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Daylight and Sunlight Study (Neighbouring Properties)

Waterloo Gardens Redevelopment, London E2 9HP

22 January 2020

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1 EXECUTIVE SUMMARY

1.1 Overview

1.1.1 Right of Light Consulting has been commissioned by the London Borough of Tower Hamlets to undertake a daylight and sunlight study of the proposed development at Waterloo Gardens Redevelopment, London E2 9HP.

1.1.2 The study is based on 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.

1.1.3 The aim of the study is to assess the impact of the development on the light receivable by the neighbouring properties at 36 Waterloo Gardens, 174 & 176 Sewardstone Road, 1 to 15 Halkett House and 24 to 36 Lark Row.

1.1.4 The window key in Appendix 1 identifies the windows analysed in this study. Appendix 2 gives the numerical results of the various daylight and sunlight tests. Where room layouts are not known the daylight distribution test has not been undertaken.

1.1.5 The results demonstrate that the proposed development will have a relatively low impact on the light receivable by its neighbouring properties. Non-compliance with the BRE recommendations is limited to the daylight test in respect of the 1 window at 1 to 15 Halkett House and 3 windows at 24 to 36 Lark Row. In our opinion, as the proposed development achieves an overall high level of compliance with the BRE recommendations and due to the mitigating factors listed in section 4, the loss of daylight or sunlight should not warrant refusal of the application.

2 INFORMATION SOURCES

2.1 Drawings

2.1.1 This report is based on the following drawings:

ArchitectureDoingPlace

A0030-001	Site Plan	Rev C
A0030-100	Ground Floor Plan	Rev C
A0030-101	First Floor Plan	Rev B
A0030-102	Second Floor Plan	Rev B
A0030-103	Third Floor Plan	Rev B
A0030-220	Proposed South Elevations	Rev -

BB UK Landscape Architecture

19185_SK191127	Sketch GA Plan Waterloo Gardens	Rev -

EDI Surveys Ltd

17126/T/01-01	Topographic and Services Survey	Rev -

3 METHODOLOGY OF THE STUDY

3.1 Local Planning Policy

3.1.1 We understand that the Local Authority take 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 not anticipated until sometime in 2020. 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:

3.1.3 "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:

3.2.2 "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 Daylight to Windows

3.3.1 Diffuse daylight is the light received from the sun which has been diffused through the sky. Even on a cloudy day, when the sun is not visible, a room will continue to be lit with light from the sky. This is diffuse daylight.

3.3.2 Diffuse daylight calculations should be undertaken to all rooms within domestic properties, where daylight is required, including living rooms, kitchens and bedrooms. The BRE guide states that windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed. These room types are non-habitable and do not have a requirement for daylight.

3.3.3 The BRE guide states that the tests may also be applied to non-domestic buildings where there is a reasonable expectation of daylight. The BRE guide explains that this would normally include schools, hospitals, hotels and hostels, small workshops and some offices. The BRE guide is not explicit in terms of which types of offices it regards as having a requirement for daylight. However, it is widely accepted amongst consultants and local authorities, that for planning purposes, offices (which are commercial in nature) do not have a requirement for daylight. The point is touched on in the 'Daylighting and Sunlighting' guidance note published by the Royal Institution of Chartered Surveyors (RICS), which gives guidance to surveyors on how to produce their reports:

3.3.4 "The report should establish the limits of the assessment. For example, existing commercial premises are rarely assessed for loss of amenity."

3.3.5 The BRE guide contains two tests which measure diffuse daylight:

3.3.6 Test 1 <u>Vertical Sky Component</u>

The percentage of the sky visible from the centre of a window is known as the Vertical Sky Component. Diffuse daylight may be adversely affected if after a development the Vertical Sky Component is both less than 27% and less than 0.8 times its former value.

3.3.7 Test 2 Daylight Distribution

The distribution of daylight within a room can be calculated by plotting the 'no sky line'. The no sky line is a line which separates areas of the working plane that do and do not have a direct view of the sky. Daylight may be adversely affected if, after the development, the area of the working plane in a room which can receive direct skylight is reduced to less than 0.8 times its former value.

3.3.8 The BRE guide states that both the total amount of skylight (Vertical Sky Component) and its distribution within the building (Daylight Distribution) are important. The BRE guide states that where room layouts are known, the impact on the daylighting distribution can be found by plotting the 'no sky line' in each of the main rooms. Therefore, we are of the opinion that application of the test is not a requirement of the BRE guide where room layouts are not known. We don't endorse the practice of applying the test based on assumed room layouts, because the test is very sensitive to the size and layout of the room and the results are likely to be misleading. However, we can provide additional daylight distribution data upon request by the local authority, if neighbouring room layout information is confirmed.

3.4 Sunlight availability to Windows

3.4.1 The BRE sunlight tests should be applied to all main living rooms and conservatories which have a window which faces within 90 degrees of due south. The guide states that kitchens and bedrooms are less important, although care should be taken not to block too much sunlight. The tests should also be applied to non-domestic buildings where there is a particular requirement for sunlight.

3.4.2 The BRE guide states that sunlight availability may be adversely affected if the centre of the window:

- receives less than 25% of annual probable sunlight hours, or less than 5% of annual probable sunlight hours between 21 September and 21 March and
- receives less than 0.8 times its former sunlight hours during either period and
- has a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

3.5 Overshadowing to Gardens and Open Spaces

3.5.1 The availability of sunlight should be checked for all open spaces where sunlight is required. This would normally include:

- Gardens, usually the main back garden of a house
- Parks and playing fields
- Children's playgrounds
- Outdoor swimming pools and paddling pools
- Sitting out areas, such as those between non-domestic buildings and in public squares
- Focal points for views such as a group of monuments or fountains.

3.5.2 One way to consider overshadowing is by preparing shadow plots. However, the BRE guide states that it must be borne in mind that nearly all structures will create areas of new shadow, and some degree of transient overshadowing is to be expected. Therefore, shadow plots are of limited use as interpretation of the plots is subjective. Shadow plots have not been undertaken as part of this study.

3.5.3 The BRE guide also contains an objective overshadowing test which has been adopted for the purpose of this study. This guide recommends that at least 50% of the area of each amenity space listed above should receive at least two hours of sunlight on 21 March. If as a result of new development an existing garden or amenity area does not meet the above, and the area which can receive two hours of sunlight on 21 March is less than 0.8 times its former value, then the loss of light is likely to be noticeable.

4 RESULTS OF THE STUDY

4.1 Windows & Amenity Areas Considered

4.1.1 The aim of the study is to assess the impact of the development on the light receivable by the neighbouring properties at 36 Waterloo Gardens, 174 & 176 Sewardstone Road, 1 to 15 Halkett House and 24 to 36 Lark Row.

4.1.2 Appendix 1 provides a plan and photographs to indicate the positions of the windows and outdoor amenity areas analysed in this study.

4.1.3 Appendix 2 lists the detailed numerical daylight and sunlight test results. The results are interpreted below.

4.2 Daylight to Windows

4.2.1 Vertical Sky Component

4.2.2 All windows tested pass the Vertical Sky Component test. All habitable room windows tested pass the Vertical Sky Component test with the exception of window 34 at 1 to 15 Halkett House and windows 86, 87 & 99 at 24 to 36 Lark Row. However, there are mitigating factors to mention:

4.2.3 Firstly, all four aforementioned windows fall only marginally short of the BRE recommendation (all windows achieve a reduction ratio of 0.7 or above – against the BRE target of 0.8).

4.2.4 Secondly, we note that window 34 and 99 are sited beneath existing overhanging balconies. The BRE guide acknowledges that where a window has an overhang or projecting wings on one or both sides of it, a larger relative reduction in VSC may be unavoidable, as the building itself contributes to its poor daylighting. The BRE guide explains that one way to demonstrate this is to test the windows without these existing obstructions in place. This additional calculation has been undertaken and the results are presented in Appendix 3. The results show that without the wings/overhangs in place, the aforementioned windows would surpass the BRE criteria. This demonstrates that the proposed development amounts to a modest obstruction and it is therefore the wings/overhangs which are the main factor in the loss of light. In our opinion, by satisfying the additional tests with the

wings/overhangs removed, the proposed development meets the BRE daylight requirements.

4.2.5 Finally, the BRE guide is intended to be used flexibly, particularly in urban locations, and in this instance we are of the opinion that the development design is likely to be acceptable.

4.2.6 Daylight Distribution

4.2.7 As the room layouts of the neighbouring properties are unknown, the daylight distribution test has not been undertaken.

4.3 Sunlight to Windows

4.3.1 All windows that face within 90 degrees of due south have been tested for direct sunlight. All habitable room windows pass both the total annual sunlight hours test and the winter sunlight hours test. The proposed development therefore satisfies the BRE direct sunlight to windows requirements.

4.4 Overshadowing to Gardens and Open Spaces

4.4.1 The results of the overshadowing test show that sunlight availability after the development will be no less than 0.99 times the former value. This is better than the BRE minimum requirement which permits sunlight to be reduced by up to 0.8 times. The proposed development therefore passes the BRE overshadowing to gardens and open spaces test.

4.5 Conclusion

4.5.1 The results demonstrate that the proposed development will have a relatively low impact on the light receivable by its neighbouring properties. In our opinion, as the proposed development achieves an overall high level of compliance with the BRE recommendations and due to the mitigating factors listed in section 4, the loss of daylight or sunlight should not warrant refusal of the application.

5 CLARIFICATIONS

5.1 General

5.1.1 The report provided is solely for the use of the client and no liability to anyone else is accepted.

5.1.2 The study is limited to assessing daylight, sunlight and overshadowing to neighbouring properties as set out in section 2.2, 3.2 and 3.3 of the BRE Guide.

5.1.3 The study is based on the information listed in section 2 of this report and a site visit undertaken on 30 July 2019. We have not had access to neighbouring properties.

5.1.4 This study does not calculate the effects of trees and hedges on daylight, sunlight and overshadowing to gardens. The BRE guide states that it is usual to ignore the effect of existing trees.

5.1.5 We have undertaken the study following the guidelines of the RICS publication "Surveying Safely". Where limited access or information is available, assumptions will have been made which may affect the conclusions reached in this report. For example, where neighbouring room uses are not known, we will either make an assumption regarding the use, or take the prudent approach of treating the use of the room as being used for domestic purposes. Therefore, the report may need to be updated if room uses are confirmed by the local authority or by the consultation responses.

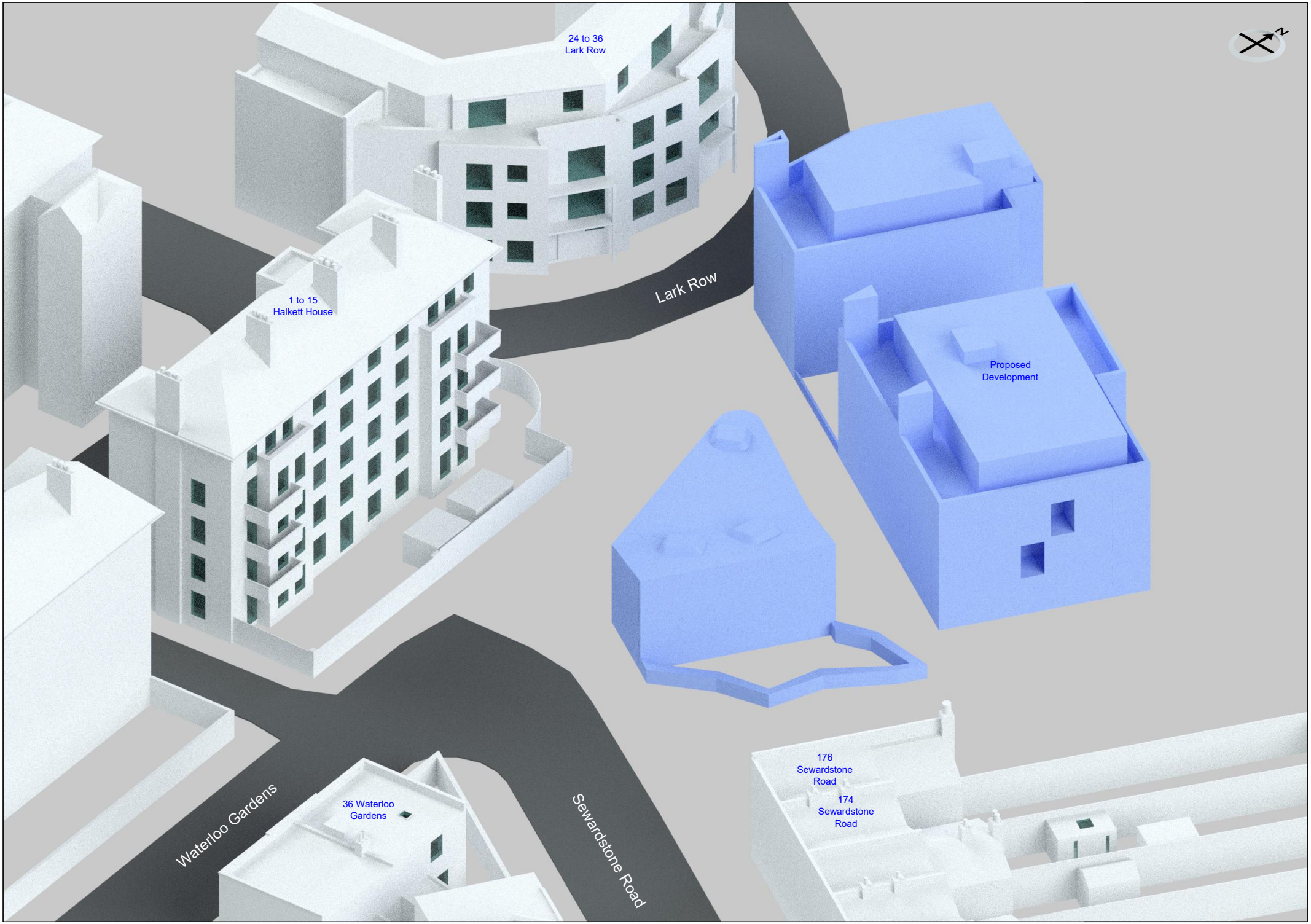
5.1.6 This report is based upon and subject to the scope of work set out in Right of Light Consulting's quotation and standard terms and conditions.

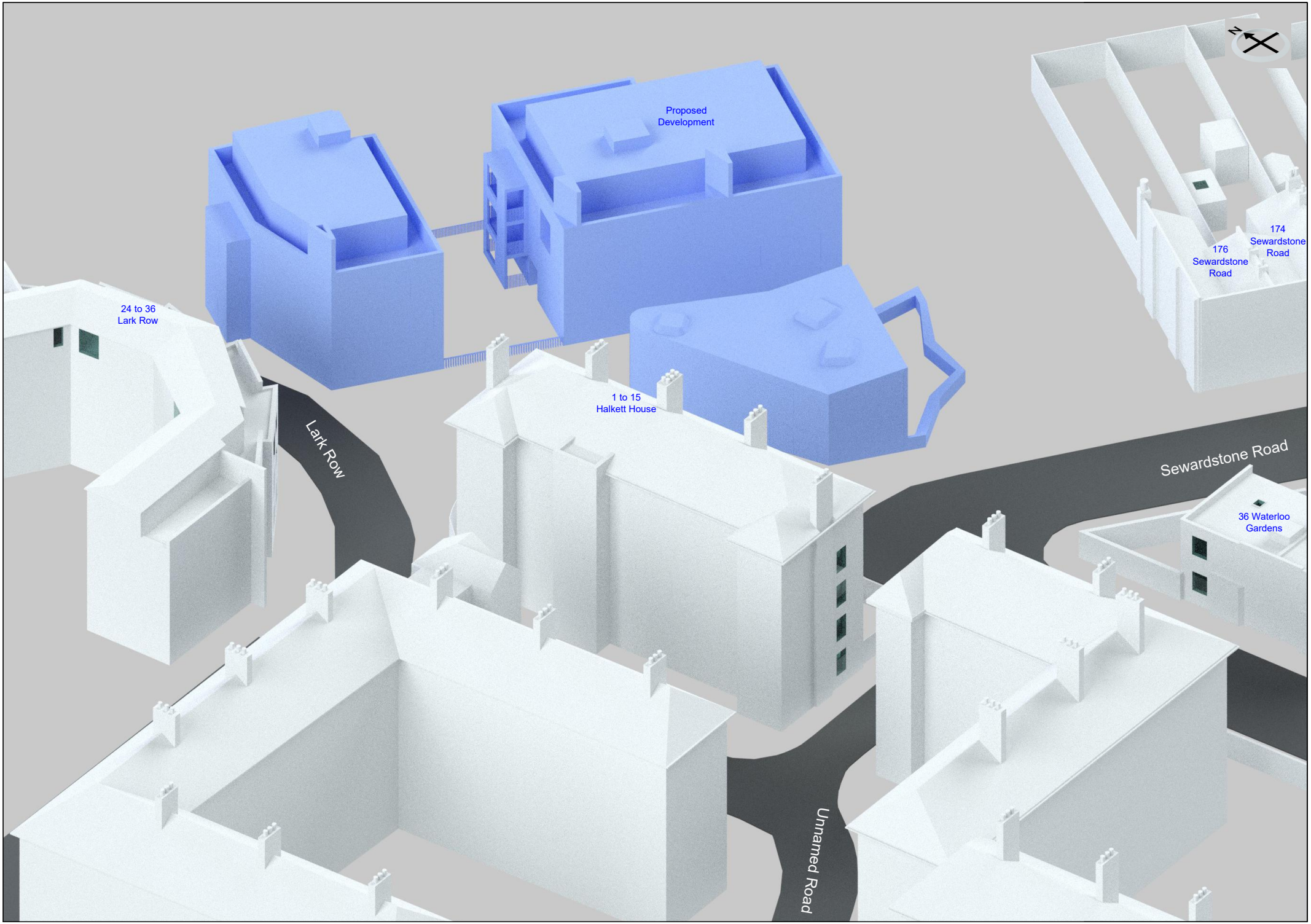
APPENDICES

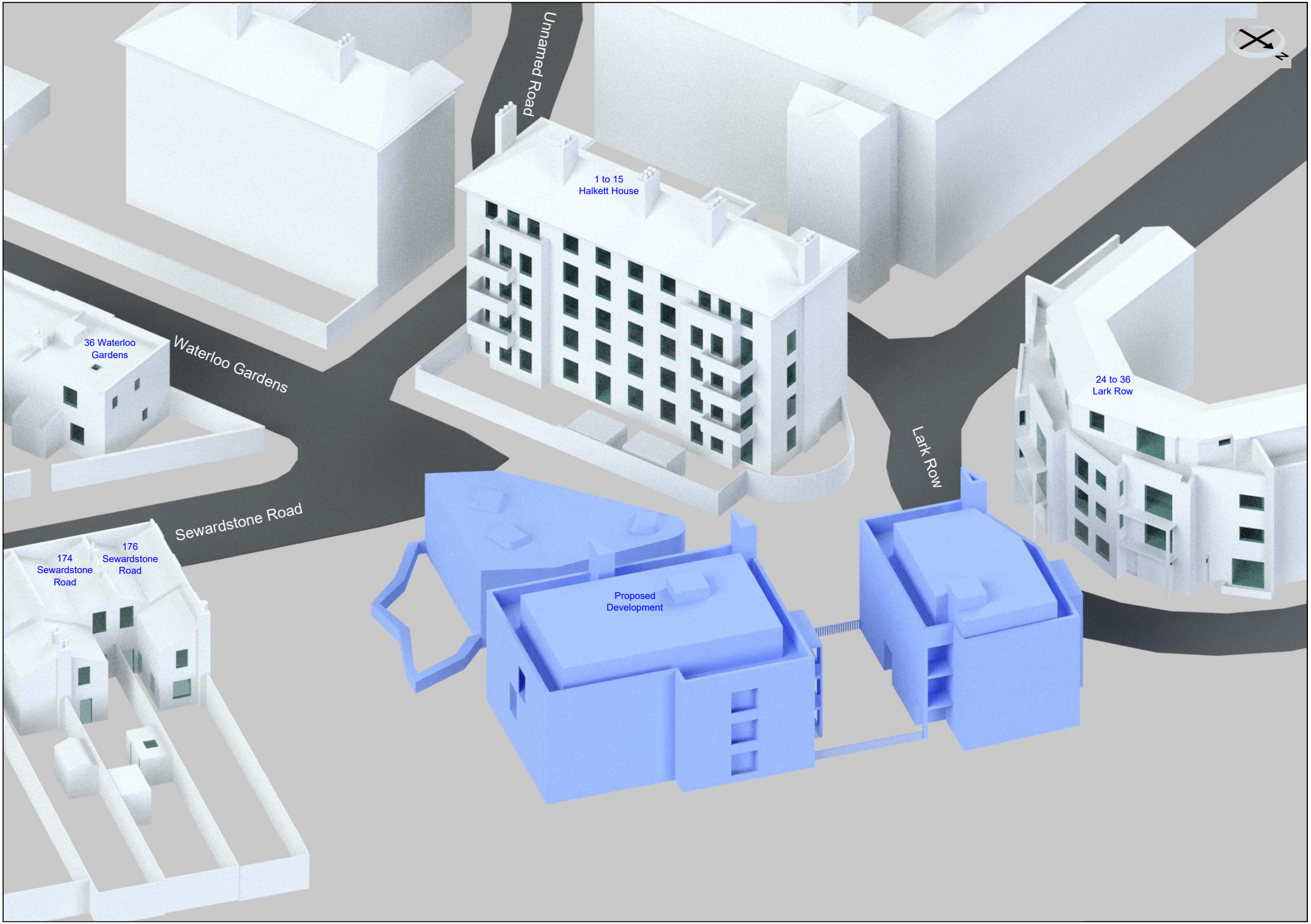
APPENDIX 1

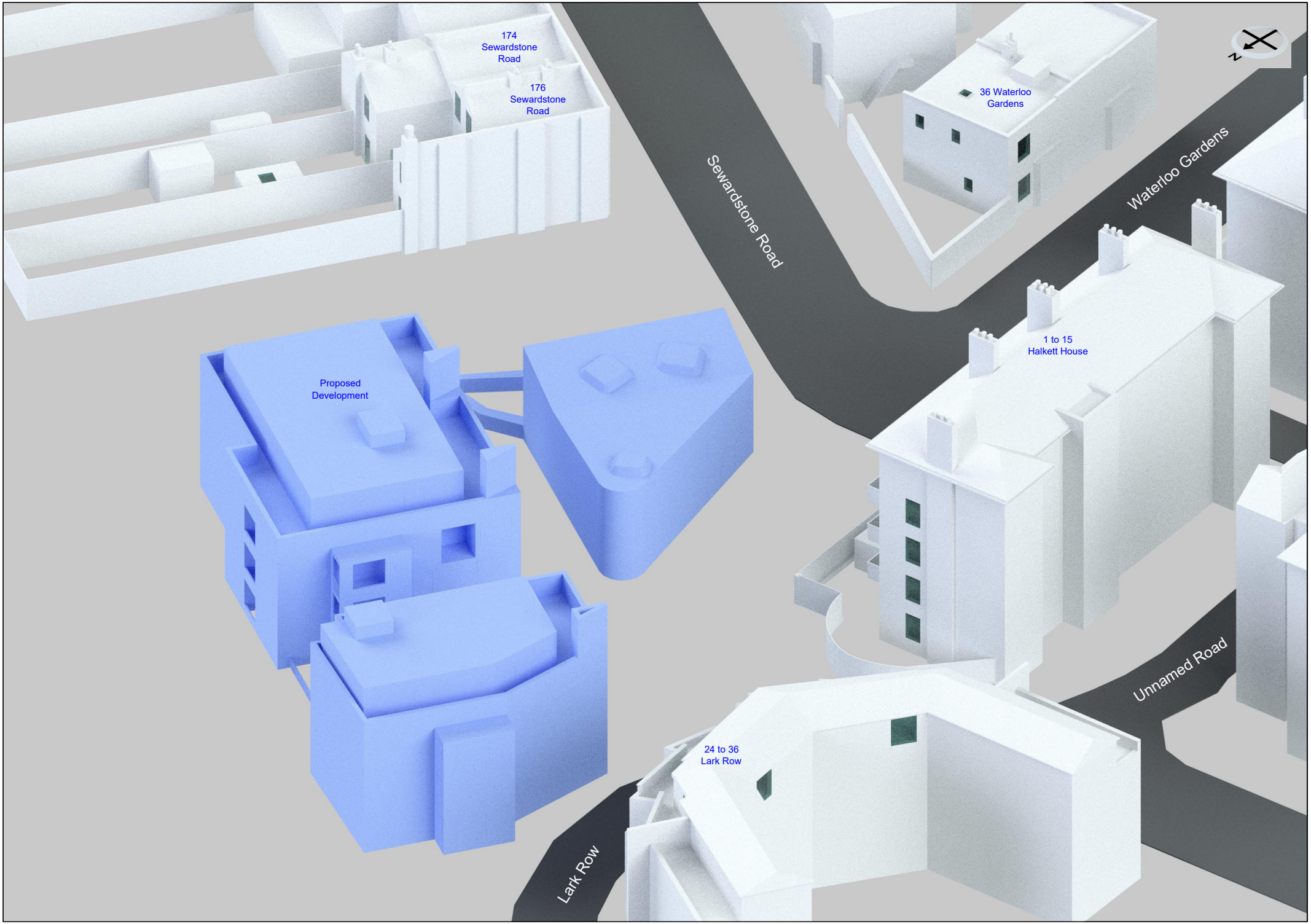
WINDOW & GARDEN KEY


N
24 to 36
Lark Row
Lark Row
Proposed
Development
1 to 15
Halkett House
Unnamed Road
Waterloo Gardens
Sewardstone Road
176
Sewardstone
Road
174
Sewardstone
Road
36 Waterloo
Gardens

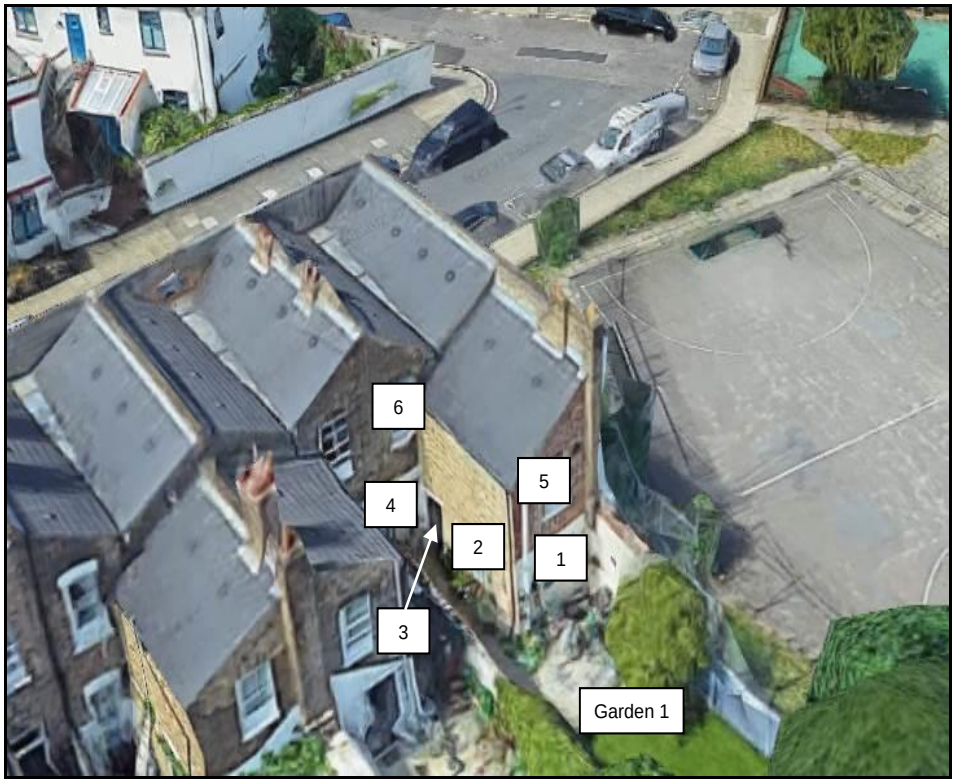

24 to 36
Lark Row
1 to 15
Halkett House
Lark Row
Proposed
Development
Waterloo Gardens
36 Waterloo
Gardens
Sewardstone Road
176
Sewardstone
Road
174
Sewardstone
Road


Proposed
Development
24 to 36
Lark Row
1 to 15
Halkett House
176
Sewardstone
Road
174
Sewardstone
Road
Lark Row
Sewardstone Road
36 Waterloo
Gardens
Unnamed Road


Unnamed Road
1 to 15
Halkett House
36 Waterloo
Gardens
Waterloo Gardens
Lark Row
24 to 36
Lark Row
Sewardstone Road
174
Sewardstone
Road
176
Sewardstone
Road
Proposed
Development
N


174
Sewardstone
Road
176
Sewardstone
Road
36 Waterloo
Gardens
Sewardstone Road
Waterloo Gardens
Proposed
Development
1 to 15
Halkett House
Unnamed Road
24 to 36
Lark Row
Lark Row
N

Neighbouring Windows



176 Sewardstone Road

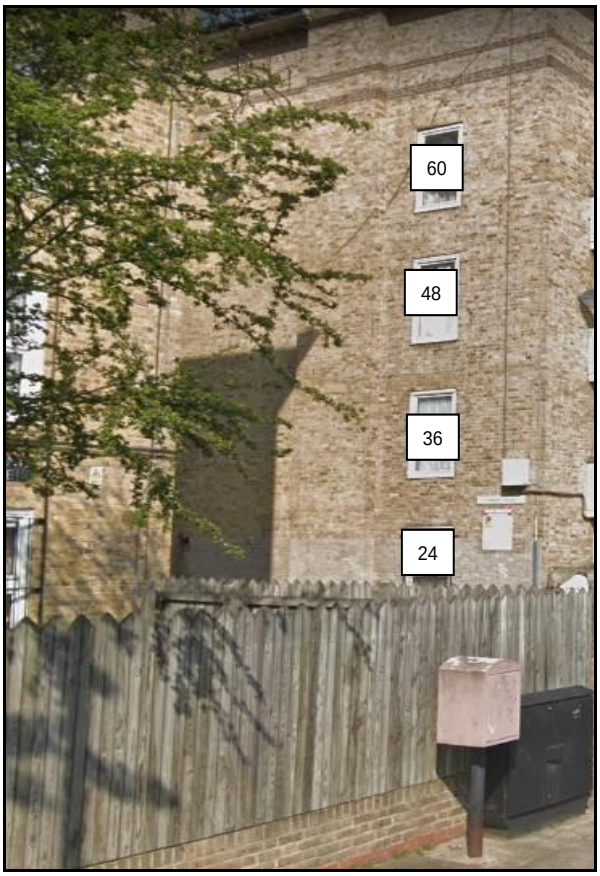
174 Sewardstone Road

174 Sewardstone Road

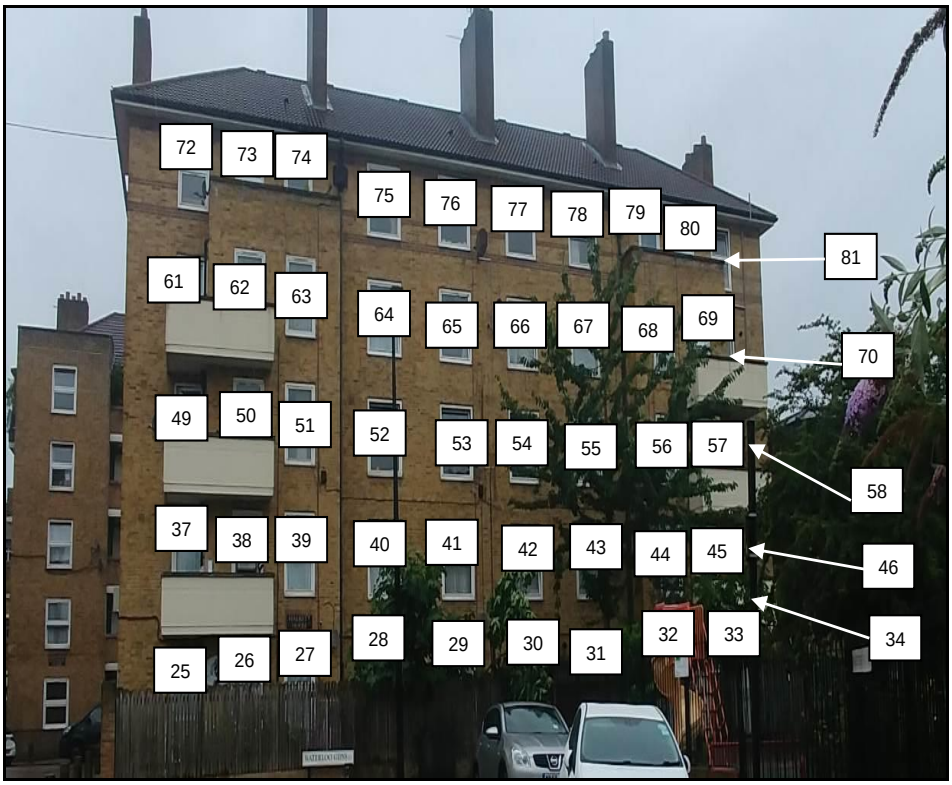
36 Waterloo Gardens

36 Waterloo Gardens

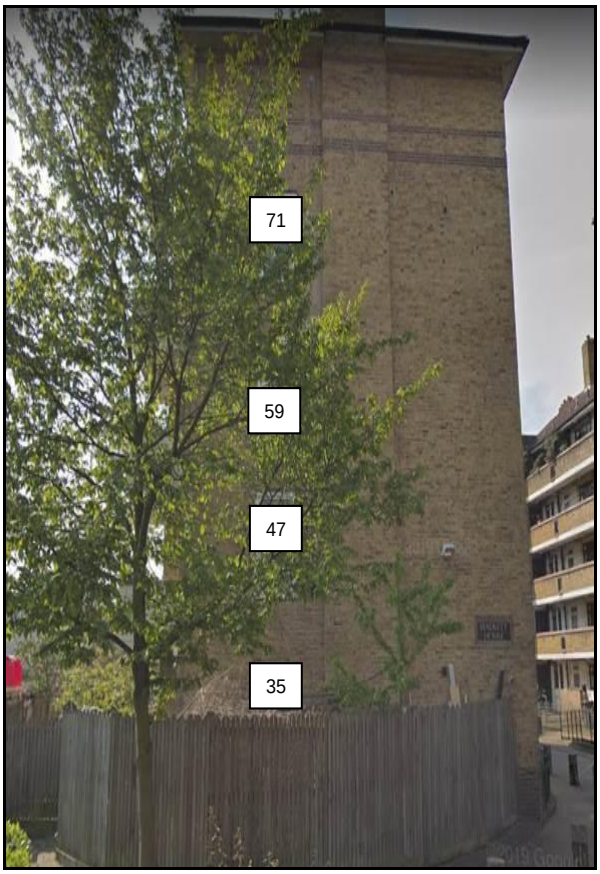
36 Waterloo Gardens



1 to 15 Halkett House



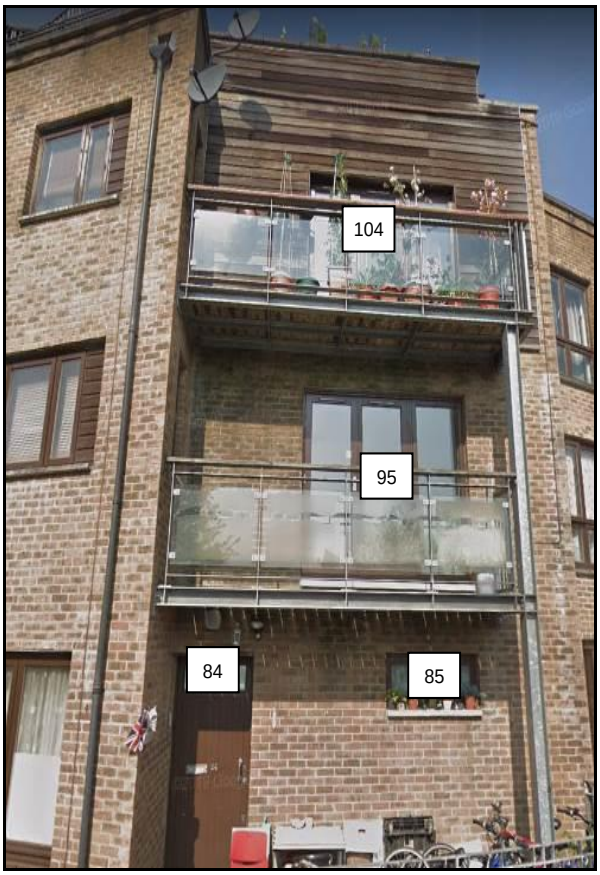
1 to 15 Halkett House



1 to 15 Halkett House

1 to 15 Halkett House

24 to 36 Lark Row



24 to 36 Lark Row

24 to 36 Lark Row

24 to 36 Lark Row

24 to 36 Lark Row

24 to 36 Lark Row

APPENDIX 2

DAYLIGHT AND SUNLIGHT RESULTS

Appendix 2 - Vertical Sky Component
Waterloo Gardens Redevelopment, London E2 9HP

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
176 Sewardstone Road					
Window 1	Domestic	28.5%	28.5%	0.0%	1.0
Window 2	Domestic	12.7%	12.7%	0.0%	1.0
Window 3	Domestic	10.0%	10.0%	0.0%	1.0
Window 4	Domestic	12.6%	12.6%	0.0%	1.0
Window 5	Domestic	38.0%	37.3%	0.7%	0.98
Window 6	Domestic	33.5%	33.5%	0.0%	1.0
174 Sewardstone Road					
Window 7	Domestic	15.8%	15.8%	0.0%	1.0
Window 8	Domestic	10.3%	10.3%	0.0%	1.0
Window 9	Domestic	14.2%	14.2%	0.0%	1.0
Window 10	Domestic	28.6%	28.6%	0.0%	1.0
Window 11	Domestic	34.4%	34.4%	0.0%	1.0
Window 12	Domestic	38.5%	38.0%	0.5%	0.99
Window 13	Domestic	24.4%	24.4%	0.0%	1.0
Window 14	Domestic	23.5%	23.5%	0.0%	1.0
Window 15	Domestic	88.0%	73.4%	14.6%	0.83
36 Waterloo Gardens					
Window 16	Domestic	25.5%	25.5%	0.0%	1.0
Window 17	Domestic	32.6%	31.7%	0.9%	0.97
Window 18	Domestic	22.2%	22.2%	0.0%	1.0
Window 19	Domestic	34.4%	34.4%	0.0%	1.0
Window 20	Domestic	35.8%	34.9%	0.9%	0.97
Window 21	Domestic	89.9%	88.9%	1.0%	0.99
Window 22	Domestic	35.6%	34.7%	0.9%	0.97
Window 23	Domestic	25.9%	25.9%	0.0%	1.0
1 to 15 Halkett House					
Window 24	Domestic	20.4%	20.4%	0.0%	1.0
Window 25	Domestic	14.0%	13.8%	0.2%	0.99
Window 26	Domestic	26.9%	25.5%	1.4%	0.95
Window 27	Domestic	34.3%	32.6%	1.7%	0.95

Appendix 2 - Vertical Sky Component
Waterloo Gardens Redevelopment, London E2 9HP

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 28	Domestic	34.7%	32.8%	1.9%	0.95
Window 29	Domestic	36.0%	33.9%	2.1%	0.94
Window 30	Domestic	35.5%	33.4%	2.1%	0.94
Window 31	Domestic	33.6%	31.6%	2.0%	0.94
Window 32	Domestic	32.4%	29.9%	2.5%	0.92
Window 33	Domestic	25.2%	22.2%	3.0%	0.88
Window 34	Domestic	12.8%	9.7%	3.1%	**0.76**
Window 35	Domestic	30.4%	28.2%	2.2%	0.93
Window 36	Domestic	22.6%	22.6%	0.0%	1.0
Window 37	Domestic	15.2%	15.1%	0.1%	0.99
Window 38	Domestic	28.5%	27.5%	1.0%	0.96
Window 39	Domestic	35.8%	34.7%	1.1%	0.97
Window 40	Domestic	36.3%	35.0%	1.3%	0.96
Window 41	Domestic	37.8%	36.2%	1.6%	0.96
Window 42	Domestic	37.8%	36.0%	1.8%	0.95
Window 43	Domestic	36.0%	34.3%	1.7%	0.95
Window 44	Domestic	35.6%	33.4%	2.2%	0.94
Window 45	Domestic	28.1%	25.8%	2.3%	0.92
Window 46	Domestic	15.2%	12.8%	2.4%	0.84
Window 47	Domestic	33.9%	31.8%	2.1%	0.94
Window 48	Domestic	25.1%	25.1%	0.0%	1.0
Window 49	Domestic	16.0%	16.0%	0.0%	1.0
Window 50	Domestic	29.4%	28.9%	0.5%	0.98
Window 51	Domestic	37.0%	36.4%	0.6%	0.98
Window 52	Domestic	37.2%	36.5%	0.7%	0.98
Window 53	Domestic	38.8%	38.0%	0.8%	0.98
Window 54	Domestic	38.8%	37.9%	0.9%	0.98
Window 55	Domestic	37.0%	36.1%	0.9%	0.98
Window 56	Domestic	37.0%	35.7%	1.3%	0.96
Window 57	Domestic	29.4%	28.0%	1.4%	0.95
Window 58	Domestic	16.3%	14.9%	1.4%	0.91
Window 59	Domestic	36.1%	34.9%	1.2%	0.97
Window 60	Domestic	28.2%	28.2%	0.0%	1.0

Appendix 2 - Vertical Sky Component
Waterloo Gardens Redevelopment, London E2 9HP

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 61	Domestic	29.2%	29.2%	0.0%	1.0
Window 62	Domestic	39.4%	39.3%	0.1%	1.0
Window 63	Domestic	39.4%	39.3%	0.1%	1.0
Window 64	Domestic	37.2%	37.0%	0.2%	0.99
Window 65	Domestic	38.6%	38.4%	0.2%	0.99
Window 66	Domestic	38.6%	38.4%	0.2%	0.99
Window 67	Domestic	37.0%	36.8%	0.2%	0.99
Window 68	Domestic	39.4%	39.1%	0.3%	0.99
Window 69	Domestic	39.4%	39.1%	0.3%	0.99
Window 70	Domestic	29.9%	29.6%	0.3%	0.99
Window 71	Domestic	37.5%	37.2%	0.3%	0.99
Window 72	Domestic	33.0%	33.0%	0.0%	1.0
Window 73	Domestic	32.9%	32.9%	0.0%	1.0
Window 74	Domestic	32.9%	32.9%	0.0%	1.0
Window 75	Domestic	32.9%	32.9%	0.0%	1.0
Window 76	Domestic	32.9%	32.9%	0.0%	1.0
Window 77	Domestic	32.9%	32.9%	0.0%	1.0
Window 78	Domestic	32.9%	32.9%	0.0%	1.0
Window 79	Domestic	32.9%	32.9%	0.0%	1.0
Window 80	Domestic	32.9%	32.9%	0.0%	1.0
Window 81	Domestic	33.0%	33.0%	0.0%	1.0
24 to 36 Lark Row					
Window 82	Domestic	26.8%	25.4%	1.4%	0.95
Window 83	Domestic	28.2%	26.3%	1.9%	0.93
Window 84	Non Habitable	8.0%	5.3%	2.7%	0.66
Window 85	Domestic	11.4%	7.6%	3.8%	0.67
Window 86	Domestic	34.5%	24.8%	9.7%	**0.72**
Window 87	Domestic	36.0%	25.5%	10.5%	**0.71**
Window 88	Non Habitable	9.6%	3.8%	5.8%	0.4
Window 89	Non Habitable	14.5%	6.8%	7.7%	0.47
Window 90	Domestic	23.4%	22.4%	1.0%	0.96
Window 91	Domestic	36.5%	32.8%	3.7%	0.9
Window 92	Domestic	29.4%	28.2%	1.2%	0.96

Appendix 2 - Vertical Sky Component
Waterloo Gardens Redevelopment, London E2 9HP

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 93	Domestic	30.9%	29.5%	1.4%	0.95
Window 94 (Secondary)	Domestic	12.7%	8.4%	4.3%	0.66
Window 95	Domestic	19.3%	15.7%	3.6%	0.81
Window 96	Domestic	36.1%	28.3%	7.8%	0.78
Window 97	Domestic	37.7%	29.7%	8.0%	0.79
Window 98	Domestic	12.8%	12.3%	0.5%	0.96
Window 99	Domestic	22.7%	16.0%	6.7%	**0.7**
Window 100	Domestic	36.9%	34.4%	2.5%	0.93
Window 101	Domestic	32.0%	31.3%	0.7%	0.98
Window 102	Domestic	33.3%	32.5%	0.8%	0.98
Window 103 (Secondary)	Domestic	23.6%	21.3%	2.3%	0.9
Window 104	Domestic	36.0%	33.6%	2.4%	0.93
Window 105	Domestic	37.3%	32.8%	4.5%	0.88
Window 106	Domestic	38.7%	34.2%	4.5%	0.88
Window 107	Domestic	23.7%	23.4%	0.3%	0.99
Window 108	Domestic	38.6%	35.1%	3.5%	0.91
Window 109	Domestic	37.7%	36.4%	1.3%	0.97
Window 110	Domestic	34.9%	34.7%	0.2%	0.99
Window 111	Domestic	35.8%	35.8%	0.0%	1.0
Window 112	Domestic	36.9%	36.4%	0.5%	0.99
Window 113	Domestic	38.7%	37.9%	0.8%	0.98
Window 114	Domestic	37.8%	37.5%	0.3%	0.99
Window 115	Domestic	35.4%	35.4%	0.0%	1.0
Window 116	Domestic	33.2%	33.2%	0.0%	1.0
Window 117	Domestic	32.9%	32.9%	0.0%	1.0

Appendix 2 - Sunlight to Windows
Waterloo Gardens Redevelopment, London E2 9HP

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
176 Sewardstone Road									
Window 2	Domestic	11%	11%	0%	1.0	0%	0%	0%	1.0
Window 3	Domestic	2%	2%	0%	1.0	0%	0%	0%	1.0
174 Sewardstone Road									
Window 13	Domestic	41%	41%	0%	1.0	5%	5%	0%	1.0
Window 14	Domestic	41%	41%	0%	1.0	5%	5%	0%	1.0
Window 15	Domestic	72%	72%	0%	1.0	16%	16%	0%	1.0
36 Waterloo Gardens									
Window 18	Domestic	27%	27%	0%	1.0	6%	6%	0%	1.0
Window 21	Domestic	88%	88%	0%	1.0	24%	24%	0%	1.0
Window 23	Domestic	34%	34%	0%	1.0	8%	8%	0%	1.0
1 to 15 Halkett House									
Window 24	Domestic	48%	48%	0%	1.0	9%	9%	0%	1.0
Window 36	Domestic	55%	55%	0%	1.0	11%	11%	0%	1.0
Window 48	Domestic	62%	62%	0%	1.0	12%	12%	0%	1.0
Window 60	Domestic	67%	67%	0%	1.0	15%	15%	0%	1.0
24 to 36 Lark Row									
Window 82	Domestic	56%	54%	2%	0.96	12%	12%	0%	1.0
Window 83	Domestic	57%	52%	5%	0.91	12%	11%	1%	0.92
Window 84	Non Habitable	13%	6%	7%	0.46	5%	3%	2%	0.6
Window 85	Non Habitable	14%	9%	5%	0.64	6%	5%	1%	0.83
Window 86	Domestic	39%	28%	11%	0.72	8%	8%	0%	1.0
Window 87	Domestic	44%	28%	16%	0.64	9%	7%	2%	0.78
Window 92	Domestic	59%	58%	1%	0.98	12%	12%	0%	1.0
Window 93	Domestic	61%	60%	1%	0.98	14%	14%	0%	1.0
Window 95	Domestic	30%	26%	4%	0.87	8%	8%	0%	1.0
Window 96	Domestic	40%	31%	9%	0.78	9%	9%	0%	1.0
Window 97	Domestic	47%	37%	10%	0.79	11%	10%	1%	0.91
Window 101	Domestic	64%	63%	1%	0.98	17%	17%	0%	1.0
Window 102	Domestic	64%	63%	1%	0.98	17%	17%	0%	1.0

Appendix 2 - Sunlight to Windows
Waterloo Gardens Redevelopment, London E2 9HP

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
Window 104	Domestic	54%	53%	1%	0.98	11%	11%	0%	1.0
Window 105	Domestic	44%	42%	2%	0.95	9%	9%	0%	1.0
Window 106	Domestic	48%	44%	4%	0.92	12%	12%	0%	1.0
Window 110	Domestic	60%	60%	0%	1.0	21%	21%	0%	1.0
Window 112	Domestic	62%	62%	0%	1.0	21%	21%	0%	1.0
Window 115	Domestic	49%	49%	0%	1.0	16%	16%	0%	1.0
Window 117	Domestic	68%	68%	0%	1.0	23%	23%	0%	1.0

Appendix 2 - Overshadowing to Gardens and Open Spaces
Waterloo Gardens Redevelopment, London E2 9HP

Reference	Total Area	Area receiving at least two hours of sunlight on 21st March						
		Before		After		Loss		Ratio
176 Sewardstone Road								
Garden 1	114.42 m2	77.2 m2	67%	77.2 m2	67%	0.0 m2	0%	1.0
174 Sewardstone Road								
Garden 2	107.72 m2	50.57 m2	47%	50.57 m2	47%	0.0 m2	0%	1.0
1 to 15 Halkett House								
Garden 3	145.54 m2	82.61 m2	57%	82.23 m2	57%	0.38 m2	0%	1.0
24 to 36 Lark Row								
Garden 4	10.36 m2	10.35 m2	100%	10.35 m2	100%	0.0 m2	0%	1.0
Garden 5	7.91 m2	7.74 m2	98%	7.65 m2	97%	0.1 m2	1%	0.99

APPENDIX 3

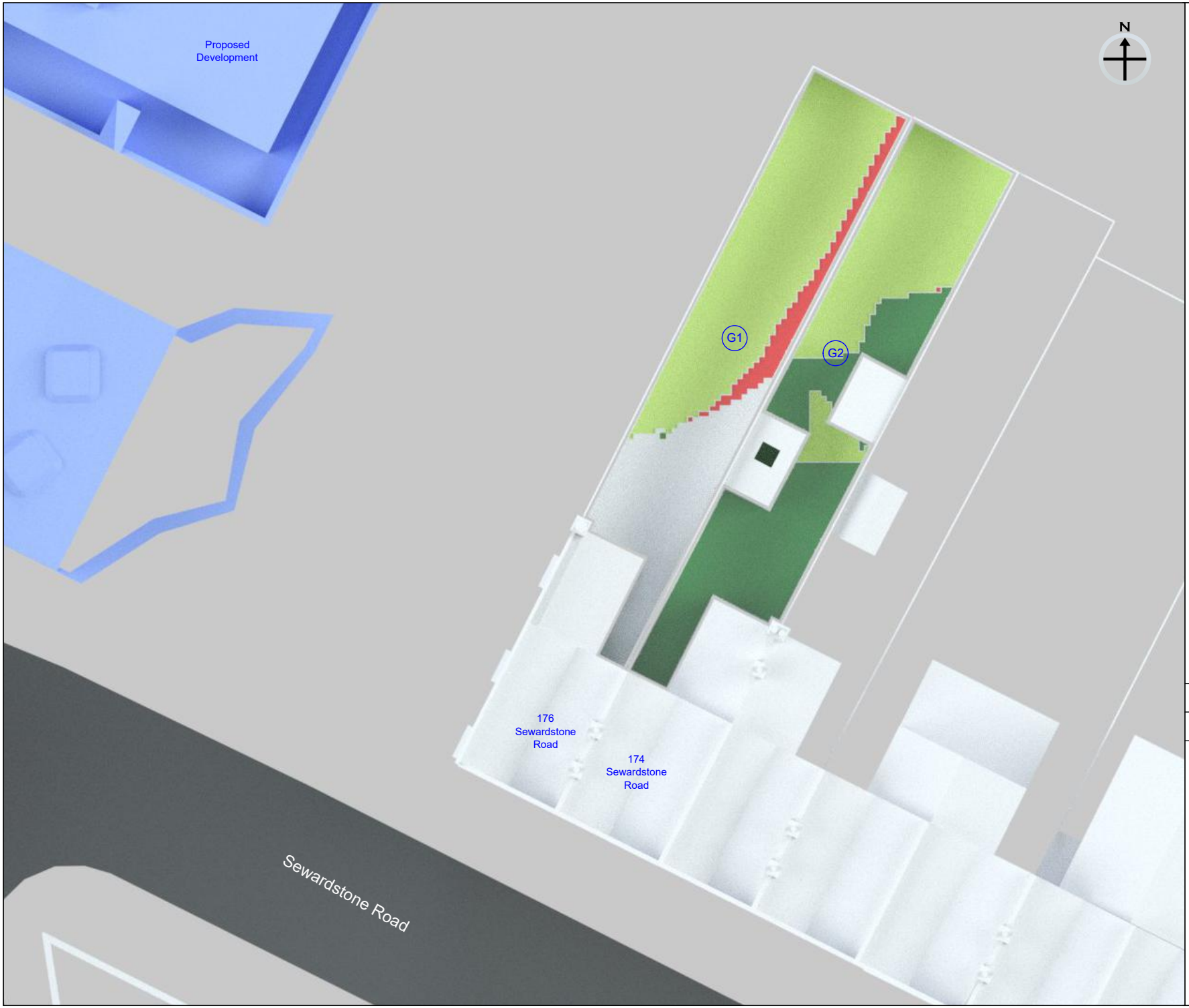
ALTERNATIVE DAYLIGHT RESULTS

Appendix 3 - Vertical Sky Component (without balconies)
Waterloo Gardens Redevelopment, London E2 9HP

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
1 to 15 Halkett House					
Window 34	Domestic	26.5%	23.5%	3.0%	0.89
24 to 36 Lark Row					
Window 99	Domestic	36.8%	30.2%	6.6%	0.82

APPENDIX 4

OVERSHADOWING TO GARDENS AND OPEN SPACES



Key

- Receives under two hours sunlight on 21st March before and after the development.
- Receives under two hours sunlight on 21st March before the development; but will receive at least two hours sunlight on 21st March after the development (light improved).
- Receives at least two hours sunlight on 21st March before the development; but will receive under two hours sunlight after the development (light loss).
- Receives at least two hours sunlight on 21st March before and after the development.
- G1 Neighbouring Gardens and Amenity Areas

Project Name: Waterloo Gardens Redevelopment, London E2 9HP

Drawing Title: Appendix 3 - Overshadowing to Gardens and Open Spaces

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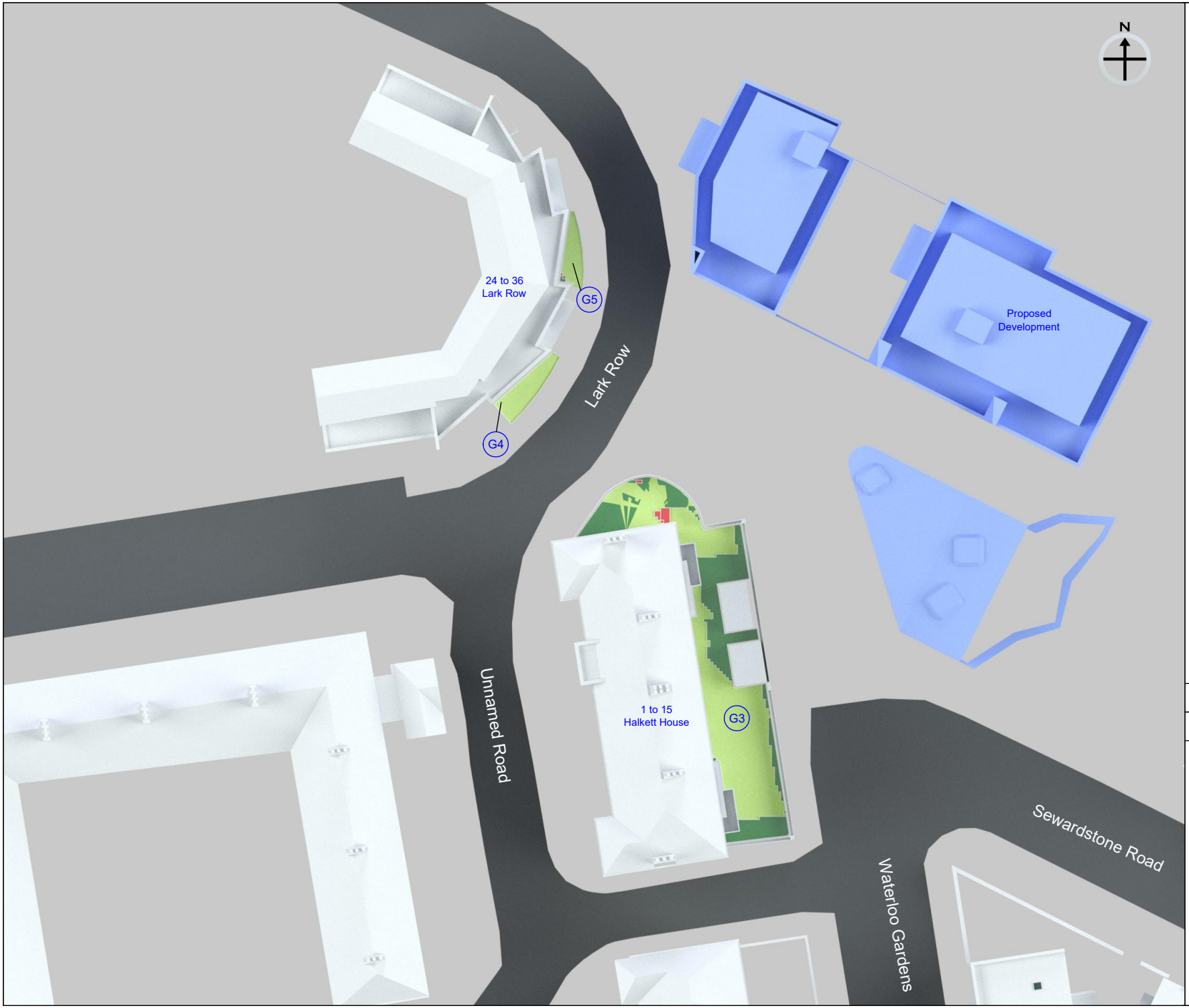

Key

- Receives under two hours sunlight on 21st March before and after the development.
- Receives under two hours sunlight on 21st March before the development; but will receive at least two hours sunlight on 21st March after the development (light improved).
- Receives at least two hours sunlight on 21st March before the development; but will receive under two hours sunlight after the development (light loss).
- Receives at least two hours sunlight on 21st March before and after the development.
- G1 Neighbouring Gardens and Amenity Areas

Project Name: Waterloo Gardens Redevelopment, London E2 9HP

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