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DAYLIGHT & SUNLIGHT REPORT

North London Business Park
Brunswick Park, East Barnet

Our Ref: 4820

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Appendix 1 – Detailed results of the VSC façade analysis to the proposed scheme

Appendix 2 – Results of the sunlight amenity / overshadowing assessments

1 Introduction

1.1.1 eb7 have been instructed by Comer Homes Group to consider the daylight and sunlight implications of latest proposals at North London Business Park, Brunswick Park, East Barnet. This report assesses the effects of the latest proposed scheme against the previously consented masterplan which was approved at appeal in 2020 (APP reference: N5090/W/3189843).

1.1.2 The consented masterplan redevelopment prepared by Plus Architecture comprised:

'Hybrid planning application for the phased comprehensive redevelopment of the North London Business Park to deliver a residential-led mixed use development. The detailed element comprises 360 residential units in five blocks reaching eight storeys, the provision of a 5 form entry secondary school, a gymnasium, a multi-use sports pitch and associated changing facilities and improvements to open space and transport infrastructure, including improvements to the access from Brunswick Park Road and; the outline element comprises up to 990 additional residential units in buildings ranging from two to nine storeys, up to 5,177 sqm of non-residential floor space (use Classes A1-A4, B1 and D1) and 2.54 hectares of open space. Associated site preparation/enabling work, transport infrastructure and junction work, landscaping and car parking.'

1.1.3 The latest proposals comprise of additional height at Blocks 1C / 1D; Blocks 4A / 4C; 5A / 5B; Block 3A / 3B and will provide an additional 373 residential dwellings across the site.

1.1.4 As elements of the consented proposals are outline massing parameters the detailed design of the units is not yet fixed. The first element of our technical assessments is therefore a façade analysis considering the difference in the Vertical Sky Component (VSC) to the proposed elevations between consented position and the proposed uplift scheme. This study illustrates the daylighting potential to the facades of the scheme and potential for good amenity to the unit's as detailed design is progressed to the outline elements of the scheme.

1.1.5 The second part of our analysis focuses on the sunlight / overshadowing effects to the proposed amenity spaces again comparing the uplift proposals against the previously consented scheme.

1.1.6 The methodology and criteria used for these assessments is provided by Building Research Establishment's (BRE) guidance 'Site layout planning for daylight and sunlight: A guide to good practice' (BRE 209 2nd edition, 2011).

1.1.7 In order to carry out an assessment, we have generated a 3D computer model (Test Environment) of the existing site, the key surrounding properties and the proposed scheme. Using this model and our specialist software, we have calculated the daylight and sunlight levels within the proposed scheme.

- 1.1.8 The numerical criteria suggested within the BRE guidelines has been applied to each of the assessments mentioned above. It is important to note that these guidelines are not a rigid set of rules, but are advisory and need to be applied flexibly according to the specific context of a site.

2 Guidance

2.1 Daylight & sunlight for planning

'Site layout planning for daylight and sunlight: A guide to good practice', BRE 2011

- 2.1.1 The Building Research Establishment (BRE) Report 209, *'Site layout planning for daylight and sunlight: A guide to good practice'*, is the reference document used by most local authorities for assessing daylight and sunlight in relation to new developments. Commonly referred to as 'the BRE guidelines', it provides various testing methodologies to calculate the potential light levels received by neighbours of a development site and provided within proposed new development.
- 2.1.2 The guidance given within the BRE document makes direct reference to the British Standard BS8206 Part 2: Code of Practice for Daylighting (2008) and the CIBSE (Chartered Institute of Building Services Engineers) guide LG10: Daylighting – a guide for designers (2014). It is intended to be used in conjunction with these guides as they provide more detailed background to the assessments and methodologies used for assessment of proposed dwellings.
- 2.1.3 The European Standard EN17037 was published in 2018 and is intended to replace the British Standard BS8206 Part 2: Code of Practice for Daylighting. Current policy and guidance from most planning authorities still refers to the BRE guide and its methodologies, which in turn are based upon the BS8206 document. As such, we continue to base our daylight and sunlight assessments for proposed new dwellings on the BRE, British Standard and CIBSE guidance until planning policy dictates otherwise.

Daylight assessments

- 2.1.4 The guidance outline three detailed methods for calculating daylight: the Vertical Sky Component (VSC), the No-Sky Line (NSL) and the Average Daylight Factor (ADF).
- 2.1.5 The VSC method calculates the amount of visible sky available to each window or to points on the façade of a building where windows have not yet been designed. This is the primary assessment of daylight impacts and does not consider the size or nature of rooms behind the façade. The guidelines suggest that, post-development, properties should enjoy at least 27% VSC or that VSC is reduced to no less than 0.8 times its former value.
- 2.1.6 The NSL method describes the distribution of daylight within rooms by calculating the area of the 'working plane' which can receive a direct view of the sky and hence 'sky light'. The working plane height is set at 850mm above floor level within a residential property. The BRE does not state a required amount of no-sky line but merely suggests a recommended reduction within which changes are not considered noticeable.

2.1.7 The ADF method calculates the average illuminance within a room as a proportion of the illuminance available to an unobstructed point outdoors under a sky of known luminance and luminance distribution. This is the most detailed of the daylight calculations and considers the physical nature of the room behind the window, including window transmittance and surface reflectivity. The BRE guidelines / British Standard sets the following recommended ADF levels for habitable room uses:

| | |
|-----------------------------|----------|
| Bedrooms | 1% ADF |
| Living rooms & dining rooms | 1.5% ADF |
| Kitchens | 2% ADF |

Table 1 - ADF targets by room use

2.1.8 For multi-purpose living / kitchen / diner arrangements the higher 2% 'kitchen' target can be difficult to achieve due to the depth of internal space. In such cases, it is generally accepted that the 1.5% target for living rooms be used instead as this represents the predominant use of the space.

Sunlight to gardens and outdoor spaces

2.1.9 Where sunlight to an amenity space may be affected by new development, the BRE guidelines recommend that an overshadowing assessment is conducted. The key analysis is the '2hr sun on ground' test, which quantifies the proportion of an amenity area (e.g. gardens, parks and playing fields, public squares etc.) receiving at least 2hrs of sun on the 21st of March.

2.1.10 The BRE guidance recognises that different types of amenity space may have different sunlighting requirements. Generally, the guidelines suggest that if at least 50% of an amenity area receives at least 2hrs of sun on 21st March, then it is likely to be adequately lit throughout the year. If an existing neighbouring open space receives less than 50%, then the guidelines suggest that the loss in sunlight may be noticeable if it is reduced below 0.8 times its former value.

3 Application of the guidance

3.1 Application of the numerical criteria

3.1.1 The opening paragraphs of the BRE guidelines state:

“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... In special circumstances the developer or planning authority may wish to use different target values. For example, in a historic city centre, or in an area with modern high-rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings”.

3.1.2 It is therefore very important to apply the BRE guidance sensibly and flexibly, with careful consideration of the specific site context.

3.1.3 Some recent planning decisions by the Mayor of London and Planning Inspectorate have suggested that retained levels of daylight (VSC) between 10% and 20% can be considered acceptable for residential properties neighbouring new developments in Central London. Further to these decisions, recent guidance from the Mayor of London (Draft SPG ‘Good Quality Homes for all Londoners’) suggests that residential properties in Central London can typically expect VSC values of between 13% and 18%. We have therefore assessed the severity of impacts to the neighbouring residential properties in light of this guidance.

Appendix F – Setting alternative target values

3.1.4 In certain situations, the BRE guidance suggests that alternative target values may be set for the assessment of daylight and sunlight to neighbouring buildings.

“F1 Sections 2.1, 2.2 and 2.3 give numerical target values in assessing how much light from the sky is blocked by obstructing buildings. These values are purely advisory and different targets may be used based on the special requirements of the proposed development or its location. Such alternative targets may be generated from the layout dimensions of existing development, or they may be derived from considering the internal layout and daylighting needs of the proposed development itself.”

3.1.5 Appendix F2 addresses the position where a site benefits from an extant planning consent. In such circumstances the principle of amenity effects resulting from the consented development may be utilised as a benchmark for the effects of any future proposed amendments:

“F2 Sometimes there may be an extant planning permission for site but the developer wants to change the design. In assessing the loss of light to existing windows nearby, a local authority may allow the vertical sky component (VSC) and annual probable sunlight hours (APSH) for the permitted scheme to be used as alternative benchmarks. However, since the permitted scheme only exists on paper, it would be inappropriate for it to be treated in the same way as an existing building, and for the developer to set 0.8 times the values of the existing building”.

4 Planning Policy

4.1.1 We have considered local, regional and national planning policy relating to daylight and sunlight. In general terms, planning policy advises that new development will only be permitted where it is shown not to cause unacceptable loss of daylight or sunlight amenity to neighbouring properties.

4.1.2 The need to protect amenity of neighbours is echoed within recent publications from the Mayor of London and the Secretary of State for Housing, Communities and Local Government. Although, these documents also stress that current guidance needs to be used flexibly where developments are located in urban areas and intend to achieve higher densities. Specifically, these documents suggest that the nationally applicable criteria given within the BRE guidance needs to be applied in consideration of the development's context.

4.2 London Borough of Barnet – Local Plan (Development Management Strategies)

Development Plan Document (September 2012)

Policy DM01: Protecting Barnet's Character and amenity

4.2.1 The existing local plan document provides the following on daylight and sunlight:

"Development proposals should be designed to allow for adequate daylight, sunlight, privacy and outlook for adjoining and potential occupiers and users."

4.3 The London Plan – The Mayor of London (March 2021)

4.3.1 The Mayor of London's New London Plan gives the following: -

Policy D6 Housing quality and standards

"C. Housing development should maximise the provision of dual aspect dwellings and normally avoid the provision of single aspect dwellings. A single aspect dwelling should only be provided where it is considered a more appropriate design solution to meet the requirements of Part B in Policy D3 Optimising site capacity through the design-led approach than a dual aspect dwelling, and it can be demonstrated that it will have adequate passive ventilation, daylight and privacy, and avoid overheating."

"D. The design of development should provide sufficient daylight and sunlight to new and surrounding housing that is appropriate for its context, whilst avoiding overheating, minimising overshadowing and maximising the usability of outside amenity space."

4.4 The Housing SPG – The Mayor of London (March 2016)

4.4.1 The London Plan Housing SPG confirms the flexibility that should be applied in the

interpretation of the BRE guidelines having regard to the ‘need to optimise capacity; and scope for the character and form of an area to change over time.’

1.3.45. Policy 7.6Bd requires new development to avoid causing ‘unacceptable harm’ to the amenity of surrounding land and buildings, particularly in relation to privacy and overshadowing and where tall buildings are proposed. An appropriate degree of flexibility needs to be applied when using BRE guidelines to assess the daylight and sunlight impacts of new development on surrounding properties, as well as within new developments themselves. Guidelines should be applied sensitively to higher density development, especially in opportunity areas, town centres, large sites and accessible locations, where BRE advice suggests considering the use of alternative targets. This should take into account local circumstances; the need to optimise housing capacity; and scope for the character and form of an area to change over time.

1.3.46 The degree of harm on adjacent properties and the daylight targets within a proposed scheme should be assessed drawing on broadly comparable residential typologies within the area and of a similar nature across London. Decision makers should recognise that fully optimising housing potential on large sites may necessitate standards which depart from those presently experienced but which still achieve satisfactory levels of residential amenity and avoid unacceptable harm.

4.5 Consultation Draft SPG ‘Good Quality Homes for all Londoners’ – The Mayor of London (October 2020)

4.5.1 The Mayor of London has produced a consultation draft SPG which includes the following guidance for the application of flexible target values in order to optimise the land use of sites including to optimise housing capacity:

C5.3 Daylight, sunlight and overshadowing

Applying BRE guidelines in relation to neighbouring homes

“Decision-makers should recognise that fully optimising housing potential on sites may necessitate standards which depart from those presently experienced, but which still achieve satisfactory levels of residential amenity and avoid unacceptable harm.

Guidelines should be applied sensitively to higher density development, where BRE advice suggests considering the use of alternative targets. This should take into account local circumstances, the need to optimise housing capacity, and the scope for the character and form of an area to change over time.

The BRE guidelines apply nationwide, and the default numerical targets provided are purely advisory. These are based on a uniform, 25-degree development angle (vertical obstruction angle) typical of a low-rise suburban location. This corresponds to the Vertical Sky Component (VSC) target of 27 per

cent cited in the guidelines. Typical development angles in a city or central urban location are considerably higher. In Central London, development angles of 40 degree or 50 degree are common and can, if well planned, deliver successful schemes. A uniform development angle of 40 degree corresponds to a VSC target of 18 per cent, and 50 degree gives a VSC target of 13 per cent. Such daylight levels have been accepted in many desirable central areas for well over a century. Module A: Optimising Site Capacity - A Design-led Approach therefore adopts a 50-degree development angle to determine offset distances.

Applying BRE guidelines in relation to proposed homes

“It may be possible to mitigate lower external daylight VSC levels by using design features such as larger windows, roof lights and light coloured internal and external surfaces to ensure reasonable internal daylight levels. Therefore, room based measures of daylight and sunlight are most appropriate for judging the acceptability of a proposed development, as these encourage good daylight design. Appropriate 3D modelling should be used to demonstrate acceptable levels.

BRE guidelines confirm that the acceptable minimum average daylight factor target value depends on the room use. That is 1 per cent for a bedroom, 1.5 per cent for a living room and 2 per cent for a family kitchen. In cases where one room serves more than one purpose, the minimum ADF should be that for the room type with the higher value. Notwithstanding this, the independent daylight and sunlight review states that in practice, the principal use of rooms designed as a ‘living room/kitchen/dining room’ is as a living room. Accordingly, it would be reasonable to apply a target of 1.5 per cent to such rooms.

The need for balconies to be a minimum depth so as to function as usable amenity space, (see C4 Dwelling Space Standards), can have significant bearing on the daylight and sunlight levels reaching nearby windows and rooms. Inevitably, any window or room under a balcony will receive much lower daylight and sunlight levels, although the adjacent balcony space will typically have excellent levels of daylight and sunlight amenity. Given this, the Mayor encourages boroughs to allow the daylight levels on the balcony to contribute to the ADF of the adjacent living space.”

4.6 The National Planning Policy Framework - Department for Housing, Communities and Local Government (July 2021)

- 4.6.1 The latest version of the National Planning Policy Framework was issued in July 2021. The document sets out planning policies for England and how these are expected to be applied. In respect of daylight and sunlight it stresses the need to make optimal use of sites and to take a flexible approach to daylight and sunlight guidance. Para 125 States: -
- 4.6.2 11. Making effective use of land

Achieving appropriate densities

"125. Where there is an existing or anticipated shortage of land for meeting identified housing needs, it is especially important that planning policies and decisions avoid homes being built at low densities, and ensure that developments make optimal use of the potential of each site. In these circumstances: -

c) 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."

4.7 Appeal Decision for The Whitechapel Estate (Ref: APP/E5900/W/17/3171437) - The Planning Inspectorate (2017)

4.7.1 In his decision to overturn the Local Authority's reasons for refusal and to grant planning permission, the inspector commented on daylight and sunlight as follows:-

"112. The figures show that a proportion of residual Vertical Sky Component ('VSC') values in the mid-teens have been found acceptable in major developments across London. This echoes the Mayor's endorsement in the pre-SPG decision at Monmouth House, Islington that VSC values in the mid-teens are acceptable in an inner urban environment. They also show a smaller proportion in the bands below 15%. Even if there were some discrepancy in the appellants' figures for this lower band at Whitechapel Central, which is disputed, the VSC outcomes for the appeal proposal would in general be very similar to those of the other major schemes. The appeal proposal would therefore appear to be in compliance with the LP as amplified by the SPG and as it is being interpreted by the Mayor. The GLA responses to the planning application did not raise any concern about neighbours' amenity."

"113. I acknowledge that a focus on overall residual levels could risk losing sight of individual problem areas. It is accepted that light is only one factor in assessing overall levels of amenity, but I consider that the trade-off with other factors, such as access to public transport or green space, is likely to be of more relevance to an occupier of new development than to an existing neighbour whose long-enjoyed living conditions would be adversely affected by new buildings. However, I also consider that Inner London is an area where there should generally be a high expectation of development taking place. This is particularly so in the case of the appeal site, where the WVM and the OAPF have flagged the desirability of high density development. Existing residents would in my view be prepared for change and would not necessarily expect existing standards of daylight and sunlight to persist after development."

"125. I conclude that the proposal would result in some significant individual reductions in daylight and sunlight levels, but that this is almost unavoidable in

achieving the policy requirement for high density development in a confined urban setting. The new buildings would for the most part be comparable in height with the existing and would re-define traditional street frontages. Retained levels of daylight and sunlight would be adequate and comparable with existing and emerging urban conditions. The effects would appear very comparable with those recently allowed by the Council at Whitechapel Central. There would be minimal adverse losses of outlook and increases in overlooking. Taken as a whole, the proposal would not result in unacceptably harmful effects on living conditions and would comply with the development plan in this respect."

5 Sources of Information & Assumptions

- 5.1.1 An architects 3D model and ordnance survey data have been used to create a 3D computer model of the proposed development in the context of the existing site and surrounding buildings.
- 5.1.2 Where survey or planning information was unavailable, the position of the neighbouring property elevations has been estimated based upon brick counts from site photographs. Window positions and dimensions used directly affect the results of all assessment methods.
- 5.1.3 Where possible neighbouring building use has been identified via online research, including Valuation Office Agency (VOA) searches, and/or external observation.
- 5.1.4 The full list of source of information used in this assessment is as follows: -

5.2 Plus Architecture

Proposed 3D model

211_PLUS_Ar_M3_WHOLE SITE_PHASE 1.dwg

Xref 01 - sketch landscape design.dwg

Received 21/04/14

5.3 Promap

Ordnance Survey

6 The Site and Proposal

6.1.1 The site is located within Brunswick Park Ward in the east of the London Borough of Barnet and is bound by the East Coast Mainline railway along the entire western boundary, whilst the New Southgate Cemetery is adjacent to the eastern boundary.

6.1.2 The existing buildings on site provide a mix of uses including 4 buildings primarily providing office accommodation, ranging between 1 and 4-storeys in height, with the remaining buildings serving as a school and the northernmost building occupied for a variety of purposes such as function / conference rooms and a nursery.

6.1.3 The site benefits from an existing hybrid masterplan consent for the comprehensive redevelopment of the North London Business Park site to deliver a residential-led mixed use development. This application was allowed at appeal in 2020 (planning ref: 15/07932/OUT; appeal ref: 15/07932/OUT) and comprised the following:

'Detailed planning consent for 360 residential units in five blocks reaching eight storeys, the provision of a 5 form entry secondary school, a gymnasium, a multi-use sports pitch and associated changing facilities and improvements to open space and transport infrastructure, including improvements to the access from Brunswick Park Road;

and,

Outline consent for a development of 990 additional residential units in buildings ranging from two to nine storeys, up to 5,177 sqm of non-residential floor space (use Classes A1-A4, B1 and D1) and 2.54 hectares of open space. Associated site preparation/enabling work, transport infrastructure and junction work, landscaping and car parking'.

6.1.4 The application was amended involving the provision of 10% Affordable Housing across the site with an overall increase in the proposed number of housing units from 1,200 to 1,350. The tallest buildings have been reduced in height from 11 to 9 storeys with some buildings along the boundary of the rail line increased from 7 to 9 storeys.

6.1.5 The current proposal is an extension to the existing masterplan consent providing additional height to some of the blocks and comprises the following:

'Hybrid planning application for the phased comprehensive redevelopment of the North London Business Park to deliver a residential-led mixed use development. The detailed element comprises up to 461 residential units in five blocks reaching 9 storeys, the provision of a 5 form entry secondary school, a gymnasium, a multi-use sports pitch and associated changing facilities and improvements to open space and transport infrastructure, including improvements to the access from Brunswick Park Road and; the outline element comprises up to 1,967 additional residential units in buildings ranging from three to twelve storeys, up to 7,148 sqm of non-residential floor space (use Class E) and 20,250sqm of open space. Associated site preparation/enabling work, transport infrastructure and junction work, landscaping and car parking'.



Image 1 - 3D view of the consented scheme and context with the blue areas indicating the additional accommodation proposed in the current application

7 Assessment results

7.1 Daylight and Sunlight Results

7.1.1 Full results of the daylight and sunlight assessments are attached within the following appendices:

Appendix 1 – Internal Façade Study to the Proposed Elevations to Blocks 4A, 4C & 5A

Appendix 2 – Sunlight Amenity / Overshadowing Assessment to the proposed courtyards and podiums within the scheme

7.1.2 Detailed commentary in respect of these daylight and sunlight assessments is set out below.

Façade Analysis

7.1.3 In respect of the outline areas of the scheme where only massing parameters have been fixed the design of room layouts, façade detail and window locations are not yet confirmed. To consider the potential daylight levels for the future units within these spaces we have undertaken a 'façade study' considering Vertical Sky Component level (VSC) at a series of points on a grid to each of the main façades at 1.6m above the floor level, no more than 5 m apart. This is useful for informing the massing design of the scheme and helps to ensure good levels of amenity will be enjoyed within the proposed accommodation.

7.1.4 Given the northern areas of the site form part of the outline application, we have completed this façade analysis for Blocks 4A, 4C & 5A to consider the difference in daylight levels between the already consented position and the current uplift proposals. The results of this façade study are illustrated in appendix 1.



Image 2 - Outline buildings considered for the façade analysis

Block 4A

- 7.1.5 The results to Block 4A show that the northern and southern outward facing elevations will enjoy the highest daylight levels in excess of 27% VSC. The inward facing units overlooking the courtyard and elevations facing the neighbouring proposed blocks will inevitably be more constrained due to their design with the most sensitive pinch points being the courtyard corners to the northeast and southeast indicated by the small areas of purple / blue. The remaining elevations generally retain VSC levels between the mid-teens upwards (c.15-27%) and are commensurate for an urban environment.
- 7.1.6 When considering the difference in VSC pattern between the consented scheme and the uplift scheme, levels will reduce slightly in the uplift condition due to the marginal increase in height. Whilst lower VSC levels extend slightly further up the façade the pattern of VSC distribution is not significantly worse than the consented condition such that there would not be material additional design constraints to the future residential units.
- 7.1.7 In the isolated instances where levels are below the mid-teens region, these are limited to the lowest levels where commercial spaces are anticipated which would be deeper and more reliant on artificial lighting. Additionally, the internal courtyard corners are generally more constrained although this is similar in the consented position. It is common for circulation and less sensitive uses to be planned to these more sensitive areas in order to mitigate these constraints through design.

Block 4C

- 7.1.8 Block 4C demonstrates similar constraints to block 4A due to the internal adjacencies to the lower levels of the courtyard as well as where the external elevations face the other blocks within the wider masterplan proposals.
- 7.1.9 The western façade enjoys the highest levels where it enjoys unobstructed outlook across the railway line with VSC levels in excess of 27%.
- 7.1.10 While the outward facing elevations experience some reduced VSC levels to the lowest levels, generally the VSC levels to the facades are between the mid-teens to low 20s. Where levels fall below this, these are isolated to the lowest level or corners of the courtyard where it is common to position less sensitive spaces.
- 7.1.11 Again, there is a modest difference in the pattern of VSC distribution between the consented and proposed uplift scheme. These changes are not however significant differences that would pose constraints on future detailed design. The majority of upper levels enjoy VSC levels in the mid-teens upwards and any areas where VSC levels are reduced between the consented scheme and uplift proposals could be mitigated though careful internal design and maximising the glazing to more constrained areas.

Block 5A

- 7.1.12 Block 5A is a similar courtyard design but is greater in length along the north to south direction. Again, the western façade enjoys the highest levels of amenity in excess of 27% due to its open outlook.
- 7.1.13 Most of the VSC levels across the façade extend from the mid-teens VSC upwards and are thus considered typical for an urban location. The southern / northern elevations around the perimeter of the building are more constrained where they face neighbouring blocks such that careful design of both the units and façade detail will be required. which
- 7.1.14 Again, there is limited difference in VSC levels between the consented scheme and the proposed uplift scheme. There are marginal shifts from the already consented position where the VSC levels fall slightly to a moderately higher level in the building however this would not add significant constraints to the detailed design of the units in these areas or materially impact their use / amenity.
- 7.1.15 Overall, whilst there will be a degree of shift in the daylight patterns higher up the building as a result of the uplift scheme when compared with the consented scheme position, the vast majority of areas retain VSC levels between the mid-teens upwards and are considered appropriate for an urban location.
- 7.1.16 Where greater constraints do occur and areas are below this level, these are limited to isolated pinch points and are similar between the existing and consented position. Such constraints to the lower floors of buildings and within the internal corners of blocks are typical of courtyard development and may be addressed through considered detailed design. The shift in retained VSC levels as a result of the uplift proposals is minor such that the scheme is in line with the targets set out in appendix F of the BRE guidance with amenity levels being commensurate with the previously consented scheme.

Sunlight Amenity / Overshadowing Assessment

- 7.1.17 The BRE guide defines criteria by which to assess the amenity to open spaces using the sunlight availability test. This test quantifies the area of each space that receives at least two hours of sunlight on the 21st March. The 21st March is chosen as it represents the mid-point of the sun's position throughout the year.
- 7.1.18 The guidance suggests that, for a space to appear well-sunlit throughout the year, at least 50% of its area should receive two or more hours of sunlight on the 21st March.
- 7.1.19 The sunlight availability test applies to open landscaped areas and we have therefore assessed the sunlight availability to the shared amenity space located at podium level.
- 7.1.20 As the arrangement of the podium levels are already consented as part of the earlier outline application we have again, considered the additional shading effects that the

proposed extensions will have on the courtyard spaces. These results are set out in appendix 2.

- 7.1.21 Given the density of the scheme and the number of courtyards, this inevitably leads to shading / lower sun lighting levels on the 21st March (equinox) below the BRE target levels particularly to the southern courtyards at 1D & 1C, 4A & 4C, 5A and 3A to the north.
- 7.1.22 When we consider the difference in shading between the already consented position and the uplift proposals the additional areas of the courtyard that experience 2+ hours of shading on the assessment date is very limited. The image below illustrates that any additional shading is isolated to small pockets in the northwest of the courtyards or a strip of shading across podium 5A (as indicated by the blues areas in the sun contour diagram below). Such changes are unlikely to materially affect the overall amenity or use of the spaces.

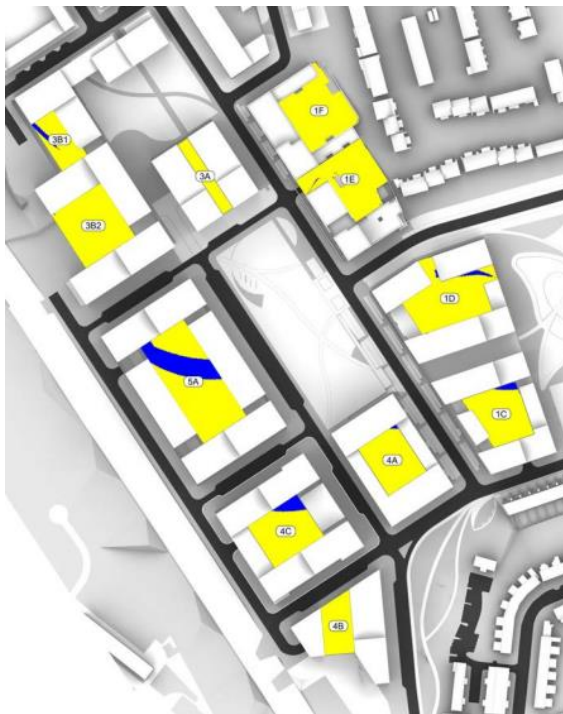


Image 3 - Difference in shading between the consented and proposed condition (21st March)

- 7.1.23 In addition to the assessments on the 21st March, we have considered the sunlight / shading on the 21st June (summer) representing the summer months when the podium areas are likely to be most utilise. Our results show that all but one of the areas will enjoy more than 2hrs of sunlight to at least 50% of the area with very little difference in shading between the consented and uplifted scheme (shown below). The 1 area below the target of 50% is an extremely minor / unnoticeable reduction in sunlight to Area 3A equating to just 4% loss.



Image 4 - Difference in shading between the consented and proposed condition (21st June)

7.1.24 Overall, whilst the additional height will lead to a modest increase in shading within the courtyards, the shift between the consented / proposed position is not considered to result in a material shift in amenity levels. The additional effects are generally limited and the courtyards themselves will enjoy higher levels of sunlight in the summer when the space will be most utilised. The residents will also have access to the additional park space throughout the scheme at New Brunswick Park (South & North) and Brunswick Lakeside Park so there will be additional areas provided within close vicinity to enjoy greater levels of sunlight in the earlier parts of the year.

8 Conclusions

- 8.1.1 This practice has undertaken an assessment of the potential daylight / sunlight effects of the latest Plus Architecture proposals at North London Business Park against the extant planning consent at the site.
- 8.1.2 Our assessments have considered at the additional VSC effects of the latest uplift scheme to the proposed facades of the outline application. In addition to these assessments, we have also considered the additional shading that will occur to the shared amenity space at the podium levels across the proposed development.

8.2 Façade Analysis

- 8.2.1 Our façade study for Blocks 4A, 4C & 5A has been undertaken using the Vertical Sky Component (VSC) criteria set out within the BRE guidance 'Site layout planning for daylight and sunlight: A guide to good practice' (2011). It is important to reiterate that whilst the BRE gives numerical guidelines, these should be interpreted flexibly as daylight and sunlight is just one of the many factors in site layout design. The BRE and national planning policy also acknowledge that alternative targets may be appropriate for modern developments where higher degrees of obstruction are somewhat inevitable and if the site is to be fully optimised for housing delivery.
- 8.2.2 The results of our VSC façade study show that there will be changes in the retained daylight patterns across the proposed facades between the consented and proposed position though the shift in VSC pattern is generally marginal and unlikely to significantly change the pattern of use / amenity of the proposed units where the majority of the elevations continue to demonstrate VSCs in the mid-teens region and upwards (c.15%-27%) and thus in excess of the levels commonly accepted on developing urban locations. Where lower VSC levels are apparent, these are generally limited to the lowest levels where commercial units could occupy or tight corners within courtyards where less sensitive rooms such as circulation or bedrooms could be placed.
- 8.2.3 The latest proposals therefore show that there is potential for the proposed scheme to achieve high levels of compliance for internal daylighting through careful design and enjoy amenity levels similar to the already consented condition.

8.3 Sunlight Amenity / Overshadowing

- 8.3.1 The assessment of sunlight amenity / overshadowing has been undertaken using the BRE's '2-hour sun contour' assessment. This considered the difference in shading between the already consented position and the latest proposed uplift scheme.
- 8.3.2 Our assessments show that there will be further shading to the podium levels as a result of the additional storeys though the difference between the already consented levels is generally marginal and unlikely to materially impact the use / enjoyment of

the space.

- 8.3.3 Our additional assessments undertaken on 21st June show that all of the residential courtyards will enjoy higher levels of sunlight during the summer when the amenity space is more likely to be used with limited additional shading as a result of the latest proposals. Moreover, the provision of additional public amenity / park space within the wider parts of the scheme would help to offset the lower sunlighting levels to the southern podiums in the earlier months of the year and would mean that the residents will have access to well sunlit amenity space throughout the year.
- 8.3.4 Overall, the effects of the additional storeys proposed are not considered to result in an unacceptable level of harm and the amenity levels are broadly considered in line with the already consented position in respect of daylight and sunlight amenity.



Appendix 1

Results of the VSC Façade Analysis



Fig. 1: Consented Scenario



Fig. 2: Uplift Scenario

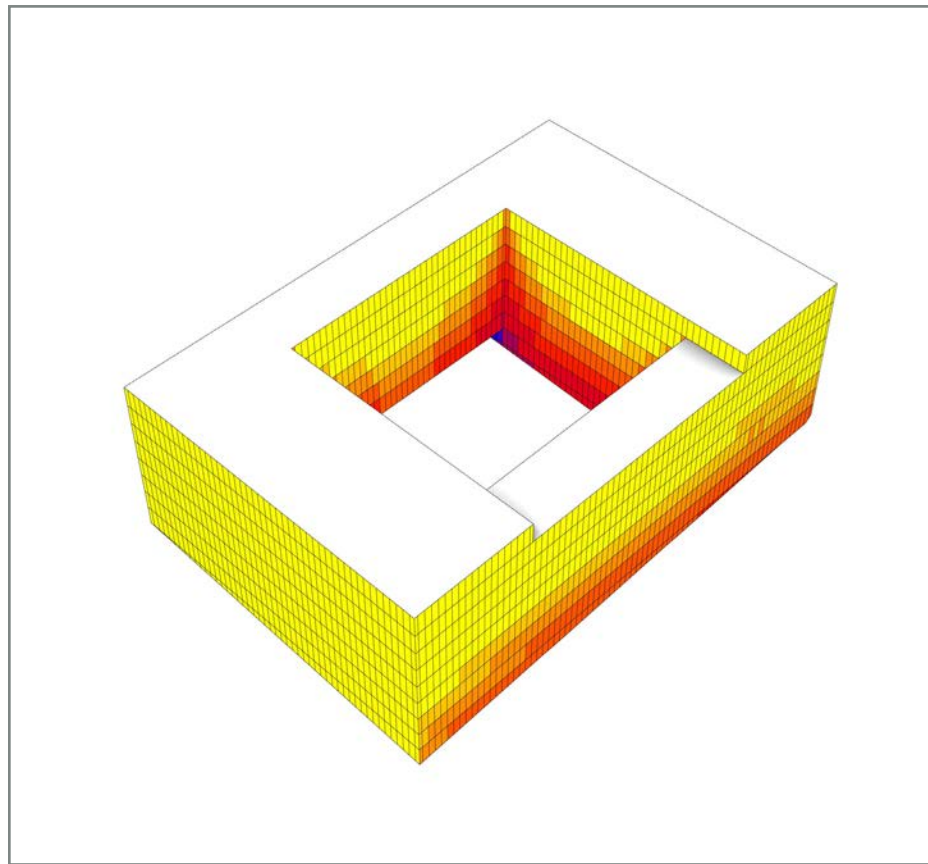


Fig. 3: V1 - Consented Scenario

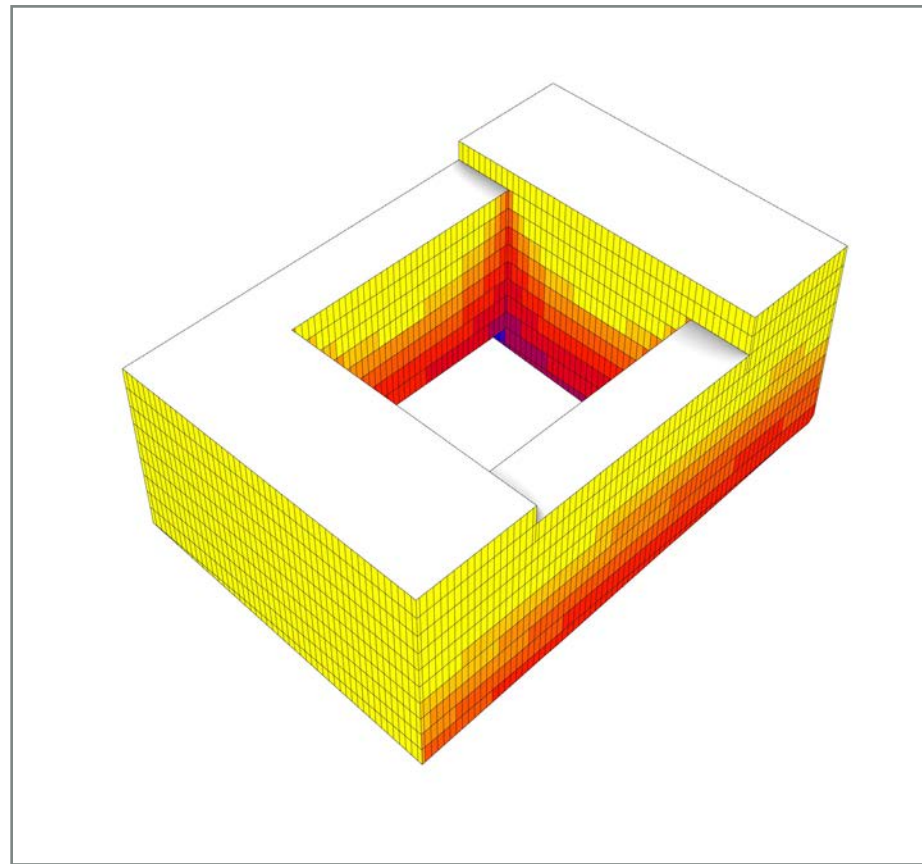


Fig. 4: V1 - Uplift Scenario

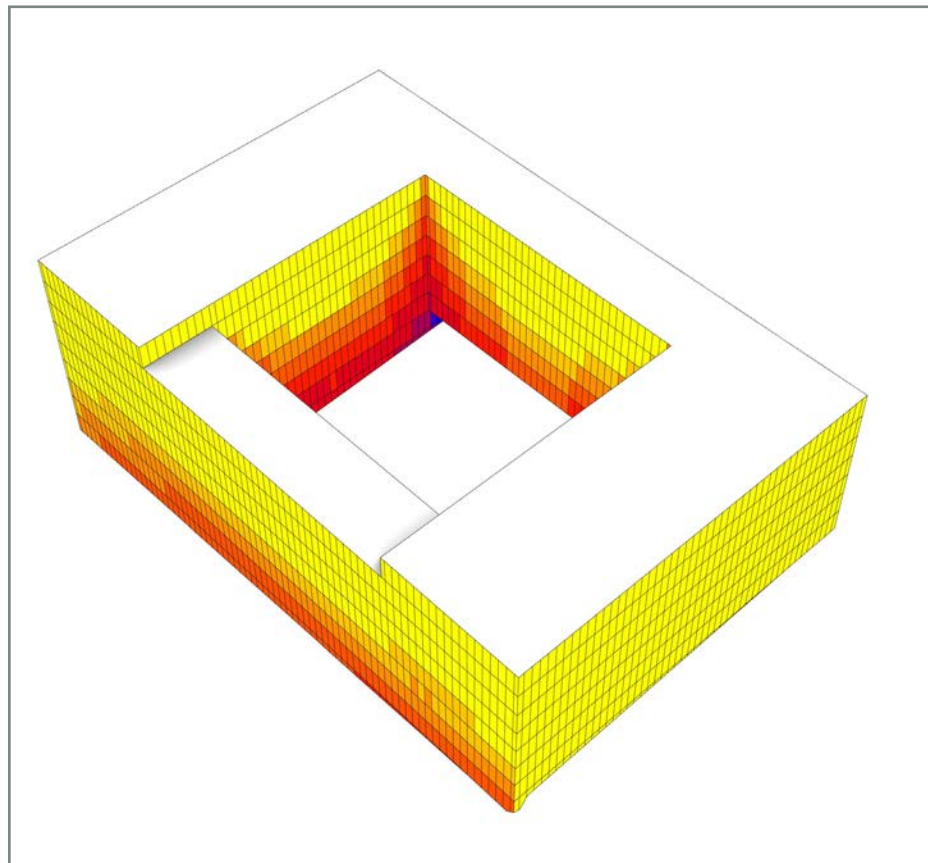
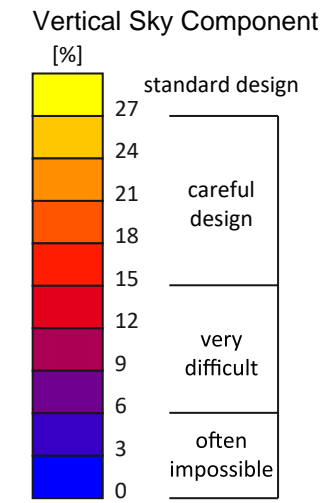


Fig. 5: V2 - Consented Scenario

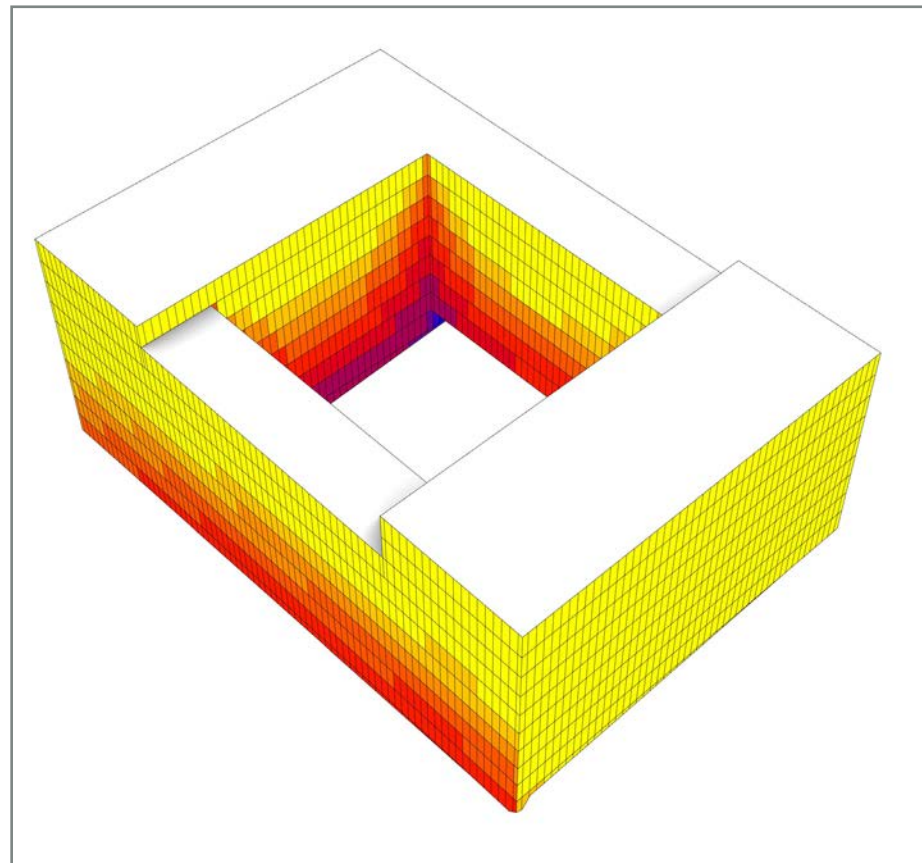
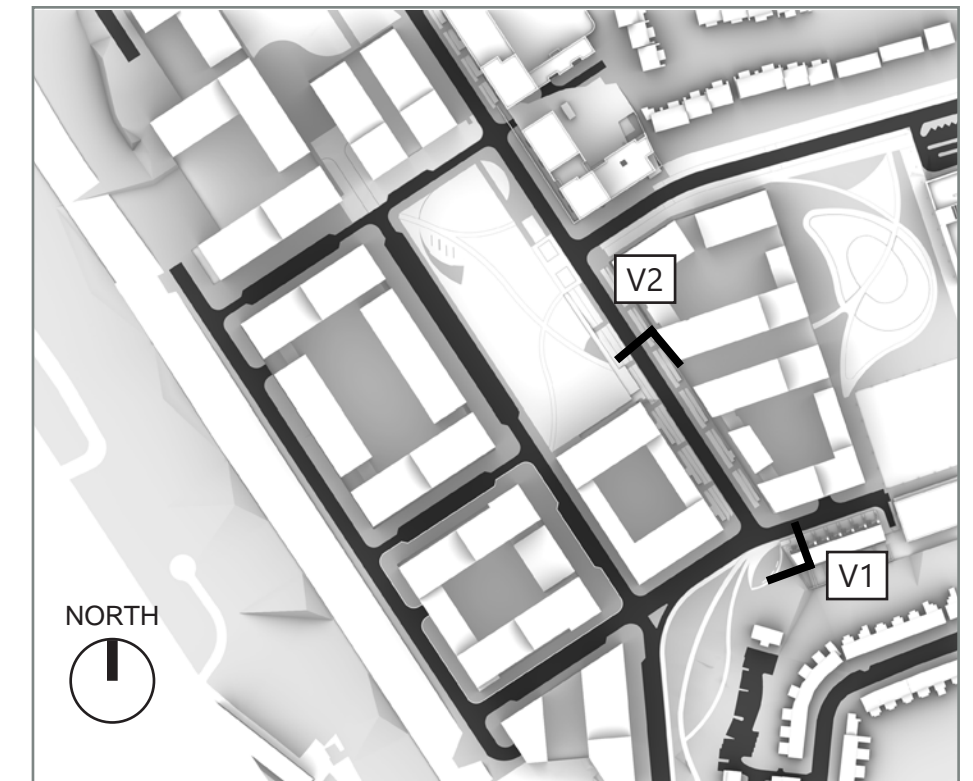


Fig. 6: V2 - Uplift Scenario



Reference Plan

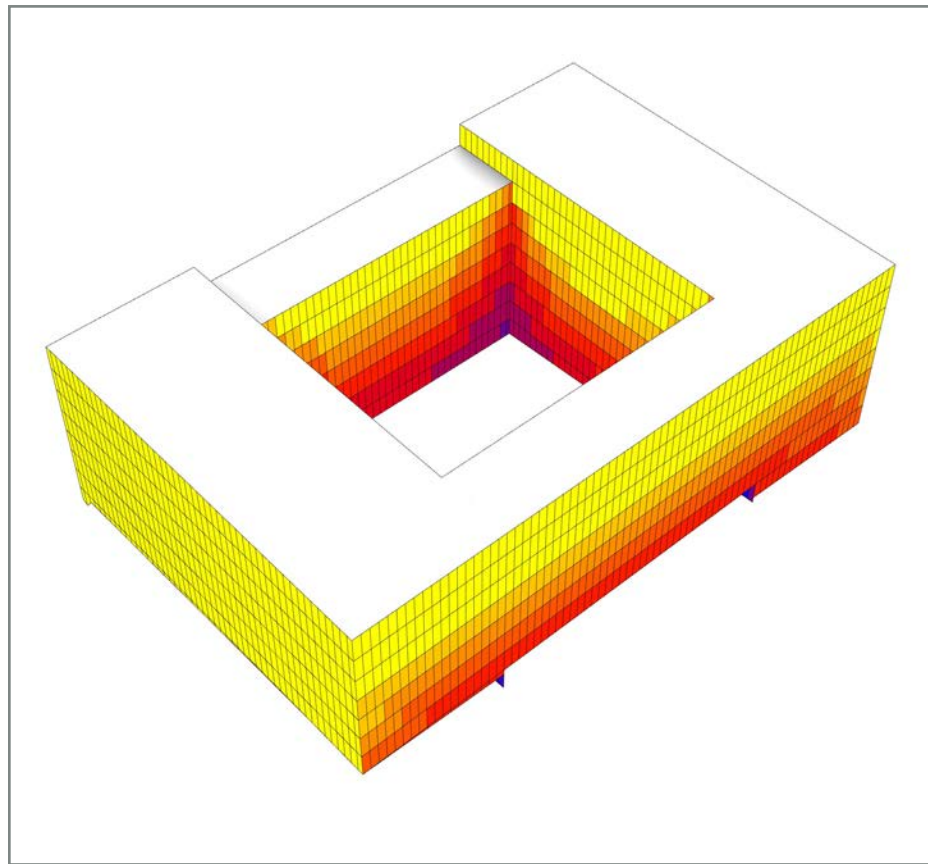


Fig. 7: V3 - Consented Scenario

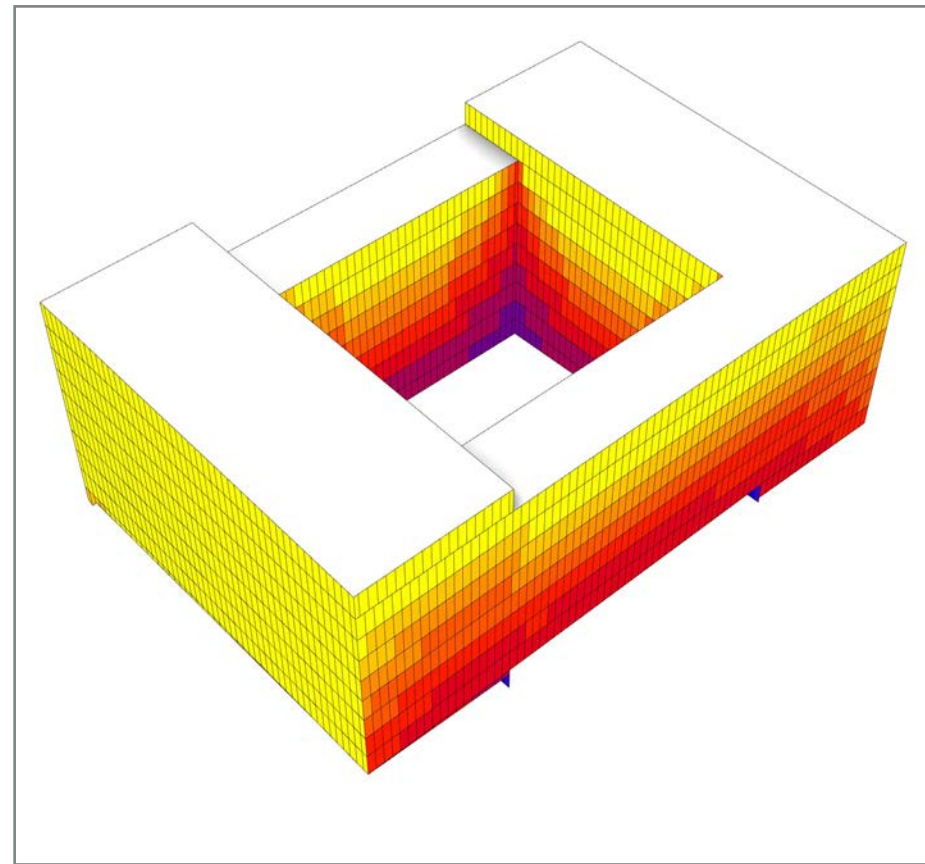


Fig. 9: V3 - Uplift Scenario

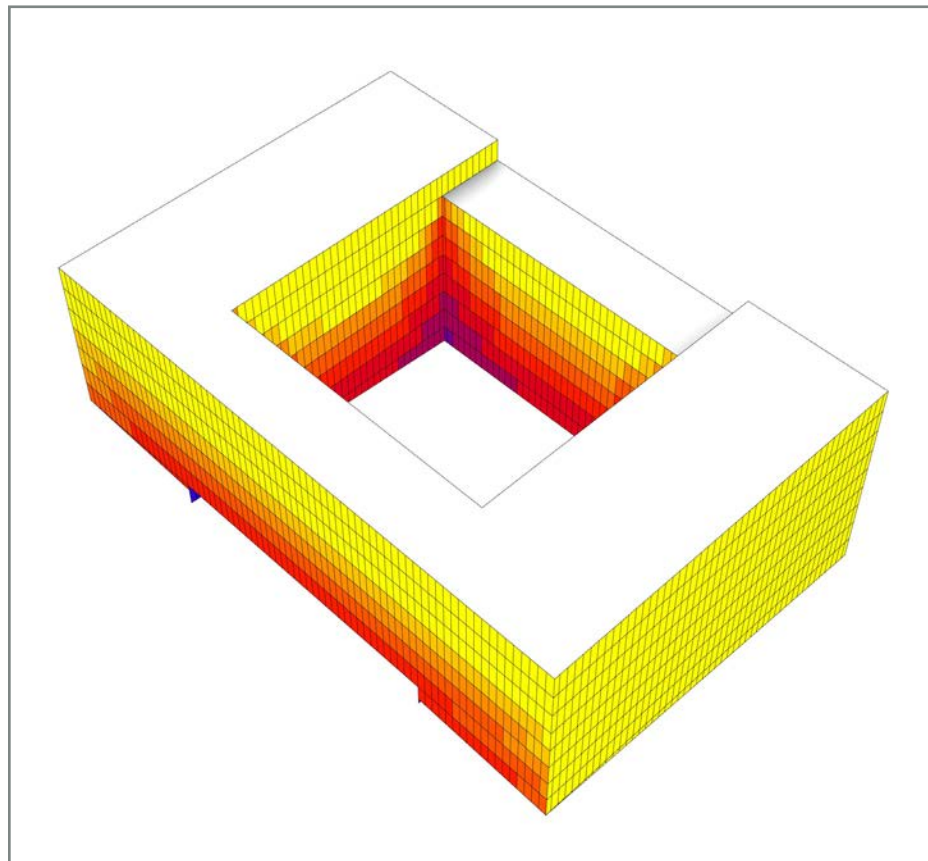
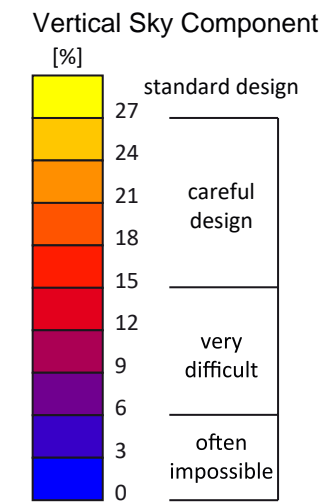


Fig. 8: V4 - Consented Scenario

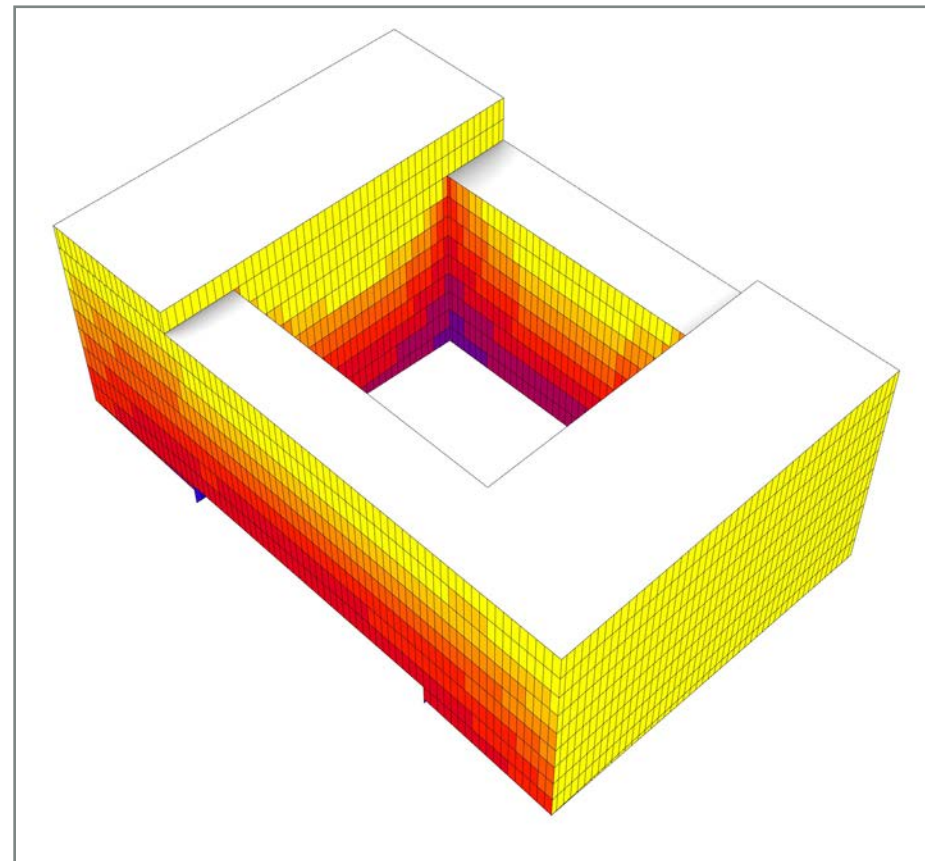
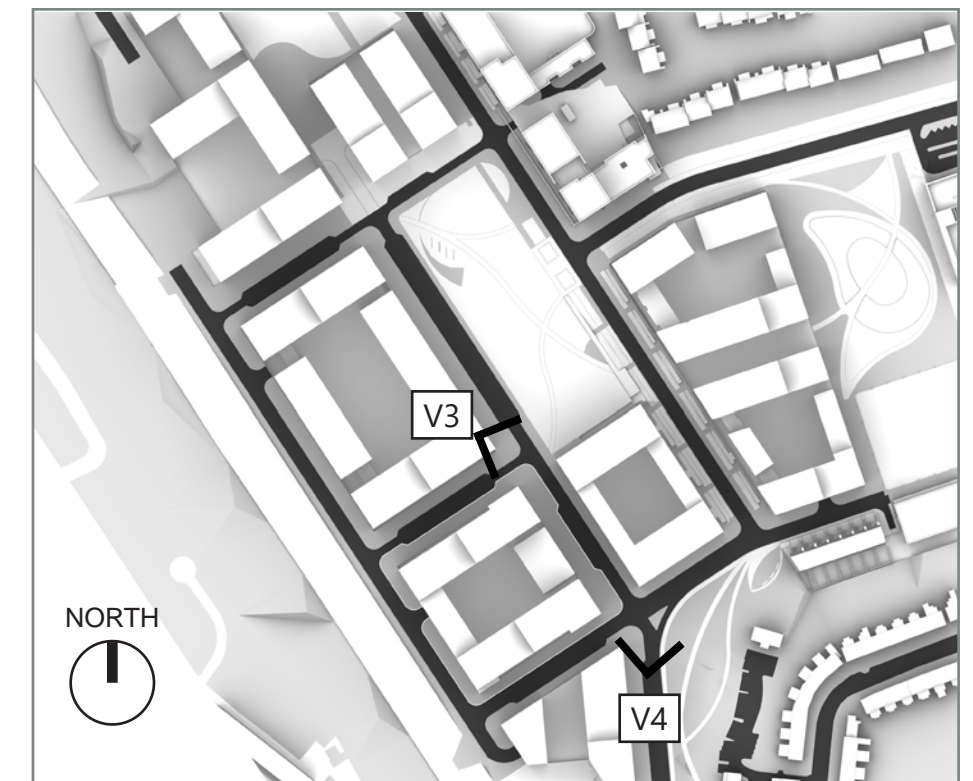


Fig. 10: V4 - Uplift Scenario



Reference Plan

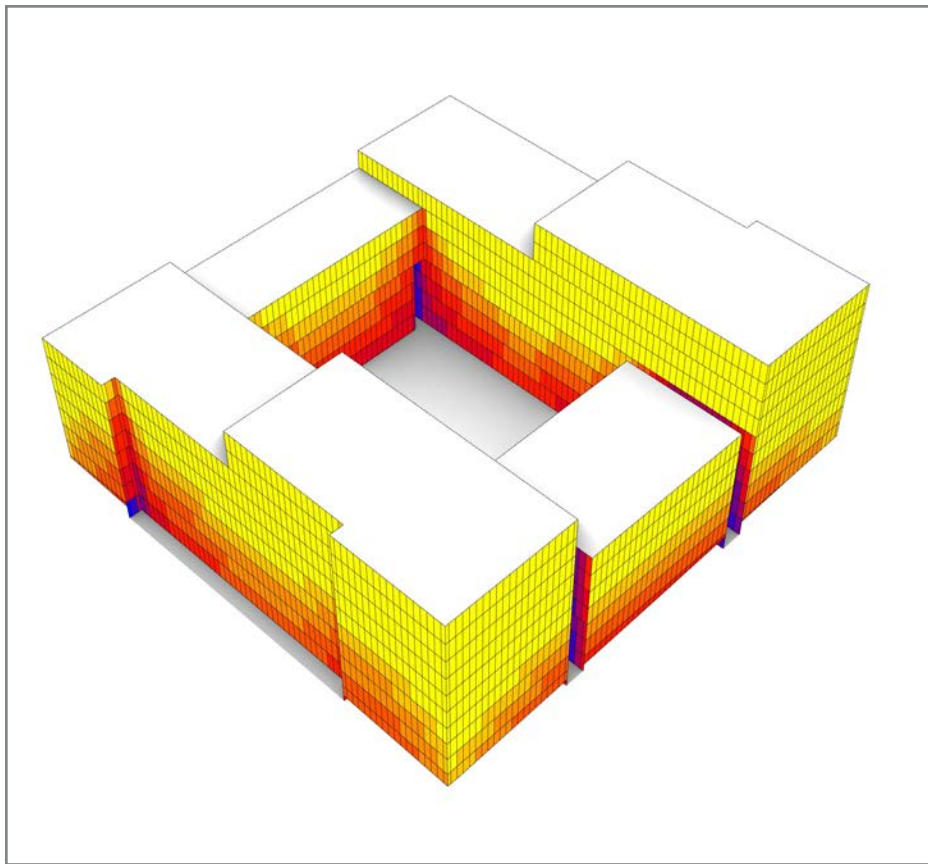


Fig. 11: V1 - Consented Scenario

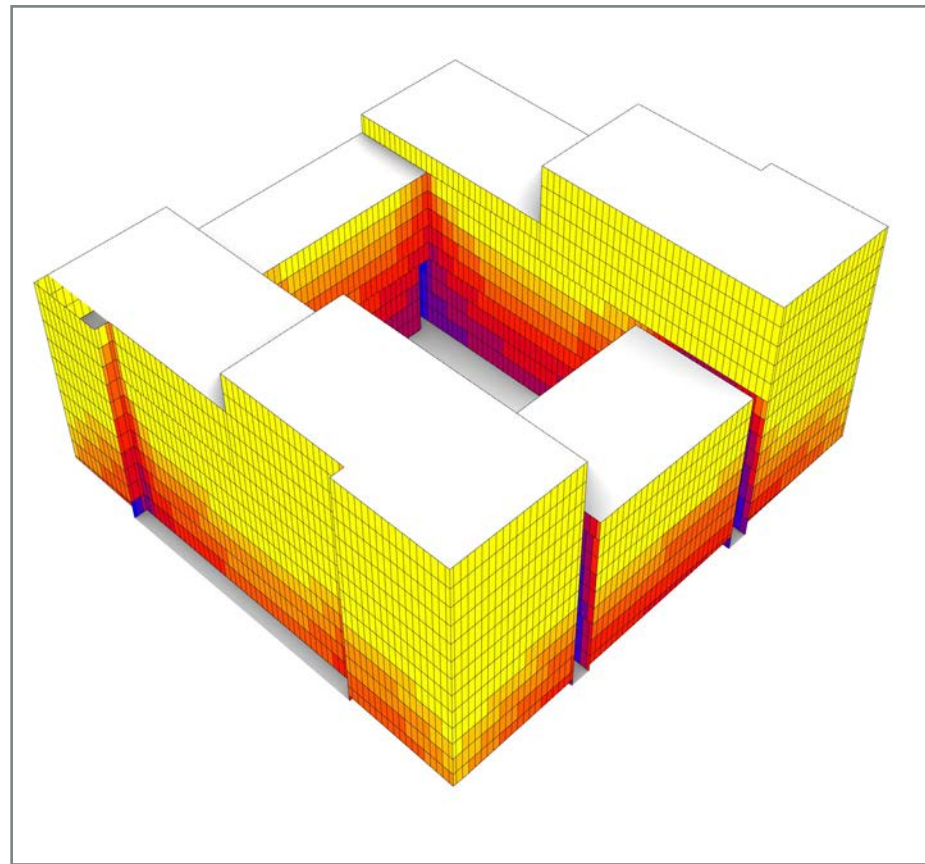


Fig. 13: V1 - Uplift Scenario

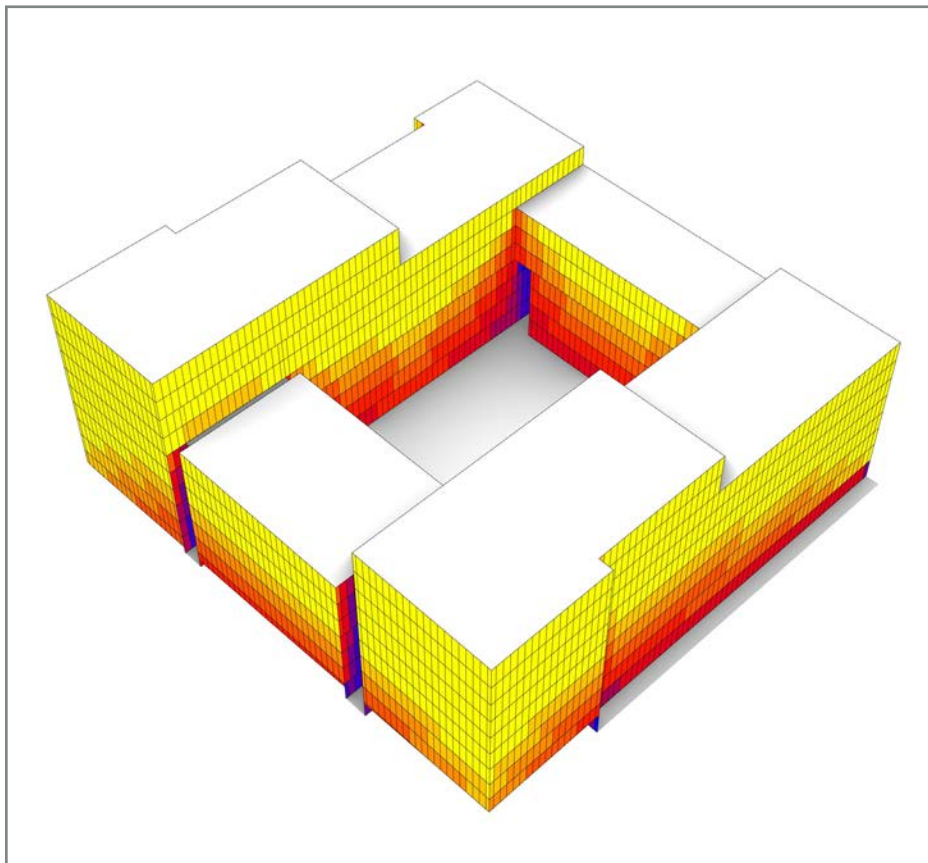
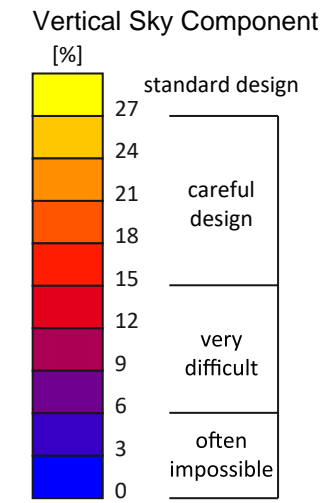


Fig. 12: V2 - Consented Scenario

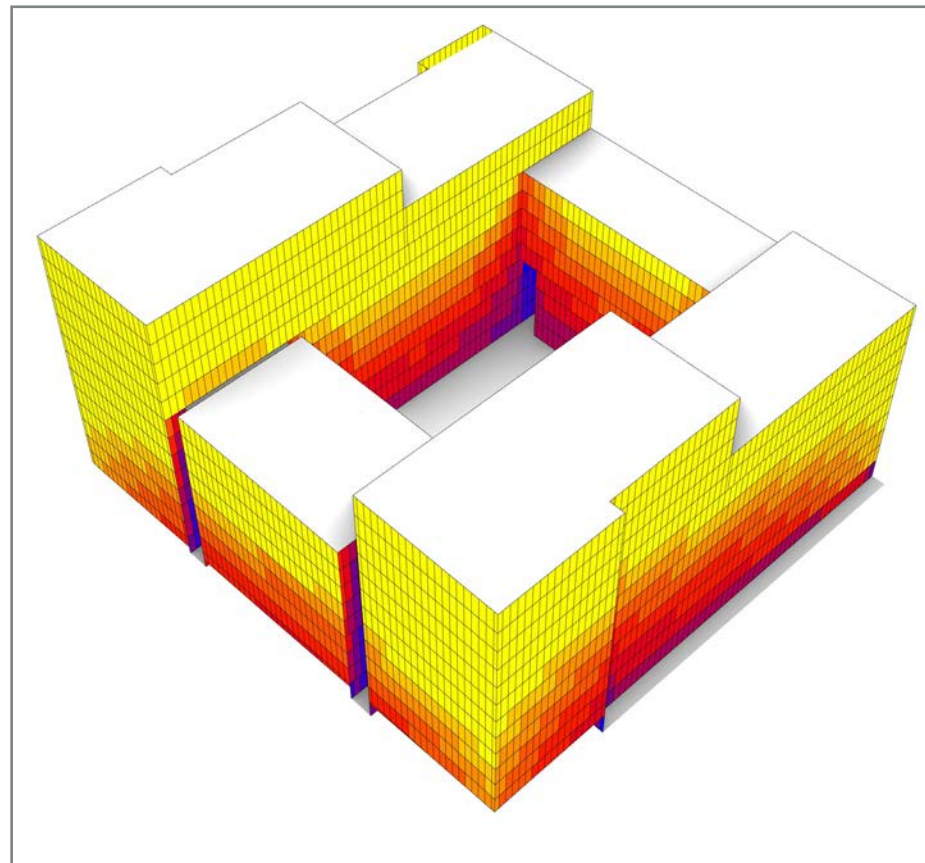
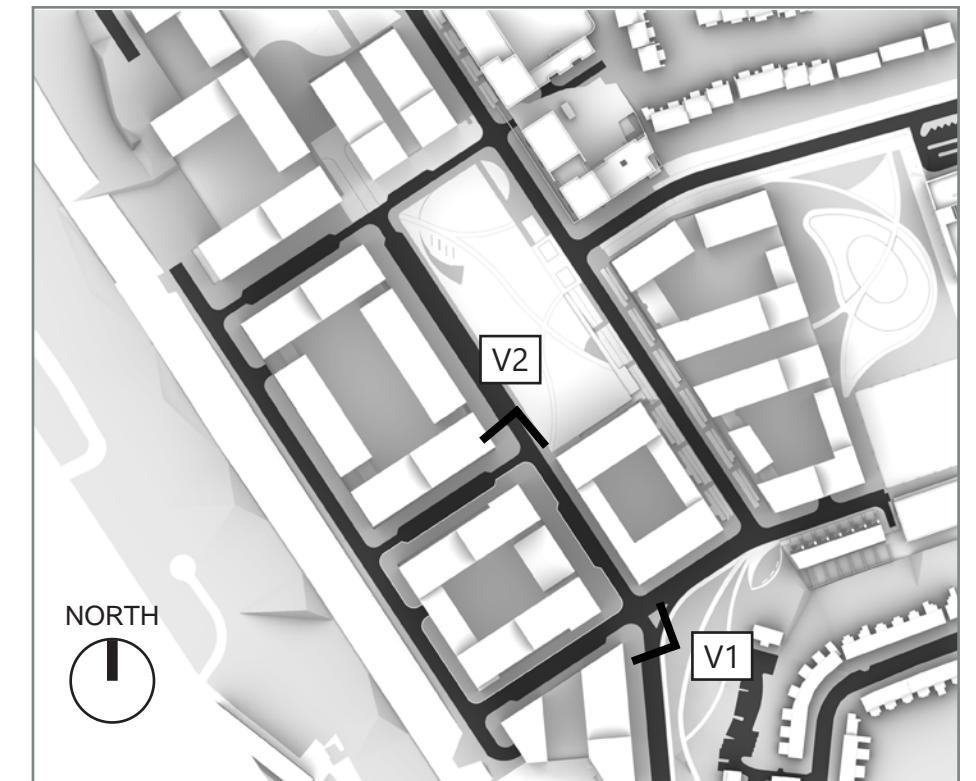


Fig. 14: V2 - Uplift Scenario



Reference Plan

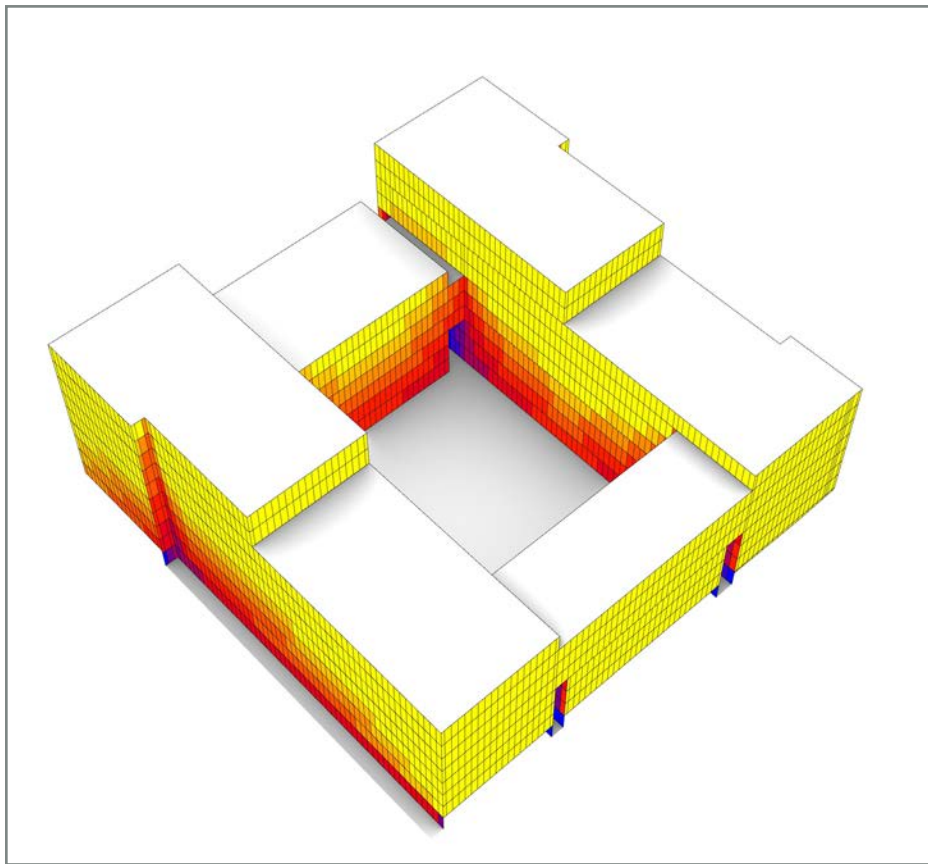


Fig. 15: V3 - Consented Scenario

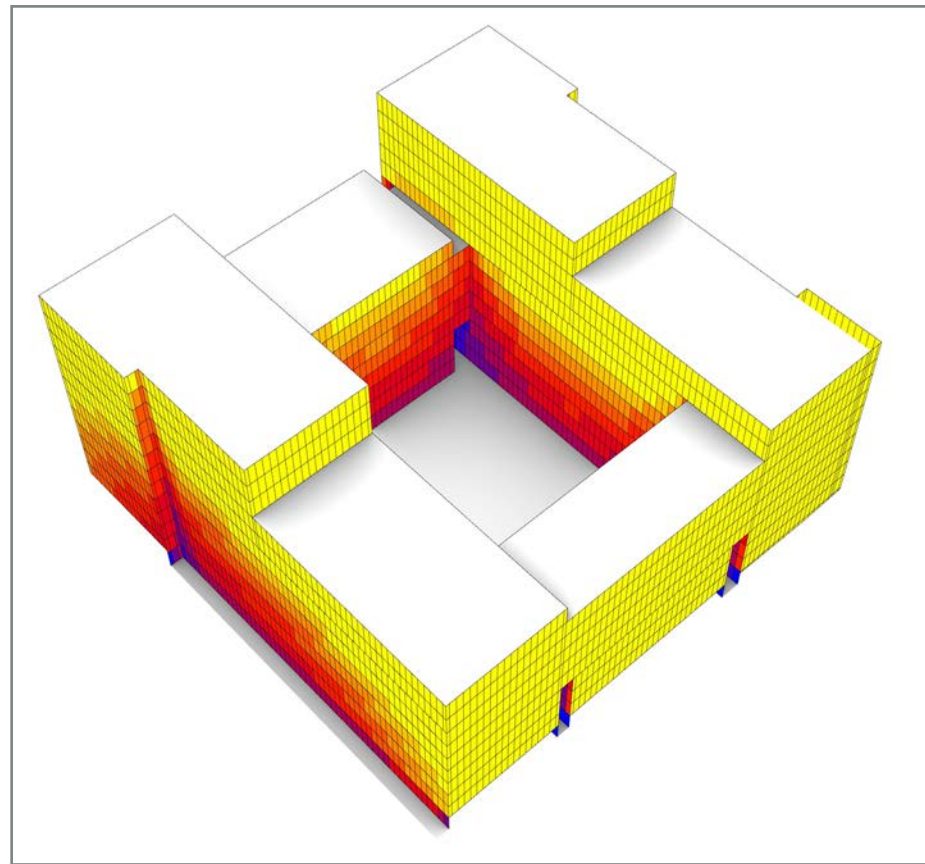


Fig. 17: V3 - Uplift Scenario

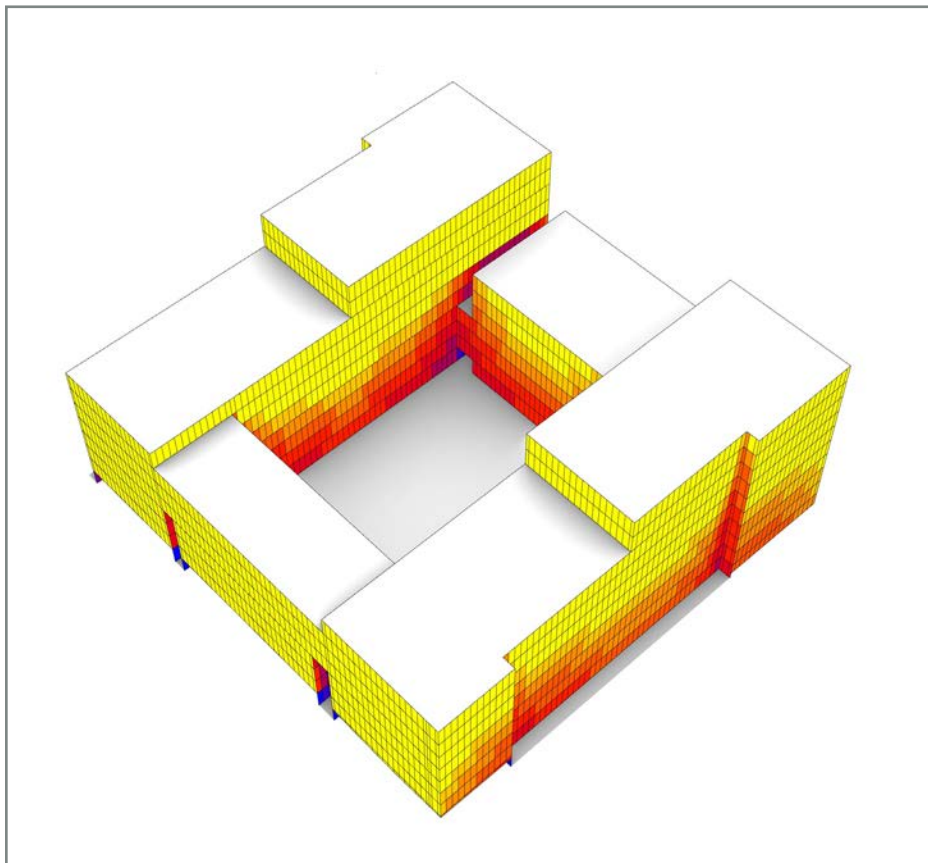
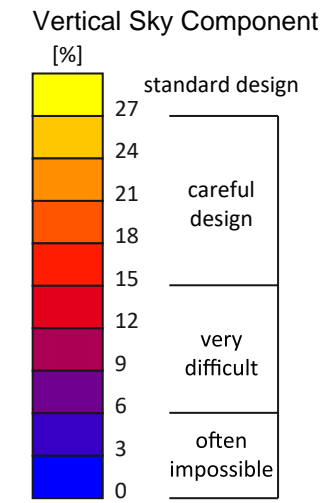


Fig. 16: V4 - Consented Scenario

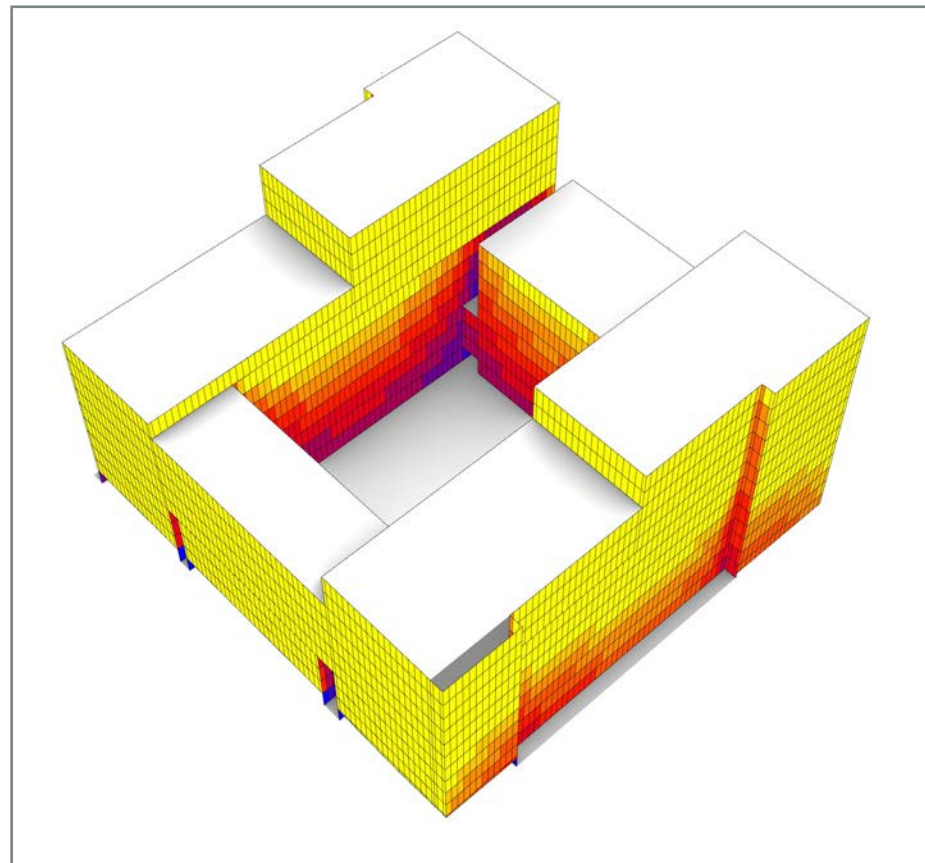
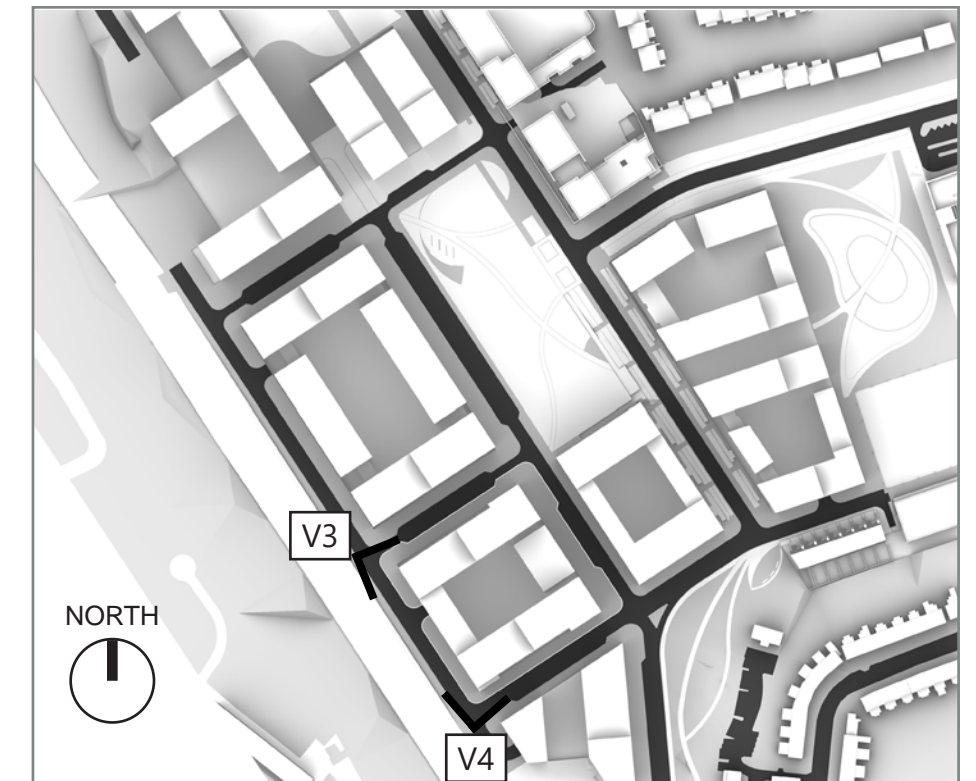


Fig. 18: V4 - Uplift Scenario



Reference Plan

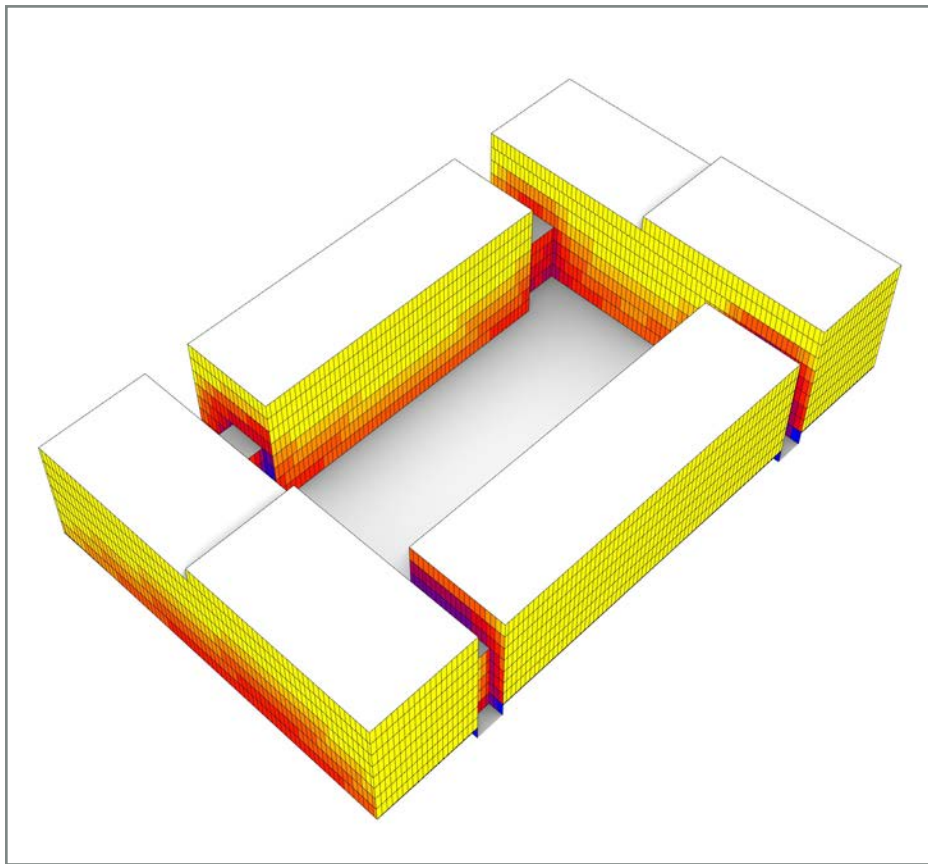


Fig. 19: V1 - Consented Scenario

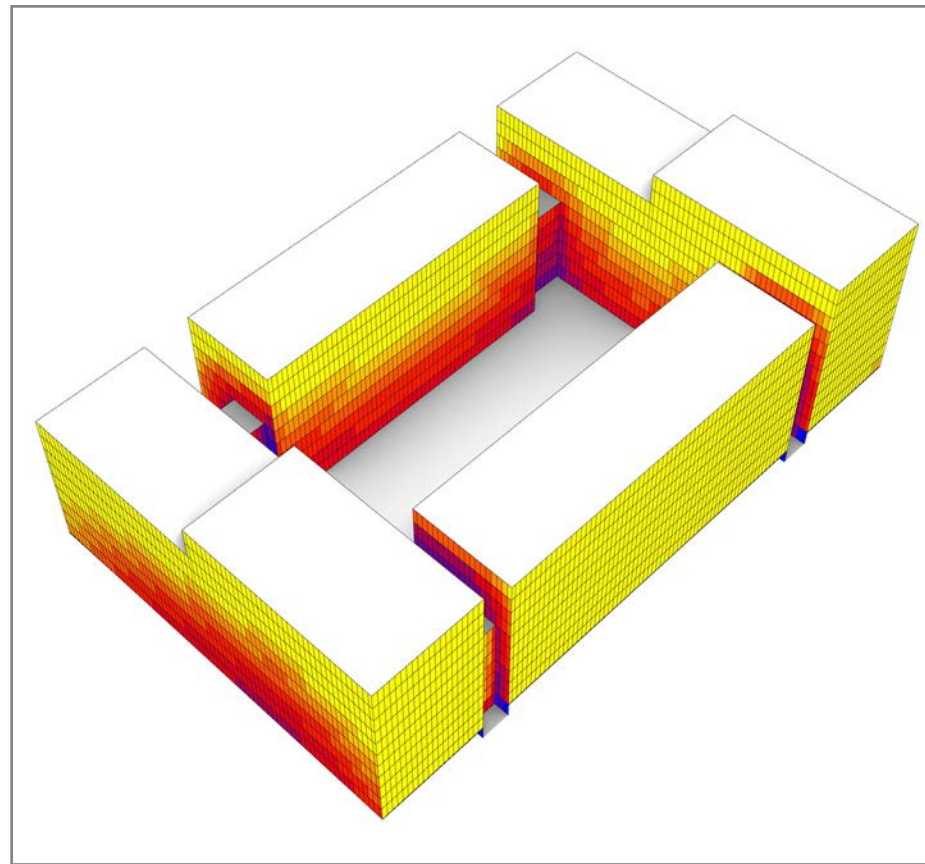


Fig. 21: V1 - Uplift Scenario

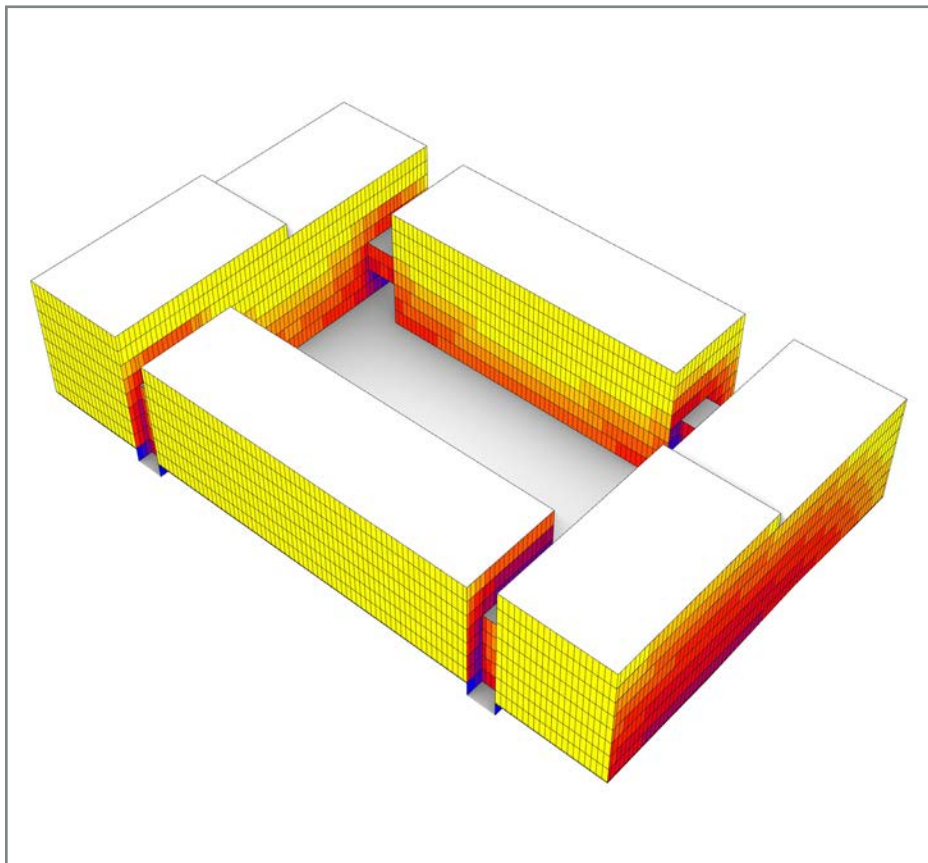
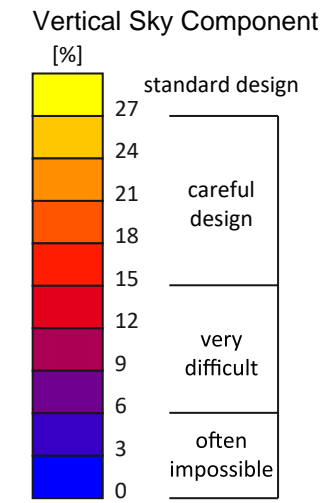


Fig. 20: V2 - Consented Scenario

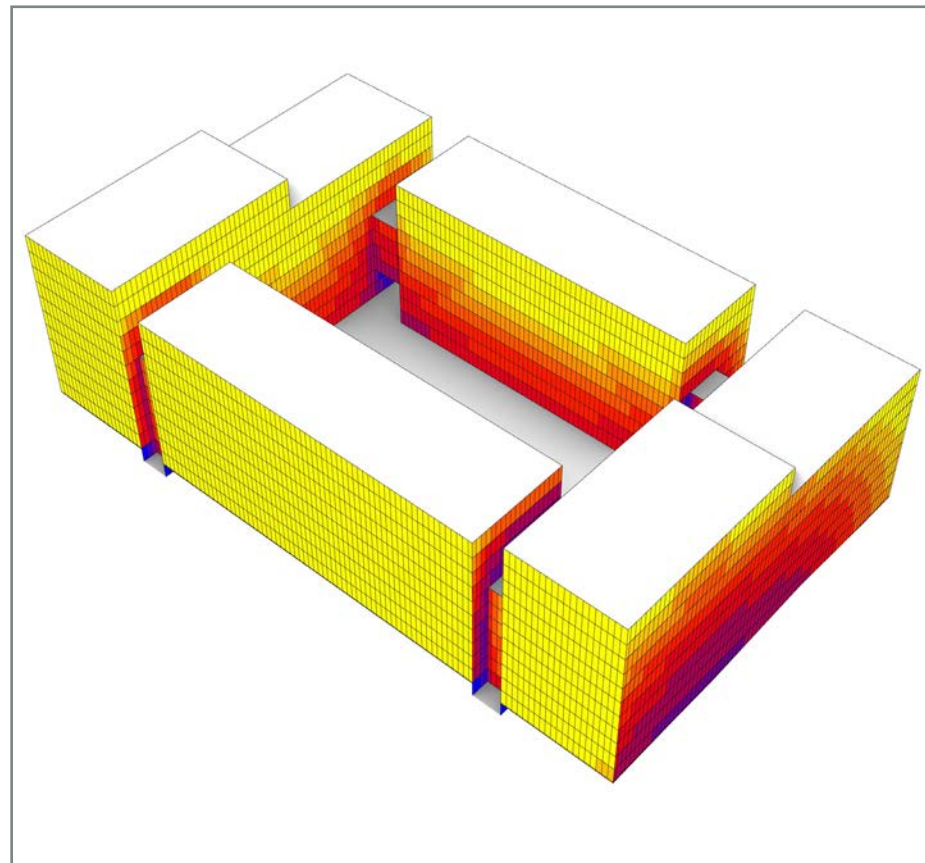
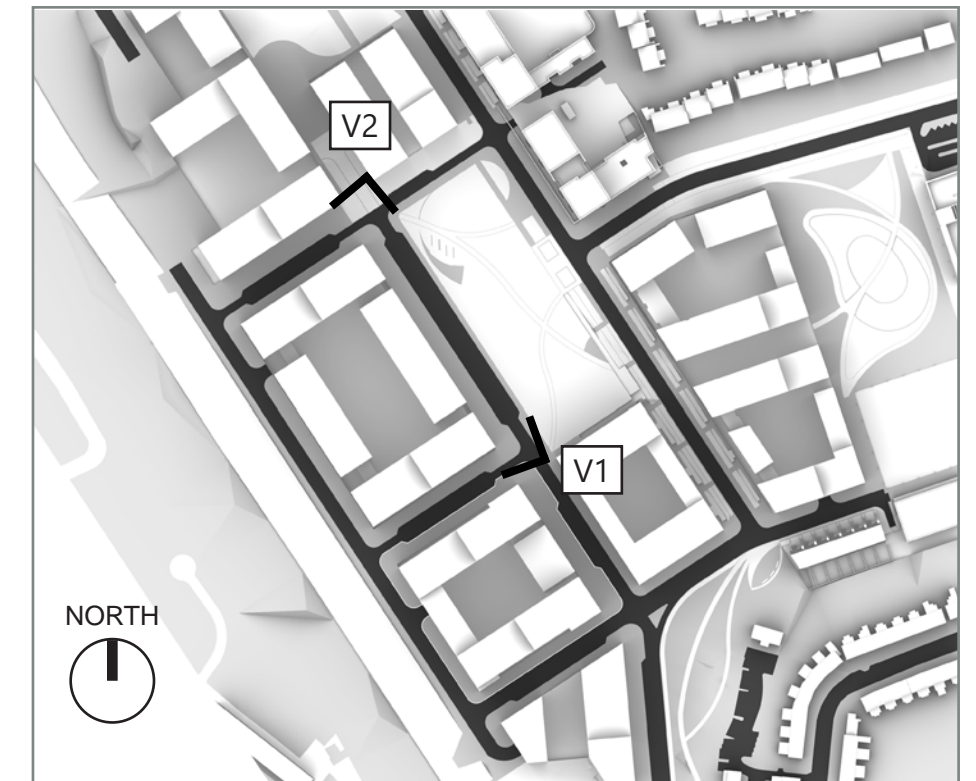


Fig. 22: V2 - Uplift Scenario



Reference Plan

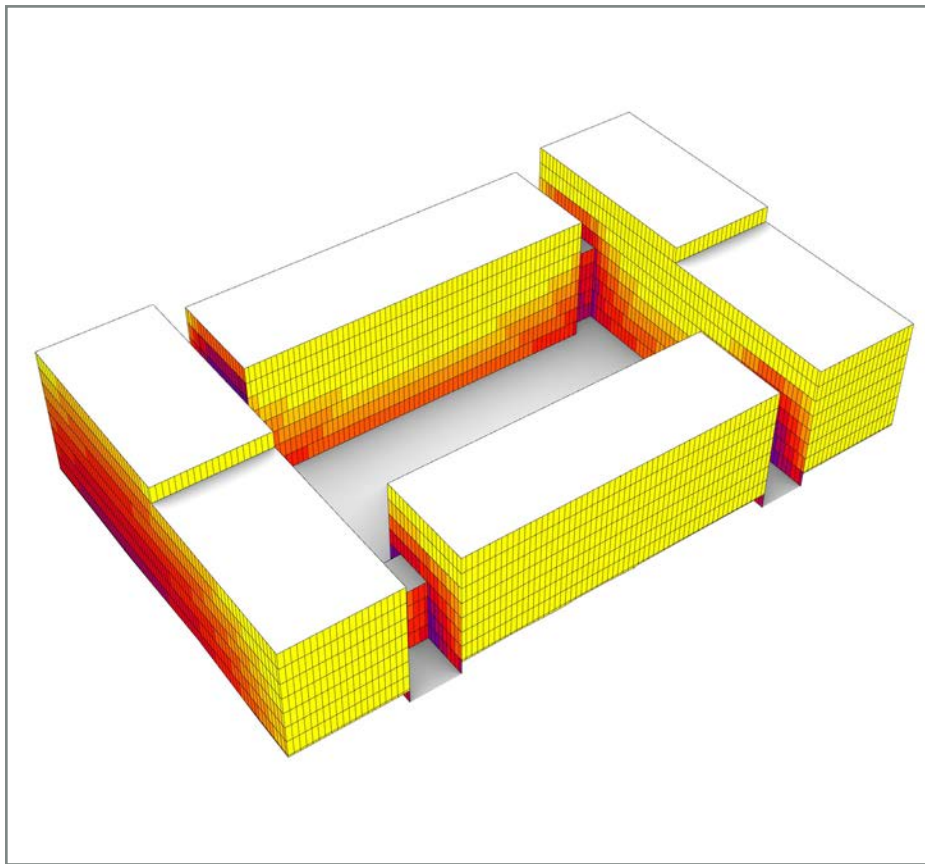


Fig. 23: V3 - Consented Scenario

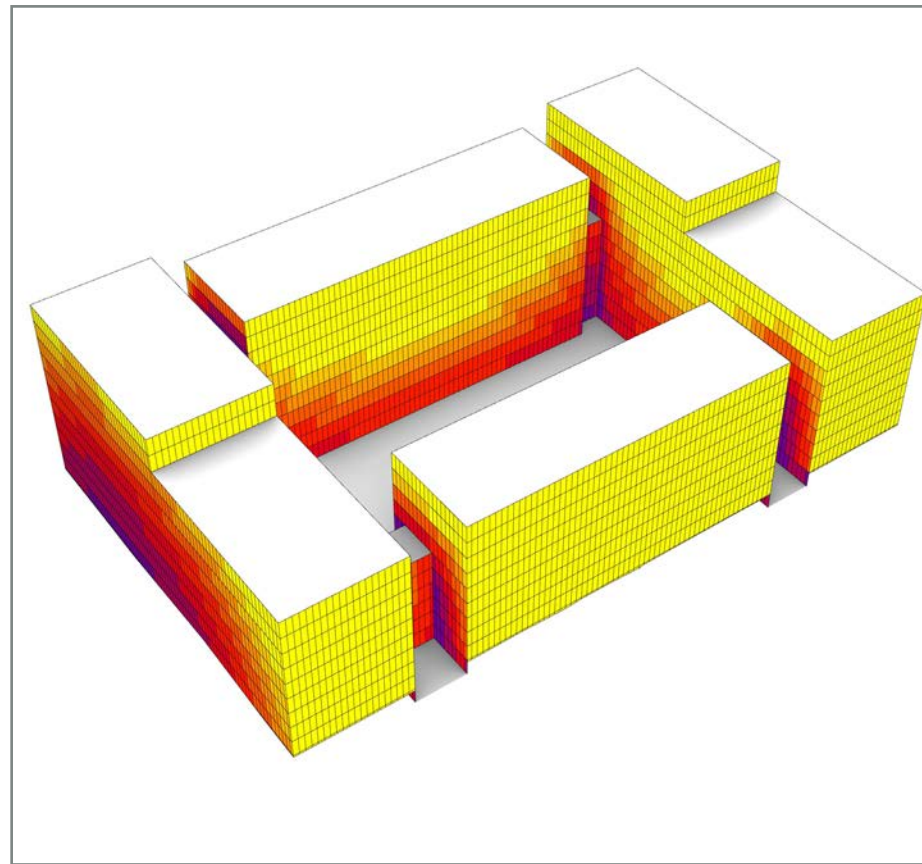


Fig. 25: V3 - Uplift Scenario

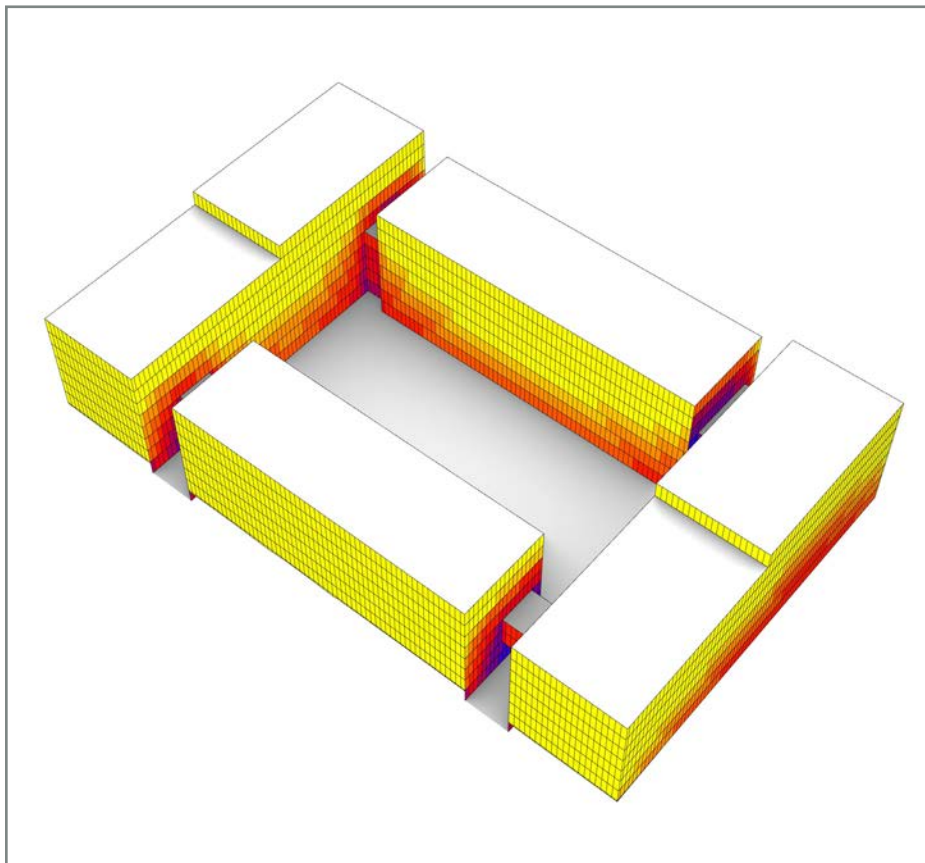
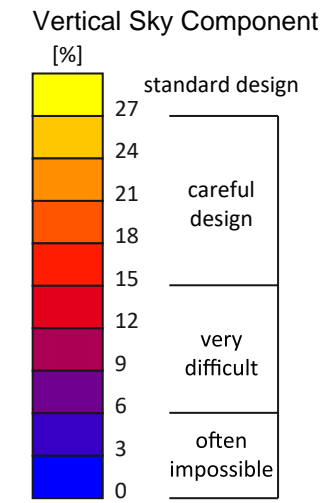


Fig. 24: V4 - Consented Scenario

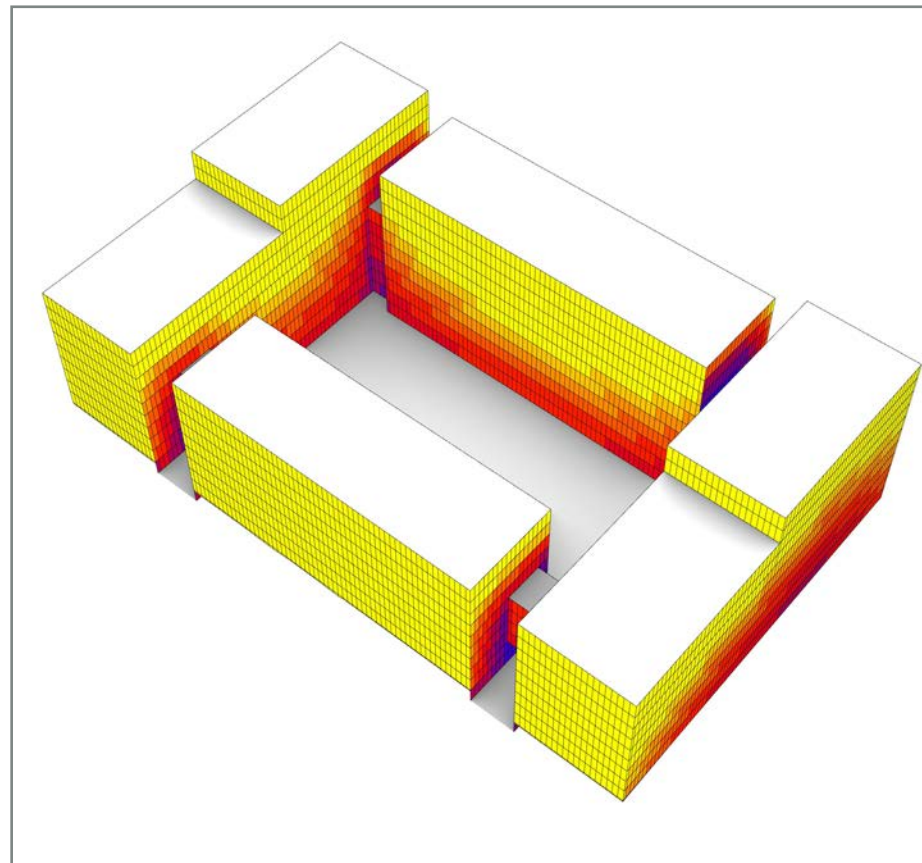
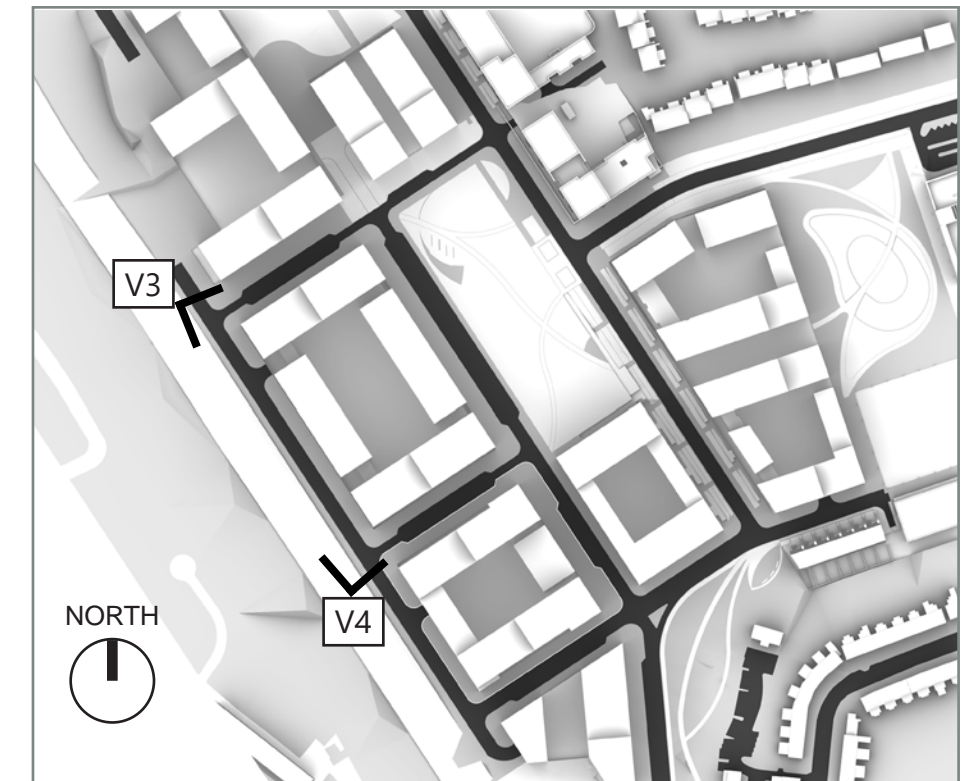


Fig. 26: V4 - Uplift Scenario



Reference Plan



Appendix 2

Sunlight Amenity / Overshadowing Results



Fig. 1: Consented Scenario



Fig. 2: Uplift Scenario

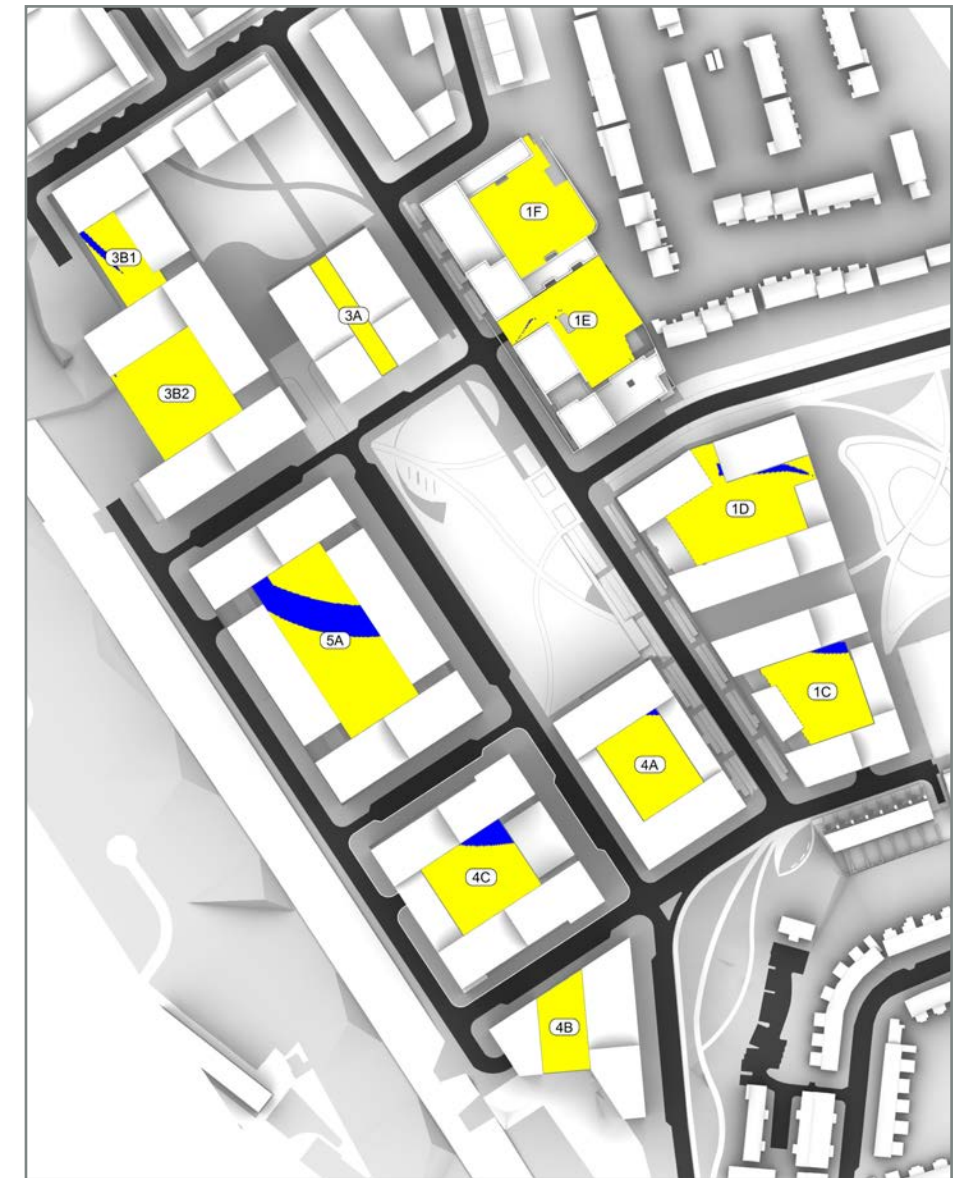


Fig. 3: Difference

YES BRE's Sun On Ground
Area seeing at least two hours of sunlight

NO

Day: 21st March
Latitude: 51.4°N
Effective day length: 10 hours
*Min solar angle 10°
(BR209 3.3.8)



| Zone Name | Area (m2) | Consented* (%) | Uplift* (%) | Loss (%) |
|-----------|-----------|----------------|-------------|----------|
| 1C | 1,197.6 | 4.5 | 0.1 | 97.7 |
| 1D | 1,733.0 | 6.2 | 3.1 | 49.6 |
| 1E | 1,615.4 | 70.9 | 70.6 | 0.5 |
| 1F | 1,583.2 | 70.4 | 70.4 | 0.0 |
| 3A | 465.4 | 24.5 | 24.5 | 0.0 |
| 3B1 | 741.8 | 59.2 | 52.0 | 12.2 |
| 3B2 | 1,622.9 | 91.8 | 91.8 | 0.0 |
| 4A | 1,127.1 | 1.0 | 0.0 | 100.0 |
| 4B | 736.2 | 84.0 | 84.0 | 0.0 |
| 4C | 1,300.0 | 10.7 | 0.0 | 100.0 |
| 5A | 2,553.3 | 43.9 | 20.3 | 53.8 |

*Sunlit Area = Area receiving at least 2hrs. of sunlight on 21st March

Table 1: Results


 Area failing BRE's Sun-on-Ground test as a result of the uplift.



Fig. 4: Consented Scenario



Fig. 5: Uplift Scenario

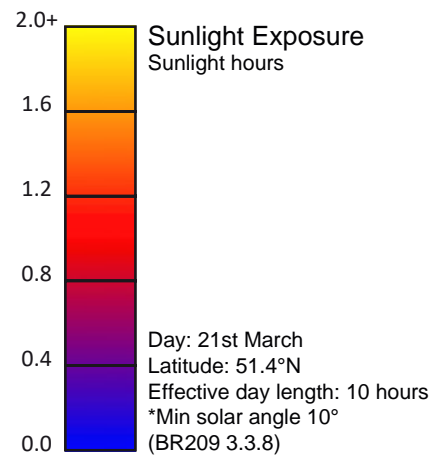




Fig. 6: Consented Scenario



Fig. 7: Uplift Scenario



Fig. 8: Difference

YES BRE's Sun On Ground
Area seeing at least two
hours of sunlight

NO Area failing BRE's Sun-on-Ground test
as a result of the uplift.

Latitude: 51.4°N
*Min solar angle 10°
(BR209 3.3.8)



| Zone Name | Area (m2) | Consented* (%) | Uplift* (%) | Loss (%) |
|-----------|-----------|----------------|-------------|----------|
| 1C | 1,197.6 | 68.7 | 63.7 | 7.2 |
| 1D | 1,733.0 | 77.1 | 67.4 | 12.7 |
| 1E | 1,615.4 | 93.2 | 92.4 | 0.9 |
| 1F | 1,583.2 | 88.6 | 88.6 | 0.0 |
| 3A | 465.4 | 16.9 | 16.1 | 4.7 |
| 3B1 | 741.8 | 87.3 | 87.3 | 0.0 |
| 3B2 | 1,622.9 | 100.0 | 100.0 | 0.0 |
| 4A | 1,127.1 | 63.1 | 56.0 | 11.3 |
| 4B | 736.2 | 98.6 | 98.6 | 0.0 |
| 4C | 1,300.0 | 77.7 | 59.0 | 24.0 |
| 5A | 2,553.3 | 87.7 | 78.7 | 10.3 |

*Sunlit Area = Area receiving at least 2hrs. of sunlight on 21st June

Table 2: Results



Fig. 9: Consented Scenario



Fig. 10: Uplift Scenario

