
Window 32	Living Room	29%	5%	1%	0%	0.2	0.55	22%	2%
Window 36	Living Room	33%	6%	22%	6%	0.2	0.55	31%	6%
<u>First Floor</u>									
Window 40	Living Room	36%	7%	36%	7%	0.2	0.55	36%	7%
Window 41	Living Room	53%	12%	53%	12%	0.2	0.55	53%	12%
Window 44	Living Room	58%	17%	58%	17%	0.2	0.55	58%	17%
Window 45	Living Room	14%	8%	14%	8%	0.2	0.55	14%	8%
Window 47	Living Room	6%	3%	5%	3%	0.2	0.55	6%	3%
Window 52	Living Room	5%	5%	5%	5%	0.2	0.55	5%	5%
Window 54	Living Room	13%	11%	13%	11%	0.2	0.55	13%	11%

Appendix 2 - Sunlight to Windows

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Room Use	APSH _{no trees}		APSH _{opaque tree}		Transparency, Tp		APSH	
		Total	Winter	Total	Winter	Tp _{summer}	Tp _{winter}	Total	Winter
Window 57	Living Room	18%	14%	18%	14%	0.2	0.55	18%	14%
Window 60	Living Room	19%	15%	15%	13%	0.2	0.55	18%	14%
Window 61	Living Room	33%	7%	14%	4%	0.2	0.55	28%	5%
Window 64	Living Room	35%	8%	16%	4%	0.2	0.55	30%	6%
Window 65	Living Room	1%	0%	1%	0%	0.2	0.55	1%	0%
Window 68	Living Room	1%	0%	1%	0%	0.2	0.55	1%	0%
Window 70	Living Room	0%	0%	0%	0%	0.2	0.55	0%	0%
Window 71	Living Room	0%	0%	0%	0%	0.2	0.55	0%	0%
Window 77	Living Room	17%	0%	17%	0%	0.2	0.55	17%	0%
Window 80	Living Room	28%	4%	27%	3%	0.2	0.55	27%	3%
Window 81	Living Room	1%	0%	1%	0%	0.2	0.55	1%	0%
Window 83	Living Room	1%	0%	1%	0%	0.2	0.55	1%	0%
Window 84	Living Room	32%	8%	1%	0%	0.2	0.55	23%	4%
Window 88	Living Room	30%	7%	0%	0%	0.2	0.55	22%	3%
Window 90	Living Room	29%	5%	0%	0%	0.2	0.55	21%	2%
Window 94	Living Room	32%	7%	15%	7%	0.2	0.55	29%	7%
<u>Second Floor</u>									
Window 98	Living Room	36%	7%	36%	7%	0.2	0.55	36%	7%
Window 99	Living Room	57%	14%	57%	14%	0.2	0.55	57%	14%
Window 102	Living Room	64%	21%	64%	21%	0.2	0.55	64%	21%
Window 103	Living Room	16%	10%	16%	10%	0.2	0.55	16%	10%
Window 105	Living Room	9%	4%	8%	4%	0.2	0.55	9%	4%
Window 110	Living Room	5%	5%	5%	5%	0.2	0.55	5%	5%
Window 112	Living Room	17%	13%	17%	13%	0.2	0.55	17%	13%
Window 115	Living Room	18%	14%	18%	14%	0.2	0.55	18%	14%
Window 118	Living Room	20%	16%	17%	15%	0.2	0.55	19%	15%

Appendix 2 - Sunlight to Windows

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Room Use	APSH _{no trees}		APSH _{opaque tree}		Transparency, Tp		APSH	
		Total	Winter	Total	Winter	Tp _{summer}	Tp _{winter}	Total	Winter
Window 119	Living Room	36%	9%	13%	3%	0.2	0.55	29%	6%
Window 122	Living Room	36%	8%	17%	5%	0.2	0.55	31%	6%
Window 123	Living Room	1%	0%	1%	0%	0.2	0.55	1%	0%
Window 126	Living Room	1%	0%	1%	0%	0.2	0.55	1%	0%
Window 128	Living Room	0%	0%	0%	0%	0.2	0.55	0%	0%
Window 129	Living Room	0%	0%	0%	0%	0.2	0.55	0%	0%
Window 135	Living Room	20%	0%	20%	0%	0.2	0.55	20%	0%
Window 138	Living Room	30%	6%	29%	5%	0.2	0.55	29%	5%
Window 139	Living Room	2%	0%	2%	0%	0.2	0.55	2%	0%
Window 141	Living Room	2%	0%	1%	0%	0.2	0.55	2%	0%
Window 142	Living Room	34%	9%	5%	1%	0.2	0.55	25%	5%
Window 146	Living Room	32%	8%	0%	0%	0.2	0.55	23%	4%
Window 148	Living Room	31%	6%	0%	0%	0.2	0.55	23%	3%
Window 152	Living Room	32%	7%	14%	6%	0.2	0.55	28%	6%
Third Floor									
Window 156	Living Room	36%	8%	36%	8%	0.2	0.55	36%	8%
Window 157	Living Room	60%	18%	60%	18%	0.2	0.55	60%	18%
Window 160	Living Room	66%	24%	66%	24%	0.2	0.55	66%	24%
Window 161	Living Room	33%	10%	33%	10%	0.2	0.55	33%	10%
Window 163	Living Room	23%	3%	22%	3%	0.2	0.55	23%	3%
Window 168	Living Room	42%	18%	42%	18%	0.2	0.55	42%	18%
Window 170	Living Room	55%	26%	55%	26%	0.2	0.55	55%	26%
Window 173	Living Room	57%	27%	57%	27%	0.2	0.55	57%	27%
Window 176	Living Room	58%	28%	54%	27%	0.2	0.55	57%	27%
Window 177	Living Room	37%	10%	18%	3%	0.2	0.55	31%	6%
Window 180	Living Room	37%	10%	18%	7%	0.2	0.55	32%	8%

Appendix 2 - Sunlight to Windows

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Room Use	APSH _{no trees}		APSH _{opaque tree}		Transparency, Tp		APSH	
		Total	Winter	Total	Winter	Tp _{summer}	Tp _{winter}	Total	Winter
Window 181	Living Room	2%	0%	2%	0%	0.2	0.55	2%	0%
Window 184	Living Room	1%	0%	1%	0%	0.2	0.55	1%	0%
Window 186	Living Room	0%	0%	0%	0%	0.2	0.55	0%	0%
Window 187	Living Room	0%	0%	0%	0%	0.2	0.55	0%	0%
Window 193	Living Room	27%	3%	27%	3%	0.2	0.55	27%	3%
Window 196	Living Room	32%	8%	31%	7%	0.2	0.55	31%	7%
Window 197	Living Room	2%	0%	2%	0%	0.2	0.55	2%	0%
Window 199	Living Room	2%	0%	1%	0%	0.2	0.55	2%	0%
Window 200	Living Room	34%	9%	11%	3%	0.2	0.55	27%	6%
Window 204	Living Room	33%	9%	5%	2%	0.2	0.55	25%	5%
Window 206	Living Room	32%	7%	8%	1%	0.2	0.55	25%	4%
Window 210	Living Room	34%	9%	16%	7%	0.2	0.55	30%	8%
<u>Fourth Floor</u>									
Window 213	Living Room	24%	4%	24%	4%	0.2	0.55	24%	4%
Window 214	Living Room	12%	12%	12%	12%	0.2	0.55	12%	12%
Window 216	Living Room	38%	23%	38%	23%	0.2	0.55	38%	23%
Window 217	Living Room	28%	6%	28%	6%	0.2	0.55	28%	6%
Window 219	Living Room	28%	6%	28%	6%	0.2	0.55	28%	6%
Window 224	Living Room	39%	24%	39%	24%	0.2	0.55	39%	24%
Window 226	Living Room	39%	24%	39%	24%	0.2	0.55	39%	24%
Window 229	Living Room	39%	24%	39%	24%	0.2	0.55	39%	24%
Window 232	Living Room	39%	24%	39%	24%	0.2	0.55	39%	24%
Window 233	Living Room	28%	6%	17%	0%	0.2	0.55	24%	3%
Window 236	Living Room	28%	6%	16%	4%	0.2	0.55	25%	5%
Window 237	Living Room	0%	0%	0%	0%	0.2	0.55	0%	0%
Window 240	Living Room	0%	0%	0%	0%	0.2	0.55	0%	0%

Appendix 2 - Sunlight to Windows

Former Police Station, Windmill Street, Gravesend, Kent DA12 1

Reference	Room Use	APSH _{no trees}		APSH _{opaque tree}		Transparency, Tp		APSH	
		Total	Winter	Total	Winter	Tp _{summer}	Tp _{winter}	Total	Winter
Window 242	Living Room	0%	0%	0%	0%	0.2	0.55	0%	0%
Window 243	Living Room	0%	0%	0%	0%	0.2	0.55	0%	0%
Window 249	Living Room	22%	3%	22%	3%	0.2	0.55	22%	3%
Window 252	Living Room	28%	6%	28%	6%	0.2	0.55	28%	6%
Window 253	Living Room	0%	0%	0%	0%	0.2	0.55	0%	0%
Window 255	Living Room	0%	0%	0%	0%	0.2	0.55	0%	0%
Window 256	Living Room	24%	4%	10%	1%	0.2	0.55	20%	2%
Window 260	Living Room	29%	5%	10%	0%	0.2	0.55	23%	2%
Window 262	Living Room	29%	5%	13%	0%	0.2	0.55	24%	2%
Window 266	Living Room	29%	5%	17%	5%	0.2	0.55	27%	5%