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Strategic Housing Development, Carley's Bridge, Enniscorthy, Co. Wexford

Daylight and Sunlight Assessment Report

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1.0 Executive Summary

1.1 Summary of Assessment

3D Design Bureau were commissioned to carry out a comprehensive BRE daylight and sunlight assessment, along with an accompanying shadow study for the Strategic Housing Development, Carley's Bridge, Enniscorthy, Co. Wexford.

The assessment has been broken down into the following two main categories, of which there are sub categories summarised further below:

- Impact assessment on the surrounding environment and properties, which includes VSC, APSH and sunlighting analysis. The effects were assessed in the baseline state versus the proposed state,
- Scheme Performance: Daylight and sunlight assessment of the proposed development, which includes sunlighting to the proposed amenity spaces and internal daylighting (ADF) to the habitable rooms.

The impact assessment that was carried out for the purpose of this report has studied the potential levels of effect the surrounding existing environment and/or properties would sustain should the proposed development be built as proposed.

This impact assessment covered the following categories:

- Effect on daylight (VSC) to surrounding properties. The effect to the VSC of the windows of the following neighbouring properties was assessed:
  - A Carley's Bridge
  - B Carley's Bridge
  - C Carley's Bridge
  - D Carley's Bridge
  - Carrigabruce
  - Hillgrange, Carley's Bridge
  - 1-18 Millbrook
  - Sundale, Carley's Bridge
  - 13-23 Urrin Valley
  - Westlands, Carley's Bridge
- Effect on sunlight (APSH) to surrounding properties. The effect to the APSH (annual and winter) of the windows of the following neighbouring properties was assessed:
  - A Carley's Bridge
  - B Carley's Bridge
  - C Carley's Bridge
  - D Carley's Bridge
  - Carrigabruce
  - Hillgrange, Carley's Bridge
  - 1-18 Millbrook
  - Sundale, Carley's Bridge
  - 13-23 Urrin Valley
  - Westlands, Carley's Bridge
- Effect on sunlight to surrounding external amenity spaces such as gardens:
  - A Carley's Bridge
  - B Carley's Bridge
  - Hillgrange, Carley's Bridge
  - 1-18 Millbrook
  - Sundale, Carley's Bridge
  - 13-23 Urrin Valley
  - Westlands, Carley's Bridge

Please find a graphic representation in the next page.

The surrounding context was carefully considered to ensure all properties and amenity spaces that may potentially experience a level of effect were included in the study. However, in this instance, the proposed development would not cause any level of effect to the surrounding properties and the results of this assessment can be considered very favourable.

The daylight and sunlight assessment of the proposed development included an analysis of the levels of sunlight to the proposed amenity spaces, as well as access to daylight (ADF) in the habitable rooms of the proposed units within the development. All external amenity spaces as identified by the architect were assessed for sunlight. Include which floors were assessed for ADF. Note: Typically, ADF values increase in rooms located on higher floor levels, due to a lesser obstruction from adjacent obstructions. Where a room meets the guidelines for ADF, it was assumed that similar rooms on subsequent floors will also meet the guidelines.

Please see section 1.2 on page 6 for a detailed breakdown of results.

1.2 Results Overview

Should the development be built as proposed, the following effects will be experienced.

Effect to Vertical Sky Component (VSC) on neighbouring properties:

- Windows Assessed: 195 No.
    - Imperceptible: 195 No.

Effect to Annual Probable Sunlight Hours (APSH) Annual Study:

- Windows Assessed: 168 No.
    - Imperceptible: 168 No.

Effect to Winter Probable Sunlight Hours (WPSH) Winter Study:

- Windows Assessed: 168 No.
    - Imperceptible: 168 No.

Sunlighting to existing neighbouring gardens:

- Gardens Assessed: 33. No.
    - Gardens meeting the guidelines: 33 No.

Sunlighting to proposed amenity area:

- Areas Assessed: 13 No.
    - Meeting the guidelines: 13 No.

Average Daylight Factor (ADF) of internal proposed development:

- Rooms assessed: 501 No. (Total No. across the development is ~851)

With ADF target value of 2.0% applied to LKDs:

- Rooms meeting the guidelines: 501 No.
- Rooms not meeting the guidelines: 0 No.
- Rooms assumed to meet the guidelines: 350
- Compliance rate: ~100%

With ADF target value of 1.5% applied to LKDs:

- Rooms meeting the guidelines: 501 No.
- Rooms not meeting the guidelines: 0 No.
- Rooms assumed to meet the guidelines: 350 No.
- Compliance rate: ~100%

2.0 Glossary

2.1 Terms and Definitions

Skylight
Non directional ambient light cast from the sky and environment.

Sunlight
Direct parallel rays of light emitted from the sun.

Daylight
Combined skylight and sunlight.

Overcast sky model
A completely overcast sky model, used for daylight calculation.

Existing Baseline Model State
The development site in its existing state. The proposed development has not been included. This model state has been used when generating the baseline results for all the existing neighbouring properties.

Proposed Development Model State
The proposed development has been modelled into the existing environment. This model state has been used when assessing the effect of the proposed development on the existing neighbouring properties, as well as assessments carried out within the proposed development itself.

Vertical Sky Component (VSC)
Ratio of that part of illuminance, at a point on a given vertical plane, that is received directly from an overcast sky model, to illuminance on a horizontal plane due to an unobstructed hemisphere of this sky. Usually the 'given vertical plane' is the outside of a window wall. The VSC does not include reflected light, either from the ground or from other buildings.

Annual Probable Sunlight Hours (APSH) / Winter Probable Sunlight Hours (WPSH)
Annual Probable Sunlight Hours (APSH) and Winter Probable Sunlight Hours are a measure of sunlight that a given window may expect over a year period (1 Jan - 31 Dec), or the winter period (21 Sep - 21 Mar) respectively.

It can be defined as the ratio between the annual or winter sunlight hours in a specific location, and the hours of sunlight an assessment point on a window actually receives.

North facing windows may receive sunlight on only a handful of occasions in a year, and windows facing eastwards or westwards will receive sunlight only at certain times of the day. Taking this into account, the BRE Guidelines suggest that windows with an orientation within 90 degrees of due south should be assessed.

Average Daylight Factor (ADF)
Ratio of total daylight flux incident on the working plane to the area of the working plane, expressed as a percentage of the outdoor illuminance on a horizontal plane due to an unobstructed overcast sky model.

Thus a 1% ADF would mean that the average indoor illuminance would be one hundredth the outdoor unobstructed illuminance.

Working plane
Horizontal, vertical or inclined plane in which a visual task lies. Normally the working plane may be taken to be horizontal, 850 mm above the floor in houses and factories, 700 mm above the floor in offices. The plane is offset 500 mm from the room boundaries.

BRE Target Value
When assessing the effect a proposed development would have on a neighbouring property, a target value will be applied. This applied target value is generated as per the criteria set out for each study in the BRE Guidelines.

Alternative Target Value
It could be appropriate to use alternative target values when conducting assessment of effect on existing properties. If such instances occur the rationale will be clearly explained and the instances where the alternative target values have been applied will be clearly identified.

Level of BRE Compliance
Each table in the study that has a column identified as "Level of BRE Compliance", identifies how an assessed instance performs in relation to the appropriate target value. If the instance is in compliance with the recommendations as made in the BRE Guidelines the value will be expressed as "BRE Compliant". If the instance does not meet the criteria as set out in the BRE Guidelines a percentage will be expressed to determine the level of compliance with the recommendation. This value determines the definition of effect.

2.2 Definition of Effects

In order to categorise the varying degrees of compliance with the BRE Guidelines when assessing the effect a proposed development would have on the daylight and sunlight of an existing property, 3DDB have assigned numerical values to the levels of effect as listed in '*Guidelines on the Information to be Contained in Environmental Impact Assessment Reports*' prepared by the Environmental Protection Agency (Draft of 2017), and to *Directive 2011/92/EU (as amended by Directive 2014/52/EU).*

The list of definitions given below is taken from Table 3.3: Descriptions of Effects contained in the draft '*Guidelines on the Information to be Contained in Environmental Impact Assessment Reports*' prepared by the Environmental Protection Agency. Some comment is also given below on what these definitions might imply in the case of sunlight access.

Note: There are many factors to be taken into consideration when determining levels of effect. We have included typical numerical values that we have used when assigning levels of effect. These values should not be applied rigidly, but rather as a guide. Circumstances may occur that lead to flexibility being sought in our interpretation of these definitions. Such cases are always explained in the Analysis of Results section, if and when they occur.

Imperceptible

An effect capable of measurement but without significant consequences. For the purposes of this Sunlight and Daylight Assessment Report an "imperceptible" level of effect will be stated if the level of effect is within the criteria as recommended in the BRE Guidelines and the applied target value has been achieved.

Not Significant

An effect which causes noticeable changes in the character of the environment but without significant consequences. For the purposes of this Sunlight and Daylight Assessment Report, a "not significant" level of effect will be stated if the level of effect is marginally outside of the criteria as stated in the BRE Guidelines. Typically a "not significant" level of effect will be applied if the level of daylight or sunlight is reduced to between 90-99% of the applied target value.

Slight

An effect which causes noticeable changes in the character of the environment without affecting its sensitivities. For the purposes of this Sunlight and Daylight Assessment Report, a "slight" level of effect will be stated if the level of daylight or sunlight is reduced to between 75-90% of the applied target value.

Moderate

An effect that alters the character of the environment in a manner that is consistent with existing and emerging trends. For the purposes of this Sunlight and Daylight Assessment Report, a "moderate" level of effect will be stated if the level of daylight or sunlight is reduced to between 50-75% of the applied target value. A "moderate" level of effect would be quite typical in instances where a proposed development is planned on an under-developed plot of land. The level of daylight and/or sunlight of an assessed property is reduced in a manner that is consistent with similar properties in the immediate surrounding area.

Significant

An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment. For the purposes of this Sunlight and Daylight Assessment Report a "significant" level of effect will be stated if the proposed development reduces the availability of daylight or sunlight of a neighbouring property to a low level. Typically a "significant" level of effect will be stated if the level of daylight or sunlight is reduced to between 30-50% of the applied target value.

Very Significant

An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment. For the purposes of this Sunlight and Daylight Assessment Report a "very significant" level of effect will be stated if the proposed development reduces the availability of daylight or sunlight of a neighbouring property to a very low level. Typically a "'very significant" level of effect will be stated if the level of daylight or sunlight is reduced to between 10-30% of the applied target value.

Profound

An effect which obliterates sensitive characteristics. For the purposes of this Sunlight and Daylight Assessment Report, a "profound" level of effect will only be stated if the proposed development reduces the availability of daylight or sunlight of a neighbouring property to a level that is less than 10% of the applied target value.

Positive Effect

In relation to sunlight or daylight access, it is conceivable that there could be positive effects, but this implies that a development would involve a reduction of the size or scale of built form (e.g. such as the demolition of a building, which might result in an increase in sunlight access). Though that is possible, it is usually unlikely as most development involves the construction of new obstructions to sunlight access.

2.3 Index of Tables

2.3.1 Vertical Sky Component

Below is an example of the table used to describe the effect on VSC.

Table No. 2.1: Example of VSC Table

Window Number	Baseline VSC Value	Proposed VSC Value	Ratio of Proposed VSC to Baseline VSC	Recommended Minimum VSC	Level of Compliance with BRE Guidelines	Effect of Proposed Development
House Number/Floor						
A	**B**	**C**	**D**	**E**	**F**	**G**

A: Window Number

The number in this column will identify the assessed window. All windows are represented visually in the corresponding figure.

B: Baseline VSC Value

The *Baseline VSC Value* represents the VSC value of the assessed window is calculated in the existing baseline model state (as explained in the "Glossary" on page 7).

C: Proposed VSC Value

The *Proposed VSC Value* represents the VSC value of the assessed window calculated in the proposed model state (as explained in the "Glossary" on page 7).

D: Ratio of Proposed VSC to Baseline VSC

This column expressed the ratio of change between the baseline VSC value and the proposed VSC value. The BRE Guidelines recommend that if the proposed value is less than 0.8 times the baseline value, then the reduction in daylight is more likely to be perceptible.

E: Recommended minimum VSC

The *BRE Target Value* for each window has been set according to the BRE Guidelines. The Guidelines state that a proposed development could possibly have a noticeable effect on the daylight received by an existing window, if the VSC value **both** drops below the guideline value of 27% **and** the VSC value is less than 0.8 times the baseline value.

Therefore, to determine the *recommended minimum Value*, 80% of the *Baseline VSC value* has been calculated. If this value is above the 27% threshold, a target value of 27% will be applied. If 80% of the baseline value is below 27%, then 80% of the baseline value is the appropriate target value.

F: Level of Compliance with the BRE Guidelines

This column states the compliance of the *Proposed VSC Value* with the *recommended minimum VSC* as per the BRE Guidelines. In essence, it shows whether or not the assessed window would experience a perceptible level of impact. If the window complies with the BRE Guidelines this cell will state "*BRE Compliant*". If the window does not meet the criteria as set out in the BRE Guidelines, a percentage of compliance with the *recommended minimum* will be stated.

G: Effect of Proposed Development

The levels of effect in this column describe the effect an assessed window will experience, based on its compliance with the *BRE Target Value*. The levels of effect used in this report have regard to the '*Guidelines on the Information to be Contained in Environmental Impact Assessment Reports*' prepared by the Environmental Protection Agency (Draft of 2017), and to *Directive 2011/92/EU (as amended by Directive 2014/52/EU)* and a full list can be found in "*Definition of Effects*" on page 8.

2.3.2 Annual/Winter Probable Sunlight Hours

Below is an example of the table used to describe the effect on APSH/WPSH.

Table No. 2.2: Example of APSH Table						
Window Number	Baseline APSH/ WPSH	Proposed APSH/ WPSH	Ratio of Proposed to Baseline APSH/ WPSH	Recommended Minimum APSH/WPSH	Level of Compliance with BRE Guidelines	Effect of Proposed Development
House Number/Floor						
A	**B**	**C**	**D**	**E**	**F**	**G**

A: Window Number

The number in this column will identify the assessed window. All windows are represented visually in the corresponding figure.

B: Baseline APSH/WPSH

The *APSH/WPSH Value* represents percentage of the probable sunlight hours that the assessed window can receive, calculated in the existing baseline model state (as explained in the "Glossary" on page 7). The annual and winter assessments will be represented in separate tables.

C: Proposed APSH/WPSH

The *Proposed APSH/WPSH Value* represents the percentage of probable sunlight hours that the assessed window can receive, calculated in the proposed model state (as explained in the "Glossary" on page 7).

D: Ratio of Proposed to Baseline APSH/WPSH

This column expressed the ratio of change between the baseline APSH/WPSH value and the proposed APSH/ WPSH value. The BRE Guidelines recommend that if the proposed value is less than 0.8 times the baseline value, then the reduction to sunlight is more likely to be perceptible.

E: Recommended Minimum APSH/WPSH

The *BRE Target Value* for each window has been set according to the BRE Guidelines. The Guidelines state that a proposed development could possibly have a noticeable effect on the sunlight received by an existing window, if the APSH value drops below the annual (25%) or WPSH value below the winter (5%) guidelines; and the APSH/WPSH value is less than 0.8 times the baseline value; and there is a reduction of more than 4% to the APSH.

Therefore, to determine the *recommended minimum APSH Value* for the annual study, 80% of the *Baseline APSH value* has been calculated. If this value is above the 25% threshold, a target value of 25% will be applied. If 80% of the baseline value is below 25%, then 80% of the baseline value is the appropriate target value.

To determine the *recommended minimum WPSH Value* for the winter study, 80% of the *Baseline winter APSH value* has been calculated. If this value is above the 5% threshold, a target value of 5% will be applied. If 80% of the baseline value is below 5%, then 80% of the baseline value is the appropriate target value.

F: Level of Compliance with BRE Guidelines

This column states the compliance of the *Proposed Annual APSH Value* with the *recommended minimum APSH* as per the BRE Guidelines. In essence, it shows whether or not the assessed window would experience a perceptible level of impact. If the window complies with the BRE Guidelines this cell will state "*BRE Compliant*". If the window does not meet the criteria as set out in the BRE Guidelines, a percentage of compliance with the *recommended minimum* will be stated.

G: Effect of Proposed Development

The levels of effect in this column describe the effect an assessed window will experience, based on its compliance with the *BRE Target Value*. The levels of effect used in this report have regard to the '*Guidelines on the Information to be Contained in Environmental Impact Assessment Reports*' prepared by the Environmental Protection Agency (Draft of 2017), and to *Directive 2011/92/EU (as amended by Directive 2014/52/EU)* and a full list can be found in *"Definition of Effects"* on page 8.

2.3.3 Sunlighting

Existing Gardens and Amenity Spaces

Below is an example of the table used to describe the effect on existing gardens and amenity spaces.

Table No. 2.3: Example of Sunlighting Table for Existing Gardens/Amenity Spaces						
Address	% of Area to Receive Above 2 Hours Sunlight on March 21st (Target >50%)				Level of Compliance with BRE Guidelines	Effect of Proposed Development
	Baseline	Proposed	Ratio of Proposed to Baseline	Recommended Minimum as per BRE Guidelines		
A	**B**	**C**	**D**	**E**	**F**	**G**

A: Address

This column contains the address of the assessed garden/amenity space. The locations of the gardens and amenity spaces assessed are visually represented in a corresponding figure.

B: Baseline

Baseline represents percentage of the assessed space's area that can receive more than 2 hours of sunlight on March 21st, calculated in the existing baseline model state (as explained in the "Glossary" on page 7).

C: Proposed

Proposed represents percentage of the assessed space's area that can receive more than 2 hours of sunlight on March 21st, calculated in the proposed model state (as explained in the "Glossary" on page 7).

D: Ratio of Proposed to Baseline

This column expressed the ratio of change between the baseline and the proposed values. The BRE Guidelines recommend that if the proposed value is less than 0.8 times the baseline value, then the reduction to sunlight is more likely to be perceptible.

E: Recommended Minimum as per the BRE Guidelines

The BRE Guidelines indicate that a proposed development could possibly have a noticeable effect on the sunlight received by an existing garden and/or amenity area, if half the area of the space does not receive at least two hours of sunlight during the spring equinox; **and** the area that receives more than two hours of sun on the spring equinox is less than 0.8 times its former value.

To determine the *recommended minimum*, 80% of the *Baseline* value has been calculated. If this value is above the 50% threshold, a target value of 50% will be applied. If 80% of the baseline value is below 50%, then 80% of the baseline value is the appropriate target value.

F: Level of BRE Compliance

This column states the compliance of the *Proposed* sunlight value with the *recommended minimum as per the BRE Guidelines*. In essence, it shows whether or not the assessed garden or amenity area would experience a perceptible level of impact. If the garden or amenity area complies with the BRE Guidelines this cell will state "*BRE Compliant*". If the garden or amenity area does not meet the criteria as set out in the BRE Guidelines, a percentage of compliance with the *recommended minimum* will be stated.

G: Effect of Proposed Development

The levels of effect in this column describe the effect an assessed garden or amenity space will experience, based on its compliance with the *BRE Target Value*. The levels of effect used in this report have regard to the '*Guidelines on the Information to be Contained in Environmental Impact Assessment Reports*' prepared by the Environmental Protection Agency (Draft of 2017), and to *Directive 2011/92/EU (as amended by Directive 2014/52/EU)* and a full list can be found in *"Definition of Effects"* on page 8.

Proposed Gardens and Amenity Spaces

Below is an example of the table used to describe sunlighting in proposed gardens and amenity spaces.

Table No. 2.4: Example of Sunlighting Table for Proposed Gardens/Amenity Spaces			
Assessed Area	Area Capable of Receiving 2 Hours of Sunlight on March 21st	Recommended Minimum	Level of Compliance with BRE Guidelines
A	**B**	**C**	**D**

A: Assessed Area

This column identifies the assessed garden/amenity area.

B: Area Capable of Receiving 2 Hours of Sunlight on March 21st

The percentage of the proposed area that can receive more than 2 hours of sunlight on March 21st.

C: Recommended Minimum

The BRE Guidelines state that the percentage of a garden/amenity area that can receive more than 2 hours of sunlight on March 21st should be 50%. The target value for all spaces is set to 50%.

D: Level of Compliance with BRE Guidelines

This column states the compliance of the assessed space with the *BRE Target Value*. If the assessed garden or amenity area complies with the BRE Guidelines this cell will state "*BRE Compliant*". If the garden or amenity area does not meet the criteria as set out in the BRE Guidelines, a percentage of compliance with the *recommended minimum* will be stated.

2.3.4 Average Daylight Factor

Below is an example of the table used to describe the daylight factor in proposed units.

Table No. 2.5: Example of ADF Results Table		
Unit Number	Room Description	Predicted ADF Value
A	**B**	**C**

A: Unit Number

This column identifies the assessed unit. All unit numbers are determined by the architect's drawings, unless otherwise stated.

B: Room Description

Room Description details which room of the unit has been assessed, e.g. bedroom, living room, etc.

C: Predicted ADF Value

The average daylight factor calculated for an assessed room.

3.0 Assessment Overview

3.1 Development Description

The proposed Strategic Housing Development will comprise a residential development of 233 no. units (53 no., 3-4 bed houses and 180 no. 1/2/3 bed duplexes/apartments). Provision of a creche. Associated car parking, bicycle parking, and open spaces/landscaping. Vehicular and pedestrian accesses provided via Carley's Bridge Road to the north west, pedestrian/cyclist access via Carley's Bridge Road to the north and Millbrook Residential Estate to the east of the site. All associated site works including boundary treatments, plant, bin stores, site services and connections to facilitate the development.

3.2 Guidelines

In December of 2020 the Department of Housing, Planning and Local Government published a guidance document for new apartments, *Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities*. This document makes reference to the British Standard, *BS 8206-2:2008: Lighting for Buildings - Part 2: Code of Practice for Daylighting* (the British Standard) and to the Building Research Establishment's *Site Layout Planning for Daylight and Sunlight: a Guide to Good Practice* (the BRE Guidelines).

Prior to the publication of the apartment guidelines in December 2020 a European Standard had been published *EN 17037 Daylight in Buildings*. Furthermore, British authorities have published and adopted a national annex to the European standards, *BS EN 17037*. Neither *EN 17037* nor *BS EN 17.03* are referenced in the 2020 apartment guidelines and to the best of our knowledge is not referenced in any planning guidance document issued by Irish planning authorities. The BRE Guidelines have not been withdrawn. Until official guidance or instruction is published by a relevant authority on this matter, 3DDB will continue to reference the BRE Guidelines in our daylight and sunlight assessments.

Neither the British Standard, European Standard, British annex to the European standard nor the BRE Guide set out rigid standards or limits. The BRE Guide is preceded by the following very clear statement as to how the design advice contained therein should be used:

"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."

That the recommendations of the BRE Guide are not suitable for rigid application to all developments in all contexts, is of particular importance in the context of national and local policies for the consolidation and densification of urban areas or when assessing applications for highly constrained sites (e.g. lands in close proximity or immediately to the south of residential lands).

3.3 Effect on Vertical Sky Component (VSC)

A proposed development could potentially have a negative effect on the level of daylight that a neighbouring property receives, if the obstructing building is large in relation to their distance from the existing dwelling.

To ensure a neighbouring property is not adversely affected, the Vertical Sky Component (also referred to as VSC) is calculated and assessed. VSC can be defined as the amount of skylight that falls on a vertical wall or window.

This report assesses the percentage of direct sky illuminance that falls on the centre point of neighbouring windows that could be affected by the proposed development.

The BRE Guidelines state that if the VSC is:

- At least 27%, then conventional window design will usually give reasonable results;
- Between 15% and 27%, then special measures (larger windows, changes to room layout) are usually needed to provide adequate daylight;
- Between 5% and 15%, then it is very difficult to provide adequate daylight unless very large windows are used;
- Less than 5%, then it is often impossible to achieve reasonable daylight, even if the whole window wall is glazed.

In this assessment, the VSC of the centre point on each of the assessed windows will be calculated, both in the 'baseline state' and in the 'proposed state'. The baseline state reflects the current VSC of the window, the proposed state will determine what the VSC of the window would be if the proposed development is built as planned.

A comparison between these values will determine the level of effect.

A proposed development could possibly have a noticeable effect on the daylight received by an existing window, if the following occurs:

- The VSC value drops below the guideline value of 27%; **and**
- The VSC value is less than 0.8 times the existing value.

The results for the study on the effect on VSC caused by the proposed development can be seen in section 5.1 on page 19.

3.4 Effect on Annual/Winter Probable Sunlight Hours (APSH/WPSH)

Annual/Winter Probable Sunlight Hours (APSH/WPSH) is a measure of sunlight that a given window may expect to receive over the period of a year. The percentage of APSH/WPSH that windows in existing properties receive might be affected by a proposed development.

Whether a window is considered for APSH/WPSH impact assessment is based on its orientation. A south-facing window will, in general, receive the most sunlight. North facing windows may receive sunlight on only a handful of occasions in a year, and windows facing eastwards or westwards will receive sunlight only at certain times of the day. Taking this into account, the BRE Guidelines suggest that windows with an orientation within 90 degrees of due south should be assessed.

If the assessment point of a window can receive more than 25% of APSH, including at least 5% of the WPSH, then the room should receive enough sunlight.

As with the VSC study, the APSH/WPSH will be calculated in the baseline state and the proposed state. A comparison of the results will determine the level of effect.

A proposed development could possibly have a noticeable effect on the sunlight received by an existing window, if the following occurs:

- The APSH value drops below the annual (25%) or winter (5%) guidelines; **and**
- The APSH value is less than 0.8 times the baseline value; **and**
- There is a reduction of more than 4% to the annual APSH.

The results of the study on APSH can be found in Section 5.2 on page 30.

3.5 Effect on Sunlighting in Existing Gardens

The BRE Guidelines recommend that for a garden or amenity area to appear adequately sunlit throughout the year, at least half of it should receive at least two hours of sunlight on March 21st.

March 21st, also known as the spring equinox, is chosen as the assessment date as daytime and nighttime are of approximately equal duration on this date.

The percentage of assessed areas which can receive two hours or more of direct sunlight on March 21st will be calculated in both the baseline and proposed states. A comparison between these values will determine the level of effect.

A proposed development could possibly have a noticeable effect on the sunlight received by an existing garden and/or amenity area, if the following occurs:

- Half the area of the space does not receive at least two hours of sunlight during the spring equinox; **and**
- The area that receives more than two hours of sun on the spring equinox is less than 0.8 times its former value.

The results of the study on effect on sunlight the neighbouring gardens (including a visual representation in the form of 2-hour false colour plans) can be found in Section 5.3 on page 52.

3.6 Sunlighting in Proposed Outdoor Amenity Areas

The BRE Guidelines recommend that for a garden or amenity area to appear adequately sunlit throughout the year, at least half of it should receive at least two hours of sunlight on March 21st.

March 21st, also known as the spring equinox, is chosen as the assessment date as daytime and nighttime are of approximately equal duration on this date.

The portion of each space capable of receiving 2 hours of direct sunlight on March 21st will be calculated individually, these figures will then be combined to give the development average.

The results for the study on sunlighting in the proposed outdoor amenity areas (including a visual representation in the form of 2-hour false colour plans) can be found in section 5.4 on page 56.

3.7 Shadow Study

A shadow study has been carried out on the baseline existing model state and the proposed model state. This visual representation of the shadows cast by the proposed development can be found in the hourly shadow diagrams in section 5.6 on page 58.

Hourly renderings have been shown from sunrise to sunset on the following dates:

- Spring equinox: March 21st Sunrise 6:25 | Sunset 18:40.
- Summer solstice: June 21st. Sunrise 4:57 | Sunset 21:57.
- Winter solstice: December 21st Sunrise 8:38 | Sunset 16:08.

Note: Considering the spring equinox (March 21st) and autumn equinox (22nd September) yield similar results, only the spring equinox was generated.

3.8 Average Daylight Factor (ADF)

The BRE Guidelines define the Average Daylight Factor as the average illuminance on the working plane in a room, divided by the illuminance on an unobstructed horizontal surface outdoors.

In housing, the working plane is considered to be 850 mm above the finished floor level and is offset 500 mm from the room boundaries.

BS 8206-2:2008 Code of Practice for Daylighting recommends an ADF of 5% for a well day lit space where no additional electric lighting is available, and 2% for a partly daylit space with supplementary electric lighting.

In terms of housing, *BS 8206-2:2008,* as referenced in the BRE Guidelines, also gives minimum values of ADF. These recommendations are considered to be the minimum value of ADF required for the following habitable spaces:

- 2% for kitchens;
- 1.5% for living rooms;
- 1% for bedrooms.

This study has assessed the Average Daylight Factor (ADF) received in all habitable rooms across ground, first, second and third floors of the proposed development.

Typically, ADF values increase in rooms located on higher floor levels, due to an improved relationship with adjacent obstructions. Where a room meets the guidelines for ADF, it can be reasonably assumed that similar rooms on subsequent floors will also meet the guidelines.

A combination of the calculated results and reasonable inference made from these results will be used to give an approximate compliance rate for the ADF for the proposed development as a whole. Where ADF compliance rates are stated both target values for LKDs (2% and 1.5%) have been considered. The appropriate ADF target value for LKDs is at the discretion of the planning authority.

Note: non-habitable rooms and circulation spaces (e.g. bathrooms and corridors) do not require ADF assessment according to the BRE Guidelines.

For definition of spaces and target values applied, please see the methodology section of this report in section 4.0 on page 16.

The results for the study on ADF can be seen in section 6.5 on page 117.

4.0 Methodology

4.1 Building the Baseline and Proposed Models

In order to obtain the results of this assessments, 3D Design Bureau (3DDB) constructed a series of architectural 3D digital models using Revit 2021, a BIM software application made available by Autodesk.

The project architect, Brian Dunlop, supplied 3DDB with 2D drawing information of the proposed development, which was used to prepare a 3D model for the daylight and sunlight analysis.

A combination of survey information, aerial photography, available online photography and/or ordnance survey information were used to model the surrounding context and assessed buildings. **Note:** as the information gathered from online sources is not as accurate as surveyed information, some tolerance should be allowed to the placement of windows, boundary treatments and the results generated.

Normally trees and shrubs do not need to be included in the studies carried out in this report, partly because their shapes are almost impossible to predict, and partly because the dappled shade of a tree is more pleasant than the deep shadow of a building (this applies especially to deciduous trees). Where a dense belt or group of evergreens is specifically planned as a windbreak or for privacy purposes, it is better to include their shadow in the calculation of shaded area. If and when trees have been included as part of the study, it will be clearly stated.

Baseline

The baseline state reflects the existing environment. It includes the surrounding context and the subject site in their current standing. This includes any structures that are to be demolished as part of this application.

Proposed

The proposed state reflects the subject site if the development is built as proposed. This includes the demolishing of structures, landscaping etc.

4.2 Generating Results

The 3D models as stated above were brought into specialist software packages using state of the art daylight and sunlight analysis methods developed by 3DDB.

The results are generated and analysed considering the BRE Guidelines, as expanded on below.

4.2.1 VSC

Assessment Criteria

The effect on Vertical Sky Component (VSC) has been calculated on A-D Carley's Bridge | Carrigabruce | Hillgrange, Carley's Bridge | 1-18 Millbrook | Sundale, Carley's Bridge | 13-23 Urrin Valley | Westlands, Carley's Brdige.

Under BRE Guidelines, only habitable rooms need to be assessed for effect on daylight and sunlight. In the absence of design layouts or floor plans, or information pertaining to the internal 'as-built' layouts, assumptions have been made regarding the function of the windows of the existing surrounding properties (i.e. what room type is served by the window being assessed).

Typically, the effect on ground floor windows is greater than the effect on windows of subsequent floors. However, floors above ground floor level have been included in this study to give a more comprehensive assessment.

Assessment Points

The assessment points for measuring VSC or APSH are taken from the centre point of a standard window.

If the window being assessed is a full height window, the assessment point is taken at 1600 mm above the finished floor level.

If it can be determined that multiple windows are servicing the same room, each window will be assessed and the average value will be taken. This average value will be denoted by a #-sign. Only the average value is counted towards the final breakdown of results.

4.2.2 APSH/WPSH

Effect on Annual/Winter Probable Sunlight Hours (APSH/WPSH) has been calculated on the windows assessed in the VSC study. The BRE Guidelines suggest that windows with an orientation within 90 degrees of due south should be assessed. Therefore, the APSH/WPSH of windows that do not have an orientation within 90° of due south have not been assessed for the purposes of this report.

The assessment points for APSH/WPSH are equivalent to the VSC study.

The assessment points for APSH are equivalent to the VSC study.

4.2.3 Sunlighting

Assessment Criteria

Effect on sunlight to existing neighbouring gardens and has been assessed to the north of the proposed development, as areas located to the south are unlikely to be affected due to sun direction. Overshadowing is highly unlikely to occur in areas that are due south of any proposed development.

The levels of sunlighting to proposed amenity areas, as indicated by the architect, have been assessed. However, it should be noted that the numbering of these spaces in the Daylight and Sunlight Assessment Report has been assigned by 3DDB specifically for the purposes of this report. If other consultants are referencing these spaces in their own reports, it is unlikely they will be numbered the same.

4.2.4 ADF

Recommended Minimum ADF

The recommended minimum for Average Daylight Factor (ADF) is based on the function of the room being assessed.

The recommendations as per the BS 8206-2:2008 are as follows: 2% for kitchens; 1.5% for living rooms; and 1% for bedrooms. BS 8206-2:2008 also recommends that where a room serves more than one purpose, such as the modern day apartment design of the living/kitchen/dining (LKD) space, the minimum average daylight factor should be taken for the room with the highest value.

Notwithstanding this advice, an ADF target value of 1.5% should be considered appropriate for LKDs within this assessment. The rationale for this departure from the recommended minimum ADF of 2%, is in recognition that the primary function of LKDs within apartment developments is typically that of a living space. Should full compliance for the higher target value be sought, design changes could be needed, such as the removal of balconies or a reduction of unit sizes. Such mitigation measures could reduce the quality of living within the proposed units to a greater degree than the improvements that would be gained with increased ADF values. The appropriate ADF target value for LKDs is at the discretion of the planning authority, for which there is precedent in applying the 1.5%.

In new developments, some internal spaces (e.g. studio apartments, shared communal areas etc.) can possibly be of a nature that do not have a predefined target value in the *BS 8206-2:2008*. In such instances, 3DDB have applied a target value they deem to be appropriate.

Defining Areas

It is standard practice in apartment designs for LKDs to contain kitchens that are completely internal and not serviced by window on the external facade. These internal kitchens will often rely on supplementary electric lighting for periods of the day and can contribute to perceived lower ADF values in otherwise well-lit spaces. To better quantify the performance of the living areas of LKDs with this common configuration, an additional calculation has been carried out, in which the kitchens are omitted and the Living/Dining areas. This has been carried out on LKDs that are below the recommended minimum ADF value. This supplementary assessment will not be counted towards a percentage compliance rate for the proposed development.

Where rooms include a winter garden, the winter garden is deemed to be an extension to the interior space and will be included in the assessed area of the room.

Circulation spaces, corridors, bathrooms etc. have not been assessed.

Indication of the assessed space in each room is provided in the floor plans that correspond to the ADF results in section “5.8 Average Daylight Factor” on page 76.

Work Plane

The calculation of ADF is carried out on a hypothetical work plane which lies 850 mm from the finished floor level in residential units and 700 mm in academic and office spaces. The work plane is offset 500 mm from the room boundaries. Room boundaries are taken from the inside face of the interior walls and the centre line of any main external windows.

The Daylight Factor (DF) percentage has been calculated on the work plane across a series of points on a grid of approximately 100 mm.

The average of these figures determines the Average Daylight Factor (ADF).

Material Palette

Unless a material palette is provided by the architect the following values will be assumed for ADF calculations.

Table No. 4.1: Material Palette for ADF Calculations

Object	Material	Reflectance	Object	Material	Reflectance / Transmittance
Exterior walls	Standard Brick	0.3	Interior Walls	Off white paint	0.75
	Light Brick	0.4	Interior Ceiling	White paint	0.8
	Dark Brick	0.15	Interior Floor	Light timber	0.4
	Render	0.6	Miscellaneous	Miscellaneous	0.5
	Concrete	0.4	Glass	Double glazing	0.8
Ground cover	Paving	0.4		Maintenance Factor	0.91
	Tarmac	0.2		Glass adjusted for maintenance	0.73
	Grass	0.2		Frosted glass	0.5

Assumed Values

Typically, ADF values increase in rooms located on higher floor levels, due to an improved relationship with adjacent obstructions. Where a room meets the guidelines for ADF, it can be reasonably assumed that similar rooms on subsequent floors will also meet the guidelines.

In an instance where a room does not achieve the recommended level of ADF, and is repeated on subsequent floors, calculations will be run on the upper floors to determine at what level that room type meets the guidelines.

A combination of the calculated results and reasonable inference made from these results will be used to give an approximate compliance rate for the ADF for the proposed development as a whole. Where ADF compliance rates are stated both target values for LKDs (2% and 1.5%) have been considered. The appropriate ADF target value for LKDs is at the discretion of the planning authority.

4.2.5 Shadow Study

The shadow study renderings have been carried out in order to give a visual representation to the results set out in the sunlight assessment section of this report.

Hourly renderings have been shown from sunrise to sunset on the following dates:

- Spring equinox: March 21st Sunrise 6:25 | Sunset 18:40.
- Summer solstice: June 21st. Sunrise 4:57 | Sunset 21:57.
- Winter solstice: December 21st Sunrise 8:38 | Sunset 16:08.

Note: Considering the spring equinox (March 21st) and autumn equinox (22nd September) yield similar results, only the spring equinox was generated.

5.0 Results

5.1 Effect on Vertical Sky Component

5.1.1 1-4 Millbrook

Table No. 5.1: VSC Results 1-4 Millbrook

Window Number	Baseline VSC Value	Proposed VSC Value	Ratio of Proposed VSC to Baseline VSC	Recommended minimum VSC*	Level of Compliance with BRE Guidelines	Effect of Proposed Development**
No. 1						
1a	31.92%	30.35%	0.95	25.54%	BRE Compliant	Imperceptible
1b	34.60%	32.67%	0.94	27.00%	BRE Compliant	Imperceptible
1c	39.68%	37.50%	0.95	27.00%	BRE Compliant	Imperceptible
1d	39.68%	37.29%	0.94	27.00%	BRE Compliant	Imperceptible
No. 2						
2a1***	33.93%	31.16%	0.92	27.00%	BRE Compliant	Imperceptible
2a2***	26.14%	25.38%	0.97	20.91%	BRE Compliant	Imperceptible
2a#	30.04%	28.27%	0.94	24.03%	BRE Compliant	Imperceptible
2b	33.86%	31.59%	0.93	27.00%	BRE Compliant	Imperceptible
2c	39.71%	37.09%	0.93	27.00%	BRE Compliant	Imperceptible
2d	39.74%	37.06%	0.93	27.00%	BRE Compliant	Imperceptible
No. 3						
3a	36.35%	33.21%	0.91	27.00%	BRE Compliant	Imperceptible
3b	37.91%	33.66%	0.89	27.00%	BRE Compliant	Imperceptible
3c	39.83%	36.64%	0.92	27.00%	BRE Compliant	Imperceptible
3d	39.83%	36.49%	0.92	27.00%	BRE Compliant	Imperceptible
No. 4						
4a	38.74%	33.64%	0.87	27.00%	BRE Compliant	Imperceptible
4b	37.96%	33.24%	0.88	27.00%	BRE Compliant	Imperceptible
4c	39.84%	36.43%	0.91	27.00%	BRE Compliant	Imperceptible
4d	39.85%	36.58%	0.92	27.00%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the VSC of an existing window, the value needs to both drop below the stated target value of 27% **and** be less than 0.8 times the baseline value.

** For the interpretation of level of effects please refer to"2.2 Definition of Effects" on page 8.

**

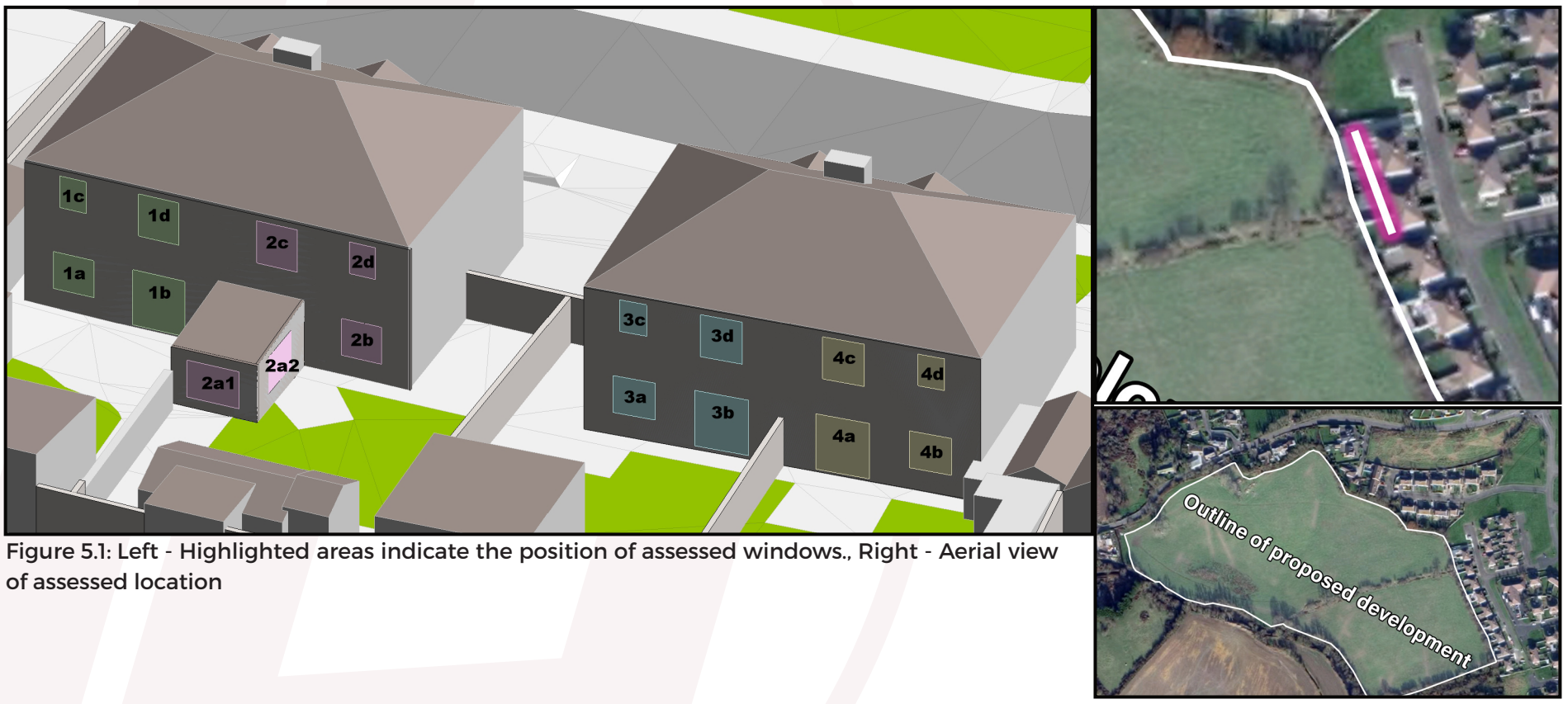


Figure 5.1: Left - Highlighted areas indicate the position of assessed windows., Right - Aerial view of assessed location

5.1.2 5-8 Millbrook

Table No. 5.2: VSC Results 5-8 Millbrook						
Window Number	Baseline VSC Value	Proposed VSC Value	Ratio of Proposed VSC to Baseline VSC	Recommended minimum VSC*	Level of Compliance with BRE Guidelines	Effect of Proposed Development**
No. 5						
5a	38.03%	33.46%	0.88	27.00%	BRE Compliant	Imperceptible
5b	38.88%	34.00%	0.87	27.00%	BRE Compliant	Imperceptible
5c	39.90%	36.76%	0.92	27.00%	BRE Compliant	Imperceptible
5d	39.90%	36.63%	0.92	27.00%	BRE Compliant	Imperceptible
No. 6						
6a	38.31%	33.82%	0.88	27.00%	BRE Compliant	Imperceptible
6b	37.55%	33.29%	0.89	27.00%	BRE Compliant	Imperceptible
6c	39.91%	36.67%	0.92	27.00%	BRE Compliant	Imperceptible
6d	39.91%	36.92%	0.92	27.00%	BRE Compliant	Imperceptible
No. 7						
7a	36.29%	34.07%	0.94	27.00%	BRE Compliant	Imperceptible
7b	37.68%	34.43%	0.91	27.00%	BRE Compliant	Imperceptible
7c	39.94%	37.11%	0.93	27.00%	BRE Compliant	Imperceptible
7d	39.94%	37.00%	0.93	27.00%	BRE Compliant	Imperceptible
No. 8						
8a	38.38%	34.52%	0.90	27.00%	BRE Compliant	Imperceptible
8b	37.77%	34.19%	0.91	27.00%	BRE Compliant	Imperceptible
8c	39.94%	37.09%	0.93	27.00%	BRE Compliant	Imperceptible
8d	39.95%	37.32%	0.93	27.00%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the VSC of an existing window, the value needs to both drop below the stated target value of 27% **and** be less than 0.8 times the baseline value.

** For the interpretation of level of effects please refer to"2.2 Definition of Effects" on page 8.

Figure 5.2: Left - Highlighted areas indicate the position of assessed windows., Right - Aerial view of assessed location

5.1.3 9-12 Millbrook

Table No. 5.3: VSC Results 9-12 Millbrook						
Window Number	Baseline VSC Value	Proposed VSC Value	Ratio of Proposed VSC to Baseline VSC	Recommended minimum VSC*	Level of Compliance with BRE Guidelines	Effect of Proposed Development**
No. 9						
9a	39.23%	34.63%	0.88	27.00%	BRE Compliant	Imperceptible
9b	39.74%	34.96%	0.88	27.00%	BRE Compliant	Imperceptible
9c	39.95%	37.62%	0.94	27.00%	BRE Compliant	Imperceptible
9d	39.95%	37.44%	0.94	27.00%	BRE Compliant	Imperceptible
No. 10						
10a	39.66%	34.94%	0.88	27.00%	BRE Compliant	Imperceptible
10b	39.18%	34.75%	0.89	27.00%	BRE Compliant	Imperceptible
10c	39.95%	37.46%	0.94	27.00%	BRE Compliant	Imperceptible
10d	39.95%	37.67%	0.94	27.00%	BRE Compliant	Imperceptible
No. 11						
11a	38.04%	34.91%	0.92	27.00%	BRE Compliant	Imperceptible
11b	38.16%	35.18%	0.92	27.00%	BRE Compliant	Imperceptible
11c	39.95%	37.82%	0.95	27.00%	BRE Compliant	Imperceptible
11d	39.95%	37.67%	0.94	27.00%	BRE Compliant	Imperceptible
No. 12						
12a	38.35%	35.23%	0.92	27.00%	BRE Compliant	Imperceptible
12b	38.15%	35.06%	0.92	27.00%	BRE Compliant	Imperceptible
12c	39.95%	37.73%	0.94	27.00%	BRE Compliant	Imperceptible
12d	39.96%	37.93%	0.95	27.00%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the VSC of an existing window, the value needs to both drop below the stated target value of 27% **and** be less than 0.8 times the baseline value.

** For the interpretation of level of effects please refer to"2.2 Definition of Effects" on page 8.

Figure 5.3: Left - Highlighted areas indicate the position of assessed windows., Right - Aerial view of assessed location

5.1.4 13-16 Millbrook

Table No. 5.4: VSC Results 13-16 Millbrook						
Window Number	Baseline VSC Value	Proposed VSC Value	Ratio of Proposed VSC to Baseline VSC	Recommended minimum VSC*	Level of Compliance with BRE Guidelines	Effect of Proposed Development**
No. 13						
13a	38.68%	35.23%	0.91	27.00%	BRE Compliant	Imperceptible
13b	38.99%	35.47%	0.91	27.00%	BRE Compliant	Imperceptible
13c	39.95%	38.08%	0.95	27.00%	BRE Compliant	Imperceptible
13d	39.95%	37.99%	0.95	27.00%	BRE Compliant	Imperceptible
No. 14						
14a	38.70%	35.31%	0.91	27.00%	BRE Compliant	Imperceptible
14b	37.74%	34.71%	0.92	27.00%	BRE Compliant	Imperceptible
14c	39.95%	38.09%	0.95	27.00%	BRE Compliant	Imperceptible
14d	39.95%	38.30%	0.96	27.00%	BRE Compliant	Imperceptible
No. 15						
15a	33.30%	32.58%	0.98	26.64%	BRE Compliant	Imperceptible
15b	33.66%	32.35%	0.96	26.93%	BRE Compliant	Imperceptible
15c	39.94%	38.48%	0.96	27.00%	BRE Compliant	Imperceptible
15d	39.94%	38.42%	0.96	27.00%	BRE Compliant	Imperceptible
No. 16						
16a	34.93%	31.62%	0.91	27.00%	BRE Compliant	Imperceptible
16b	29.21%	29.21%	1.00	23.37%	BRE Compliant	Imperceptible
16c	19.80%	19.80%	1.00	15.84%	BRE Compliant	Imperceptible
16d	39.93%	38.49%	0.96	27.00%	BRE Compliant	Imperceptible
16e	39.93%	38.68%	0.97	27.00%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the VSC of an existing window, the value needs to both drop below the stated target value of 27% **and** be less than 0.8 times the baseline value.

** For the interpretation of level of effects please refer to"2.2 Definition of Effects" on page 8.

Figure 5.4: Left - Highlighted areas indicate the position of assessed windows., Right - Aerial view of assessed location

5.1.5 17-18 Millbrook

Table No. 5.5: VSC Results 17-18 Millbrook						
Window Number	Baseline VSC Value	Proposed VSC Value	Ratio of Proposed VSC to Baseline VSC	Recommended minimum VSC*	Level of Compliance with BRE Guidelines	Effect of Proposed Development**
No. 17						
17a	37.17%	36.02%	0.97	27.00%	BRE Compliant	Imperceptible
17b	38.40%	37.08%	0.97	27.00%	BRE Compliant	Imperceptible
17c	39.94%	39.02%	0.98	27.00%	BRE Compliant	Imperceptible
17d	39.94%	39.03%	0.98	27.00%	BRE Compliant	Imperceptible
No. 18						
18a	38.98%	37.60%	0.96	27.00%	BRE Compliant	Imperceptible
18b	38.68%	37.31%	0.96	27.00%	BRE Compliant	Imperceptible
18c	39.95%	39.18%	0.98	27.00%	BRE Compliant	Imperceptible
18d	39.95%	39.34%	0.98	27.00%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the VSC of an existing window, the value needs to both drop below the stated target value of 27% **and** be less than 0.8 times the baseline value.

** For the interpretation of level of effects please refer to"2.2 Definition of Effects" on page 8.

Figure 5.5: Left - Highlighted areas indicate the position of assessed windows., Right - Aerial view of assessed location

5.1.6 13-15 Urrin Valley

Table No. 5.6: VSC Results 13-15 Urrin Valley						
Window Number	Baseline VSC Value	Proposed VSC Value	Ratio of Proposed VSC to Baseline VSC	Recommended minimum VSC*	Level of Compliance with BRE Guidelines	Effect of Proposed Development**
No. 13						
13a	30.95%	30.86%	1.00	24.76%	BRE Compliant	Imperceptible
13b	33.39%	32.97%	0.99	26.71%	BRE Compliant	Imperceptible
13c	39.14%	38.39%	0.98	27.00%	BRE Compliant	Imperceptible
13d	39.24%	38.45%	0.98	27.00%	BRE Compliant	Imperceptible
13e	39.30%	38.47%	0.98	27.00%	BRE Compliant	Imperceptible
No. 14						
14a	29.98%	29.63%	0.99	23.98%	BRE Compliant	Imperceptible
14b	35.36%	35.09%	0.99	27.00%	BRE Compliant	Imperceptible
14c	32.91%	32.70%	0.99	26.33%	BRE Compliant	Imperceptible
14d	39.32%	38.41%	0.98	27.00%	BRE Compliant	Imperceptible
14e	39.38%	38.41%	0.98	27.00%	BRE Compliant	Imperceptible
14f	39.44%	38.42%	0.97	27.00%	BRE Compliant	Imperceptible
No. 15						
15a	35.10%	33.71%	0.96	27.00%	BRE Compliant	Imperceptible
15b	37.40%	35.69%	0.95	27.00%	BRE Compliant	Imperceptible
15c	37.19%	35.46%	0.95	27.00%	BRE Compliant	Imperceptible
15d	39.41%	38.21%	0.97	27.00%	BRE Compliant	Imperceptible
15e	39.49%	38.23%	0.97	27.00%	BRE Compliant	Imperceptible
15f	39.54%	38.21%	0.97	27.00%	BRE Compliant	Imperceptible
15g	35.83%	35.34%	0.99	27.00%	BRE Compliant	Imperceptible
15h	34.17%	33.74%	0.99	27.00%	BRE Compliant	Imperceptible
15i	37.66%	37.36%	0.99	27.00%	BRE Compliant	Imperceptible
15j	37.51%	37.24%	0.99	27.00%	BRE Compliant	Imperceptible
15k	35.75%	35.70%	1.00	27.00%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the VSC of an existing window, the value needs to both drop below the stated target value of 27% **and** be less than 0.8 times the baseline value.

** For the interpretation of level of effects please refer to"2.2 Definition of Effects" on page 8.

Figure 5.6: Left - Highlighted areas indicate the position of assessed windows., Right - Aerial view of assessed location

5.1.7 16-18 Urrin Valley

Table No. 5.7: VSC Results 16-18 Urrin Valley						
Window Number	Baseline VSC Value	Proposed VSC Value	Ratio of Proposed VSC to Baseline VSC	Recommended minimum VSC*	Level of Compliance with BRE Guidelines	Effect of Proposed Development**
No. 16						
16a	38.01%	35.61%	0.94	27.00%	BRE Compliant	Imperceptible
16b	38.50%	35.94%	0.93	27.00%	BRE Compliant	Imperceptible
16c	38.51%	35.25%	0.92	27.00%	BRE Compliant	Imperceptible
16d	39.60%	38.18%	0.96	27.00%	BRE Compliant	Imperceptible
16e	39.62%	38.12%	0.96	27.00%	BRE Compliant	Imperceptible
16f	39.65%	38.08%	0.96	27.00%	BRE Compliant	Imperceptible
16g	37.04%	36.16%	0.98	27.00%	BRE Compliant	Imperceptible
16h	36.44%	35.90%	0.99	27.00%	BRE Compliant	Imperceptible
16i	36.68%	36.35%	0.99	27.00%	BRE Compliant	Imperceptible
16j	37.96%	37.61%	0.99	27.00%	BRE Compliant	Imperceptible
16k	37.87%	37.54%	0.99	27.00%	BRE Compliant	Imperceptible
No. 17						
17a	39.56%	36.16%	0.91	27.00%	BRE Compliant	Imperceptible
17b	39.24%	36.26%	0.92	27.00%	BRE Compliant	Imperceptible
17c	39.72%	37.81%	0.95	27.00%	BRE Compliant	Imperceptible
17d	39.71%	37.84%	0.95	27.00%	BRE Compliant	Imperceptible
17e	39.70%	37.88%	0.95	27.00%	BRE Compliant	Imperceptible
No. 18						
18a	38.82%	36.40%	0.94	27.00%	BRE Compliant	Imperceptible
18b	39.00%	36.25%	0.93	27.00%	BRE Compliant	Imperceptible
18c	39.67%	37.92%	0.96	27.00%	BRE Compliant	Imperceptible
18d	39.63%	37.94%	0.96	27.00%	BRE Compliant	Imperceptible
18e	39.58%	37.91%	0.96	27.00%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the VSC of an existing window, the value needs to both drop below the stated target value of 27% **and** be less than 0.8 times the baseline value.

** For the interpretation of level of effects please refer to"2.2 Definition of Effects" on page 8.

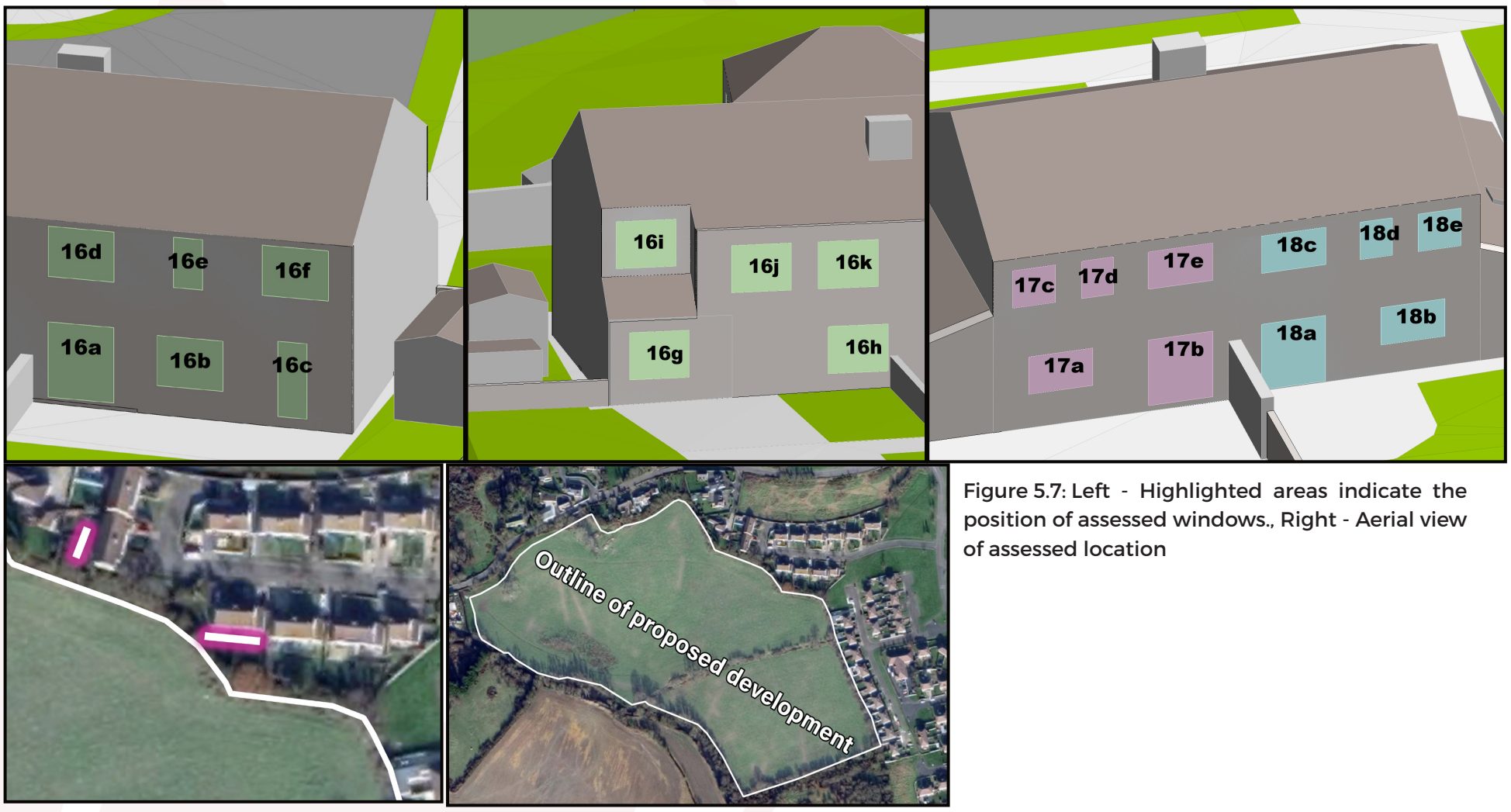


Figure 5.7: Left - Highlighted areas indicate the position of assessed windows., Right - Aerial view of assessed location

5.1.8 19-23 Urrin Valley

Table No. 5.8: VSC Results 19-22 Urrin Valley						
Window Number	Baseline VSC Value	Proposed VSC Value	Ratio of Proposed VSC to Baseline VSC	Recommended minimum VSC*	Level of Compliance with BRE Guidelines	Effect of Proposed Development**
No. 19						
19a	38.93%	36.37%	0.93	27.00%	BRE Compliant	Imperceptible
19b	36.56%	34.19%	0.94	27.00%	BRE Compliant	Imperceptible
19c	39.68%	38.21%	0.96	27.00%	BRE Compliant	Imperceptible
19d	39.67%	38.23%	0.96	27.00%	BRE Compliant	Imperceptible
19e	39.66%	38.27%	0.96	27.00%	BRE Compliant	Imperceptible
No. 20						
20a	31.69%	29.42%	0.93	25.35%	BRE Compliant	Imperceptible
20b	31.47%	29.30%	0.93	25.17%	BRE Compliant	Imperceptible
20c	39.65%	38.32%	0.97	27.00%	BRE Compliant	Imperceptible
20d	39.64%	38.36%	0.97	27.00%	BRE Compliant	Imperceptible
20e	39.63%	38.38%	0.97	27.00%	BRE Compliant	Imperceptible
No. 21						
21a	38.42%	36.62%	0.95	27.00%	BRE Compliant	Imperceptible
21b	36.41%	34.66%	0.95	27.00%	BRE Compliant	Imperceptible
21c	39.55%	38.38%	0.97	27.00%	BRE Compliant	Imperceptible
21d	39.53%	38.38%	0.97	27.00%	BRE Compliant	Imperceptible
21e	39.51%	38.38%	0.97	27.00%	BRE Compliant	Imperceptible
No. 22						
22a	35.08%	34.17%	0.97	27.00%	BRE Compliant	Imperceptible
22b	38.01%	36.69%	0.97	27.00%	BRE Compliant	Imperceptible
22c	39.48%	38.38%	0.97	27.00%	BRE Compliant	Imperceptible
22d	39.46%	38.38%	0.97	27.00%	BRE Compliant	Imperceptible
22e	39.43%	38.38%	0.97	27.00%	BRE Compliant	Imperceptible
No. 23						
23a	38.01%	36.67%	0.96	27.00%	BRE Compliant	Imperceptible
23b	38.42%	37.06%	0.96	27.00%	BRE Compliant	Imperceptible
23c	39.19%	38.40%	0.98	27.00%	BRE Compliant	Imperceptible
23d	39.26%	38.48%	0.98	27.00%	BRE Compliant	Imperceptible
23e	39.26%	38.49%	0.98	27.00%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the VSC of an existing window, the value needs to both drop below the stated target value of 27% **and** be less than 0.8 times the baseline value.

** For the interpretation of level of effects please refer to"2.2 Definition of Effects" on page 8.

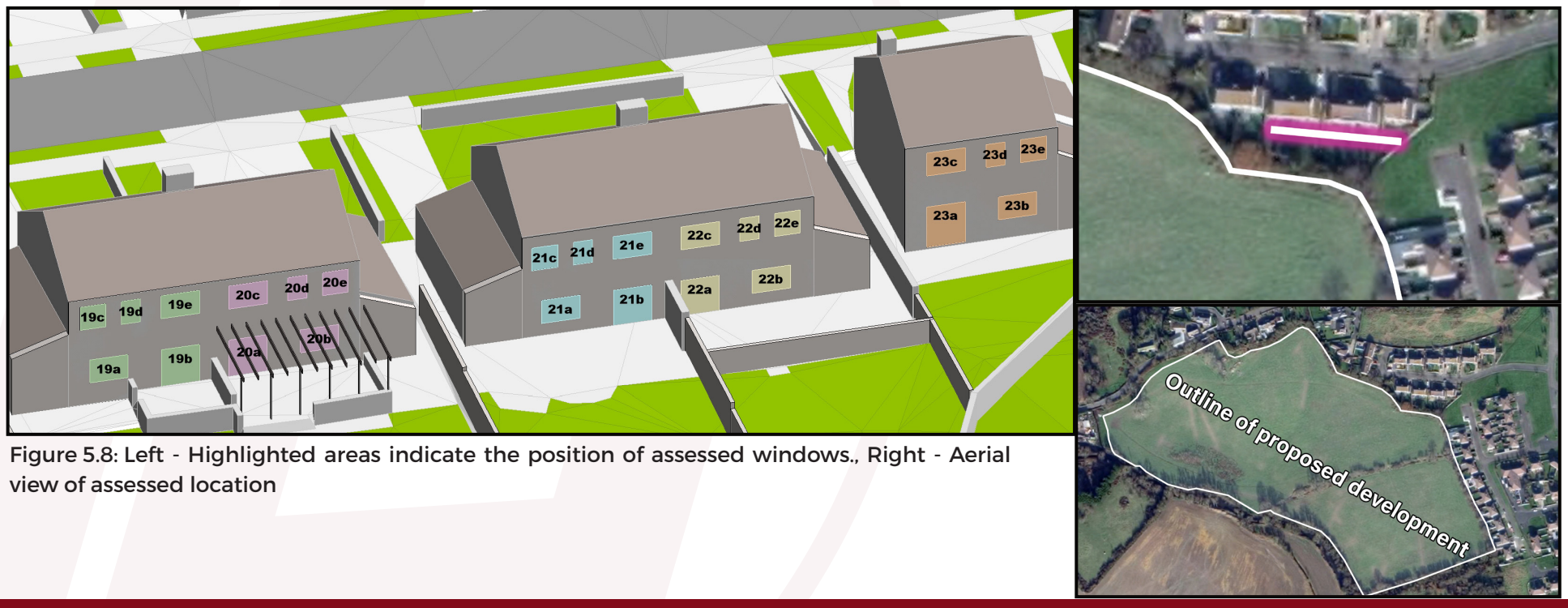


Figure 5.8: Left - Highlighted areas indicate the position of assessed windows., Right - Aerial view of assessed location

5.1.9 Westlands and Carley's Bridge D and A

Table No. 5.9: VSC Results Westlads and Carley's Bridge D and A						
Window Number	Baseline VSC Value	Proposed VSC Value	Ratio of Proposed VSC to Baseline VSC	Recommended minimum VSC*	Level of Compliance with BRE Guidelines	Effect of Proposed Development**
Westlands						
Wa	39.06%	34.46%	0.88	27.00%	BRE Compliant	Imperceptible
Wb	33.97%	30.21%	0.89	27.00%	BRE Compliant	Imperceptible
Wc	30.91%	28.62%	0.93	24.73%	BRE Compliant	Imperceptible
Wd	39.01%	34.73%	0.89	27.00%	BRE Compliant	Imperceptible
We	36.82%	33.21%	0.90	27.00%	BRE Compliant	Imperceptible
Wf	39.58%	34.84%	0.88	27.00%	BRE Compliant	Imperceptible
Charley's Bridge D						
Da	37.05%	35.25%	0.95	27.00%	BRE Compliant	Imperceptible
Db	36.81%	35.69%	0.97	27.00%	BRE Compliant	Imperceptible
Dc	37.77%	36.54%	0.97	27.00%	BRE Compliant	Imperceptible
Dd	38.00%	36.60%	0.96	27.00%	BRE Compliant	Imperceptible
De	36.69%	35.89%	0.98	27.00%	BRE Compliant	Imperceptible
Charley's Bridge A						
Aa	31.62%	30.33%	0.96	25.30%	BRE Compliant	Imperceptible
Ab	25.59%	24.76%	0.97	20.47%	BRE Compliant	Imperceptible
Ac	25.07%	24.84%	0.99	20.05%	BRE Compliant	Imperceptible
Ad	32.58%	32.28%	0.99	26.06%	BRE Compliant	Imperceptible
Ae	24.64%	24.60%	1.00	19.71%	BRE Compliant	Imperceptible
Af	36.02%	35.73%	0.99	27.00%	BRE Compliant	Imperceptible
Ag	39.69%	39.28%	0.99	27.00%	BRE Compliant	Imperceptible
Ah	39.65%	39.22%	0.99	27.00%	BRE Compliant	Imperceptible
Ai	39.68%	39.23%	0.99	27.00%	BRE Compliant	Imperceptible
Aj	37.54%	37.33%	0.99	27.00%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the VSC of an existing window, the value needs to both drop below the stated target value of 27% **and** be less than 0.8 times the baseline value.

** For the interpretation of level of effects please refer to"2.2 Definition of Effects" on page 8.

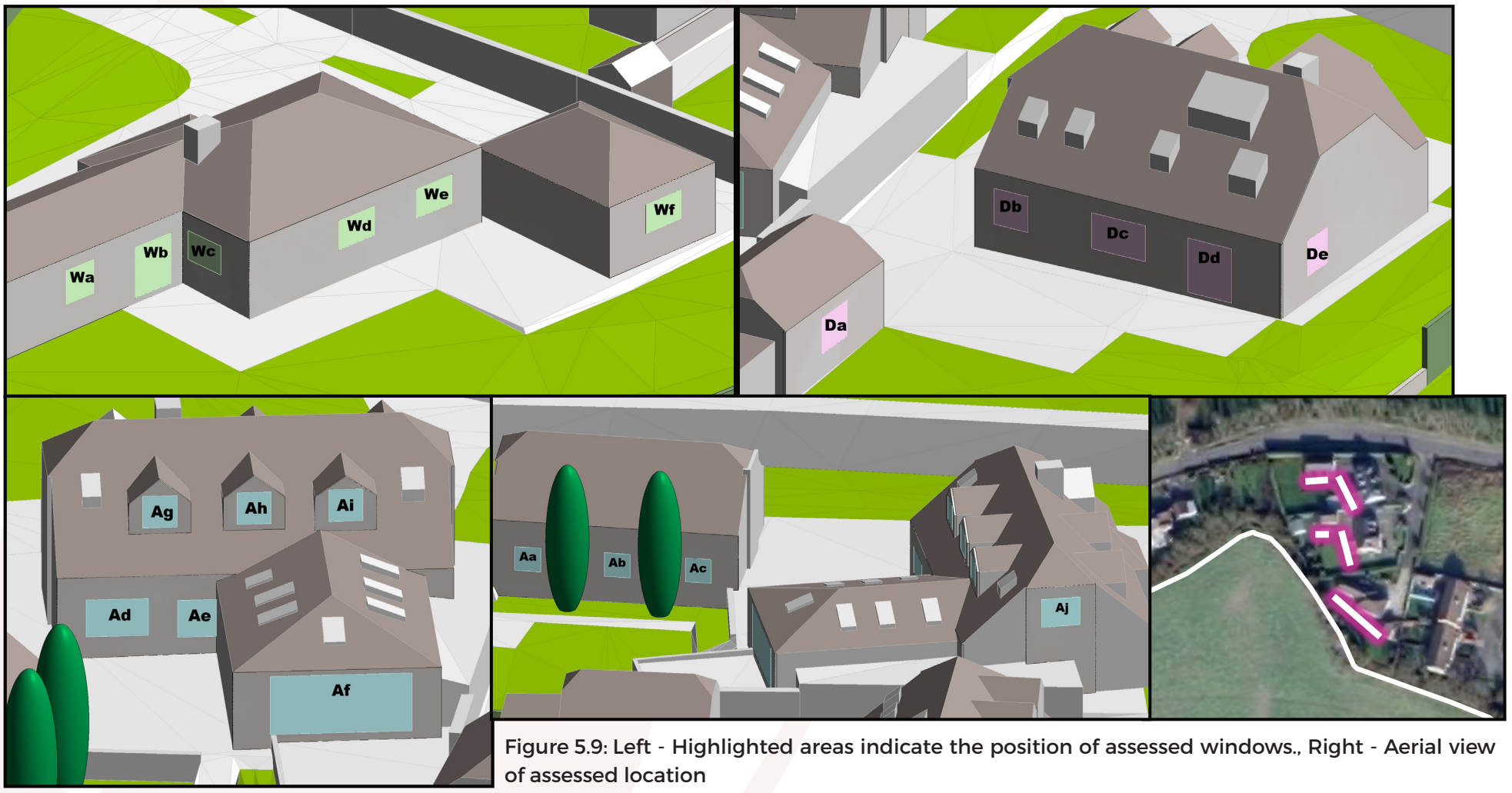


Figure 5.9: Left - Highlighted areas indicate the position of assessed windows., Right - Aerial view of assessed location

5.1.10 Hillgrange, Sundale and Carley's Bridge B

Table No. 5.10: VSC Results Hillgrange, Sundale and Carley's Bridge B						
Window Number	Baseline VSC Value	Proposed VSC Value	Ratio of Proposed VSC to Baseline VSC	Recommended minimum VSC*	Level of Compliance with BRE Guidelines	Effect of Proposed Development**
Hillgrange						
Ha	34.99%	33.00%	0.94	27.00%	BRE Compliant	Imperceptible
Hb	34.84%	31.64%	0.91	27.00%	BRE Compliant	Imperceptible
Hc	29.89%	26.26%	0.88	23.91%	BRE Compliant	Imperceptible
Hd1***	37.86%	31.29%	0.83	27.00%	BRE Compliant	Imperceptible
Hd2***	23.52%	22.89%	0.97	18.82%	BRE Compliant	Imperceptible
Hd#	30.69%	27.09%	0.88	24.55%	BRE Compliant	Imperceptible
He	27.06%	25.91%	0.96	21.65%	BRE Compliant	Imperceptible
Hf	39.46%	36.62%	0.93	27.00%	BRE Compliant	Imperceptible
Sundale						
Sa	39.54%	33.92%	0.86	27.00%	BRE Compliant	Imperceptible
Sb	28.79%	25.99%	0.90	23.03%	BRE Compliant	Imperceptible
Sc	34.24%	31.32%	0.91	27.00%	BRE Compliant	Imperceptible
Sd	26.63%	24.58%	0.92	21.30%	BRE Compliant	Imperceptible
Se	39.59%	34.14%	0.86	27.00%	BRE Compliant	Imperceptible
Charley's Bridge B						
Ba1***	38.54%	38.54%	1.00	27.00%	BRE Compliant	Imperceptible
Ba2***	37.97%	37.02%	0.97	27.00%	BRE Compliant	Imperceptible
Ba#	38.26%	37.78%	0.99	27.00%	BRE Compliant	Imperceptible
Bb	37.97%	37.02%	0.97	27.00%	BRE Compliant	Imperceptible
Bc	32.01%	30.85%	0.96	25.60%	BRE Compliant	Imperceptible
Bd	39.30%	36.86%	0.94	27.00%	BRE Compliant	Imperceptible
Be	39.47%	36.89%	0.93	27.00%	BRE Compliant	Imperceptible
Bf	39.91%	39.10%	0.98	27.00%	BRE Compliant	Imperceptible
Bg	39.93%	39.00%	0.98	27.00%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the VSC of an existing window, the value needs to both drop below the stated target value of 27% **and** be less than 0.8 times the baseline value.

** For the interpretation of level of effects please refer to"2.2 Definition of Effects" on page 8.

*** # If it can be determined that multiple windows are servicing the same room, each window will be assessed and the average value will be taken.

Figure 5.10: Left - Highlighted areas indicate the position of assessed windows., Right - Aerial view of assessed location

5.1.11 Charley's Bridge C and Carrigabruce

Table No. 5.11: VSC Results Charley's Bridge C and Carrigabruce						
Window Number	Baseline VSC Value	Proposed VSC Value	Ratio of Proposed VSC to Baseline VSC	Recommended minimum VSC*	Level of Compliance with BRE Guidelines	Effect of Proposed Development**
Charley's Bridge C						
Ca	32.80%	28.58%	0.87	26.24%	BRE Compliant	Imperceptible
Cb	39.34%	35.02%	0.89	27.00%	BRE Compliant	Imperceptible
Cc	29.88%	27.22%	0.91	23.90%	BRE Compliant	Imperceptible
Cd	36.99%	33.45%	0.90	27.00%	BRE Compliant	Imperceptible
Ce	37.07%	34.27%	0.92	27.00%	BRE Compliant	Imperceptible
Cf	38.83%	35.40%	0.91	27.00%	BRE Compliant	Imperceptible
Cg	38.13%	35.29%	0.93	27.00%	BRE Compliant	Imperceptible
Ch	39.31%	35.90%	0.91	27.00%	BRE Compliant	Imperceptible
Ci	39.51%	36.18%	0.92	27.00%	BRE Compliant	Imperceptible
Carrigabruce						
Ca	38.63%	36.26%	0.94	27.00%	BRE Compliant	Imperceptible
Cb	38.43%	35.70%	0.93	27.00%	BRE Compliant	Imperceptible
Cc	38.45%	35.39%	0.92	27.00%	BRE Compliant	Imperceptible
Cd	38.06%	34.98%	0.92	27.00%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the VSC of an existing window, the value needs to both drop below the stated target value of 27% **and** be less than 0.8 times the baseline value.

** For the interpretation of level of effects please refer to"2.2 Definition of Effects" on page 8.

Figure 5.11: Left - Highlighted areas indicate the position of assessed windows., Right - Aerial view of assessed location

5.2 Effect on Annual Probable Sunlight Hours

5.2.1 1-4 Millbrook

Annual

Table No. 5.12: APSH Results 1-4 Millbrook						
Window Number	Baseline APSH	Proposed APSH	Ratio of Proposed APSH to Baseline APSH	Recommended minimum APSH*	Level of Compliance with BRE Guidelines	Effect of Proposed Development
No. 1						
1a	45.0%	42.6%	0.95	25.0%	BRE Compliant	Imperceptible
1b	45.6%	42.0%	0.92	25.0%	BRE Compliant	Imperceptible
1c	52.6%	49.7%	0.94	25.0%	BRE Compliant	Imperceptible
1d	52.6%	49.2%	0.94	25.0%	BRE Compliant	Imperceptible
No. 2						
2a1***	45.9%	40.8%	0.89	25.0%	BRE Compliant	Imperceptible
2a2***	53.4%	50.3%	0.94	25.0%	BRE Compliant	Imperceptible
2a#	49.7%	45.6%	0.92	25.0%	BRE Compliant	Imperceptible
2b	47.9%	43.9%	0.92	25.0%	BRE Compliant	Imperceptible
2c	52.6%	48.7%	0.93	25.0%	BRE Compliant	Imperceptible
2d	52.6%	48.5%	0.92	25.0%	BRE Compliant	Imperceptible
No. 3						
3a	49.3%	45.3%	0.92	25.0%	BRE Compliant	Imperceptible
3b	51.7%	46.0%	0.89	25.0%	BRE Compliant	Imperceptible
3c	54.7%	50.0%	0.91	25.0%	BRE Compliant	Imperceptible
3d	54.7%	49.8%	0.91	25.0%	BRE Compliant	Imperceptible
No. 4						
4a	53.2%	46.0%	0.86	25.0%	BRE Compliant	Imperceptible
4b	53.4%	45.7%	0.85	25.0%	BRE Compliant	Imperceptible
4c	54.7%	49.6%	0.91	25.0%	BRE Compliant	Imperceptible
4d	54.6%	49.7%	0.91	25.0%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the APSH of an existing window, the value needs to drop below the stated target value of 25% (annual) / 5% (winter) **and** be less than 0.8 times the baseline value **and** it has to have a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

** For the interpretation of level of effects please refer to "2.2 Definition of Effects" on page 8.

*** # If it can be determined that multiple windows are servicing the same room, each window will be assessed and the average value will be taken.

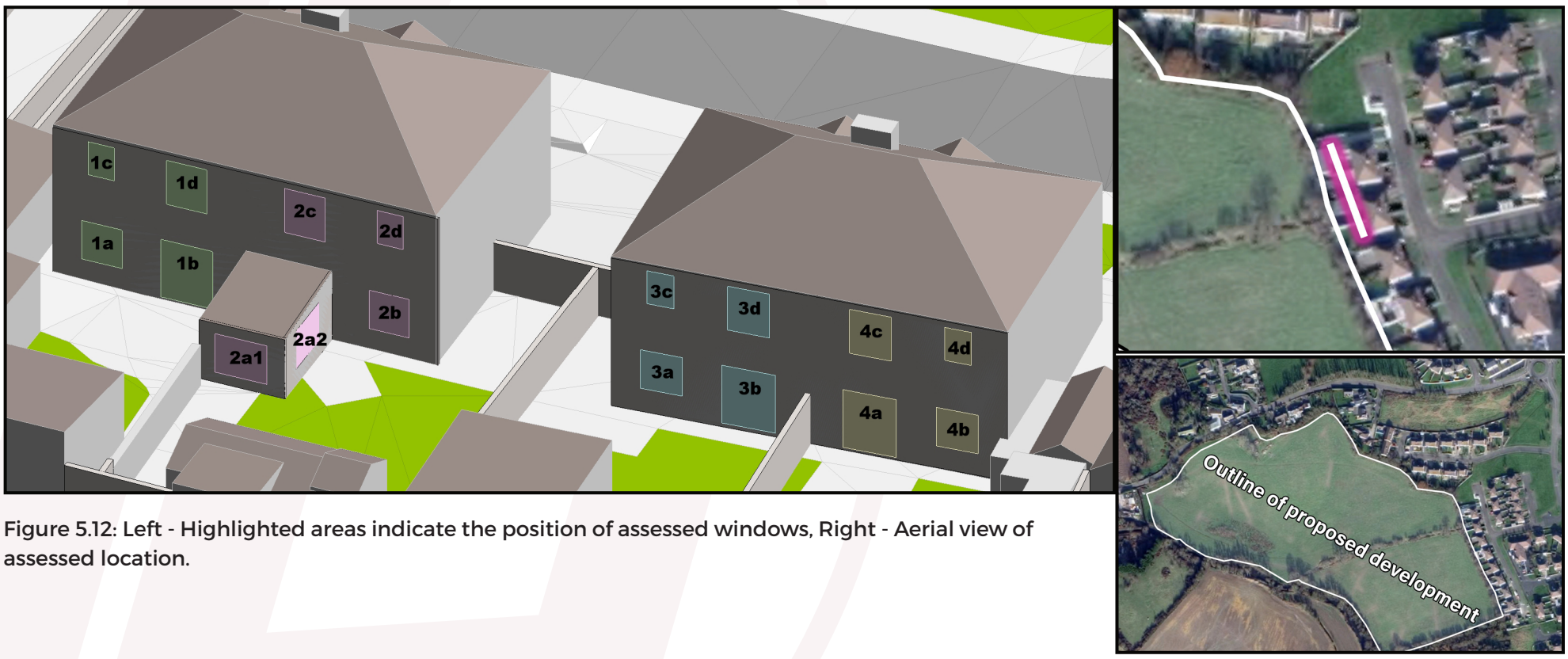


Figure 5.12: Left - Highlighted areas indicate the position of assessed windows, Right - Aerial view of assessed location.

Winter

Table No. 5.13: WPSH Results 1-4 Millbrook						
Window Number	Baseline WPSH	Proposed WPSH	Ratio of Proposed to Baseline WPSH	Recommended minimum WPSH*	Level of Compliance with BRE Guidelines	Effect of Proposed Development
No. 1						
1a	100.0%	88.1%	0.88	5.0%	BRE Compliant	Imperceptible
1b	100.0%	83.3%	0.83	5.0%	BRE Compliant	Imperceptible
1c	100.0%	90.2%	0.90	5.0%	BRE Compliant	Imperceptible
1d	100.0%	88.7%	0.89	5.0%	BRE Compliant	Imperceptible
No. 2						
2a1***	100.0%	79.2%	0.79	5.0%	BRE Compliant	Imperceptible
2a2***	100.0%	86.8%	0.87	5.0%	BRE Compliant	Imperceptible
2a#	100.0%	83.0%	0.83	5.0%	BRE Compliant	Imperceptible
2b	100.0%	83.8%	0.84	5.0%	BRE Compliant	Imperceptible
2c	100.0%	86.7%	0.87	5.0%	BRE Compliant	Imperceptible
2d	100.0%	86.1%	0.86	5.0%	BRE Compliant	Imperceptible
No. 3						
3a	100.0%	88.7%	0.89	5.0%	BRE Compliant	Imperceptible
3b	100.0%	84.5%	0.84	5.0%	BRE Compliant	Imperceptible
3c	100.0%	87.8%	0.88	5.0%	BRE Compliant	Imperceptible
3d	100.0%	89.0%	0.89	5.0%	BRE Compliant	Imperceptible
No. 4						
4a	100.0%	82.8%	0.83	5.0%	BRE Compliant	Imperceptible
4b	100.0%	81.1%	0.81	5.0%	BRE Compliant	Imperceptible
4c	100.0%	89.6%	0.90	5.0%	BRE Compliant	Imperceptible
4d	100.0%	90.0%	0.90	5.0%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the APSH/WPSH of an existing window, the value needs to drop below the stated target value of 25% (annual) / 5% (winter) **and** be less than 0.8 times the baseline value **and** it has to have a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

** For the interpretation of level of effects please refer to "2.2 Definition of Effects" on page 8.

*** # If it can be determined that multiple windows are servicing the same room, each window will be assessed and the average value will be taken.

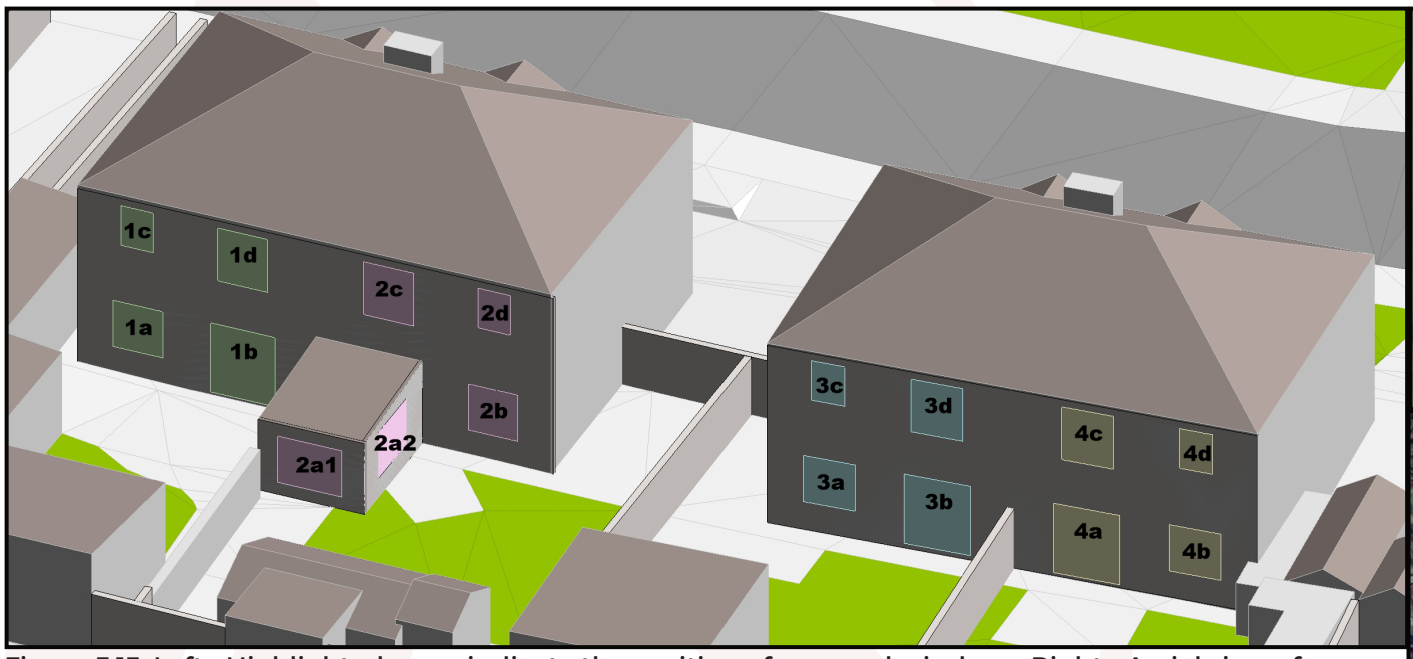


Figure 5.13: Left - Highlighted areas indicate the position of assessed windows, Right - Aerial view of assessed location.

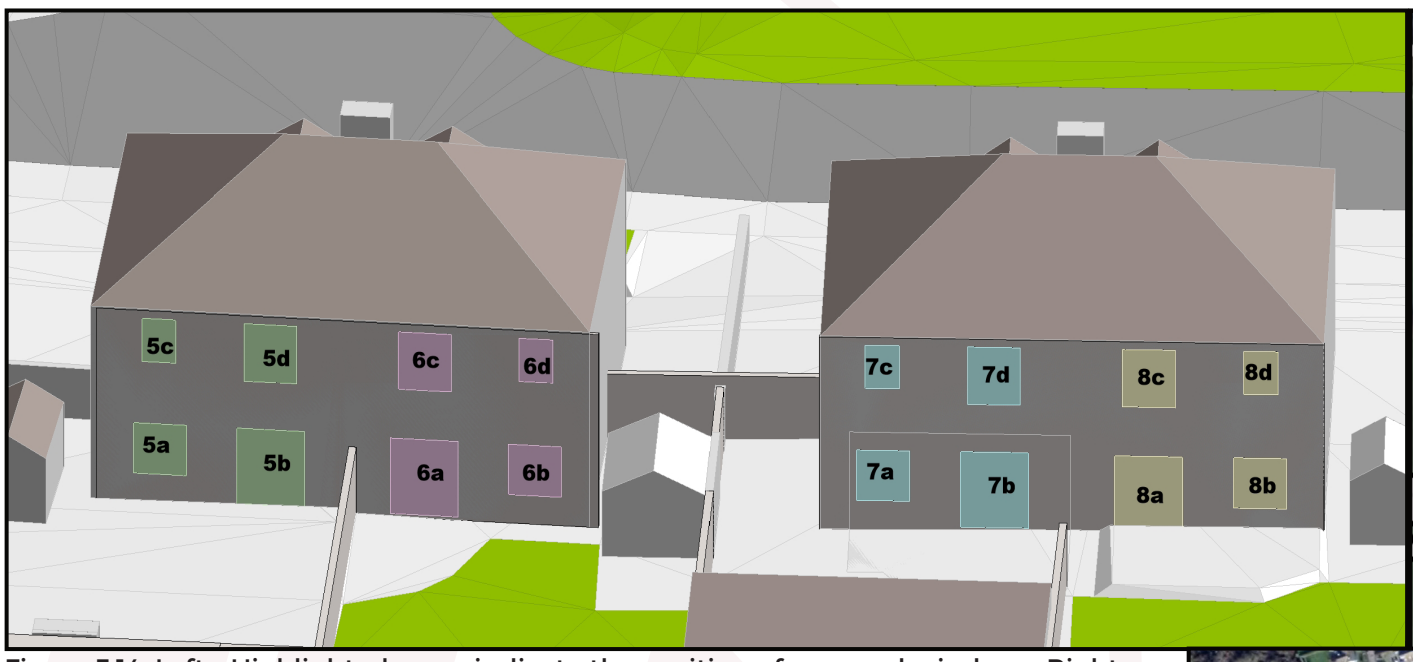
5.2.2 5-8 Millbrook

Annual

Table No. 5.14: APSH Results 5-8 Millbrook						
Window Number	Baseline APSH	Proposed APSH	Ratio of Proposed APSH to Baseline APSH	Recommended minimum APSH*	Level of Compliance with BRE Guidelines	Effect of Proposed Development
No. 5						
5a	55.1%	49.0%	0.89	25.0%	BRE Compliant	Imperceptible
5b	56.0%	49.4%	0.88	25.0%	BRE Compliant	Imperceptible
5c	57.0%	52.4%	0.92	25.0%	BRE Compliant	Imperceptible
5d	57.0%	52.4%	0.92	25.0%	BRE Compliant	Imperceptible
No. 6						
6a	55.2%	49.4%	0.90	25.0%	BRE Compliant	Imperceptible
6b	55.1%	48.6%	0.88	25.0%	BRE Compliant	Imperceptible
6c	56.9%	52.5%	0.92	25.0%	BRE Compliant	Imperceptible
6d	56.9%	52.8%	0.93	25.0%	BRE Compliant	Imperceptible
No. 7						
7a	54.2%	51.7%	0.95	25.0%	BRE Compliant	Imperceptible
7b	55.1%	52.0%	0.94	25.0%	BRE Compliant	Imperceptible
7c	59.0%	55.3%	0.94	25.0%	BRE Compliant	Imperceptible
7d	58.9%	55.1%	0.93	25.0%	BRE Compliant	Imperceptible
No. 8						
8a	56.0%	52.1%	0.93	25.0%	BRE Compliant	Imperceptible
8b	55.5%	51.3%	0.92	25.0%	BRE Compliant	Imperceptible
8c	58.9%	55.2%	0.94	25.0%	BRE Compliant	Imperceptible
8d	58.8%	55.4%	0.94	25.0%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the APSH of an existing window, the value needs to drop below the stated target value of 25% (annual) / 5% (winter) **and** be less than 0.8 times the baseline value **and** it has to have a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

** For the interpretation of level of effects please refer to “2.2 Definition of Effects” on page 8.



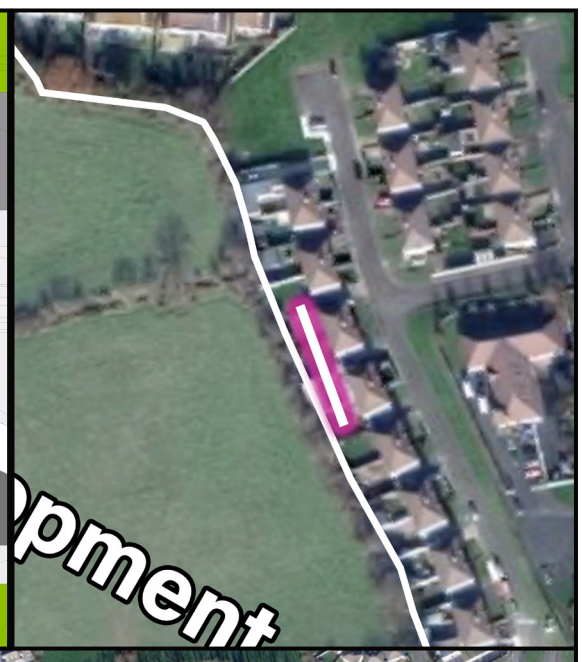


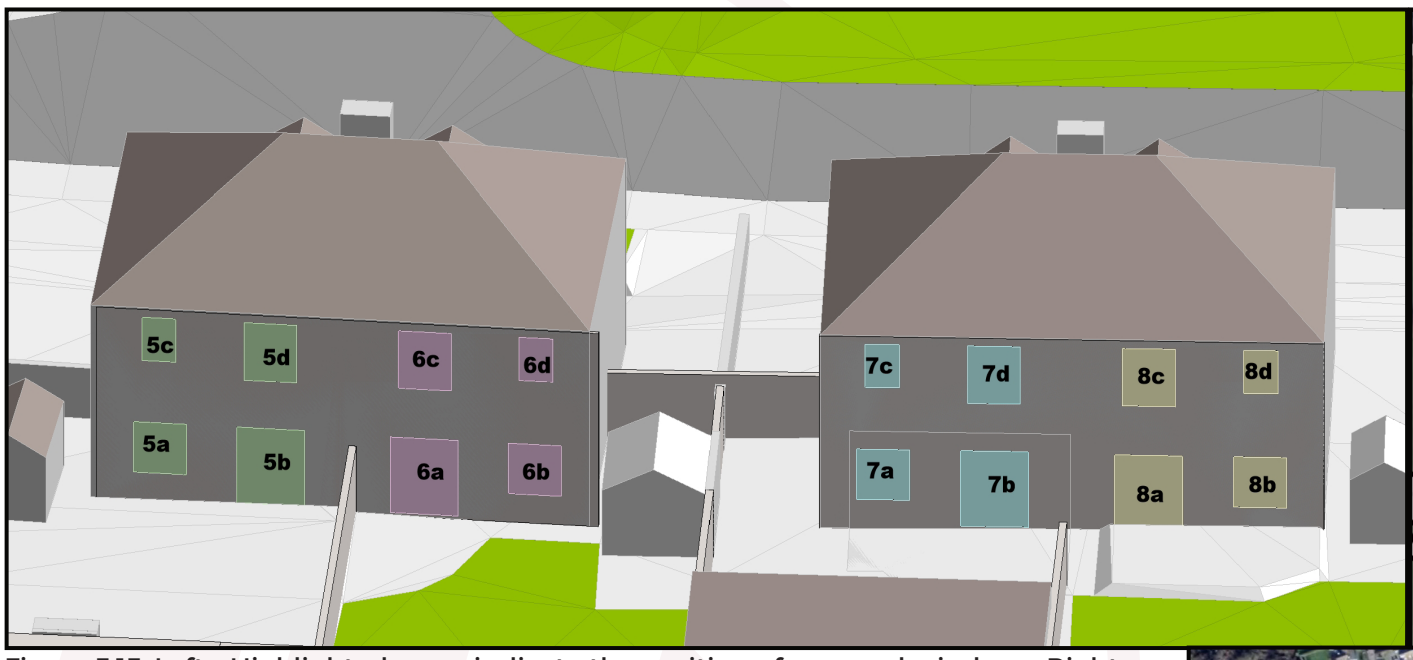
Figure 5.14: Left - Highlighted areas indicate the position of assessed windows, Right - Aerial view of assessed location.

Winter

Table No. 5.15: WPSH Results 5-8 Millbrook						
Window Number	Baseline WPSH	Proposed WPSH	Ratio of Proposed to Baseline WPSH	Recommended minimum WPSH*	Level of Compliance with BRE Guidelines	Effect of Proposed Development
No. 5						
5a	100.0%	85.9%	0.86	5.0%	BRE Compliant	Imperceptible
5b	100.0%	85.1%	0.85	5.0%	BRE Compliant	Imperceptible
5c	100.0%	90.9%	0.91	5.0%	BRE Compliant	Imperceptible
5d	100.0%	90.5%	0.91	5.0%	BRE Compliant	Imperceptible
No. 6						
6a	100.0%	83.9%	0.84	5.0%	BRE Compliant	Imperceptible
6b	100.0%	82.1%	0.82	5.0%	BRE Compliant	Imperceptible
6c	100.0%	90.4%	0.90	5.0%	BRE Compliant	Imperceptible
6d	100.0%	90.9%	0.91	5.0%	BRE Compliant	Imperceptible
No. 7						
7a	100.0%	96.0%	0.96	5.0%	BRE Compliant	Imperceptible
7b	100.0%	93.7%	0.94	5.0%	BRE Compliant	Imperceptible
7c	100.0%	91.8%	0.92	5.0%	BRE Compliant	Imperceptible
7d	100.0%	91.5%	0.91	5.0%	BRE Compliant	Imperceptible
No. 8						
8a	100.0%	89.0%	0.89	5.0%	BRE Compliant	Imperceptible
8b	100.0%	87.1%	0.87	5.0%	BRE Compliant	Imperceptible
8c	100.0%	91.7%	0.92	5.0%	BRE Compliant	Imperceptible
8d	100.0%	92.2%	0.92	5.0%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the APSH/WPSH of an existing window, the value needs to drop below the stated target value of 25% (annual) / 5% (winter) **and** be less than 0.8 times the baseline value **and** it has to have a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

** For the interpretation of level of effects please refer to “2.2 Definition of Effects” on page 8.



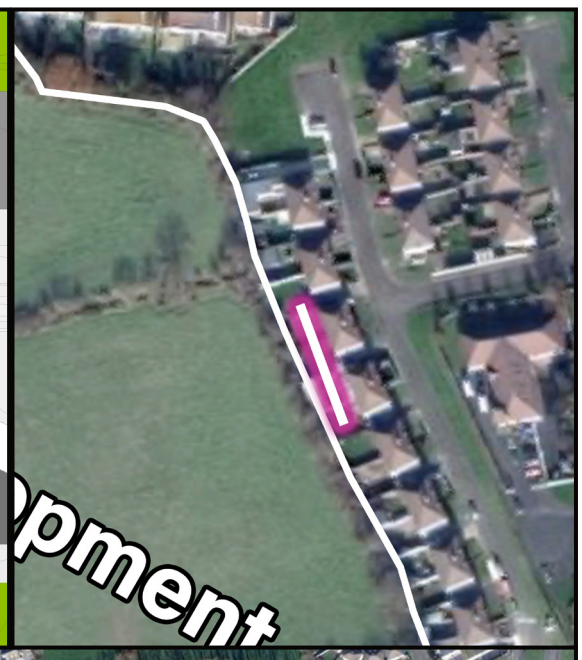


Figure 5.15: Left - Highlighted areas indicate the position of assessed windows, Right - Aerial view of assessed location.

5.2.3 9-12 Millbrook

Annual

Table No. 5.16: APSH Results 9-12 Millbrook						
Window Number	Baseline APSH	Proposed APSH	Ratio of Proposed APSH to Baseline APSH	Recommended minimum APSH*	Level of Compliance with BRE Guidelines	Effect of Proposed Development
No. 9						
9a	57.5%	52.1%	0.91	25.0%	BRE Compliant	Imperceptible
9b	58.2%	52.3%	0.90	25.0%	BRE Compliant	Imperceptible
9c	58.5%	55.4%	0.95	25.0%	BRE Compliant	Imperceptible
9d	58.5%	55.2%	0.94	25.0%	BRE Compliant	Imperceptible
No. 10						
10a	58.2%	52.2%	0.90	25.0%	BRE Compliant	Imperceptible
10b	57.9%	52.0%	0.90	25.0%	BRE Compliant	Imperceptible
10c	58.4%	55.2%	0.94	25.0%	BRE Compliant	Imperceptible
10d	58.4%	55.4%	0.95	25.0%	BRE Compliant	Imperceptible
No. 11						
11a	56.9%	52.1%	0.92	25.0%	BRE Compliant	Imperceptible
11b	55.9%	52.3%	0.94	25.0%	BRE Compliant	Imperceptible
11c	58.3%	55.4%	0.95	25.0%	BRE Compliant	Imperceptible
11d	58.2%	55.2%	0.95	25.0%	BRE Compliant	Imperceptible
No. 12						
12a	55.7%	52.3%	0.94	25.0%	BRE Compliant	Imperceptible
12b	55.8%	52.1%	0.93	25.0%	BRE Compliant	Imperceptible
12c	58.2%	55.2%	0.95	25.0%	BRE Compliant	Imperceptible
12d	58.2%	55.3%	0.95	25.0%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the APSH of an existing window, the value needs to drop below the stated target value of 25% (annual) / 5% (winter) **and** be less than 0.8 times the baseline value **and** it has to have a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

** For the interpretation of level of effects please refer to “2.2 Definition of Effects” on page 8.

Figure 5.16: Left - Highlighted areas indicate the position of assessed windows, Right - Aerial view of assessed location.

Winter

Table No. 5.17: WPSH Results 9-12 Millbrook						
Window Number	Baseline WPSH	Proposed WPSH	Ratio of Proposed to Baseline WPSH	Recommended minimum WPSH*	Level of Compliance with BRE Guidelines	Effect of Proposed Development
No. 9						
9a	100.0%	87.0%	0.87	5.0%	BRE Compliant	Imperceptible
9b	100.0%	86.3%	0.86	5.0%	BRE Compliant	Imperceptible
9c	100.0%	93.0%	0.93	5.0%	BRE Compliant	Imperceptible
9d	100.0%	92.3%	0.92	5.0%	BRE Compliant	Imperceptible
No. 10						
10a	100.0%	86.2%	0.86	5.0%	BRE Compliant	Imperceptible
10b	100.0%	85.6%	0.86	5.0%	BRE Compliant	Imperceptible
10c	100.0%	92.6%	0.93	5.0%	BRE Compliant	Imperceptible
10d	100.0%	93.2%	0.93	5.0%	BRE Compliant	Imperceptible
No. 11						
11a	100.0%	90.1%	0.90	5.0%	BRE Compliant	Imperceptible
11b	100.0%	94.8%	0.95	5.0%	BRE Compliant	Imperceptible
11c	100.0%	93.2%	0.93	5.0%	BRE Compliant	Imperceptible
11d	100.0%	92.8%	0.93	5.0%	BRE Compliant	Imperceptible
No. 12						
12a	100.0%	89.5%	0.89	5.0%	BRE Compliant	Imperceptible
12b	100.0%	87.9%	0.88	5.0%	BRE Compliant	Imperceptible
12c	100.0%	93.0%	0.93	5.0%	BRE Compliant	Imperceptible
12d	100.0%	93.4%	0.93	5.0%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the APSH/WPSH of an existing window, the value needs to drop below the stated target value of 25% (annual) / 5% (winter) **and** be less than 0.8 times the baseline value **and** it has to have a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

** For the interpretation of level of effects please refer to “2.2 Definition of Effects” on page 8.

Figure 5.17: Left - Highlighted areas indicate the position of assessed windows, Right - Aerial view of assessed location.

5.2.4 13-16 Millbrook

Annual

Table No. 5.18: APSH Results 13-16 Millbrook						
Window Number	Baseline APSH	Proposed APSH	Ratio of Proposed APSH to Baseline APSH	Recommended minimum APSH*	Level of Compliance with BRE Guidelines	Effect of Proposed Development
No. 13						
13a	56.1%	51.4%	0.92	25.0%	BRE Compliant	Imperceptible
13b	56.1%	51.6%	0.92	25.0%	BRE Compliant	Imperceptible
13c	57.2%	54.5%	0.95	25.0%	BRE Compliant	Imperceptible
13d	57.1%	54.3%	0.95	25.0%	BRE Compliant	Imperceptible
No. 14						
14a	55.8%	51.4%	0.92	25.0%	BRE Compliant	Imperceptible
14b	55.2%	50.8%	0.92	25.0%	BRE Compliant	Imperceptible
14c	57.1%	54.3%	0.95	25.0%	BRE Compliant	Imperceptible
14d	57.0%	54.5%	0.96	25.0%	BRE Compliant	Imperceptible
No. 15						
15a	46.6%	45.5%	0.98	25.0%	BRE Compliant	Imperceptible
15b	44.4%	42.4%	0.95	25.0%	BRE Compliant	Imperceptible
15c	54.3%	51.9%	0.96	25.0%	BRE Compliant	Imperceptible
15d	54.2%	51.7%	0.95	25.0%	BRE Compliant	Imperceptible
No. 16						
16a	43.6%	38.7%	0.89	25.0%	BRE Compliant	Imperceptible
16b	58.4%	58.4%	1.00	25.0%	BRE Compliant	Imperceptible
16c	36.5%	36.5%	1.00	25.0%	BRE Compliant	Imperceptible
16d	54.2%	51.5%	0.95	25.0%	BRE Compliant	Imperceptible
16e	54.1%	51.7%	0.96	25.0%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the APSH of an existing window, the value needs to drop below the stated target value of 25% (annual) / 5% (winter) **and** be less than 0.8 times the baseline value **and** it has to have a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

** For the interpretation of level of effects please refer to "2.2 Definition of Effects" on page 8.

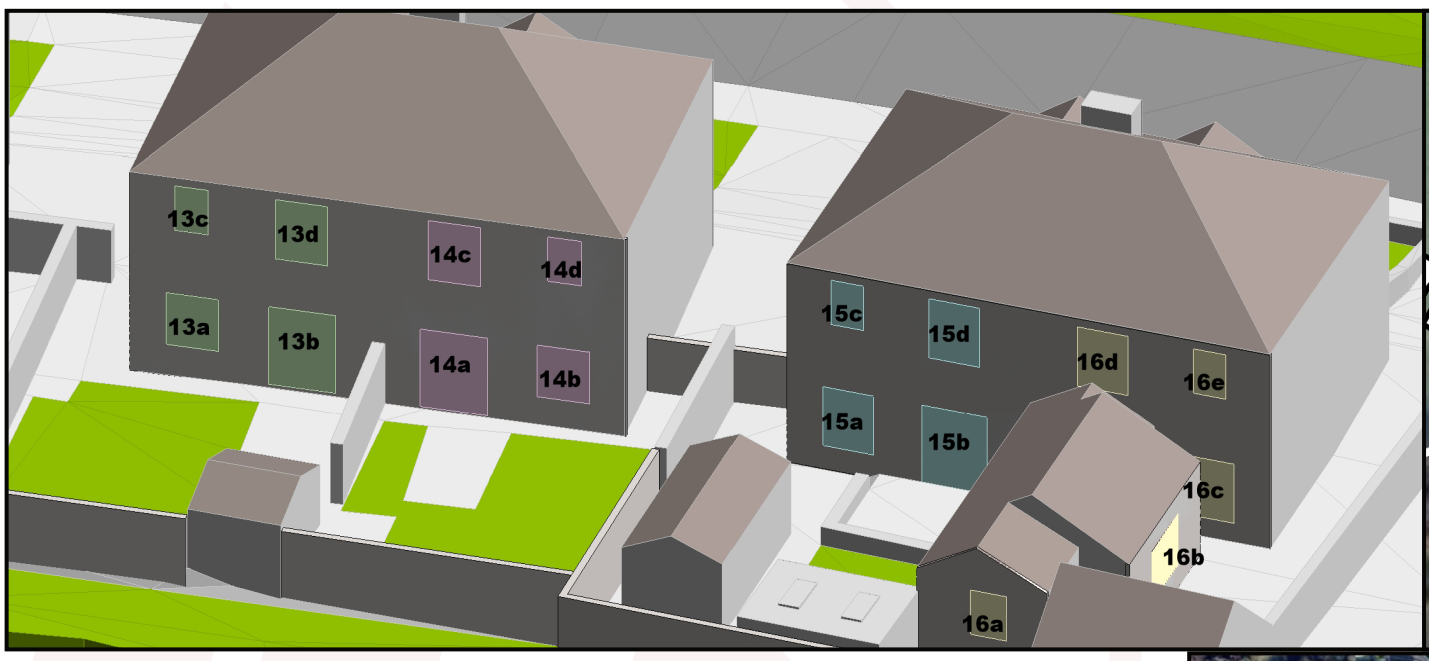


Figure 5.18: Left - Highlighted areas indicate the position of assessed windows, Right - Aerial view of assessed location.

Winter

Table No. 5.19: WPSH Results 13-16 Millbrook						
Window Number	Baseline WPSH	Proposed WPSH	Ratio of Proposed to Baseline WPSH	Recommended minimum WPSH*	Level of Compliance with BRE Guidelines	Effect of Proposed Development
No. 13						
13a	100.0%	87.2%	0.87	5.0%	BRE Compliant	Imperceptible
13b	100.0%	88.8%	0.89	5.0%	BRE Compliant	Imperceptible
13c	100.0%	93.7%	0.94	5.0%	BRE Compliant	Imperceptible
13d	100.0%	93.5%	0.93	5.0%	BRE Compliant	Imperceptible
No. 14						
14a	100.0%	89.1%	0.89	5.0%	BRE Compliant	Imperceptible
14b	100.0%	87.3%	0.87	5.0%	BRE Compliant	Imperceptible
14c	100.0%	93.5%	0.94	5.0%	BRE Compliant	Imperceptible
14d	100.0%	94.0%	0.94	5.0%	BRE Compliant	Imperceptible
No. 15						
15a	100.0%	94.7%	0.95	5.0%	BRE Compliant	Imperceptible
15b	100.0%	91.0%	0.91	5.0%	BRE Compliant	Imperceptible
15c	100.0%	94.2%	0.94	5.0%	BRE Compliant	Imperceptible
15d	100.0%	93.7%	0.94	5.0%	BRE Compliant	Imperceptible
No. 16						
16a	100.0%	76.8%	0.77	5.0%	BRE Compliant	Imperceptible
16b	100.0%	100.0%	1.00	5.0%	BRE Compliant	Imperceptible
16c	100.0%	100.0%	1.00	5.0%	BRE Compliant	Imperceptible
16d	100.0%	93.2%	0.93	5.0%	BRE Compliant	Imperceptible
16e	100.0%	93.9%	0.94	5.0%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the APSH/WPSH of an existing window, the value needs to drop below the stated target value of 25% (annual) / 5% (winter) **and** be less than 0.8 times the baseline value **and** it has to have a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

** For the interpretation of level of effects please refer to “2.2 Definition of Effects” on page 8.

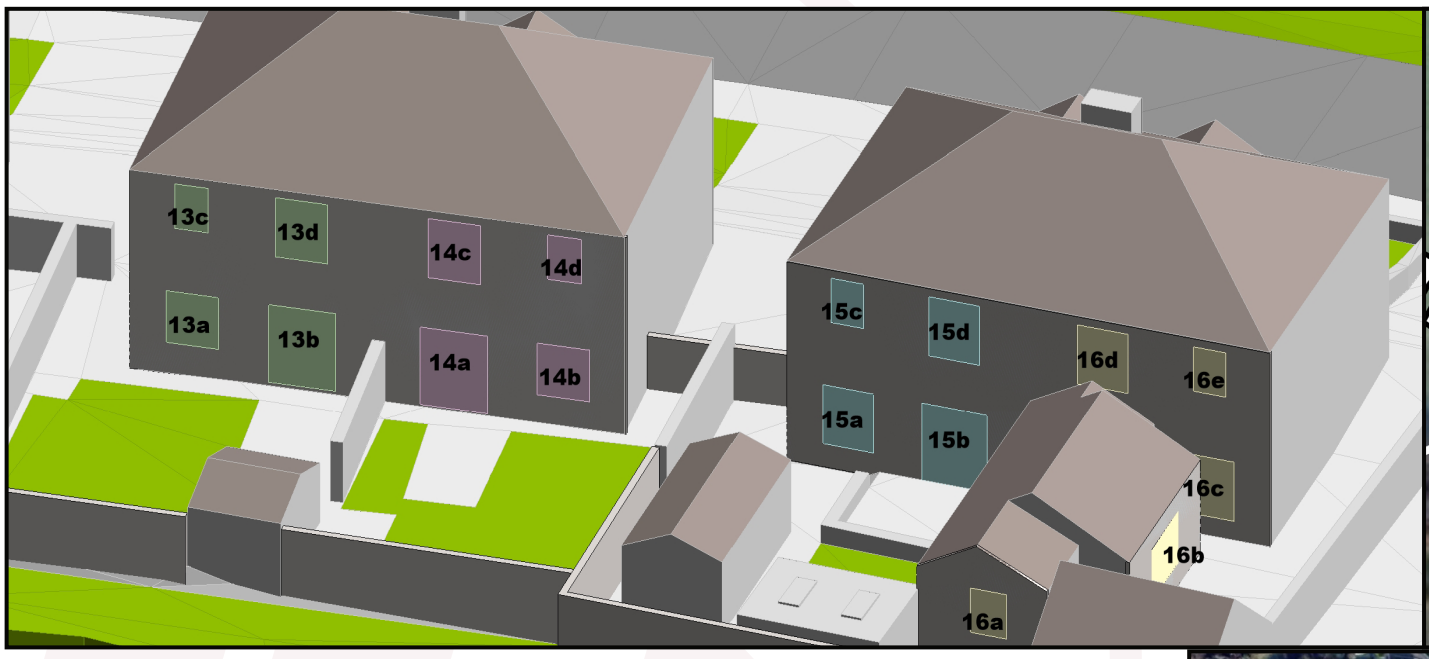


Figure 5.19: Left - Highlighted areas indicate the position of assessed windows, Right - Aerial view of assessed location.

5.2.5 17-18 Millbrook

Annual

Table No. 5.20: APSH Results 17-18 Millbrook						
Window Number	Baseline APSH	Proposed APSH	Ratio of Proposed APSH to Baseline APSH	Recommended minimum APSH*	Level of Compliance with BRE Guidelines	Effect of Proposed Development
No. 17						
17a	48.5%	46.6%	0.96	25.0%	BRE Compliant	Imperceptible
17b	50.3%	47.9%	0.95	25.0%	BRE Compliant	Imperceptible
17c	51.7%	50.0%	0.97	25.0%	BRE Compliant	Imperceptible
17d	51.7%	50.0%	0.97	25.0%	BRE Compliant	Imperceptible
No. 18						
18a	51.4%	48.9%	0.95	25.0%	BRE Compliant	Imperceptible
18b	51.6%	49.1%	0.95	25.0%	BRE Compliant	Imperceptible
18c	51.7%	50.2%	0.97	25.0%	BRE Compliant	Imperceptible
18d	51.6%	50.5%	0.98	25.0%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the APSH of an existing window, the value needs to drop below the stated target value of 25% (annual) / 5% (winter) **and** be less than 0.8 times the baseline value **and** it has to have a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

** For the interpretation of level of effects please refer to “2.2 Definition of Effects” on page 8.

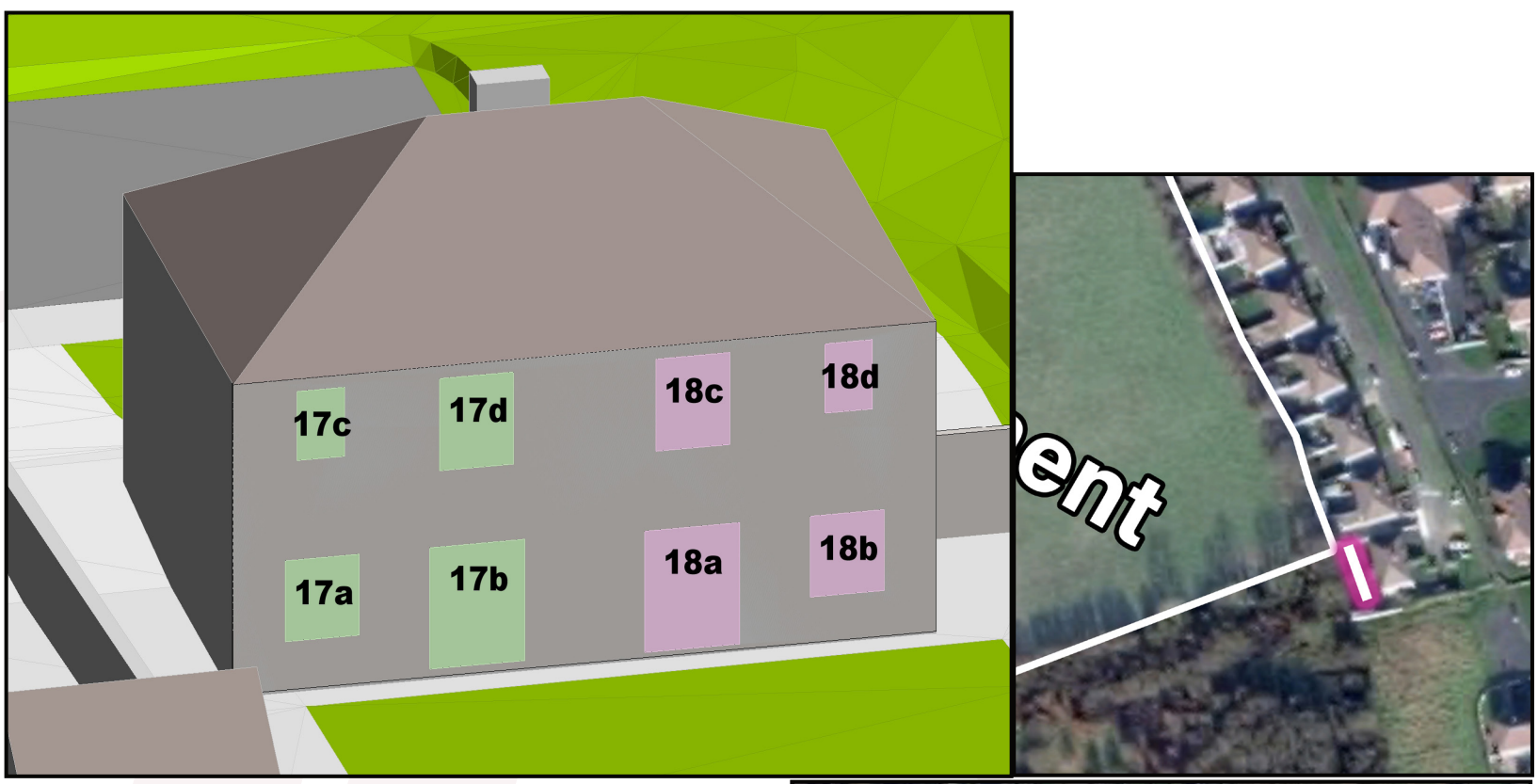


Figure 5.20: Left - Highlighted areas indicate the position of assessed windows, Right - Aerial view of assessed location.

Winter

Table No. 5.21: WPSH Results 17-18 Millbrook						
Window Number	Baseline WPSH	Proposed WPSH	Ratio of Proposed to Baseline WPSH	Recommended minimum WPSH*	Level of Compliance with BRE Guidelines	Effect of Proposed Development
No. 17						
17a	100.0%	92.3%	0.92	5.0%	BRE Compliant	Imperceptible
17b	100.0%	94.2%	0.94	5.0%	BRE Compliant	Imperceptible
17c	100.0%	96.2%	0.96	5.0%	BRE Compliant	Imperceptible
17d	100.0%	96.9%	0.97	5.0%	BRE Compliant	Imperceptible
No. 18						
18a	100.0%	97.3%	0.97	5.0%	BRE Compliant	Imperceptible
18b	100.0%	98.5%	0.98	5.0%	BRE Compliant	Imperceptible
18c	100.0%	98.2%	0.98	5.0%	BRE Compliant	Imperceptible
18d	100.0%	99.1%	0.99	5.0%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the APSH/WPSH of an existing window, the value needs to drop below the stated target value of 25% (annual) / 5% (winter) **and** be less than 0.8 times the baseline value **and** it has to have a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

** For the interpretation of level of effects please refer to “2.2 Definition of Effects” on page 8.

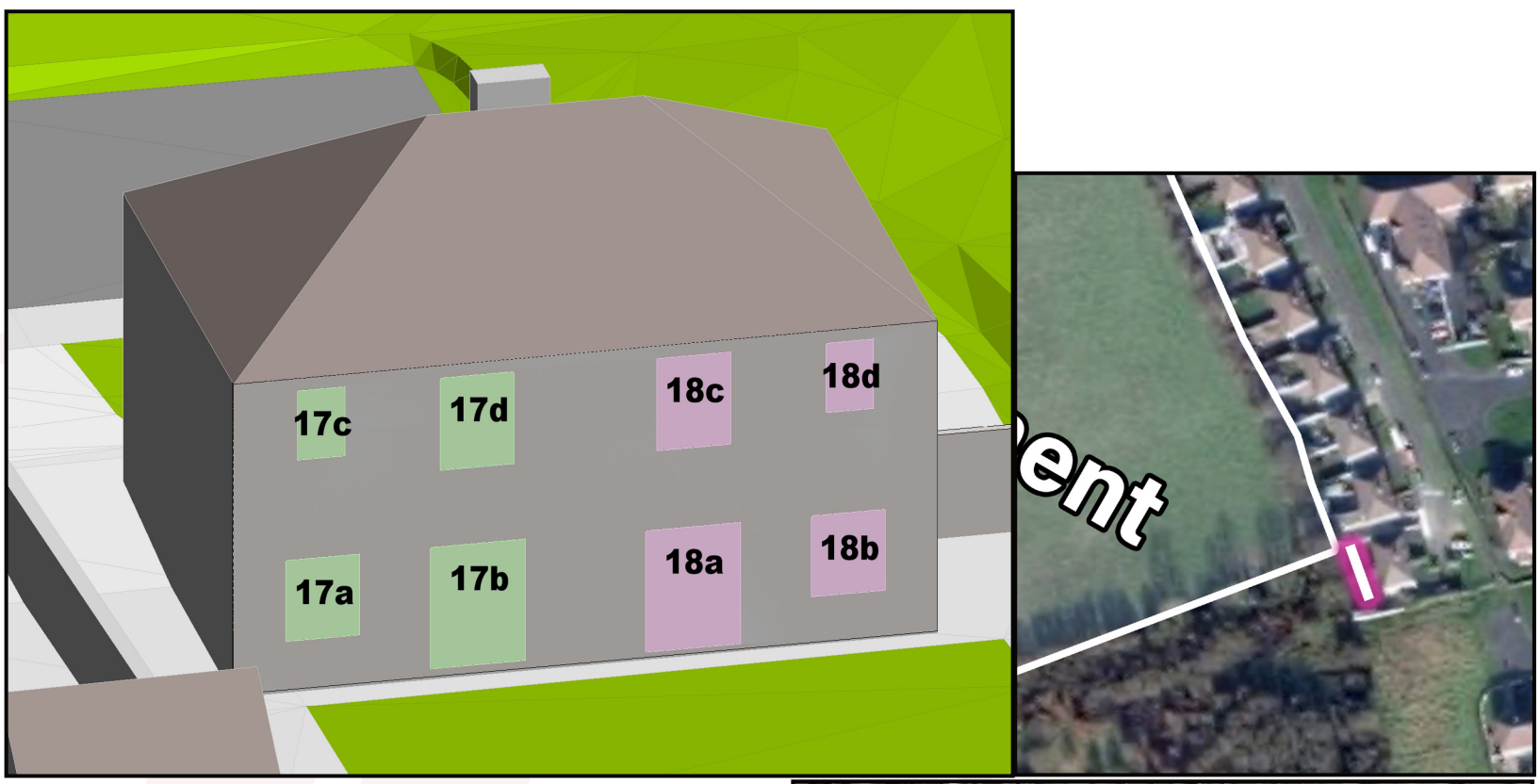


Figure 5.21: Left - Highlighted areas indicate the position of assessed windows, Right - Aerial view of assessed location.

5.2.6 15-17 Urrin Valley

Annual

Table No. 5.22: APSH Results 9 Millbrook and 15-17 Urrin Valley						
Window Number	Baseline APSH	Proposed APSH	Ratio of Proposed APSH to Baseline APSH	Recommended minimum APSH*	Level of Compliance with BRE Guidelines	Effect of Proposed Development
No. 15						
15g	51.5%	51.5%	1.00	25.0%	BRE Compliant	Imperceptible
15h	47.2%	47.1%	1.00	25.0%	BRE Compliant	Imperceptible
15i	53.4%	53.4%	1.00	25.0%	BRE Compliant	Imperceptible
15j	53.1%	53.1%	1.00	25.0%	BRE Compliant	Imperceptible
15k	45.6%	45.6%	1.00	25.0%	BRE Compliant	Imperceptible
No. 16						
16g	52.7%	52.6%	1.00	25.0%	BRE Compliant	Imperceptible
16h	52.0%	51.9%	1.00	25.0%	BRE Compliant	Imperceptible
16i	54.3%	54.2%	1.00	25.0%	BRE Compliant	Imperceptible
16j	53.7%	53.7%	1.00	25.0%	BRE Compliant	Imperceptible
16k	53.6%	53.6%	1.00	25.0%	BRE Compliant	Imperceptible
No. 17						
17a	85.4%	81.9%	0.96	25.0%	BRE Compliant	Imperceptible
17b	84.5%	81.7%	0.97	25.0%	BRE Compliant	Imperceptible
17c	86.4%	84.8%	0.98	25.0%	BRE Compliant	Imperceptible
17d	86.3%	84.8%	0.98	25.0%	BRE Compliant	Imperceptible
17e	86.2%	84.6%	0.98	25.0%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the APSH of an existing window, the value needs to drop below the stated target value of 25% (annual) / 5% (winter) **and** be less than 0.8 times the baseline value **and** it has to have a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

** For the interpretation of level of effects please refer to “2.2 Definition of Effects” on page 8.

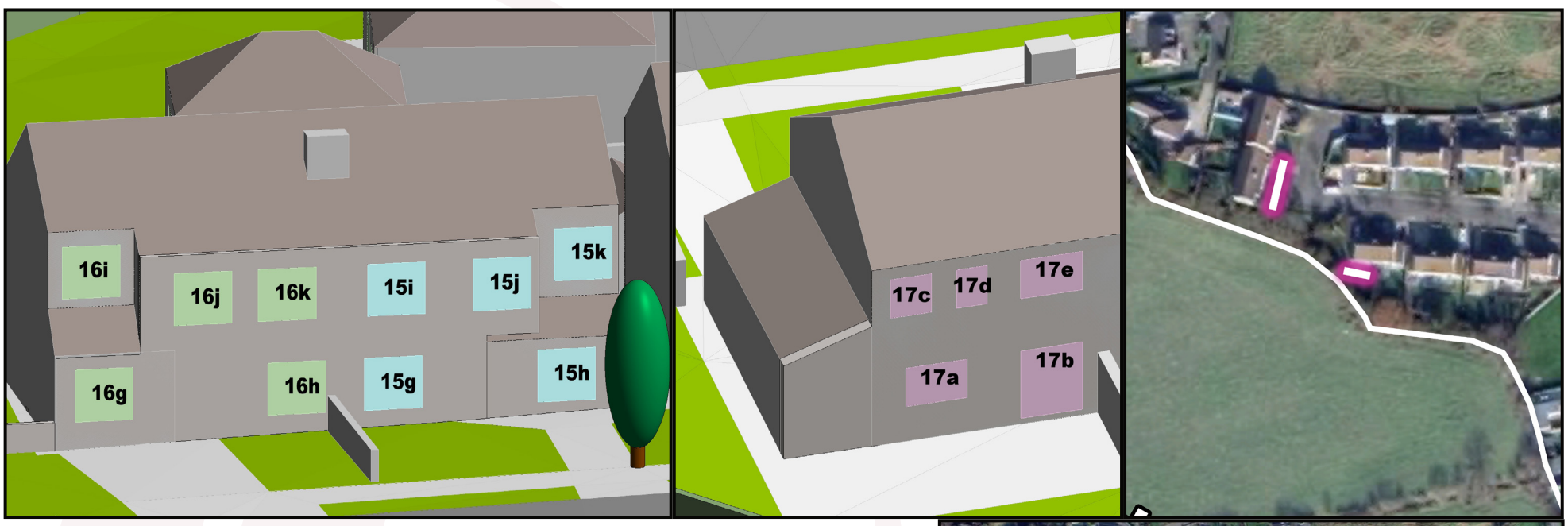


Figure 5.22: Left - Highlighted areas indicate the position of assessed windows, Right - Aerial view of assessed location.

Winter

Table No. 5.23: WPSH Results 15-17 Urrin Valley						
Window Number	Baseline WPSH	Proposed WPSH	Ratio of Proposed to Baseline WPSH	Recommended minimum WPSH*	Level of Compliance with BRE Guidelines	Effect of Proposed Development
No. 15						
15g	100.0%	99.7%	1.00	5.0%	BRE Compliant	Imperceptible
15h	100.0%	99.9%	1.00	5.0%	BRE Compliant	Imperceptible
15i	100.0%	99.9%	1.00	5.0%	BRE Compliant	Imperceptible
15j	100.0%	100.0%	1.00	5.0%	BRE Compliant	Imperceptible
15k	100.0%	100.0%	1.00	5.0%	BRE Compliant	Imperceptible
No. 16						
16g	100.0%	99.2%	0.99	5.0%	BRE Compliant	Imperceptible
16h	100.0%	99.6%	1.00	5.0%	BRE Compliant	Imperceptible
16i	100.0%	99.8%	1.00	5.0%	BRE Compliant	Imperceptible
16j	100.0%	99.8%	1.00	5.0%	BRE Compliant	Imperceptible
16k	100.0%	99.8%	1.00	5.0%	BRE Compliant	Imperceptible
No. 17						
17a	100.0%	91.8%	0.92	5.0%	BRE Compliant	Imperceptible
17b	100.0%	93.1%	0.93	5.0%	BRE Compliant	Imperceptible
17c	100.0%	96.1%	0.96	5.0%	BRE Compliant	Imperceptible
17d	100.0%	96.2%	0.96	5.0%	BRE Compliant	Imperceptible
17e	100.0%	96.3%	0.96	5.0%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the APSH/WPSH of an existing window, the value needs to drop below the stated target value of 25% (annual) / 5% (winter) **and** be less than 0.8 times the baseline value **and** it has to have a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

** For the interpretation of level of effects please refer to “2.2 Definition of Effects” on page 8.

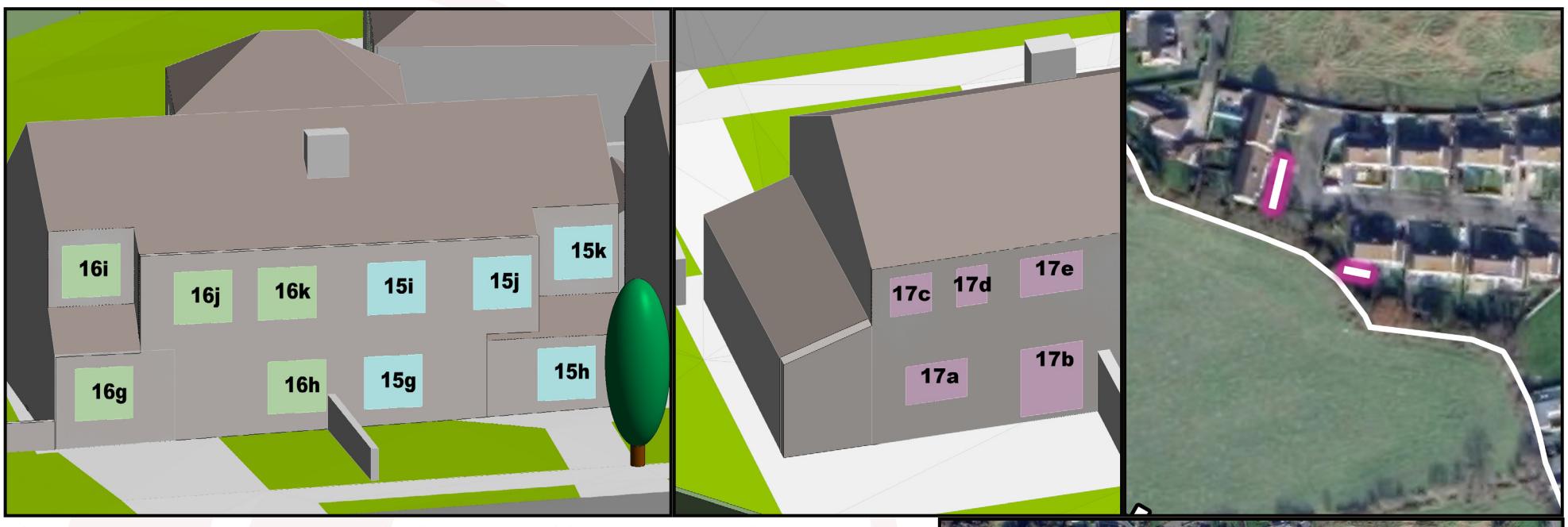


Figure 5.23: Left - Highlighted areas indicate the position of assessed windows, Right - Aerial view of assessed location.

5.2.7 18-21 Urrin Valley

Annual

Table No. 5.24: APSH Results 18-21 Urrin Valley						
Window Number	Baseline APSH	Proposed APSH	Ratio of Proposed APSH to Baseline APSH	Recommended minimum APSH*	Level of Compliance with BRE Guidelines	Effect of Proposed Development
No. 18						
18a	81.7%	81.2%	0.99	25.0%	BRE Compliant	Imperceptible
18b	80.7%	79.2%	0.98	25.0%	BRE Compliant	Imperceptible
18c	85.9%	84.4%	0.98	25.0%	BRE Compliant	Imperceptible
18d	85.4%	83.9%	0.98	25.0%	BRE Compliant	Imperceptible
18e	84.9%	83.4%	0.98	25.0%	BRE Compliant	Imperceptible
No. 19						
19a	82.3%	79.8%	0.97	25.0%	BRE Compliant	Imperceptible
19b	73.4%	71.0%	0.97	25.0%	BRE Compliant	Imperceptible
19c	86.3%	85.0%	0.98	25.0%	BRE Compliant	Imperceptible
19d	86.3%	85.0%	0.98	25.0%	BRE Compliant	Imperceptible
19e	86.3%	85.0%	0.98	25.0%	BRE Compliant	Imperceptible
No. 20						
20a	64.6%	62.3%	0.96	25.0%	BRE Compliant	Imperceptible
20b	64.4%	62.2%	0.97	25.0%	BRE Compliant	Imperceptible
20c	86.2%	84.9%	0.98	25.0%	BRE Compliant	Imperceptible
20d	86.1%	84.8%	0.98	25.0%	BRE Compliant	Imperceptible
20e	86.1%	84.7%	0.98	25.0%	BRE Compliant	Imperceptible
No. 21						
21a	80.9%	80.4%	0.99	25.0%	BRE Compliant	Imperceptible
21b	74.5%	73.4%	0.98	25.0%	BRE Compliant	Imperceptible
21c	85.8%	84.4%	0.98	25.0%	BRE Compliant	Imperceptible
21d	85.8%	84.4%	0.98	25.0%	BRE Compliant	Imperceptible
21e	85.7%	84.4%	0.98	25.0%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the APSH of an existing window, the value needs to drop below the stated target value of 25% (annual) / 5% (winter) **and** be less than 0.8 times the baseline value **and** it has to have a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

** For the interpretation of level of effects please refer to “2.2 Definition of Effects” on page 8.

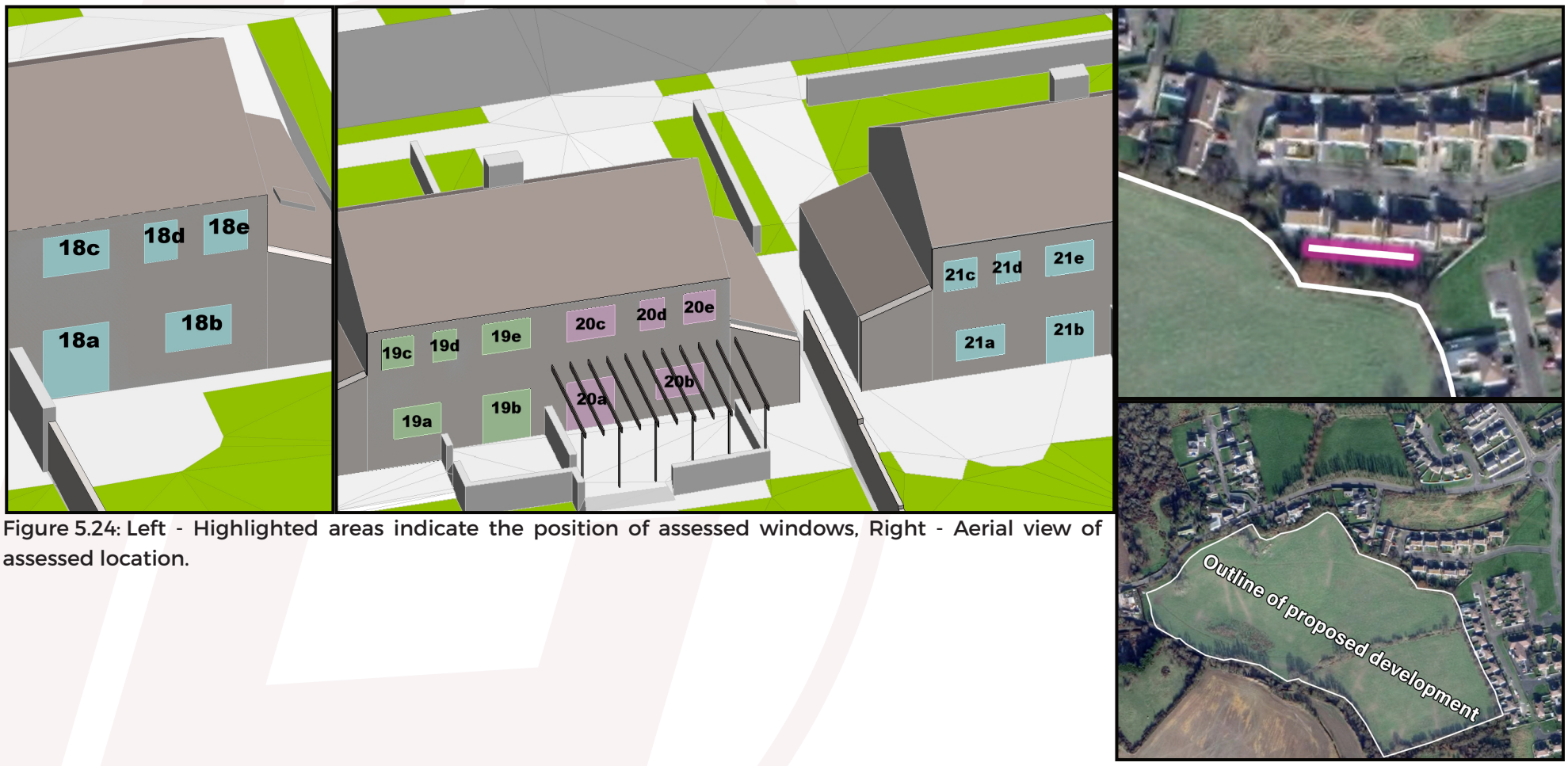


Figure 5.24: Left - Highlighted areas indicate the position of assessed windows, Right - Aerial view of assessed location.

Winter

Table No. 5.25: WPSH Results 18-21 Urrin Valley						
Window Number	Baseline WPSH	Proposed WPSH	Ratio of Proposed to Baseline WPSH	Recommended minimum WPSH*	Level of Compliance with BRE Guidelines	Effect of Proposed Development
No. 18						
18a	100.0%	98.6%	0.99	5.0%	BRE Compliant	Imperceptible
18b	100.0%	96.0%	0.96	5.0%	BRE Compliant	Imperceptible
18c	100.0%	96.4%	0.96	5.0%	BRE Compliant	Imperceptible
18d	100.0%	96.4%	0.96	5.0%	BRE Compliant	Imperceptible
18e	100.0%	96.4%	0.96	5.0%	BRE Compliant	Imperceptible
No. 19						
19a	100.0%	93.5%	0.94	5.0%	BRE Compliant	Imperceptible
19b	100.0%	92.9%	0.93	5.0%	BRE Compliant	Imperceptible
19c	100.0%	96.9%	0.97	5.0%	BRE Compliant	Imperceptible
19d	100.0%	96.9%	0.97	5.0%	BRE Compliant	Imperceptible
19e	100.0%	96.9%	0.97	5.0%	BRE Compliant	Imperceptible
No. 20						
20a	100.0%	92.3%	0.92	5.0%	BRE Compliant	Imperceptible
20b	100.0%	93.0%	0.93	5.0%	BRE Compliant	Imperceptible
20c	100.0%	96.8%	0.97	5.0%	BRE Compliant	Imperceptible
20d	100.0%	96.7%	0.97	5.0%	BRE Compliant	Imperceptible
20e	100.0%	96.6%	0.97	5.0%	BRE Compliant	Imperceptible
No. 21						
21a	100.0%	98.4%	0.98	5.0%	BRE Compliant	Imperceptible
21b	100.0%	96.2%	0.96	5.0%	BRE Compliant	Imperceptible
21c	100.0%	96.5%	0.97	5.0%	BRE Compliant	Imperceptible
21d	100.0%	96.6%	0.97	5.0%	BRE Compliant	Imperceptible
21e	100.0%	96.7%	0.97	5.0%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the APSH/WPSH of an existing window, the value needs to drop below the stated target value of 25% (annual) / 5% (winter) **and** be less than 0.8 times the baseline value **and** it has to have a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

** For the interpretation of level of effects please refer to “2.2 Definition of Effects” on page 8.

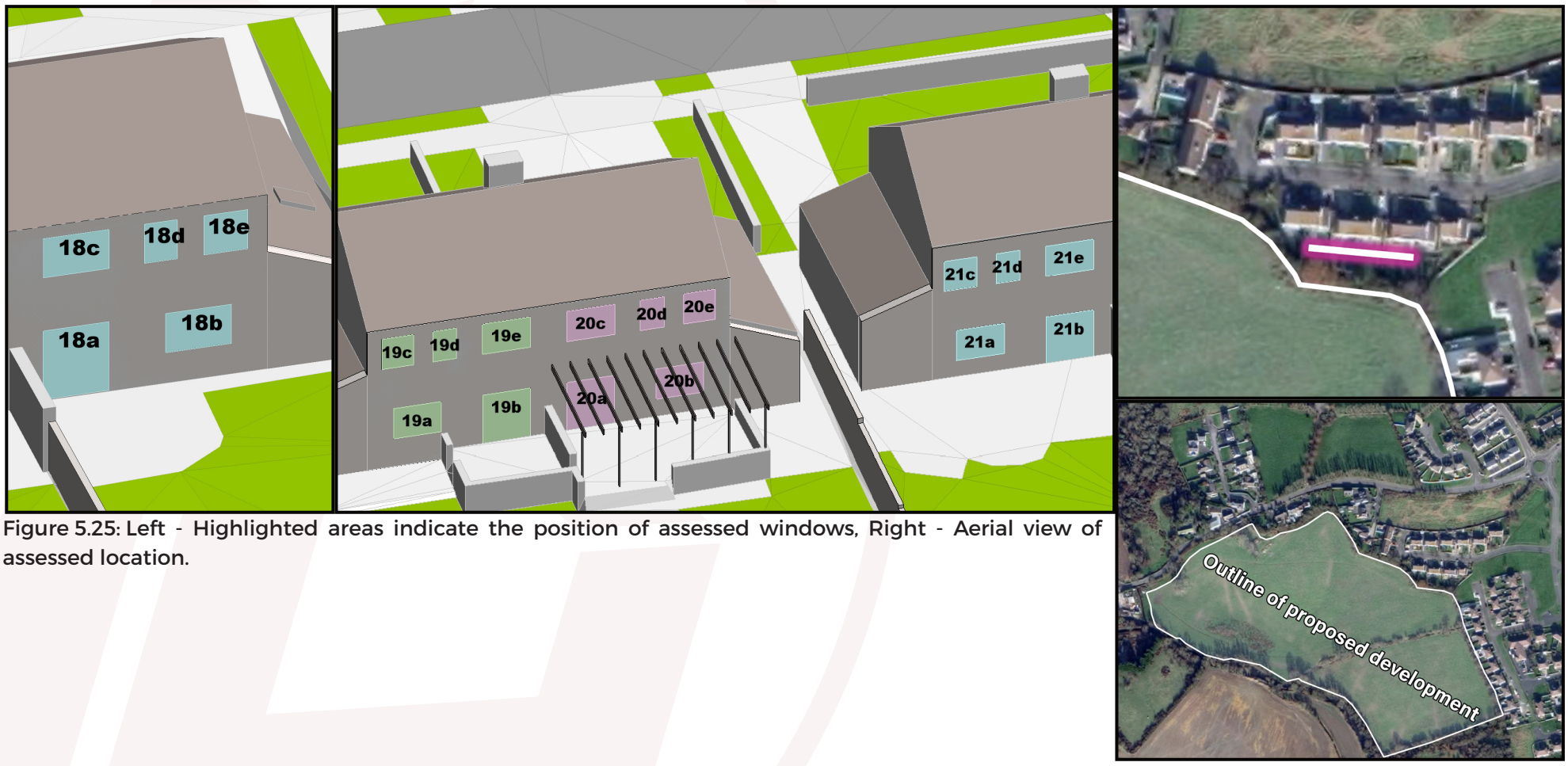


Figure 5.25: Left - Highlighted areas indicate the position of assessed windows, Right - Aerial view of assessed location.

5.2.8 22-23 Urrin Valley and Westlands

Annual

Table No. 5.26: APSH Results 22-23 Urrin Valley and Westlands						
Window Number	Baseline APSH	Proposed APSH	Ratio of Proposed APSH to Baseline APSH	Recommended minimum APSH*	Level of Compliance with BRE Guidelines	Effect of Proposed Development
No. 22						
22a	71.3%	71.3%	1.00	25.0%	BRE Compliant	Imperceptible
22b	80.7%	80.5%	1.00	25.0%	BRE Compliant	Imperceptible
22c	85.6%	84.3%	0.98	25.0%	BRE Compliant	Imperceptible
22d	85.5%	84.2%	0.98	25.0%	BRE Compliant	Imperceptible
22e	85.5%	84.2%	0.99	25.0%	BRE Compliant	Imperceptible
No. 23						
23a	77.1%	76.5%	0.99	25.0%	BRE Compliant	Imperceptible
23b	80.1%	79.2%	0.99	25.0%	BRE Compliant	Imperceptible
23c	82.8%	82.2%	0.99	25.0%	BRE Compliant	Imperceptible
23d	83.7%	83.1%	0.99	25.0%	BRE Compliant	Imperceptible
23e	84.1%	83.4%	0.99	25.0%	BRE Compliant	Imperceptible
Westlands						
Wa	78.7%	72.0%	0.92	25.0%	BRE Compliant	Imperceptible
Wb	63.5%	57.1%	0.90	25.0%	BRE Compliant	Imperceptible
Wc	37.6%	30.8%	0.82	25.0%	BRE Compliant	Imperceptible
Wd	79.9%	73.1%	0.91	25.0%	BRE Compliant	Imperceptible
We	74.6%	68.1%	0.91	25.0%	BRE Compliant	Imperceptible
Wf	82.2%	74.5%	0.91	25.0%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the APSH of an existing window, the value needs to drop below the stated target value of 25% (annual) / 5% (winter) **and** be less than 0.8 times the baseline value **and** it has to have a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

** For the interpretation of level of effects please refer to “2.2 Definition of Effects” on page 8.

Figure 5.26: Left - Highlighted areas indicate the position of assessed windows, Right - Aerial view of assessed location.

Winter

Table No. 5.27: WPSH Results 22-23 Urrin Valley and Westlands						
Window Number	Baseline WPSH	Proposed WPSH	Ratio of Proposed to Baseline WPSH	Recommended minimum WPSH*	Level of Compliance with BRE Guidelines	Effect of Proposed Development
No. 22						
22a	100.0%	100.0%	1.00	5.0%	BRE Compliant	Imperceptible
22b	100.0%	99.4%	0.99	5.0%	BRE Compliant	Imperceptible
22c	100.0%	96.7%	0.97	5.0%	BRE Compliant	Imperceptible
22d	100.0%	96.8%	0.97	5.0%	BRE Compliant	Imperceptible
22e	100.0%	96.9%	0.97	5.0%	BRE Compliant	Imperceptible
No. 23						
23a	100.0%	98.2%	0.98	5.0%	BRE Compliant	Imperceptible
23b	100.0%	97.4%	0.97	5.0%	BRE Compliant	Imperceptible
23c	100.0%	98.4%	0.98	5.0%	BRE Compliant	Imperceptible
23d	100.0%	98.2%	0.98	5.0%	BRE Compliant	Imperceptible
23e	100.0%	98.1%	0.98	5.0%	BRE Compliant	Imperceptible
Westlands						
Wa	100.0%	81.9%	0.82	5.0%	BRE Compliant	Imperceptible
Wb	100.0%	75.3%	0.75	5.0%	BRE Compliant	Imperceptible
Wc	100.0%	58.3%	0.58	5.0%	BRE Compliant	Imperceptible
Wd	100.0%	83.7%	0.84	5.0%	BRE Compliant	Imperceptible
We	100.0%	82.7%	0.83	5.0%	BRE Compliant	Imperceptible
Wf	100.0%	85.8%	0.86	5.0%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the APSH/WPSH of an existing window, the value needs to drop below the stated target value of 25% (annual) / 5% (winter) **and** be less than 0.8 times the baseline value **and** it has to have a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

** For the interpretation of level of effects please refer to “2.2 Definition of Effects” on page 8.

Figure 5.27: Left - Highlighted areas indicate the position of assessed windows, Right - Aerial view of assessed location.

5.2.9 A-D Carley's Bridge and Hillgrange

Annual

Table No. 5.28: APSH Results -D Carley's Bridge and Hillgrange						
Window Number	Baseline APSH	Proposed APSH	Ratio of Proposed APSH to Baseline APSH	Recommended minimum APSH*	Level of Compliance with BRE Guidelines	Effect of Proposed Development
Carley's Bridge D						
Da	77.5%	75.2%	0.97	25.0%	BRE Compliant	Imperceptible
De	84.5%	81.6%	0.97	25.0%	BRE Compliant	Imperceptible
Carley's BridgeA						
Ab	43.4%	43.1%	0.99	25.0%	BRE Compliant	Imperceptible
Ac	45.8%	45.8%	1.00	25.0%	BRE Compliant	Imperceptible
Ad	46.1%	45.3%	0.98	25.0%	BRE Compliant	Imperceptible
Ae	14.5%	14.4%	0.99	11.6%	BRE Compliant	Imperceptible
Af	55.3%	54.7%	0.99	25.0%	BRE Compliant	Imperceptible
Ag	58.8%	58.0%	0.99	25.0%	BRE Compliant	Imperceptible
Ah	58.5%	57.7%	0.99	25.0%	BRE Compliant	Imperceptible
Ai	59.0%	58.1%	0.99	25.0%	BRE Compliant	Imperceptible
Aj	83.0%	82.1%	0.99	25.0%	BRE Compliant	Imperceptible
Hillgrange						
Ha	71.6%	68.5%	0.96	25.0%	BRE Compliant	Imperceptible
Hb	67.9%	65.2%	0.96	25.0%	BRE Compliant	Imperceptible
Hc	58.2%	54.1%	0.93	25.0%	BRE Compliant	Imperceptible
Hd1***	77.1%	68.3%	0.89	25.0%	BRE Compliant	Imperceptible
Hd2***	20.3%	16.8%	0.83	16.2%	BRE Compliant	Imperceptible
Hd#	48.7%	42.5%	0.87	25.0%	BRE Compliant	Imperceptible
He	45.1%	44.8%	0.99	25.0%	BRE Compliant	Imperceptible
Hf	81.9%	79.7%	0.97	25.0%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the APSH of an existing window, the value needs to drop below the stated target value of 25% (annual) / 5% (winter) **and** be less than 0.8 times the baseline value **and** it has to have a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

** For the interpretation of level of effects please refer to "2.2 Definition of Effects" on page 8.

*** # If it can be determined that multiple windows are servicing the same room, each window will be assessed and the average value will be taken.

Figure 5.28: Left - Highlighted areas indicate the position of assessed windows., Right - Aerial view of assessed location

Winter

Table No. 5.29: WPSH Results A-D Carley's Bridge and Hillgrange						
Window Number	Baseline WPSH	Proposed WPSH	Ratio of Proposed to Baseline WPSH	Recommended minimum WPSH*	Level of Compliance with BRE Guidelines	Effect of Proposed Development
Carley's Bridge D						
Da	100.0%	92.9%	0.93	5.0%	BRE Compliant	Imperceptible
De	100.0%	91.5%	0.92	5.0%	BRE Compliant	Imperceptible
Carley's Bridge A						
Ab	100.0%	98.5%	0.99	5.0%	BRE Compliant	Imperceptible
Ac	100.0%	100.0%	1.00	5.0%	BRE Compliant	Imperceptible
Ad	100.0%	95.2%	0.95	5.0%	BRE Compliant	Imperceptible
Ae	100.0%	91.5%	0.92	5.0%	BRE Compliant	Imperceptible
Af	100.0%	97.0%	0.97	5.0%	BRE Compliant	Imperceptible
Ag	100.0%	96.9%	0.97	5.0%	BRE Compliant	Imperceptible
Ah	100.0%	96.6%	0.97	5.0%	BRE Compliant	Imperceptible
Ai	100.0%	96.4%	0.96	5.0%	BRE Compliant	Imperceptible
Aj	100.0%	97.4%	0.97	5.0%	BRE Compliant	Imperceptible
Hillgrange						
Ha	100.0%	89.3%	0.89	5.0%	BRE Compliant	Imperceptible
Hb	100.0%	90.7%	0.91	5.0%	BRE Compliant	Imperceptible
Hc	100.0%	83.4%	0.83	5.0%	BRE Compliant	Imperceptible
Hd1***	100.0%	78.0%	0.78	5.0%	BRE Compliant	Imperceptible
Hd2***	100.0%	60.9%	0.61	5.0%	BRE Compliant	Imperceptible
Hd#	100.0%	69.4%	0.69	5.0%	BRE Compliant	Imperceptible
He	100.0%	98.3%	0.98	5.0%	BRE Compliant	Imperceptible
Hf	100.0%	93.9%	0.94	5.0%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the APSH/WPSH of an existing window, the value needs to drop below the stated target value of 25% (annual) / 5% (winter) **and** be less than 0.8 times the baseline value **and** it has to have a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

** For the interpretation of level of effects please refer to "2.2 Definition of Effects" on page 8.

Figure 5.29: Left - Highlighted areas indicate the position of assessed windows., Right - Aerial view of assessed location

5.2.10 Sandale , Carley's Bridge B

Annual

Table No. 5.30: APSH Results Sandale and Carley's Bridge B						
Window Number	Baseline APSH	Proposed APSH	Ratio of Proposed APSH to Baseline APSH	Recommended minimum APSH*	Level of Compliance with BRE Guidelines	Effect of Proposed Development
Sandale						
Sa	81.1%	74.2%	0.92	25.0%	BRE Compliant	Imperceptible
Sb	44.4%	41.1%	0.92	25.0%	BRE Compliant	Imperceptible
Sc	62.7%	61.0%	0.97	25.0%	BRE Compliant	Imperceptible
Sd	43.1%	42.9%	1.00	25.0%	BRE Compliant	Imperceptible
Se	82.0%	75.7%	0.92	25.0%	BRE Compliant	Imperceptible
Carley's Bridge B						
Ba1***	48.3%	48.3%	1.00	25.0%	BRE Compliant	Imperceptible
Ba2***	85.6%	84.9%	0.99	25.0%	BRE Compliant	Imperceptible
Ba#	66.9%	66.6%	1.00	25.0%	BRE Compliant	Imperceptible
Bb	61.7%	61.7%	1.00	25.0%	BRE Compliant	Imperceptible
Bc	85.4%	83.8%	0.98	25.0%	BRE Compliant	Imperceptible
Bd	85.8%	84.3%	0.98	25.0%	BRE Compliant	Imperceptible
Be	88.3%	87.8%	0.99	25.0%	BRE Compliant	Imperceptible
Bf	88.7%	88.1%	0.99	25.0%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the APSH of an existing window, the value needs to drop below the stated target value of 25% (annual) / 5% (winter) **and** be less than 0.8 times the baseline value **and** it has to have a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

** For the interpretation of level of effects please refer to "2.2 Definition of Effects" on page 8.

*** # If it can be determined that multiple windows are servicing the same room, each window will be assessed and the average value will be taken.

Figure 5.30: Left - Highlighted areas indicate the position of assessed windows, Right - Aerial view of assessed location.

Winter

Table No. 5.31: WPSH Results Sandale and Carley's Bridge B						
Window Number	Baseline WPSH	Proposed WPSH	Ratio of Proposed to Baseline WPSH	Recommended minimum WPSH*	Level of Compliance with BRE Guidelines	Effect of Proposed Development
Sandale						
Sa	100.0%	81.1%	0.81	5.0%	BRE Compliant	Imperceptible
Sb	100.0%	79.0%	0.79	5.0%	BRE Compliant	Imperceptible
Sc	100.0%	92.8%	0.93	5.0%	BRE Compliant	Imperceptible
Sd	100.0%	99.3%	0.99	5.0%	BRE Compliant	Imperceptible
Se	100.0%	82.5%	0.83	5.0%	BRE Compliant	Imperceptible
Carley's Bridge B						
Ba1***	100.0%	100.0%	1.00	5.0%	BRE Compliant	Imperceptible
Ba2***	100.0%	98.2%	0.98	5.0%	BRE Compliant	Imperceptible
Ba#	100.0%	99.1%	0.99	5.0%	BRE Compliant	Imperceptible
Bb	100.0%	100.0%	1.00	5.0%	BRE Compliant	Imperceptible
Bc	100.0%	95.5%	0.95	5.0%	BRE Compliant	Imperceptible
Bd	100.0%	95.8%	0.96	5.0%	BRE Compliant	Imperceptible
Be	100.0%	98.6%	0.99	5.0%	BRE Compliant	Imperceptible
Bf	100.0%	98.5%	0.98	5.0%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the APSH/WPSH of an existing window, the value needs to drop below the stated target value of 25% (annual) / 5% (winter) **and** be less than 0.8 times the baseline value **and** it has to have a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

** For the interpretation of level of effects please refer to "2.2 Definition of Effects" on page 8.

*** # If it can be determined that multiple windows are servicing the same room, each window will be assessed and the average value will be taken.

Figure 5.31: Left - Highlighted areas indicate the position of assessed windows, Right - Aerial view of assessed location.

5.2.11 Carley's Bridge C and Carrigabruce

Annual

Table No. 5.32: APSH Results Carley's Bridge C and Carrigabruce						
Window Number	Baseline APSH	Proposed APSH	Ratio of Proposed APSH to Baseline APSH	Recommended minimum APSH*	Level of Compliance with BRE Guidelines	Effect of Proposed Development
Carely's Bridge C						
Ca	62.3%	60.0%	0.96	25.0%	BRE Compliant	Imperceptible
Cb	78.5%	75.3%	0.96	25.0%	BRE Compliant	Imperceptible
Cc	44.4%	42.7%	0.96	25.0%	BRE Compliant	Imperceptible
Cd	66.1%	64.4%	0.97	25.0%	BRE Compliant	Imperceptible
Ce	72.7%	70.7%	0.97	25.0%	BRE Compliant	Imperceptible
Cf	75.6%	74.4%	0.98	25.0%	BRE Compliant	Imperceptible
Cg	74.8%	73.0%	0.98	25.0%	BRE Compliant	Imperceptible
Ch	77.9%	76.0%	0.98	25.0%	BRE Compliant	Imperceptible
Ci	79.5%	77.4%	0.97	25.0%	BRE Compliant	Imperceptible
Carrigabruce						
Ca	73.4%	70.4%	0.96	25.0%	BRE Compliant	Imperceptible
Cb	71.9%	68.8%	0.96	25.0%	BRE Compliant	Imperceptible
Cc	73.2%	70.4%	0.96	25.0%	BRE Compliant	Imperceptible
Cd	74.9%	72.5%	0.97	25.0%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the APSH of an existing window, the value needs to drop below the stated target value of 25% (annual) / 5% (winter) **and** be less than 0.8 times the baseline value **and** it has to have a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

** For the interpretation of level of effects please refer to "2.2 Definition of Effects" on page 8.

Figure 5.32: Left - Highlighted areas indicate the position of assessed windows., Right - Aerial view of assessed location

Winter

Table No. 5.33: WPSH Results Sandale and Carley's Bridge B						
Window Number	Baseline WPSH	Proposed WPSH	Ratio of Proposed to Baseline WPSH	Recommended minimum WPSH*	Level of Compliance with BRE Guidelines	Effect of Proposed Development
Carely's Bridge C						
Ca	100.0%	92.2%	0.92	5.0%	BRE Compliant	Imperceptible
Cb	100.0%	92.5%	0.92	5.0%	BRE Compliant	Imperceptible
Cc	100.0%	94.4%	0.94	5.0%	BRE Compliant	Imperceptible
Cd	100.0%	96.4%	0.96	5.0%	BRE Compliant	Imperceptible
Ce	100.0%	96.6%	0.97	5.0%	BRE Compliant	Imperceptible
Cf	100.0%	96.4%	0.96	5.0%	BRE Compliant	Imperceptible
Cg	100.0%	95.1%	0.95	5.0%	BRE Compliant	Imperceptible
Ch	100.0%	95.5%	0.95	5.0%	BRE Compliant	Imperceptible
Ci	100.0%	95.2%	0.95	5.0%	BRE Compliant	Imperceptible
Carrigabruce						
Ca	100.0%	92.5%	0.93	5.0%	BRE Compliant	Imperceptible
Cb	100.0%	91.8%	0.92	5.0%	BRE Compliant	Imperceptible
Cc	100.0%	92.2%	0.92	5.0%	BRE Compliant	Imperceptible
Cd	100.0%	93.2%	0.93	5.0%	BRE Compliant	Imperceptible

* The BRE Guidelines state that in order for a proposed development to have a noticeable effect on the APSH/WPSH of an existing window, the value needs to drop below the stated target value of 25% (annual) / 5% (winter) **and** be less than 0.8 times the baseline value **and** it has to have a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

** For the interpretation of level of effects please refer to "2.2 Definition of Effects" on page 8.

Figure 5.33: Left - Highlighted areas indicate the position of assessed windows., Right - Aerial view of assessed location

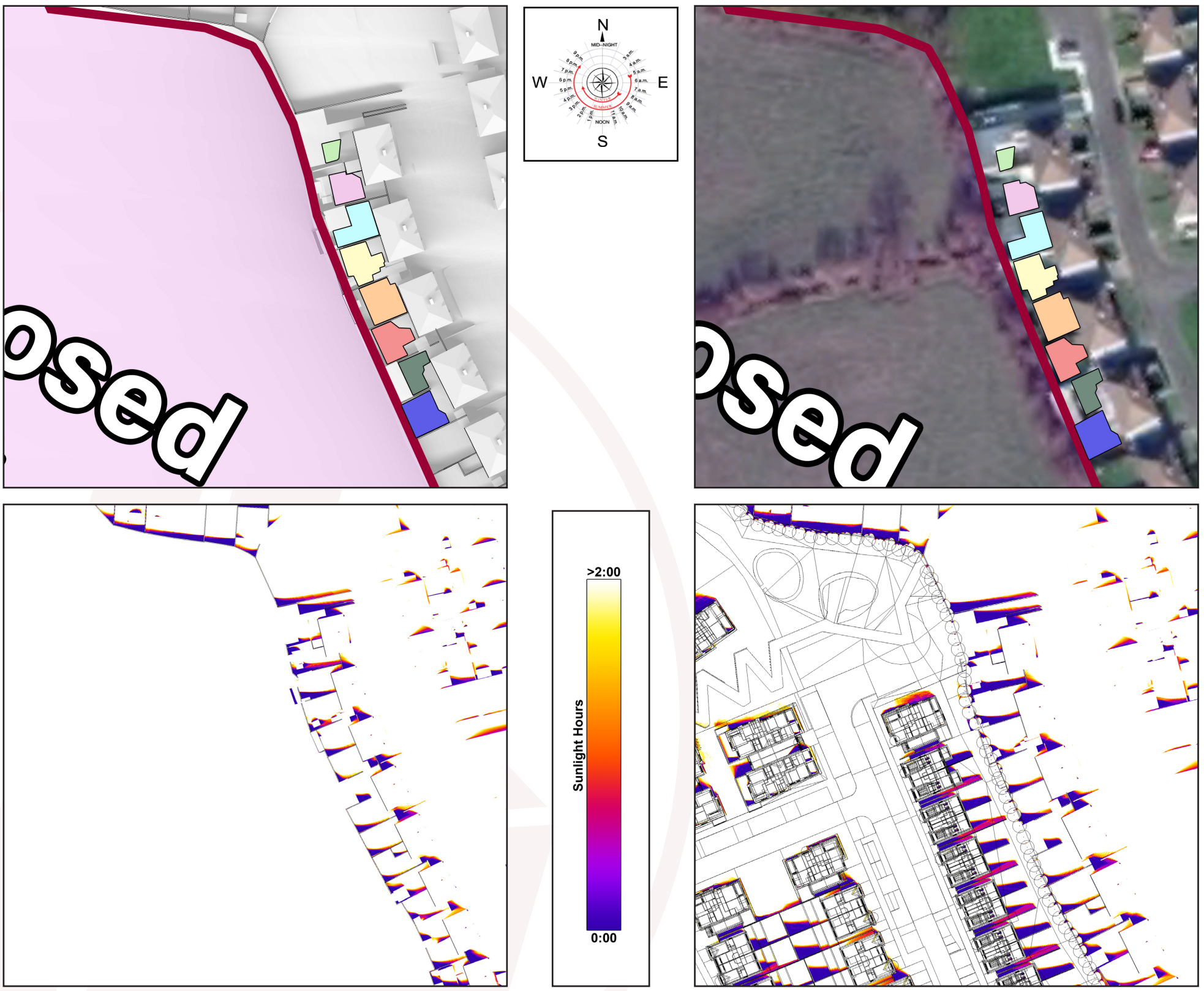
5.3 Effect on Sunlighting in Existing Gardens

5.3.1 1-8 Millbrook

Table No. 5.34: Sunlighting Results 1-8 Mill Brook						
Address	% of Area to Receive Above 2 Hours Sunlight on March 21st (Target >50%)				Level of Compliance with BRE Guidelines	Effect of Proposed Development**
	Baseline	Proposed	Ratio of Proposed to Baseline	Recommended minimum		
1 Millbrook	87.3%	86.8%	0.99	50.0%	BRE Compliant	Imperceptible
2 Millbrook	72.9%	71.5%	0.98	50.0%	BRE Compliant	Imperceptible
3 Millbrook	76.9%	75.2%	0.98	50.0%	BRE Compliant	Imperceptible
4 Millbrook	85.6%	83.4%	0.97	50.0%	BRE Compliant	Imperceptible
5 Millbrook	89.2%	88.2%	0.99	50.0%	BRE Compliant	Imperceptible
6 Millbrook	91.7%	83.4%	0.91	50.0%	BRE Compliant	Imperceptible
7 Millbrook	80.5%	80.5%	1.00	50.0%	BRE Compliant	Imperceptible
8 Millbrook	84.5%	82.7%	0.98	50.0%	BRE Compliant	Imperceptible

* The BRE guidelines state that in order for a proposed development to have a noticeable effect on the amount of sunlight received in an existing garden or amenity area, the value needs to both drop below the stated target value of 50% **and** be reduced by more than 20% of the existing value.

** For the interpretation of level of effects please refer to “2.2 Definition of Effects” on page 8.



Baseline

Figure 5.34: False colour plans. White area indicates the area capable of receiving 2 hours of sunlight on March 21st.

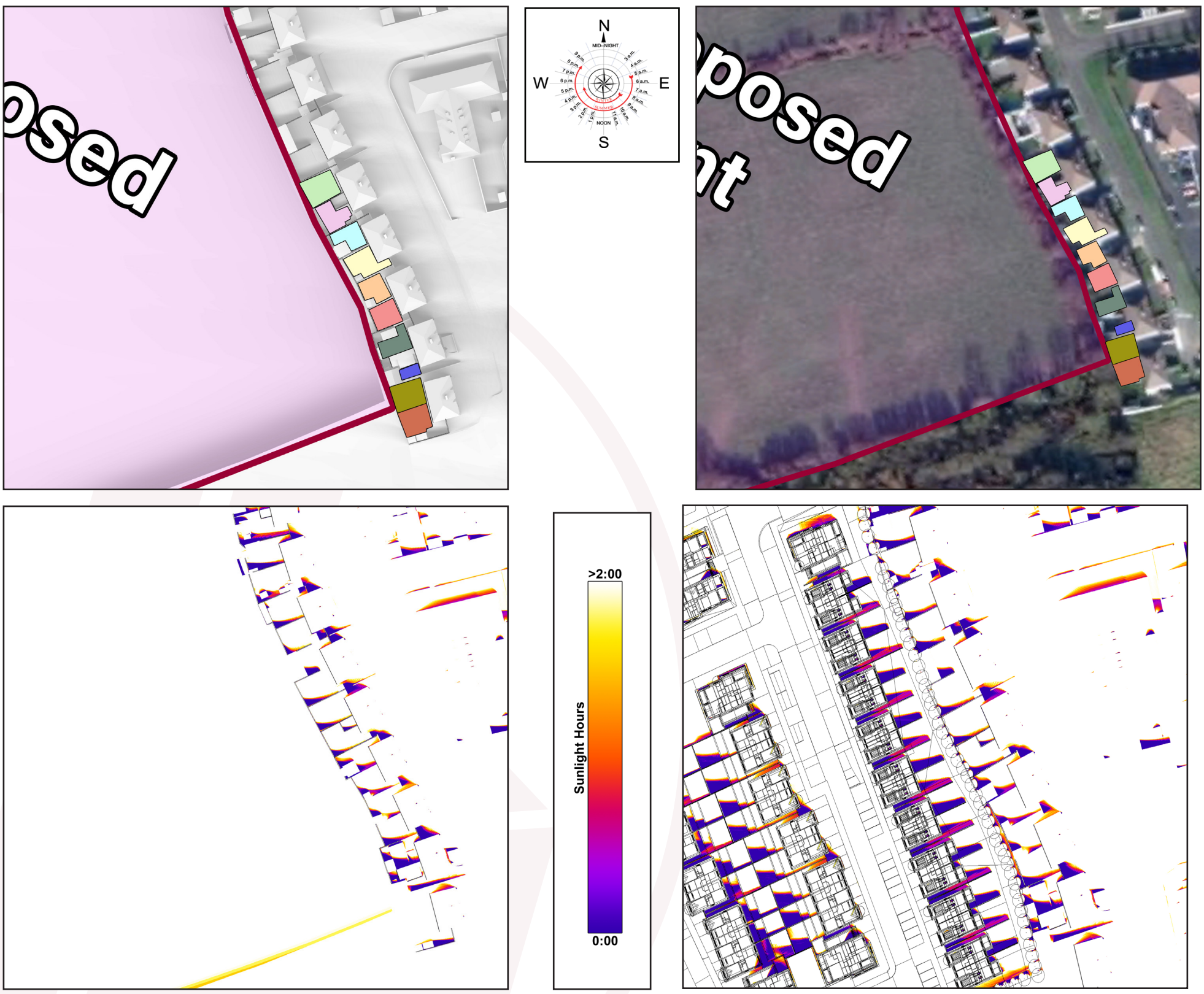
Proposed

5.3.2 9-18 Millbrook

Table No. 5.35: Sunlighting Results 9-18 Millbrook						
Address	% of Area to Receive Above 2 Hours Sunlight on March 21st (Target >50%)				Level of Compliance with BRE Guidelines	Effect of Proposed Development**
	Baseline	Proposed	Ratio of Proposed to Baseline	Recommended minimum		
9 Millbrook	87.9%	86.4%	0.98	50.0%	BRE Compliant	Imperceptible
10 Millbrook	92.8%	85.9%	0.93	50.0%	BRE Compliant	Imperceptible
11 Millbrook	73.6%	70.0%	0.95	50.0%	BRE Compliant	Imperceptible
12 Millbrook	80.3%	79.1%	0.98	50.0%	BRE Compliant	Imperceptible
13 Millbrook	79.2%	79.2%	1.00	50.0%	BRE Compliant	Imperceptible
14 Millbrook	78.1%	77.1%	0.99	50.0%	BRE Compliant	Imperceptible
15 Millbrook	50.9%	50.8%	1.00	40.7%	BRE Compliant	Imperceptible
16 Millbrook	50.8%	50.8%	1.00	40.7%	BRE Compliant	Imperceptible
17 Millbrook	100.0%	100.0%	1.00	50.0%	BRE Compliant	Imperceptible
18 Millbrook	97.5%	97.5%	1.00	50.0%	BRE Compliant	Imperceptible

* The BRE guidelines state that in order for a proposed development to have a noticeable effect on the amount of sunlight received in an existing garden or amenity area, the value needs to both drop below the stated target value of 50% **and** be reduced by more than 20% of the existing value.

** For the interpretation of level of effects please refer to “2.2 Definition of Effects” on page 8.



Baseline Figure 5.35: False colour plans. White area indicates the area capable of receiving 2 hours of sunlight on March 21st. Proposed

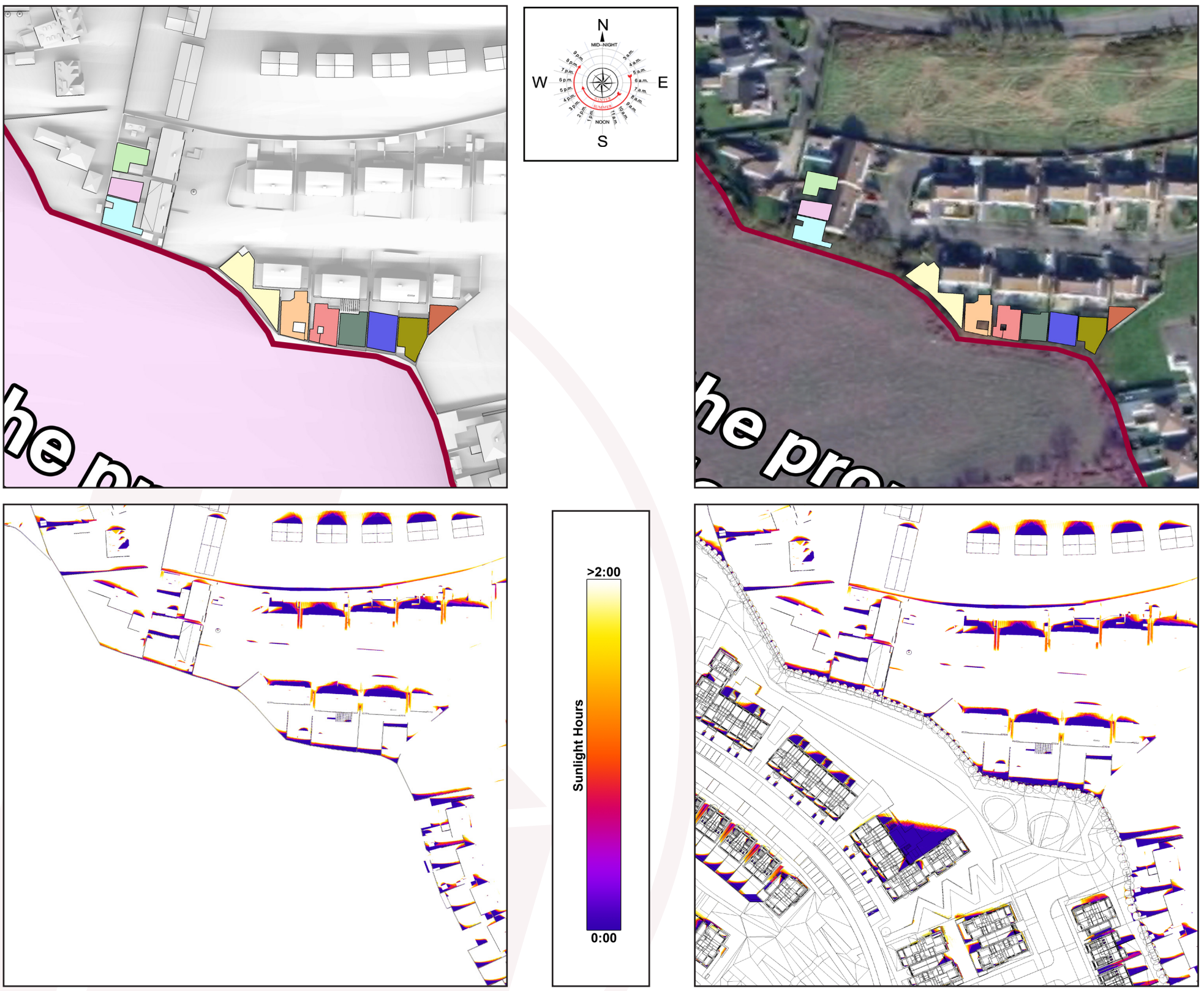
5.3.3 14-23 Urrin Balley

Table No. 5.36: Sunlighting Results 14-23 Urrin Valley

Address	% of Area to Receive Above 2 Hours Sunlight on March 21st (Target >50%)				Level of Compliance with BRE Guidelines	Effect of Proposed Development**
	Baseline	Proposed	Ratio of Proposed to Baseline	Recommended minimum		
14 Urrin Valley	85.7%	85.6%	1.00	50.0%	BRE Compliant	Imperceptible
15 Urrin Valley	79.5%	79.5%	1.00	50.0%	BRE Compliant	Imperceptible
16 Urrin Valley	97.3%	78.9%	0.81	50.0%	BRE Compliant	Imperceptible
17 Urrin Valley	98.1%	98.0%	1.00	50.0%	BRE Compliant	Imperceptible
18 Urrin Valley	83.2%	80.7%	0.97	50.0%	BRE Compliant	Imperceptible
19 Urrin Valley	87.1%	85.0%	0.98	50.0%	BRE Compliant	Imperceptible
20 Urrin Valley	92.7%	85.0%	0.92	50.0%	BRE Compliant	Imperceptible
21 Urrin Valley	91.0%	86.6%	0.95	50.0%	BRE Compliant	Imperceptible
22 Urrin Valley	96.3%	94.0%	0.98	50.0%	BRE Compliant	Imperceptible
23 Urrin Valley	96.1%	96.1%	1.00	50.0%	BRE Compliant	Imperceptible

* The BRE guidelines state that in order for a proposed development to have a noticeable effect on the amount of sunlight received in an existing garden or amenity area, the value needs to both drop below the stated target value of 50% **and** be reduced by more than 20% of the existing value.

** For the interpretation of level of effects please refer to “2.2 Definition of Effects” on page 8.



Baseline — Figure 5.36: False colour plans. White area indicates the area capable of receiving 2 hours of sunlight on March 21st. — Proposed

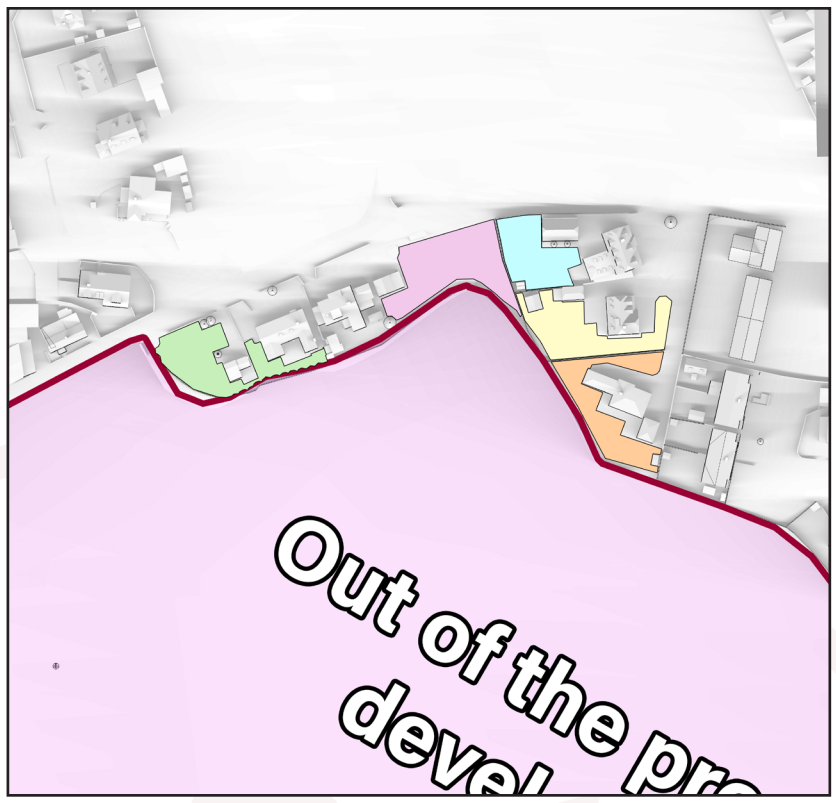
5.3.4 Westlands, A and B Carley's Brdige, Hillgrane and Sundale Carley's Bridge

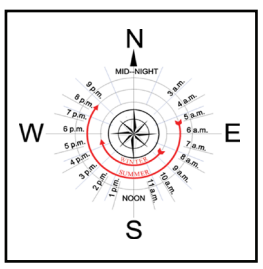
Table No. 5.37: Sunlighting Results Westlands, A and B Carley's Brdige, Hillgrane and Sundale Carley's Brdige

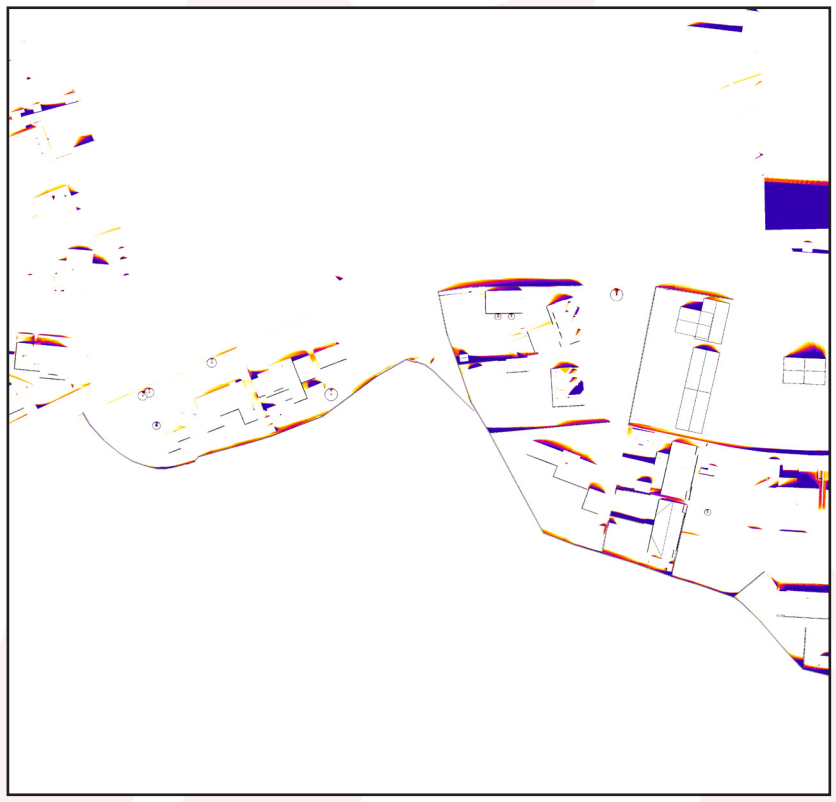
Address	% of Area to Receive Above 2 Hours Sunlight on March 21st (Target >50%)				Level of Compliance with BRE Guidelines	Effect of Proposed Development**
	Baseline	Proposed	Ratio of Proposed to Baseline	Recommended minimum		
Westlands	99.8%	94.8%	0.95	50.0%	BRE Compliant	Imperceptible
Carley's Bridge B	94.0%	93.7%	1.00	50.0%	BRE Compliant	Imperceptible
Carley's Bridge A	978.4%	978.4%	1.00	50.0%	BRE Compliant	Imperceptible
Hillgrane, Carley's Bridge	99.9%	91.3%	0.91	50.0%	BRE Compliant	Imperceptible
Sundale, Carley's Bridge	99.7%	92.6%	0.93	50.0%	BRE Compliant	Imperceptible

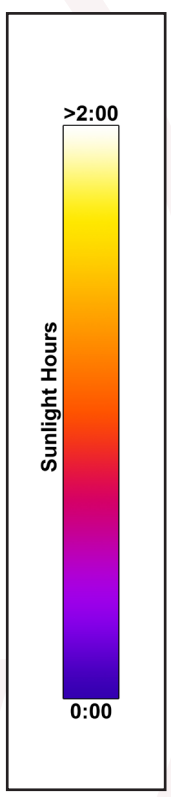
* The BRE guidelines state that in order for a proposed development to have a noticeable effect on the amount of sunlight received in an existing garden or amenity area, the value needs to both drop below the stated target value of 50% **and** be reduced by more than 20% of the existing value.

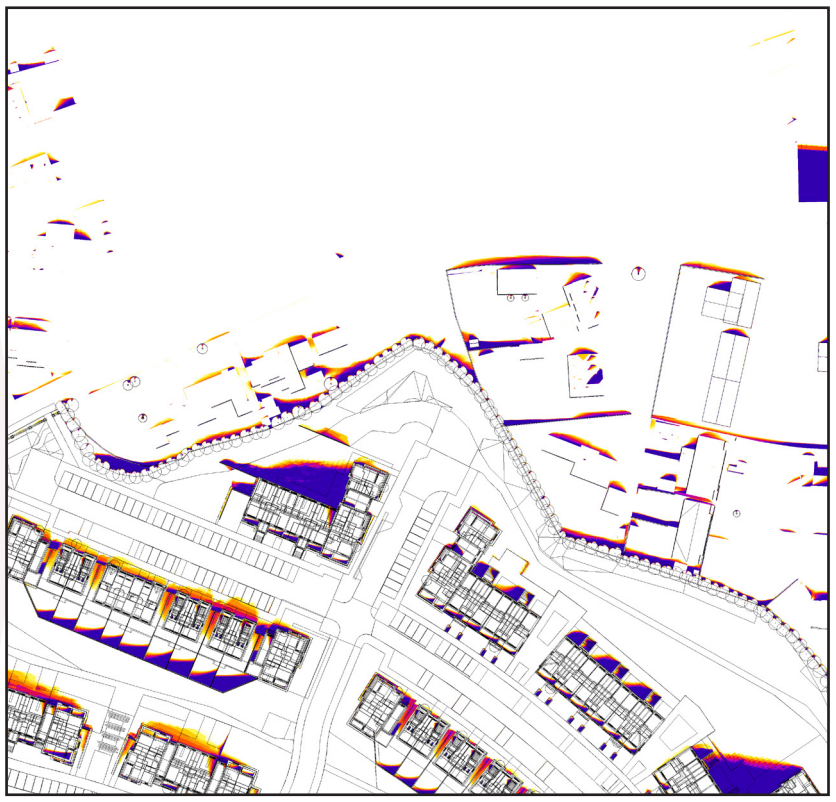
** For the interpretation of level of effects please refer to "2.2 Definition of Effects" on page 8.











Baseline Figure 5.37: False colour plans. White area indicates the area capable of receiving 2 hours of sunlight on March 21st. Proposed

5.4 Sunlight in Proposed Outdoor Amenity Areas

Table No. 5.38: Sunlight in Proposed Outdoor Amenity Areas Results			
Assessed Area	Area Capable of Receiving 2 Hours of Sunlight on March 21st	Recommended minimum	Level of Compliance with BRE Guidelines
Proposed Amenity Area 1	99.6%	50.0%	BRE Compliant
Proposed Amenity Area 2	98.3%	50.0%	BRE Compliant
Proposed Amenity Area 3	99.3%	50.0%	BRE Compliant
Proposed Amenity Area 4	99.2%	50.0%	BRE Compliant
Proposed Amenity Area 5	95.6%	50.0%	BRE Compliant
Proposed Amenity Area 6	99.6%	50.0%	BRE Compliant
Proposed Amenity Area 7	84.8%	50.0%	BRE Compliant
* The BRE Guidelines recommend that for a garden or amenity appear adequately sunlit throughout the year, at least half of a garden or amenity area should receive at least two hours of sunlight on March 21st.			

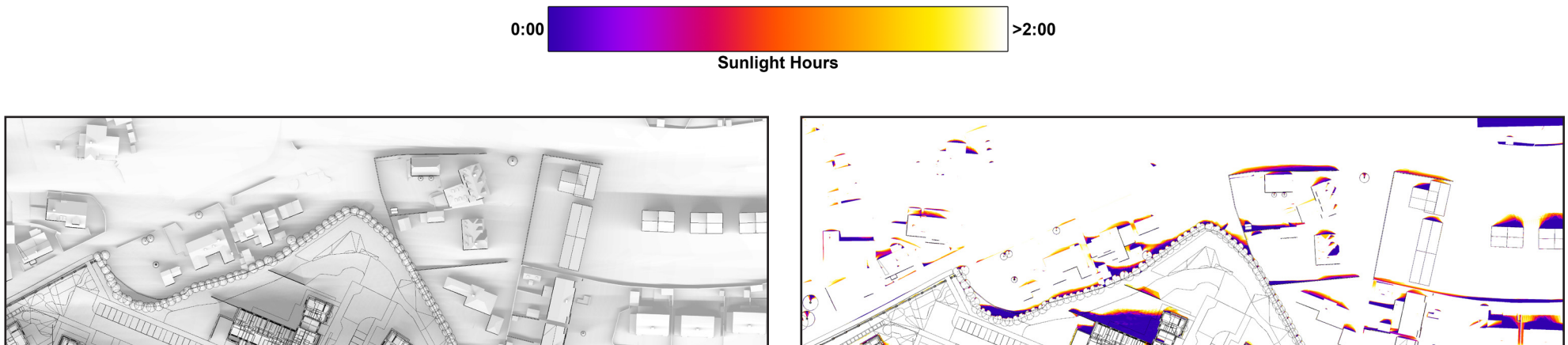


Figure 5.38: Left - Indication of the amenity areas that have been analysed, Right - Area capable of receiving 2 hours of sunlight on March 21st shown in white (R).

5.5 Sunlight in Proposed Outdoor Amenity Areas

Table No. 5.39: Sunlight in Proposed Outdoor Amenity Areas Results			
Assessed Area	Area Capable of Receiving 2 Hours of Sunlight on March 21st	Recommended minimum	Level of Compliance with BRE Guidelines
Proposed Amenity Area 8	87.9%	50.0%	BRE Compliant
Proposed Amenity Area 9	98.0%	50.0%	BRE Compliant
Proposed Amenity Area 10	94.1%	50.0%	BRE Compliant
Proposed Amenity Area 11	62.7%	50.0%	BRE Compliant
Proposed Amenity Area 12	95.1%	50.0%	BRE Compliant
Proposed Amenity Area 13	90.5%	50.0%	BRE Compliant
* The BRE Guidelines recommend that for a garden or amenity appear adequately sunlit throughout the year, at least half of a garden or amenity area should receive at least two hours of sunlight on March 21st.			

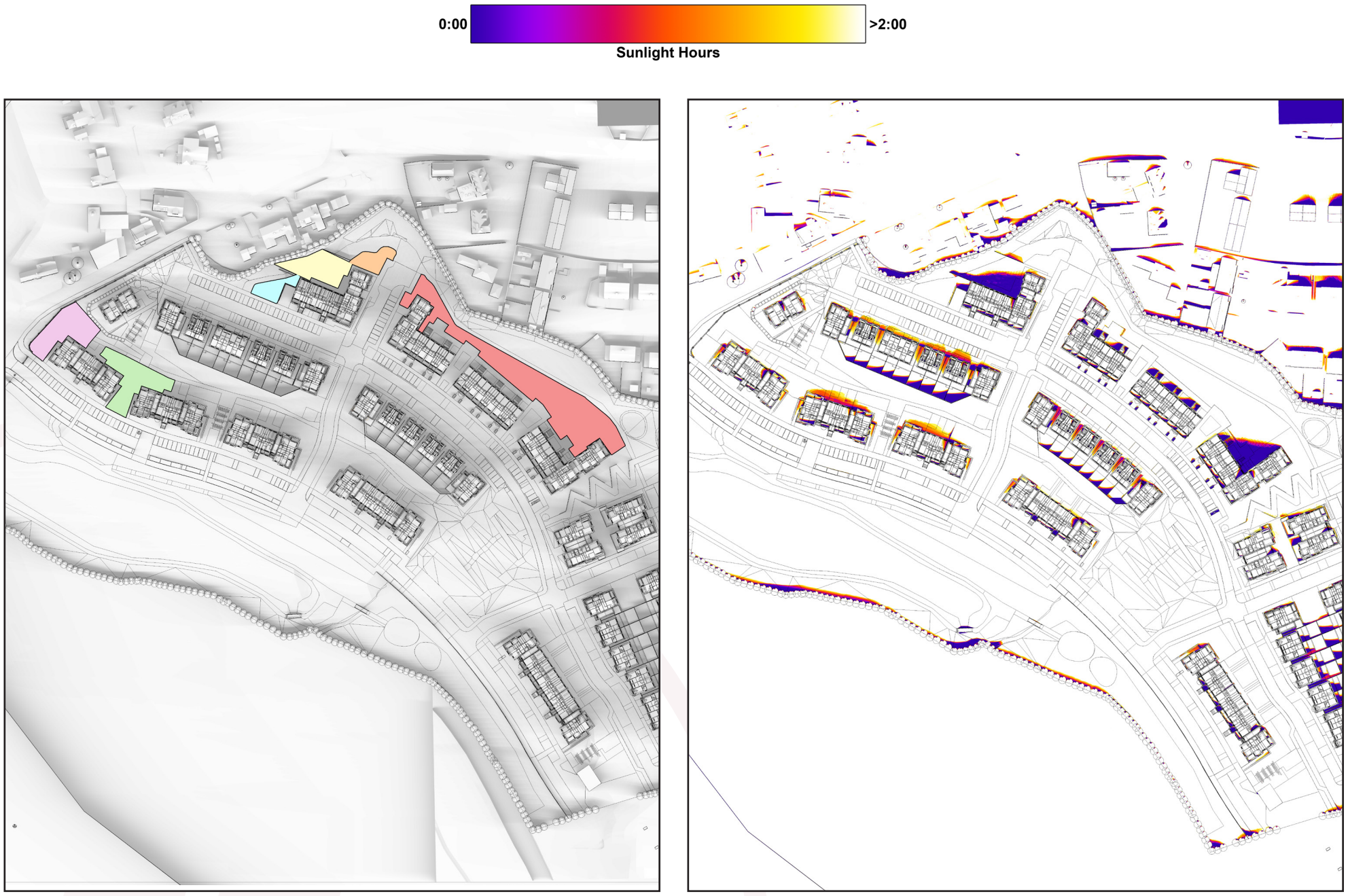


Figure 5.39: Left - Indication of the amenity areas that have been analysed, Right - Area capable of receiving 2 hours of sunlight on March 21st shown in white (R).

	Baseline	Proposed
March 21st 7:00		
March 21st 8:00		
March 21st 9:00		
March 21st 10:00		

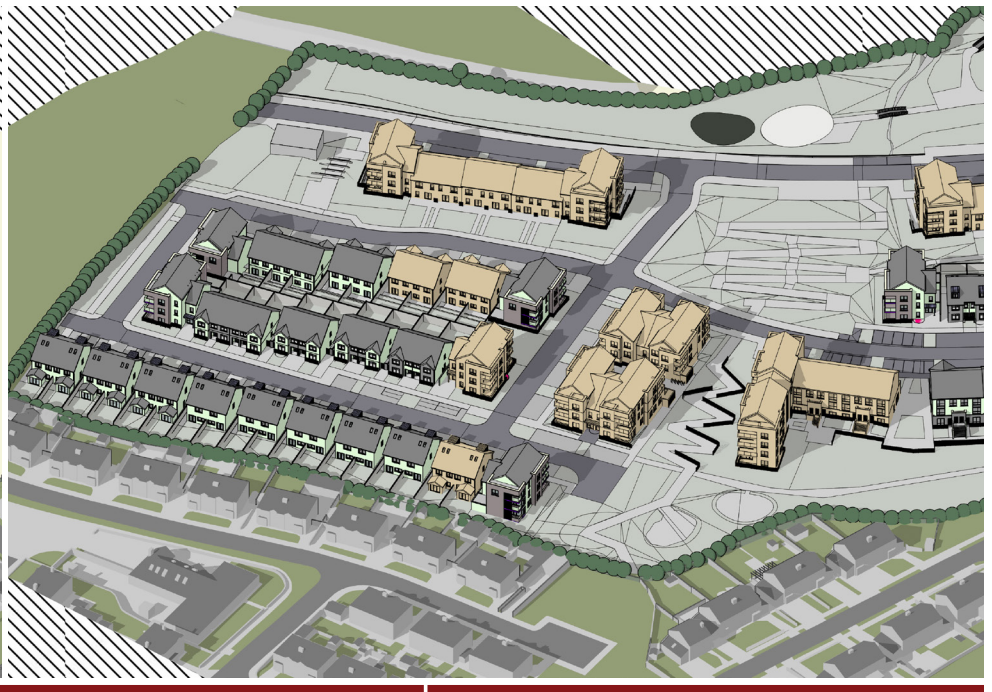
5.6 5.6.1	Shadow Studies Shadow Study 21 March	Project: SHD Enniscorthy Wexford	3D DESIGN BUREAU
	March 21st Sunrise 6:25 | Sunset 18:40	Applicant: Torca Developments LTD.	

	Baseline	Proposed
March 21st 11:00		
March 21st 12:00		
March 21st 13:00		
March 21st 14:00		

	Project: SHD Enniscorthy Wexford	3D DESIGN BUREAU
March 21st **Sunrise 6:25 | Sunset 18:40**	**Applicant: Torca Developments LTD.**	

	Baseline	Proposed
March 21st 15:00		
March 21st 16:00		
March 21st 17:00		
March 21st 18:00		

	Project: SHD Enniscorthy Wexford	3D DESIGN BUREAU
March 21st **Sunrise 6:25 | Sunset 18:40**	**Applicant: Torca Developments LTD.**	

	Baseline	Proposed
June 21st 6:00		
June 21st 7:00		
June 21st 8:00		
June 21st 9:00		

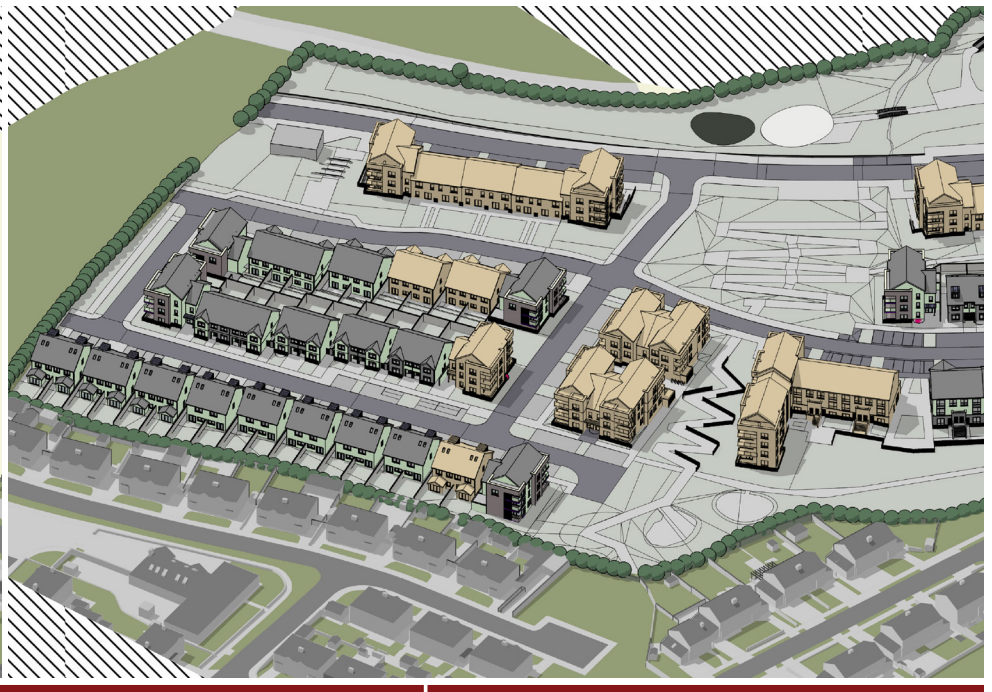
5.6.2 Shadow Study 21 June

June 21st
Sunrise 4:57 | Sunset 21:57

Project: SHD Enniscorthy Wexford

Applicant: Torca Developments LTD.

3D DESIGN BUREAU

	Baseline	Proposed
June 21st 10:00		
June 21st 11:00		
June 21st 12:00		
June 21st 13:00		

	Project: SHD Enniscorthy Wexford	3D DESIGN BUREAU
June 21st **Sunrise 4:57 | Sunset 21:57**	**Applicant: Torca Developments LTD.**	

	Baseline	Proposed
June 21st 14:00		
June 21st 15:00		
June 21st 16:00		
June 21st 17:00		

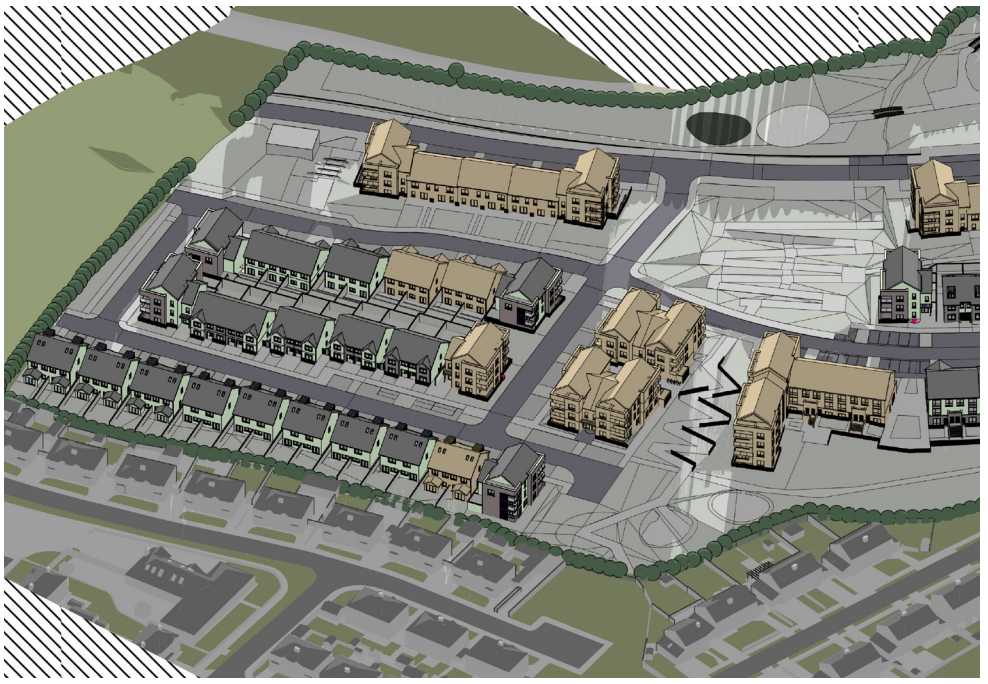
	Project: SHD Enniscorthy Wexford	3D DESIGN BUREAU
June 21st **Sunrise 4:57 | Sunset 21:57**	**Applicant: Torca Developments LTD.**	

	Baseline	Proposed
June 21st 18:00		
June 21st 19:00		
June 21st 20:00		
June 21st 21:00		

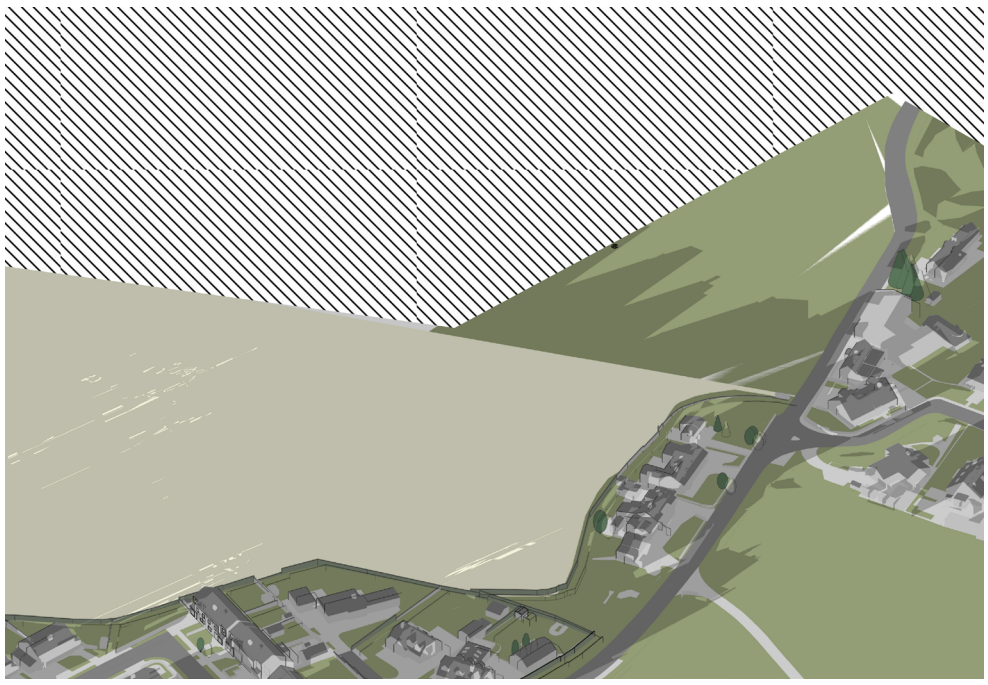
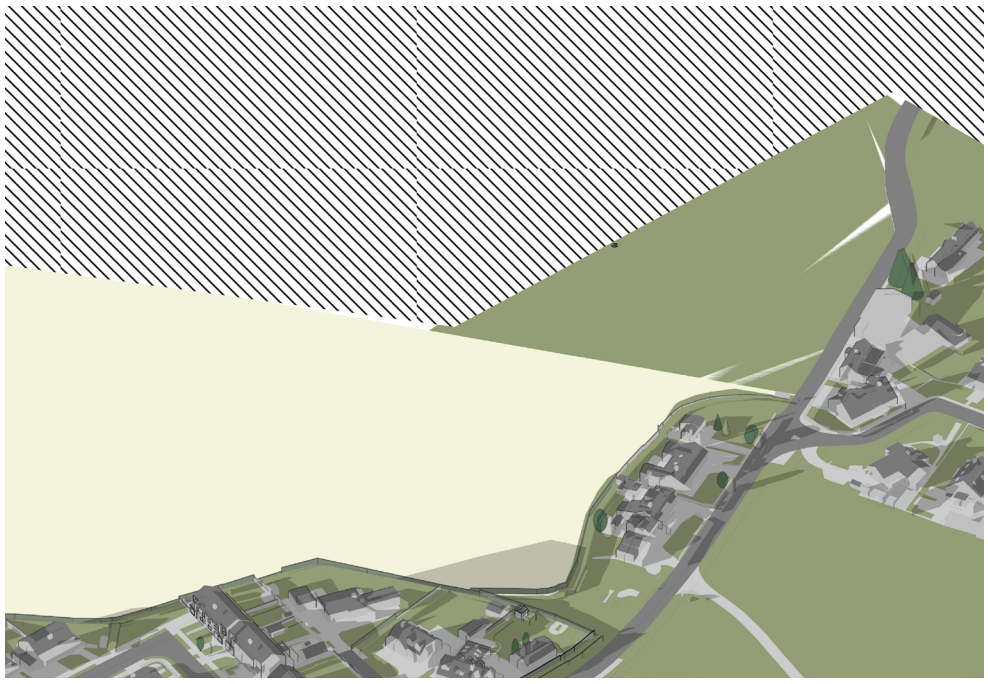
	Project: SHD Enniscorthy Wexford	3D DESIGN BUREAU
June 21st **Sunrise 4:57 | Sunset 21:57**	**Applicant: Torca Developments LTD.**	

	Baseline	Proposed
December 21st 9:00		
December 21st 10:00		
December 21st 11:00		
December 21st 12:00		

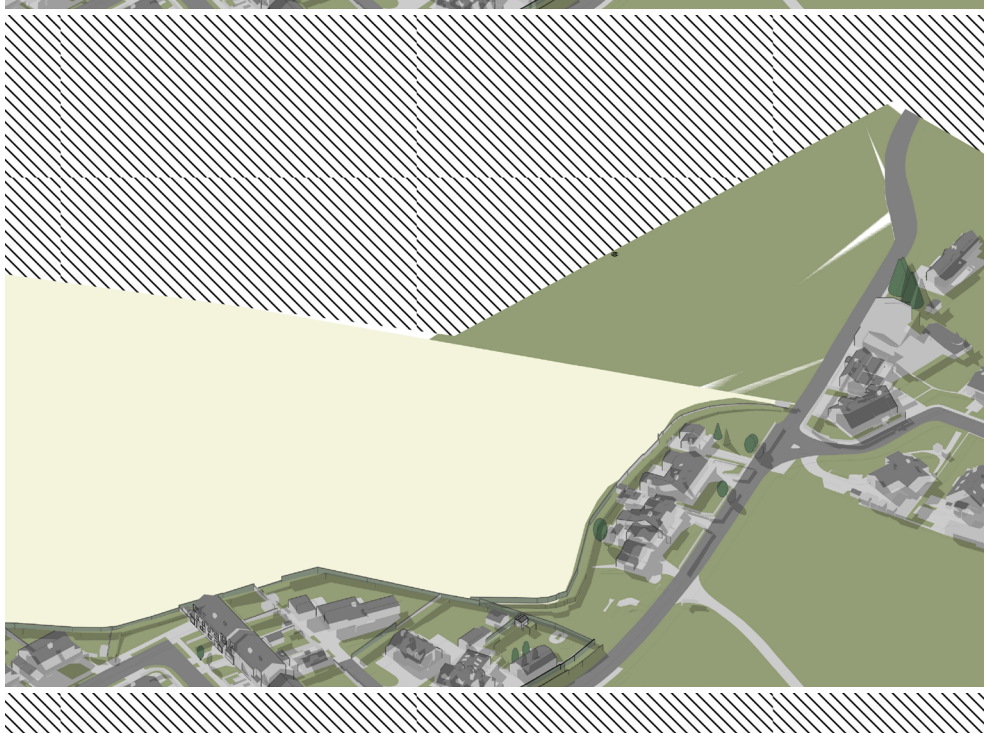
5.6.3	**Shadow Study 21 December**	**Project: SHD Enniscorthy Wexford**	3D DESIGN BUREAU
	December 21st Sunrise 8:38 | Sunset 16:08	**Applicant: Torca Developments LTD.**	

	Baseline	Proposed
December 21st 13:00		
December 21st 14:00		
December 21st 15:00		
December 21st 16:00		

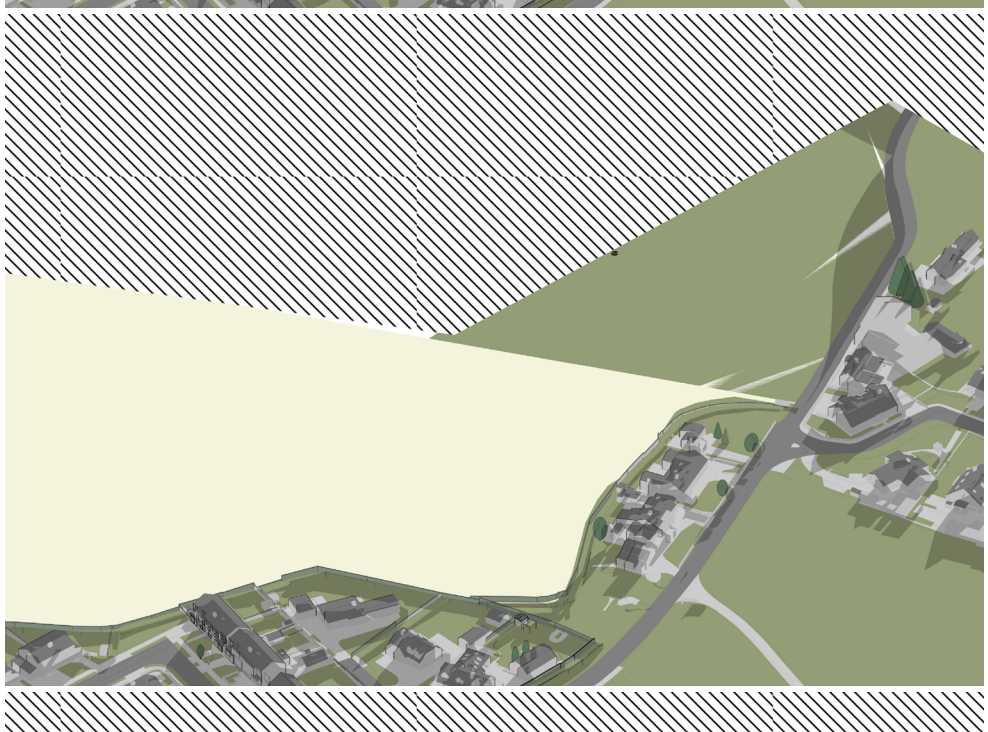
	Project: SHD Enniscorthy Wexford	3D DESIGN BUREAU
December 21st **Sunrise 8:38 | Sunset 16:08**	**Applicant: Torca Developments LTD.**	

	Baseline	Proposed
March 21st 7:00		
March 21st 8:00		
March 21st 9:00		
March 21st 10:00		

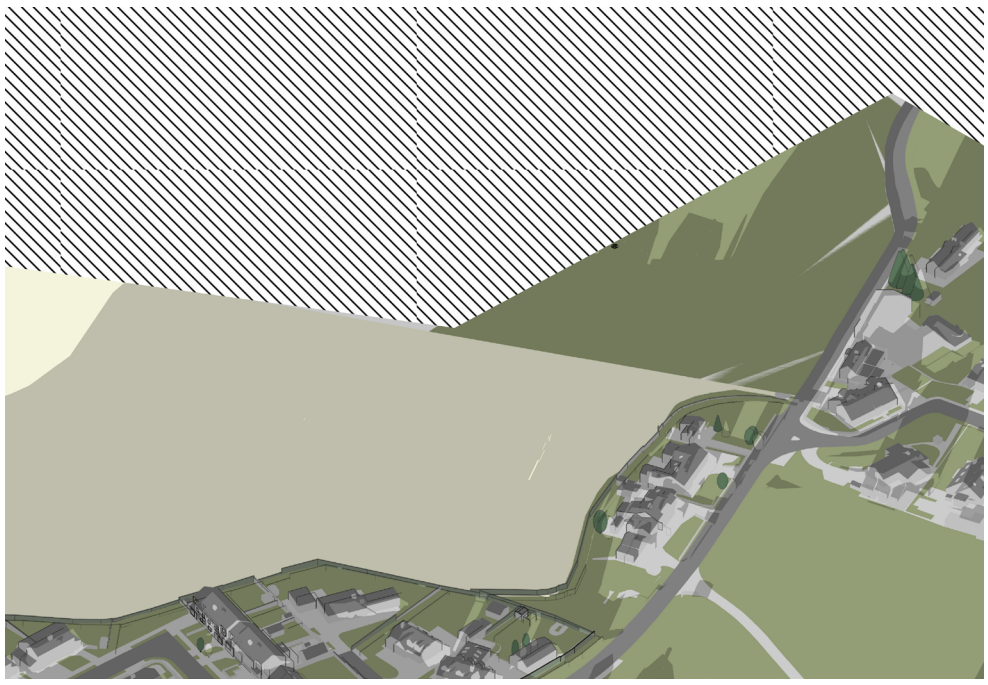
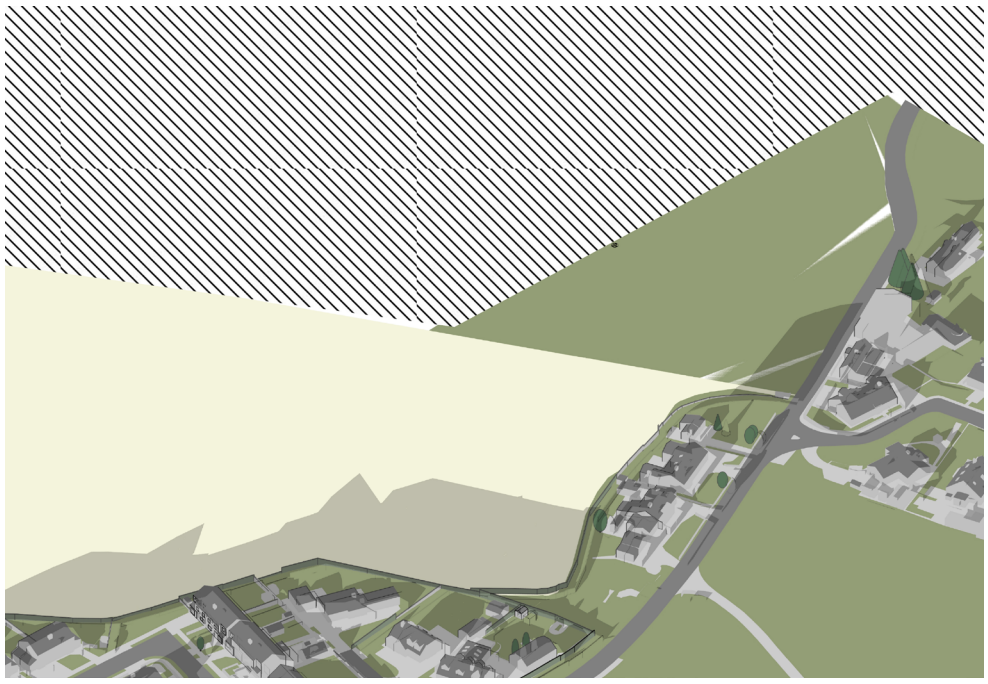
5.7 5.7.1	Shadow Studies Shadow Study 21 March	Project: SHD Enniscorthy Wexford	3D DESIGN BUREAU
	March 21st Sunrise 6:25 | Sunset 18:40	Applicant: Torca Developments LTD.	

	Baseline	Proposed
March 21st 11:00		
March 21st 12:00		
March 21st 13:00		
March 21st 14:00		

	Project: SHD Enniscorthy Wexford	3D DESIGN BUREAU
March 21st **Sunrise 6:25 | Sunset 18:40**	**Applicant: Torca Developments LTD.**	

	Baseline	Proposed
March 21st 15:00		
March 21st 16:00		
March 21st 17:00		
March 21st 18:00		

	Project: SHD Enniscorthy Wexford	3D DESIGN BUREAU
March 21st **Sunrise 6:25 | Sunset 18:40**	**Applicant: Torca Developments LTD.**	

	Baseline	Proposed
June 21st 6:00		
June 21st 7:00		
June 21st 8:00		
June 21st 9:00		

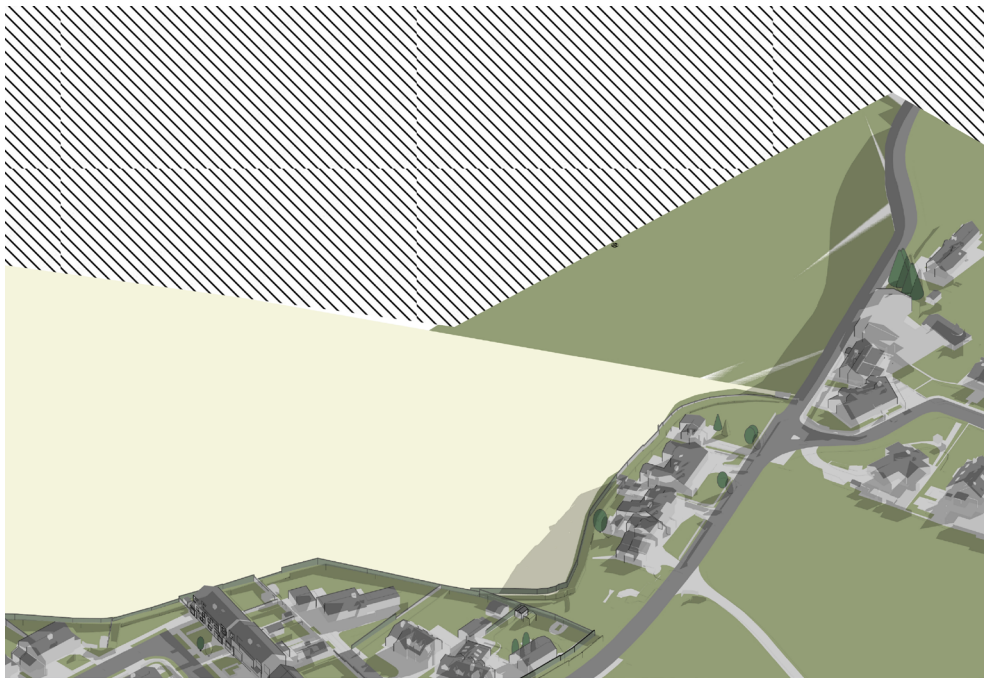
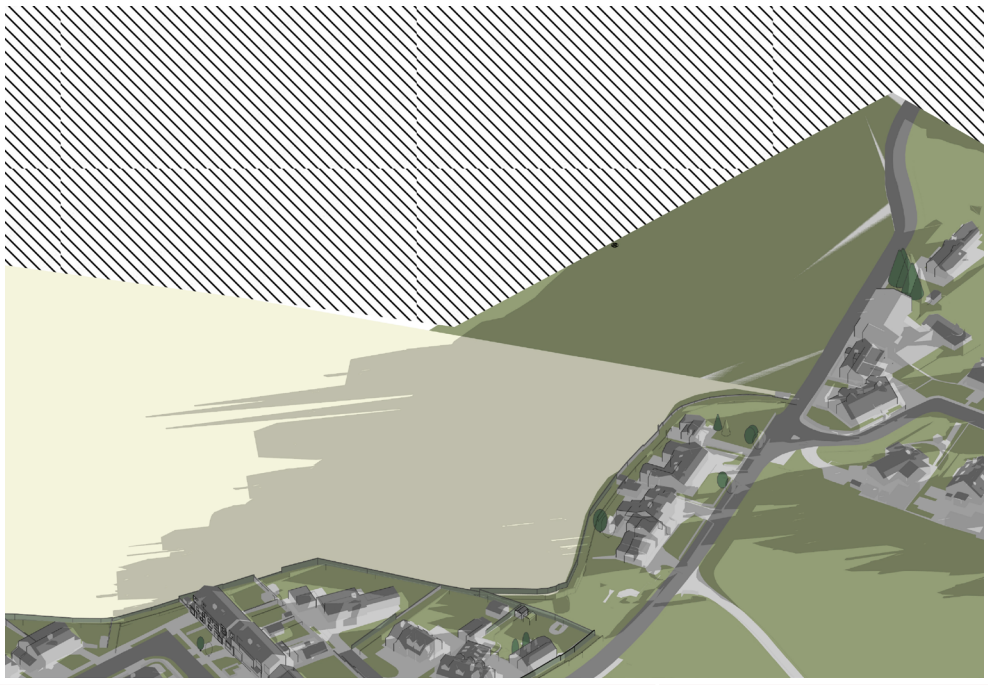
5.7.2 Shadow Study 21 June	Project: SHD Enniscorthy Wexford	3D DESIGN BUREAU
June 21st Sunrise 4:57 | Sunset 21:57	Applicant: Torca Developments LTD.	

	Baseline	Proposed
June 21st 10:00		
June 21st 11:00		
June 21st 12:00		
June 21st 13:00		

	Project: SHD Enniscorthy Wexford	3D DESIGN BUREAU
June 21st **Sunrise 4:57 | Sunset 21:57**	**Applicant: Torca Developments LTD.**	

	Baseline	Proposed
June 21st 14:00		
June 21st 15:00		
June 21st 16:00		
June 21st 17:00		

	Project: SHD Enniscorthy Wexford	3D DESIGN BUREAU
June 21st **Sunrise 4:57 | Sunset 21:57**	**Applicant: Torca Developments LTD.**	

	Baseline	Proposed
June 21st 18:00		
June 21st 19:00		
June 21st 20:00		
June 21st 21:00		

Project: SHD Enniscorthy Wexford

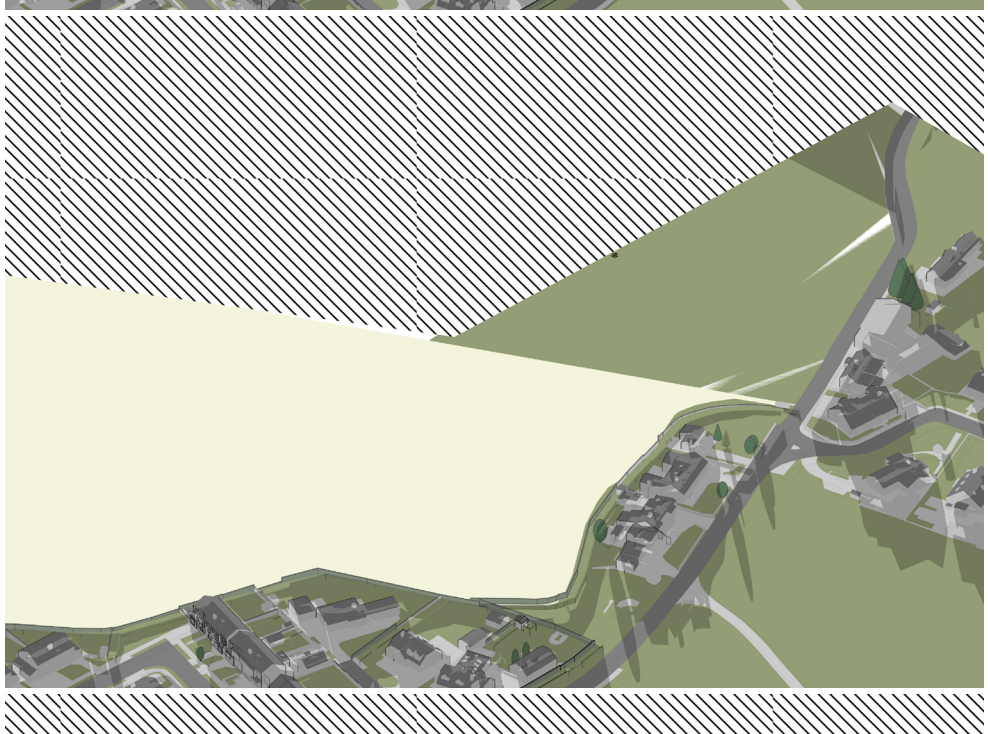
3D DESIGN BUREAU

June 21st
Sunrise 4:57 | Sunset 21:57

Applicant: Torca Developments LTD.

	Baseline	Proposed
December 21st 9:00		
December 21st 10:00		
December 21st 11:00		
December 21st 12:00		

5.7.3 Shadow Study 21 December	Project: SHD Enniscorthy Wexford	3D DESIGN BUREAU
December 21st Sunrise 8:38 | Sunset 16:08	Applicant: Torca Developments LTD.	

	Baseline	Proposed
December 21st 13:00		
December 21st 14:00		
December 21st 15:00		
December 21st 16:00		

	Project: SHD Enniscorthy Wexford	3D DESIGN BUREAU
December 21st **Sunrise 8:38 | Sunset 16:08**	**Applicant: Torca Developments LTD.**	

5.8 Average Daylight Factor

5.8.1 Block 04

Table No. 5.40: ADF Results Block 04		
Unit Number	Room Description	Predicted ADF Value
Unit 92	LKD	2.47%
Unit 92	Bedroom 1	2.44%
Unit 92	Bedroom 2	4.44%
Unit 93	LKD	2.34%
Unit 93	Bedroom 1	2.86%
Unit 93	Bedroom 2	1.15%
Unit 93	Bedroom 3	4.01%
Unit 116	LKD	2.16%
Unit 116	Bedroom 1	2.70%
Unit 117	LKD	2.32%
Unit 117	Bedroom 1	2.74%
The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.		

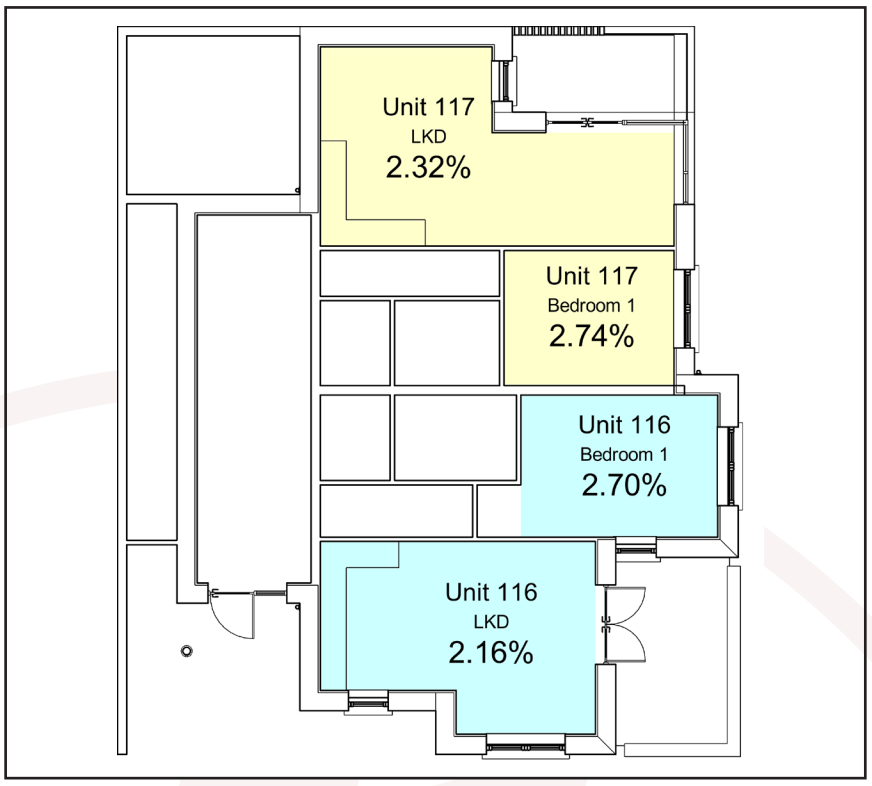


Figure 5.40: Ground Floor plan Block 04.

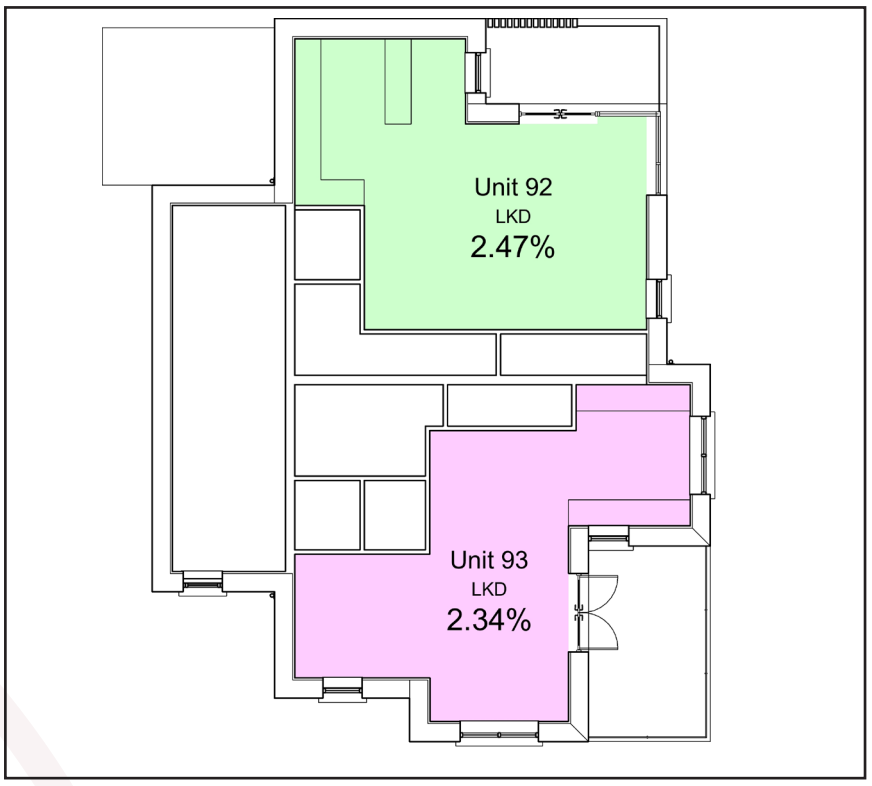


Figure 5.41: First Floor plan Block 04.

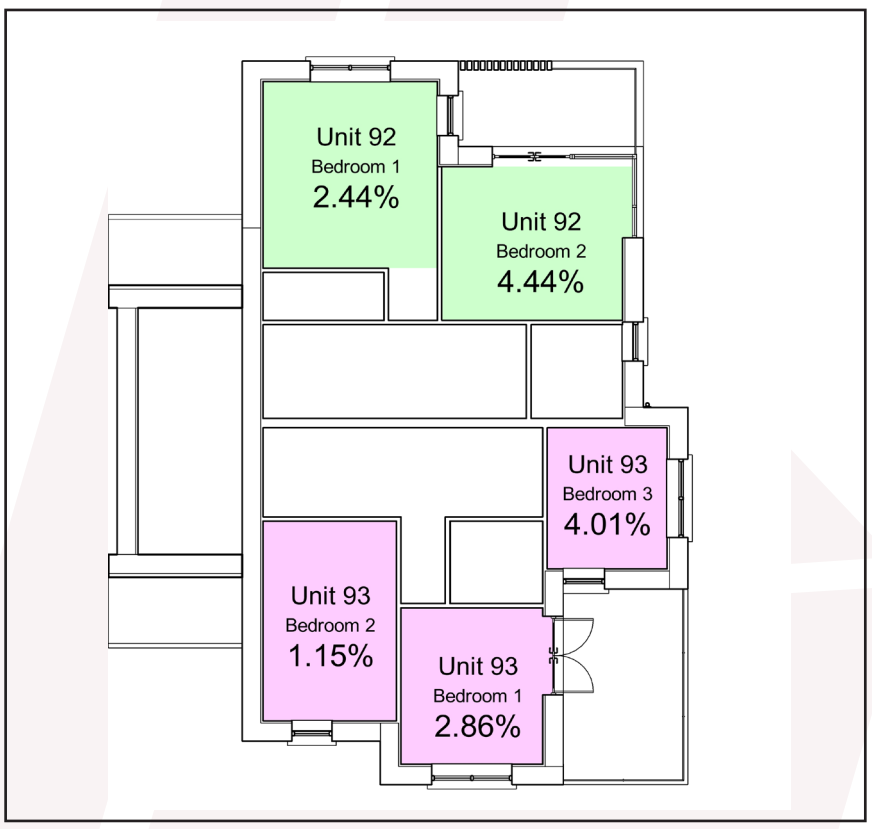


Figure 5.42: Second Floor plan Block 04.

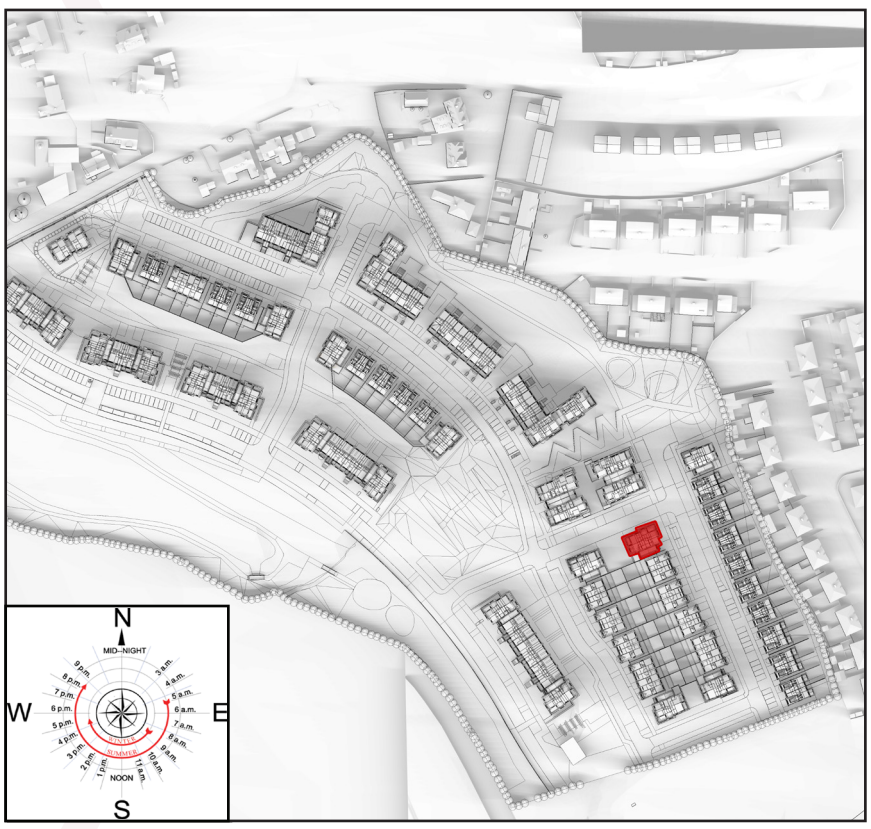


Figure 5.43: Keyplan highlighting the assessed Block 04.

5.8.2 Block 05

Table No. 5.41: ADF Results BLock 05		
Unit Number	Room Description	Predicted ADF Value
Unit 131	LKD	3.85%
Unit 131	Bedroom 1	3.04%
Unit 131	Bedroom 2	6.52%
Unit 131	Bedroom 3	2.70%
Unit 132	LKD	2.45%
Unit 132	Bedroom 1	2.19%
Unit 132	Bedroom 2	3.12%
Unit 132	Bedroom 3	4.87%
Unit 135	LKD	4.11%
Unit 135	Bedroom 1	2.67%
Unit 135	Bedroom 2	5.98%
Unit 135	Bedroom 3	2.35%
Unit 136	LKD	2.18%
Unit 136	Bedroom 1	1.97%
Unit 136	Bedroom 2	2.74%
Unit 136	Bedroom 3	4.12%
Unit 155	LKD	3.66%
Unit 155	Bedroom 1	3.65%
Unit 156	LKD	2.44%
Unit 156	Bedroom 1	2.89%
Unit 156	Bedroom 2	3.09%
Unit 157	LKD	2.03%
Unit 157	Bedroom 1	2.71%
Unit 157	Bedroom 2	3.67%
Unit 158	LKD	3.96%
Unit 158	Bedroom 1	4.18%
The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.		

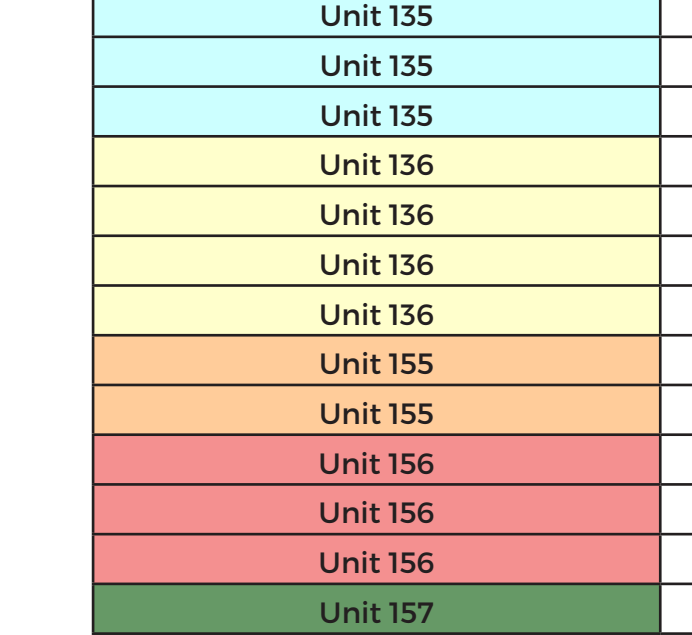


Figure 5.44: Ground Floor plan Block 05.

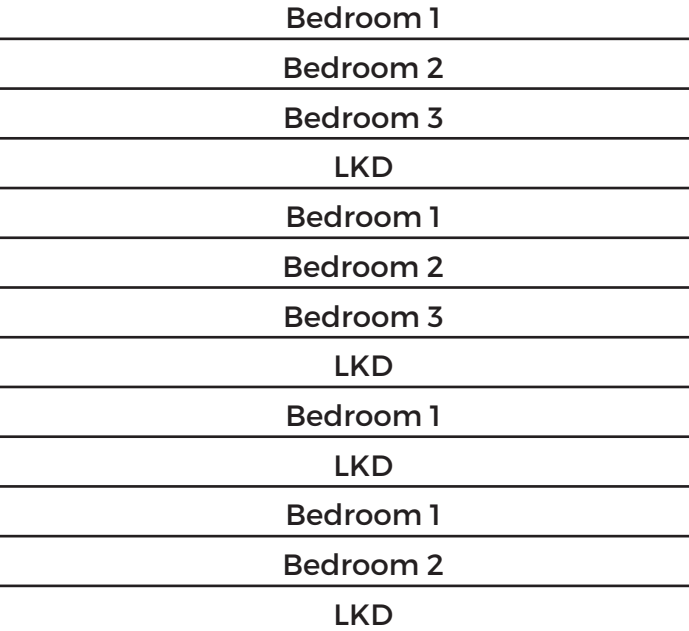


Figure 5.45: First Floor plan Block 05.

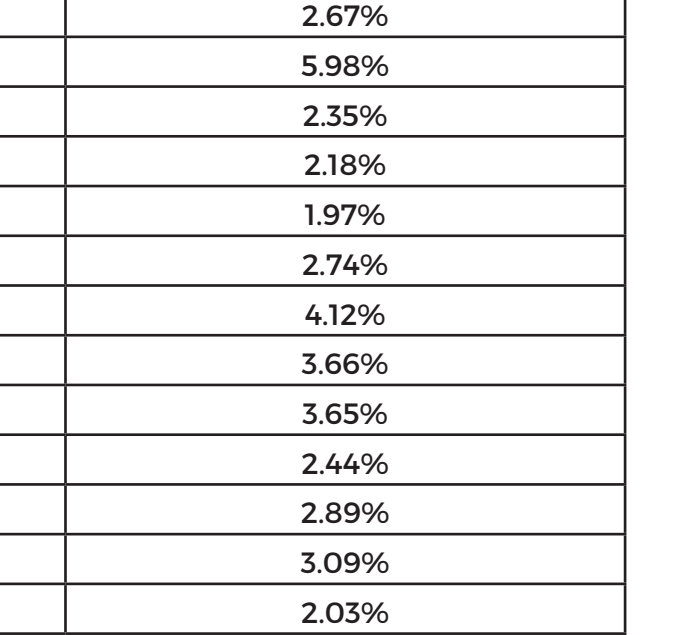


Figure 5.46: Second Floor plan Block 05.

Figure 5.47: Keyplan highlighting the assessed Block 05.

5.8.3 Block 06

Table No. 5.42: ADF Results Block 06		
Unit Number	Room Description	Predicted ADF Value
Unit 138	LKD	3.80%
Unit 138	Bedroom 1	3.32%
Unit 138	Bedroom 2	6.58%
Unit 138	Bedroom 3	2.47%
Unit 139	LKD	2.02%
Unit 139	Bedroom 1	1.72%
Unit 139	Bedroom 2	2.33%
Unit 139	Bedroom 3	4.26%
Unit 141	LKD	4.37%
Unit 141	Bedroom 1	2.89%
Unit 141	Bedroom 2	6.34%
Unit 141	Bedroom 3	2.67%
Unit 142	LKD	2.07%
Unit 142	Bedroom 1	2.04%
Unit 142	Bedroom 2	2.36%
Unit 142	Bedroom 3	4.32%
Unit 163	LKD	3.74%
Unit 163	Bedroom 1	4.12%
Unit 164	LKD	3.38%
Unit 164	Bedroom 1	4.53%
The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.		

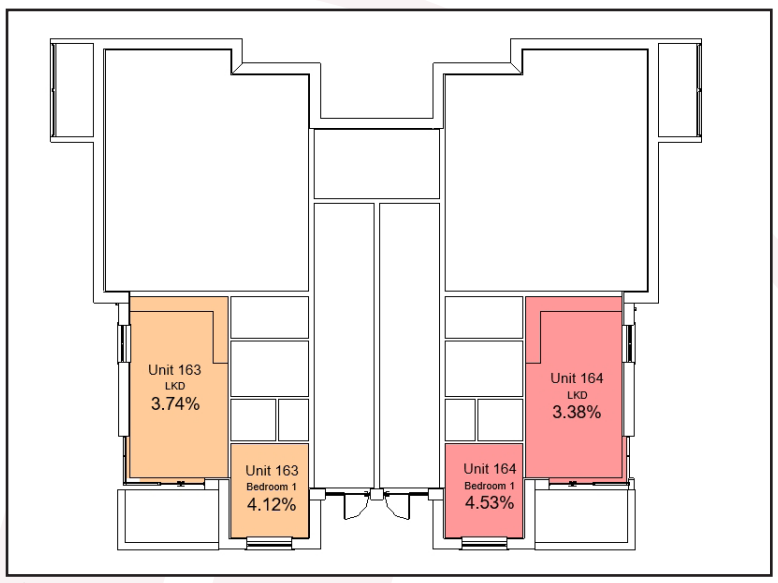


Figure 5.48: Ground Floor plan Block 06.

Figure 5.49: First Floor plan Block 06.

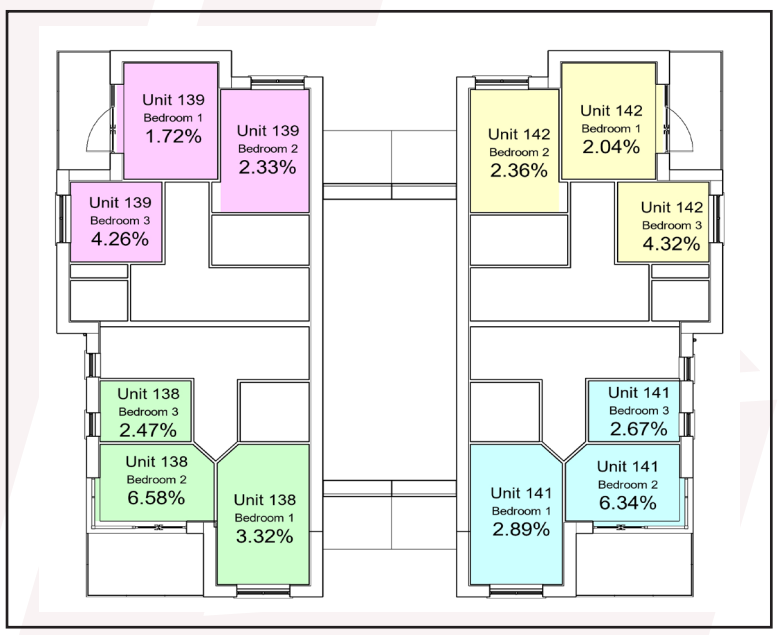


Figure 5.50: Second Floor plan Block 06.

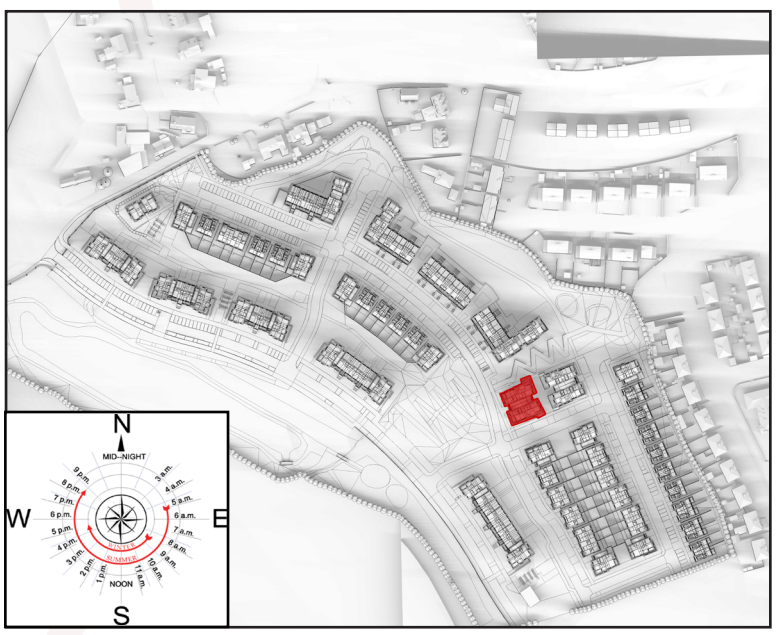


Figure 5.51: Keyplan highlighting the assessed Block 06.

5.8.4 Block 08 Ground Floor - Second Floor

Block 08 - Ground Floor

Table No. 5.43: ADF Results Ground Floor Block 08		
Unit Number	Room Description	Predicted ADF Value
Unit 143	LKD	2.87%
Unit 143	Bedroom 1	1.18%
Unit 144	LKD	2.55%
Unit 144	Bedroom 1	2.50%
Unit 145	LKD	2.91%
Unit 145	Bedroom 1	2.61%
Unit 146	LKD	3.79%
Unit 146	Bedroom 1	2.95%
Unit 151	LKD	4.07%
Unit 151	Bedroom 1	3.09%
Unit 151	Bedroom 2	1.93%
Unit 151	Bedroom 3	1.85%
Unit 155	LKD	4.62%
Unit 155	Bedroom 1	3.19%
Unit 155	Bedroom 2	3.98%
Unit 155	Bedroom 3	1.56%

The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.

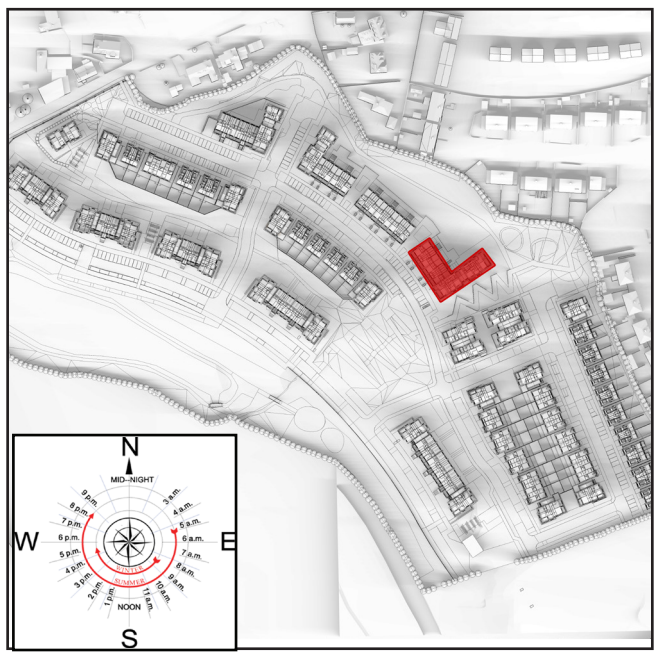


Figure 5.52: Floor plan of assessed Block 8, Keyplan highlighting the assessed block 8.

Block 08 - First Floor

Table No. 5.44: ADF Results First Floor Block 08		
Unit Number	Room Description	Predicted ADF Value
Unit 147	Kitchen	4.18%
Unit 147	Living Room	4.73%
Unit 148	Kitchen	4.60%
Unit 148	Living Room	4.99%
Unit 149	Kitchen	3.92%
Unit 149	Living Room	4.76%
Unit 150	Kitchen	3.92%
Unit 150	Living Room	3.16%
Unit 152	LKD	3.52%
Unit 152	Bedroom 1	3.71%
Unit 152	Bedroom 2	1.69%
Unit 156	LKD	4.24%
Unit 156	Bedroom 1	1.68%
Unit 156	Bedroom 2	3.68%
Unit 156	Bedroom 3	3.63%
The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.		

Figure 5.53: Floor plan of assessed block 8. Keyplan highlighting the assessed block 8.

Block 08 - Second Floor

Table No. 5.45: ADF Results Second Floor Block 08		
Unit Number	Room Description	Predicted ADF Value
Unit 147	Bedroom 1	3.44%
Unit 147	Bedroom 2	3.97%
Unit 147	Bedroom 3	4.80%
Unit 148	Bedroom 1	3.72%
Unit 148	Bedroom 2	4.17%
Unit 148	Bedroom 3	4.74%
Unit 149	Bedroom 1	3.66%
Unit 149	Bedroom 2	3.96%
Unit 149	Bedroom 3	4.51%
Unit 150	Bedroom 1	2.81%
Unit 150	Bedroom 2	3.31%
Unit 150	Bedroom 3	4.19%
The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.		

Figure 5.54: Floor plan of assessed block 08, Keyplan highlighting the assessed block 08.

5.8.5 Block 10 Ground Floor - Second Floor

Block 10 - Ground Floor

Table No. 5.46: ADF Results Ground Floor Block 10		
Unit Number	Room Description	Predicted ADF Value
Unit 171	LKD	3.98%
Unit 171	Bedroom 1	3.52%
Unit 172	LKD	2.18%
Unit 172	Bedroom 1	3.27%
Unit 173	LKD	2.53%
Unit 173	Bedroom 1	3.36%
Unit 174	LKD	2.14%
Unit 174	Bedroom 1	2.19%
Unit 179	LKD	2.18%
Unit 179	Bedroom 1	2.89%
Unit 182	LKD	3.78%
Unit 182	Bedroom 1	2.66%
Unit 182	Bedroom 2	1.70%
Unit 182	Bedroom 3	1.76%

The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.

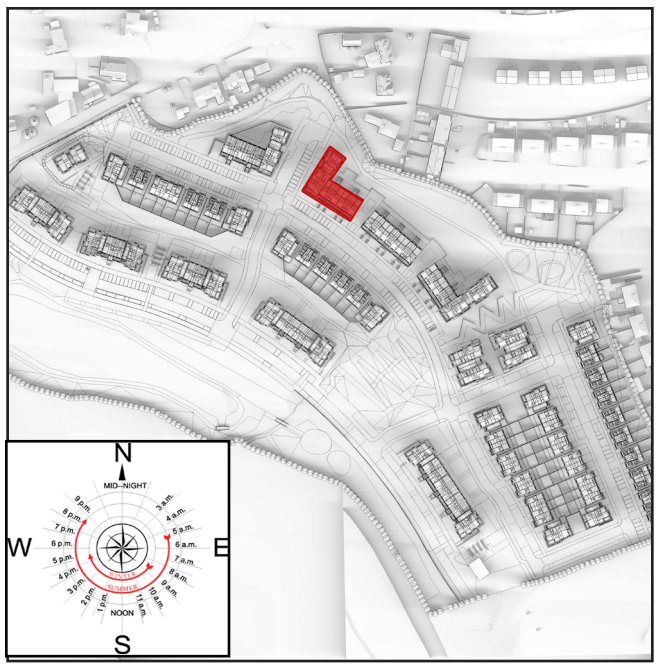
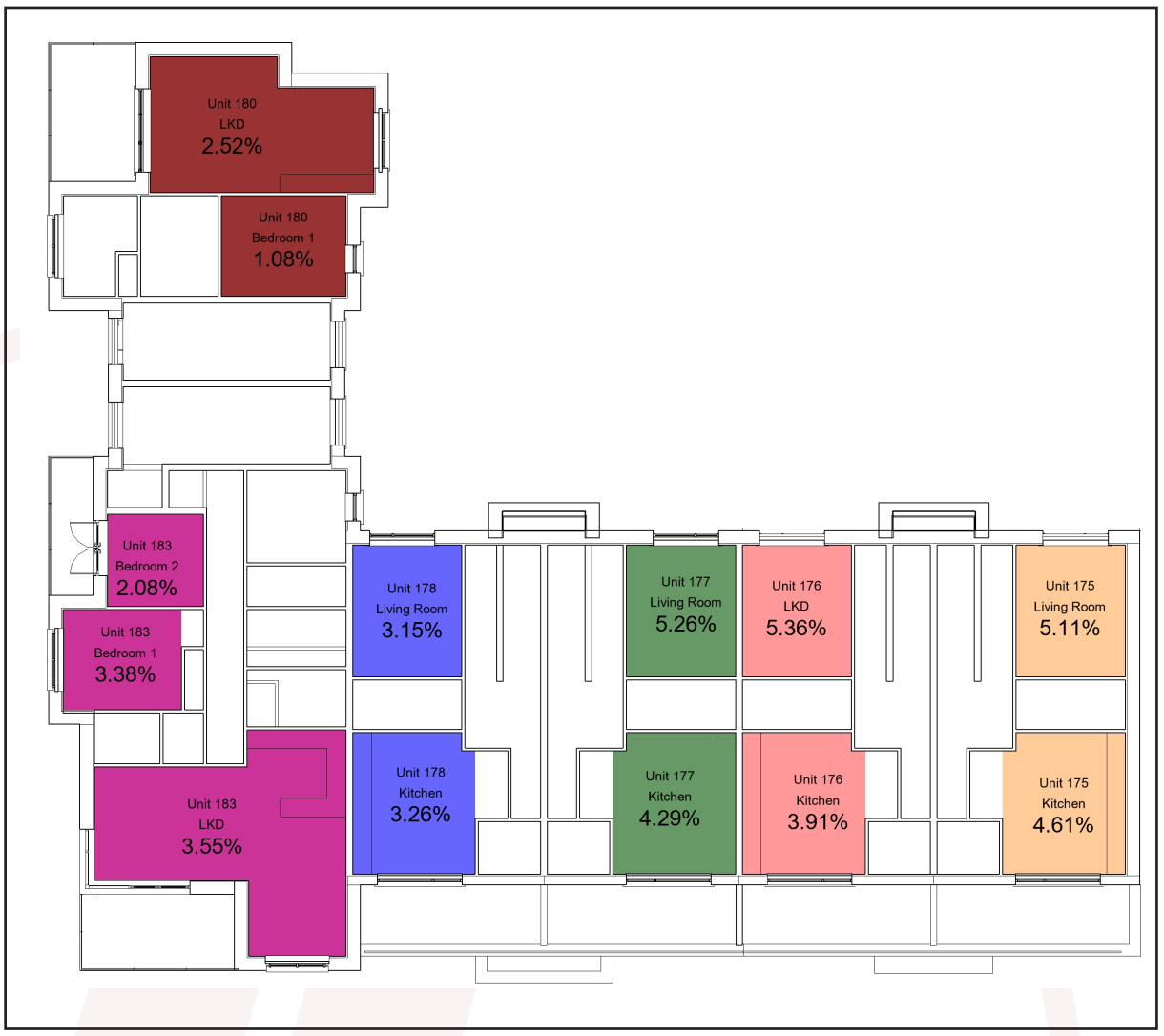


Figure 5.55: Floor plan of assessed block 10, Keyplan highlighting the assessed bblock 10.

Bock 10 - First Floor

Table No. 5.47: ADF Results First Floor Block 10		
Unit Number	Room Description	Predicted ADF Value
Unit 175	Kitchen	4.61%
Unit 175	Living Room	5.11%
Unit 176	Kitchen	3.91%
Unit 176	Living Room	5.36%
Unit 177	Kitchen	4.29%
Unit 177	Living Room	5.26%
Unit 178	Kitchen	3.26%
Unit 178	Living Room	3.15%
Unit 180	LKD	2.52%
Unit 180	Bedroom 1	1.08%
Unit 183	LKD	3.55%
Unit 183	Bedroom 1	3.38%
Unit 183	Bedroom 2	2.08%

The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.



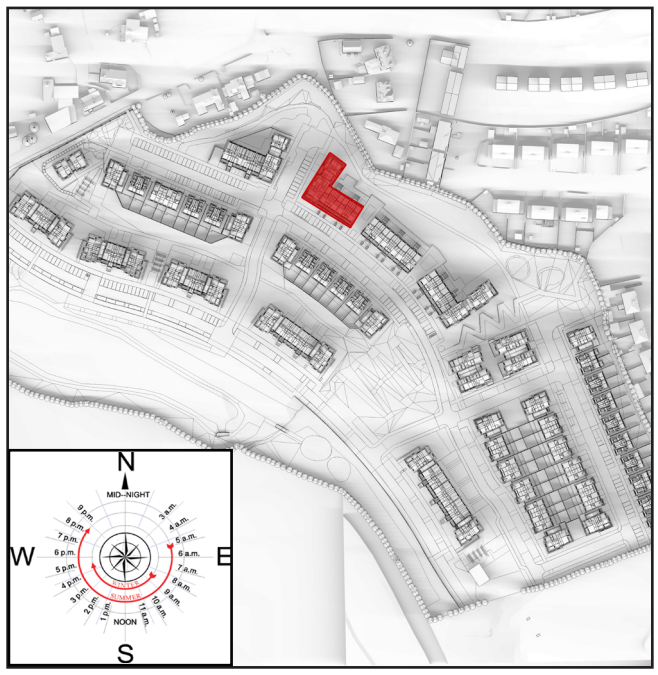


Figure 5.56: Floor plan of assessed block 10, Keyplan highlighting the assessed block 10.

Block 10 - Second Floor

Table No. 5.48: ADF Results Second Floor Block 10		
Unit Number	Room Description	Predicted ADF Value
Unit 175	Bedroom 1	4.98%
Unit 175	Bedroom 2	4.00%
Unit 175	Bedroom 3	3.49%
Unit 176	Bedroom 1	3.89%
Unit 176	Bedroom 2	4.44%
Unit 176	Bedroom 3	3.45%
Unit 177	Bedroom 1	4.58%
Unit 177	Bedroom 2	3.82%
Unit 177	Bedroom 3	3.42%
Unit 178	Bedroom 1	2.60%
Unit 178	Bedroom 2	3.76%
Unit 178	Bedroom 3	2.79%
The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.		

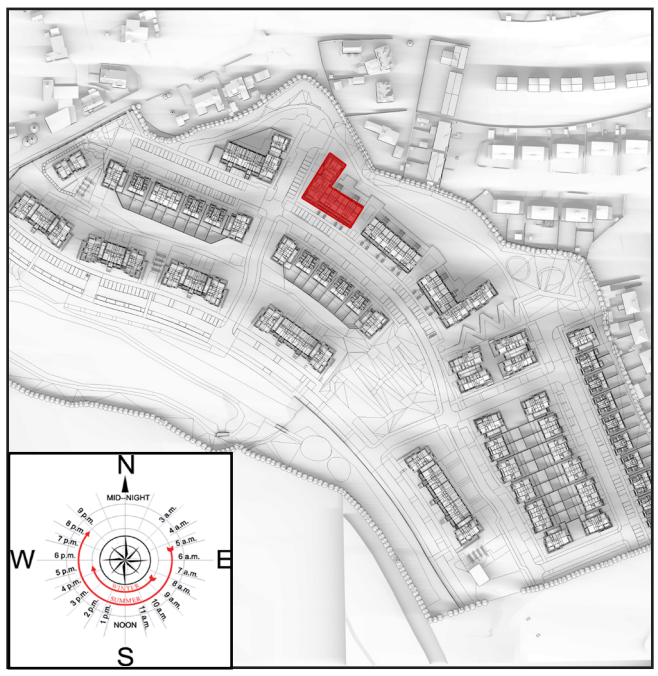


Figure 5.57: Floor plan of assessed block 10, Keyplan highlighting the assessed bblock 10.

5.8.6 Block 12

Table No. 5.49: ADF Results Block 12		
Unit Number	Room Description	Predicted ADF Value
Unit 188	LKD	2.58%
Unit 188	Bedroom 1	2.53%
Unit 188	Bedroom 2	4.16%
Unit 189	LKD	2.26%
Unit 189	Bedroom 1	3.05%
Unit 189	Bedroom 2	1.25%
Unit 189	Bedroom 3	3.96%
Unit 228	LKD	2.12%
Unit 228	Bedroom 1	2.48%
Unit 229	LKD	2.54%
Unit 229	Bedroom 1	2.91%
The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.		

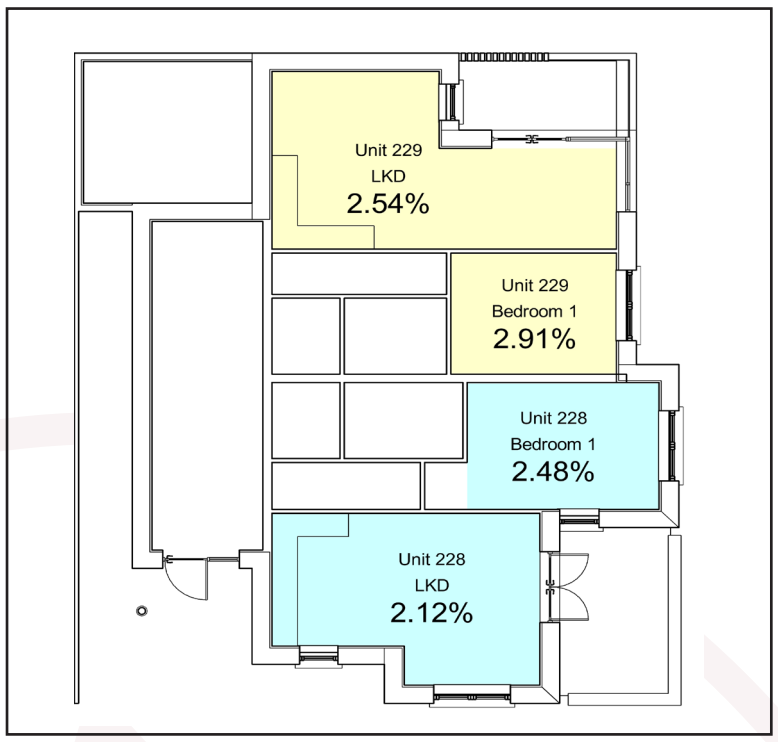


Figure 5.58: Ground Floor plan Block 12.

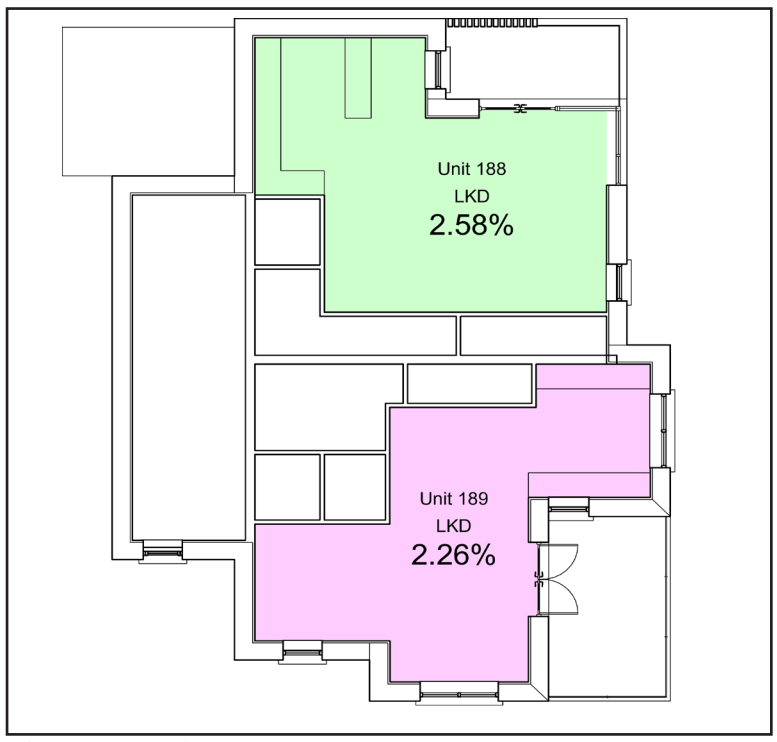


Figure 5.59: First Floor plan Block 12.

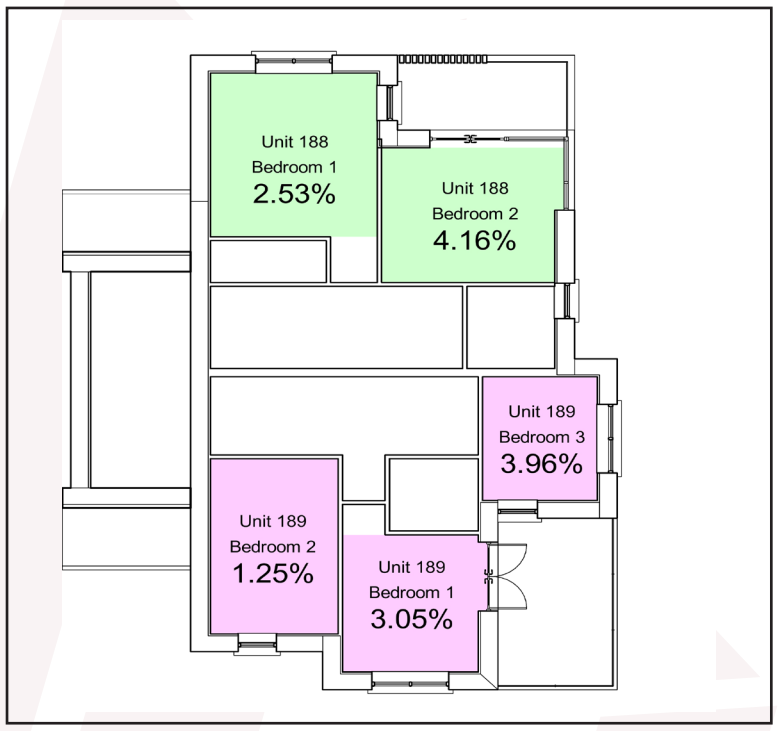


Figure 5.60: Second Floor plan Block 12.

Figure 5.61: Keyplan highlighting the assessed Block 12.

5.8.7 Block 13 Ground Floor - Second Floor

Block 13 - Ground Floor

Table No. 5.50: ADF Results Ground Block 13		
Unit Number	Room Description	Predicted ADF Value
Staff Room [Creche]	3.02%	1.5%
Office [Creche]	4.26%	1.5%
Reception [Creche]	5.77%	1.5%
Room 05 [Creche]	6.67%	1.5%
Room 01 [Creche]	2.71%	1.5%
Room 02 [Creche]	3.32%	1.5%
Room 03 [Creche]	3.19%	1.5%
Room 04 [Creche]	3.21%	1.5%
Unit 202	LKD	2.87%
Unit 202	Bedroom 1	3.57%
Unit 205	LKD	4.19%
Unit 205	Bedroom 1	4.10%
Unit 205	Bedroom 2	2.20%
Unit 205	Bedroom 3	1.04%

The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.

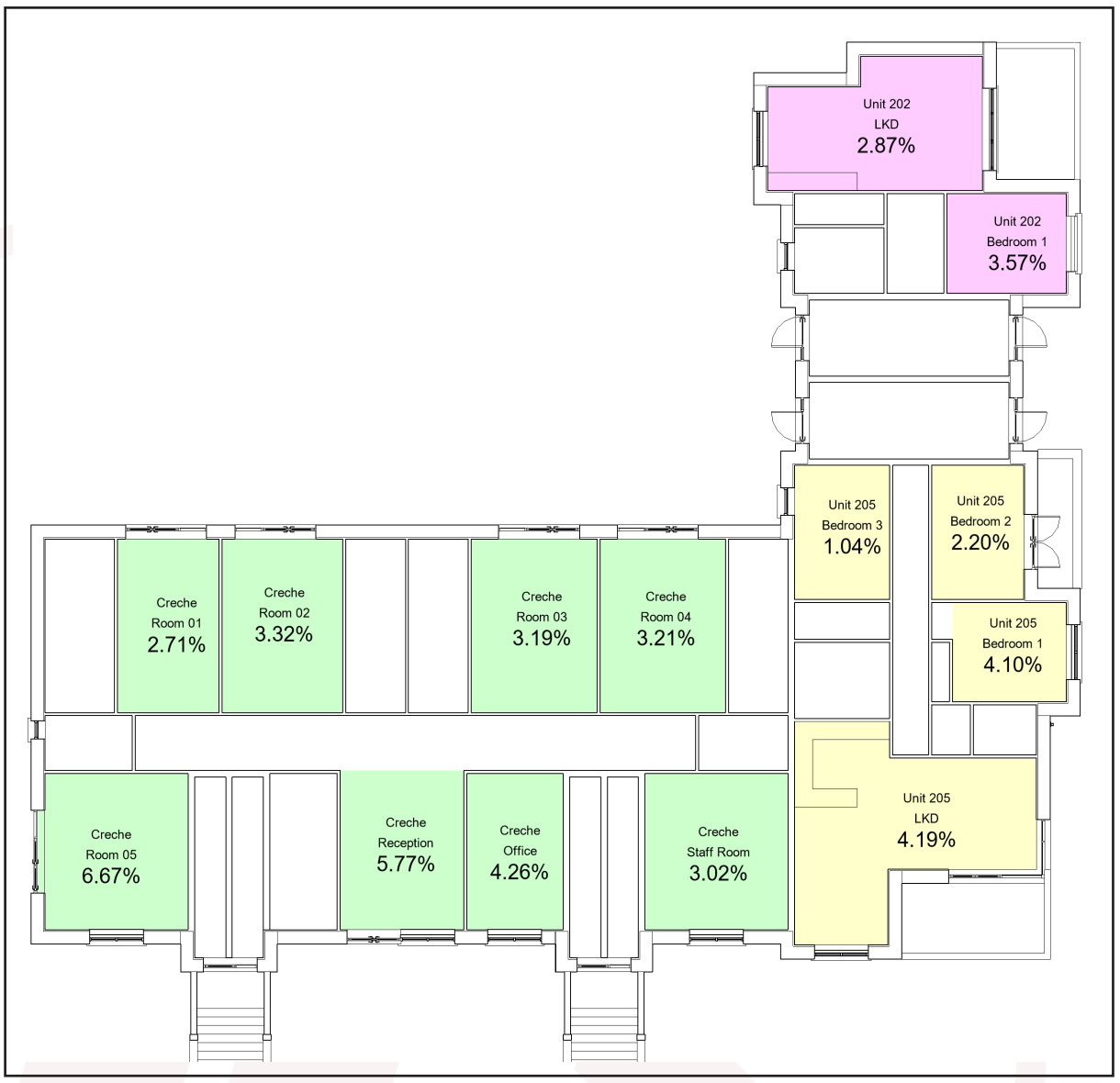
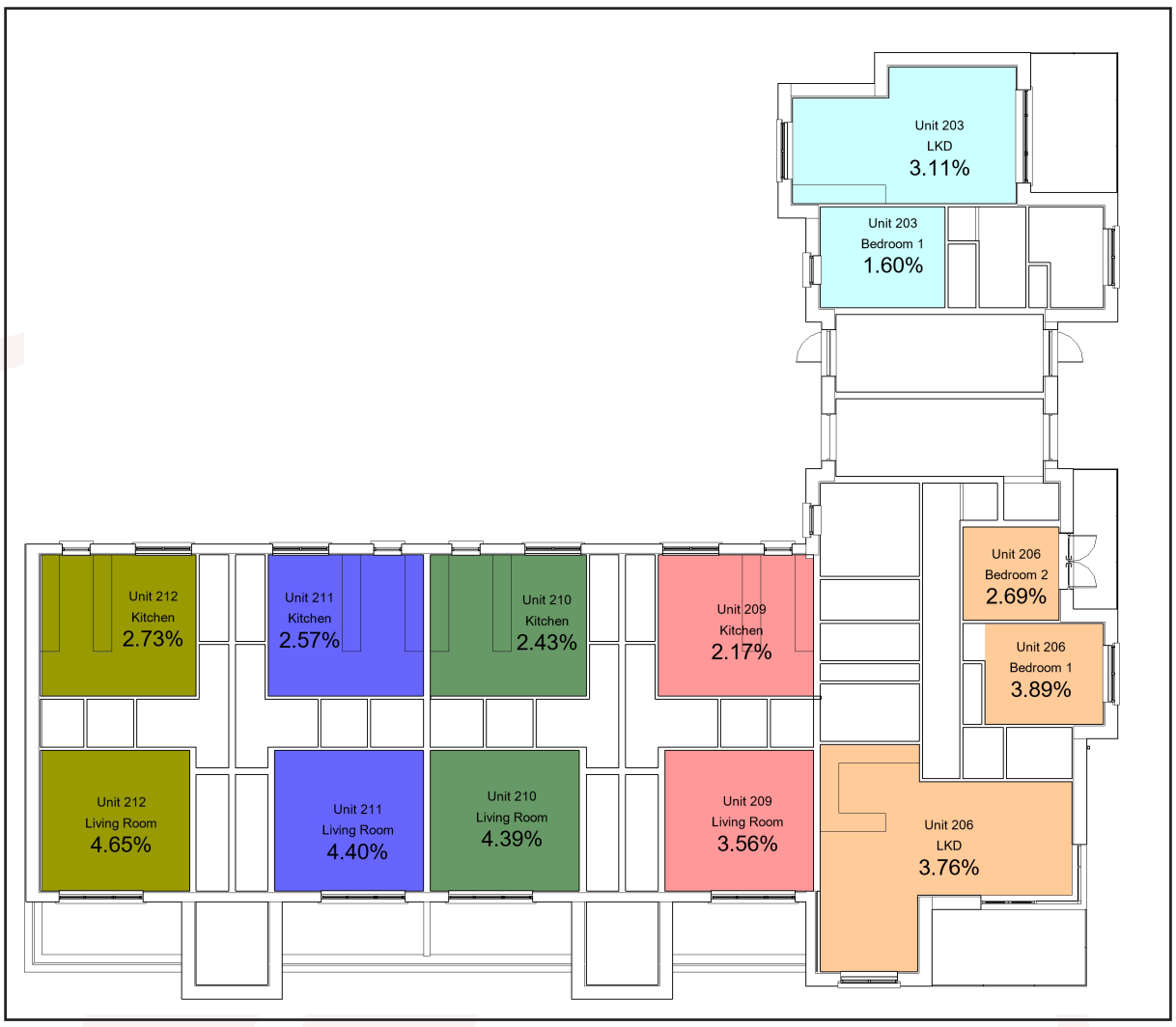


Figure 5.62: Floor plan of assessed block 13, Keyplan highlighting the assessed block 13.

Block 13 - First Floor

Table No. 5.51: ADF Results First Floor Block 13		
Unit Number	Room Description	Predicted ADF Value
Unit 203	LKD	3.11%
Unit 203	Bedroom 1	1.60%
Unit 206	LKD	3.76%
Unit 206	Bedroom 1	3.89%
Unit 206	Bedroom 2	2.69%
Unit 209	Kitchen	2.17%
Unit 209	Kitchen	2.17%
Unit 210	Kitchen	2.43%
Unit 210	Living Room	4.39%
Unit 211	Kitchen	2.57%
Unit 211	Living Room	4.40%
Unit 212	Kitchen	2.73%
Unit 212	Living Room	4.65%
The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.		



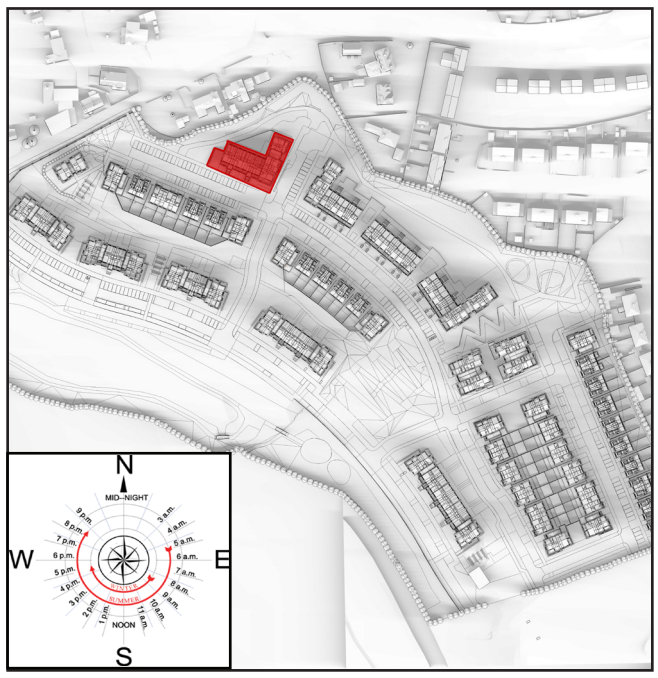


Figure 5.63: Floor plan of assessed block 13, Keyplan highlighting the assessed block 13.

Block 13 - Second Floor

Table No. 5.52: ADF Results Second Floor Block 13		
Unit Number	Room Description	Predicted ADF Value
Unit 209	Bedroom 1	2.88%
Unit 209	Bedroom 2	4.37%
Unit 209	Bedroom 3	2.68%
Unit 210	Bedroom 1	3.69%
Unit 210	Bedroom 2	4.59%
Unit 210	Bedroom 3	2.55%
Unit 211	Bedroom 1	4.10%
Unit 211	Bedroom 2	5.05%
Unit 211	Bedroom 3	2.57%
Unit 212	Bedroom 1	4.30%
Unit 212	Bedroom 2	4.65%
Unit 212	Bedroom 3	2.74%

The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.

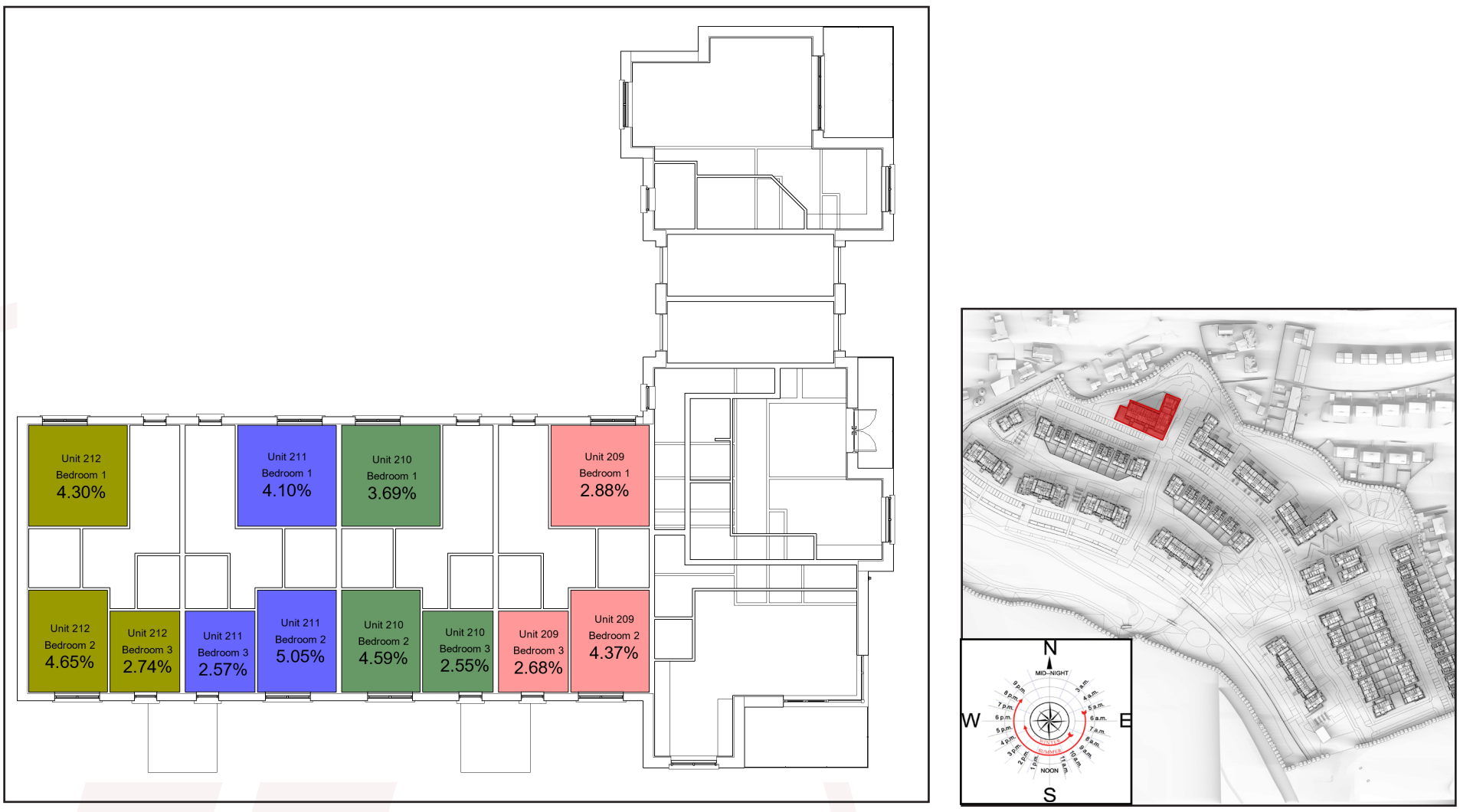


Figure 5.64: Floor plan of assessed building (L), Keyplan highlighting the assessed building (R). **XYZ**

5.8.8 Block 14

Table No. 5.53: ADF Results Block 14		
Unit Number	Room Description	Predicted ADF Value
Unit 215	LKD	2.57%
Unit 215	Bedroom 1	2.52%
Unit 215	Bedroom 2	4.60%
Unit 216	LKD	2.53%
Unit 216	Bedroom 1	3.37%
Unit 216	Bedroom 2	1.08%
Unit 216	Bedroom 3	3.97%
Unit 248	LKD	2.53%
Unit 248	Bedroom 1	2.54%
Unit 249	LKD	2.91%
Unit 249	Bedroom 1	3.00%
The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.		

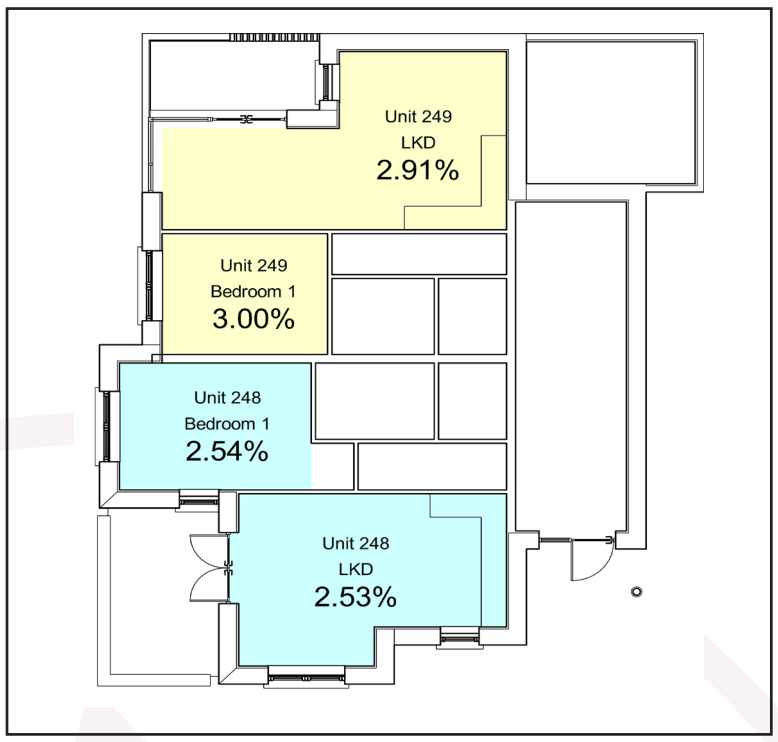


Figure 5.65: Ground Floor plan Block 12.

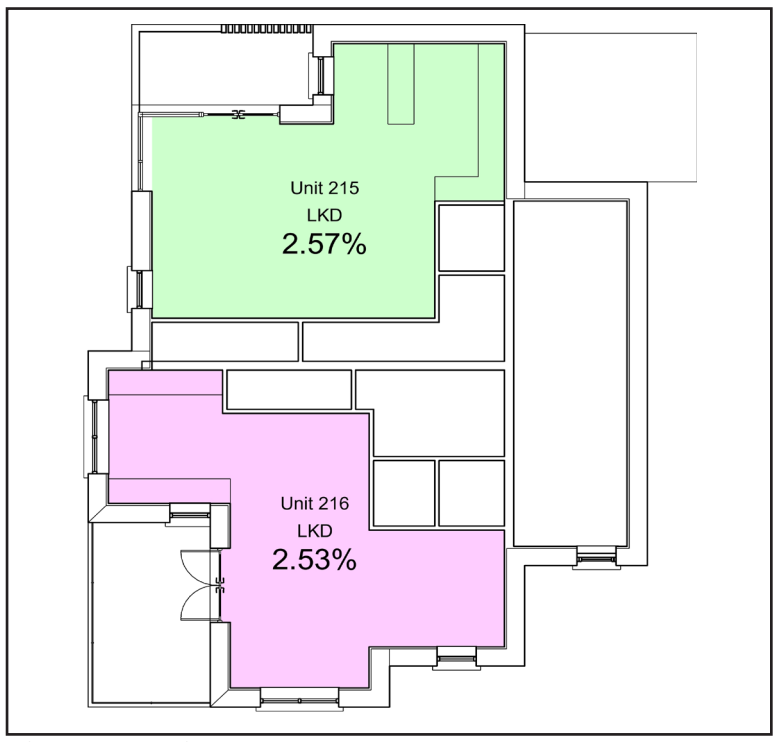


Figure 5.66: First Floor plan Block 12.

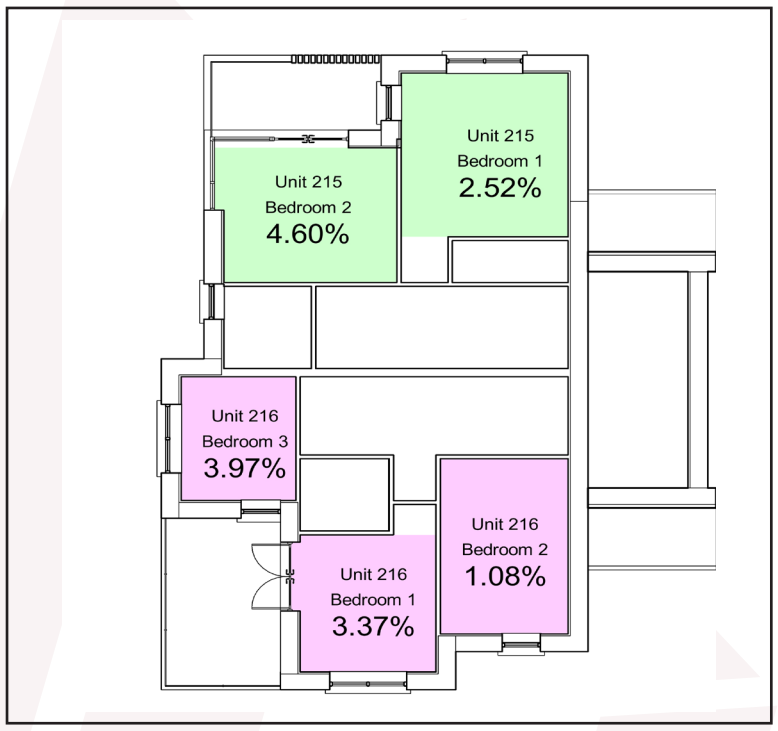


Figure 5.67: Second Floor plan Block 12.

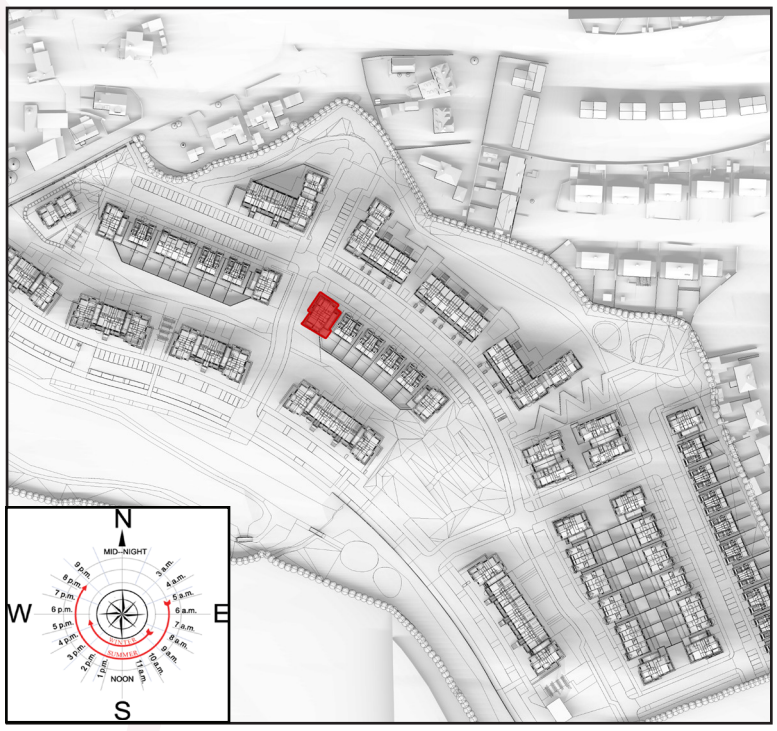


Figure 5.68: Keyplan highlighting the assessed Block 12.

5.8.9 Block 17 Ground Floor - Third Floor

Block 17 - Ground Floor

Table No. 5.54: ADF Results Ground Floor Block 17		
Unit Number	Room Description	Predicted ADF Value
Unit 001	LKD	3.84%
Unit 001	Bedroom 1	1.64%
Unit 002	LKD	2.60%
Unit 002	Bedroom 1	4.66%
Unit 002	Bedroom 2	2.60%
Unit 009	LKD	3.84%
Unit 009	Bedroom 1	1.47%
The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.		

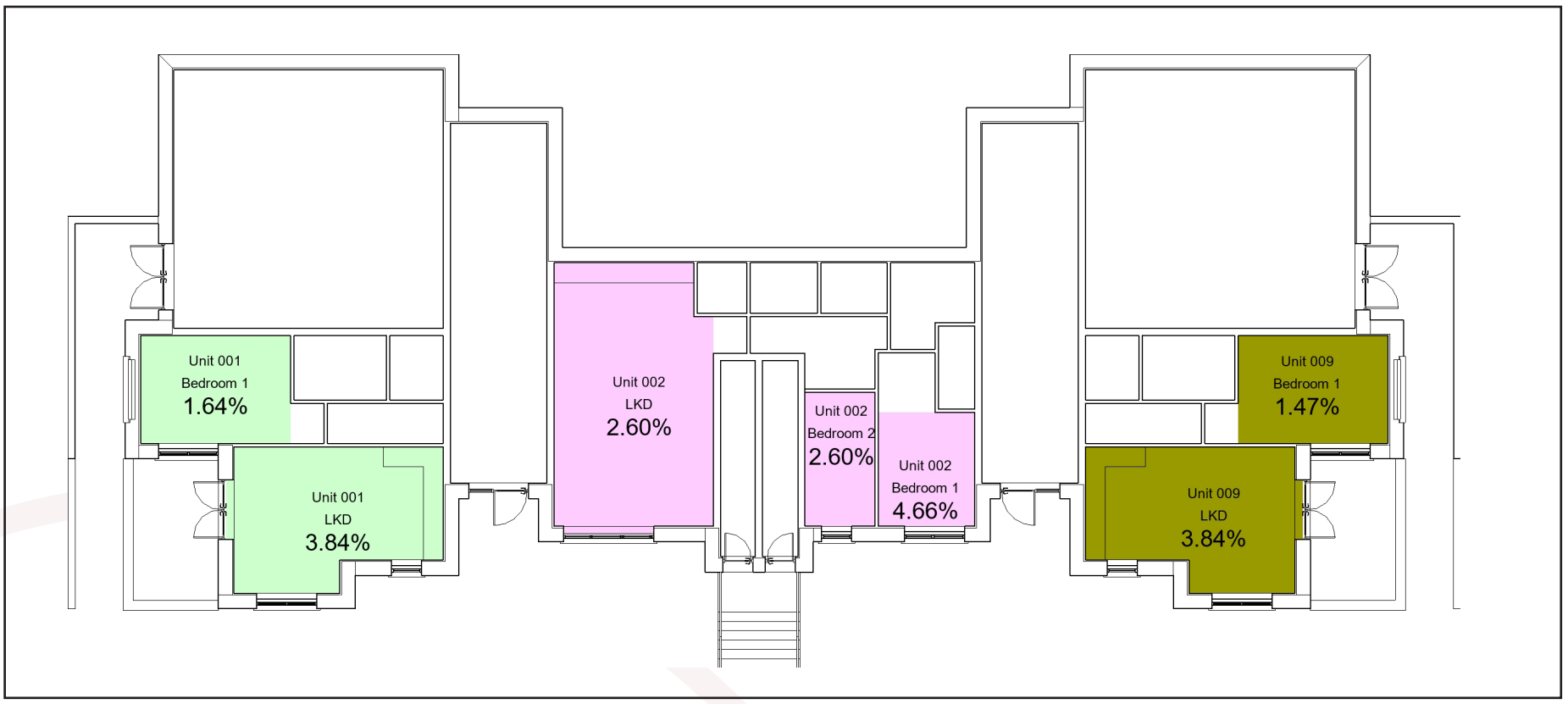
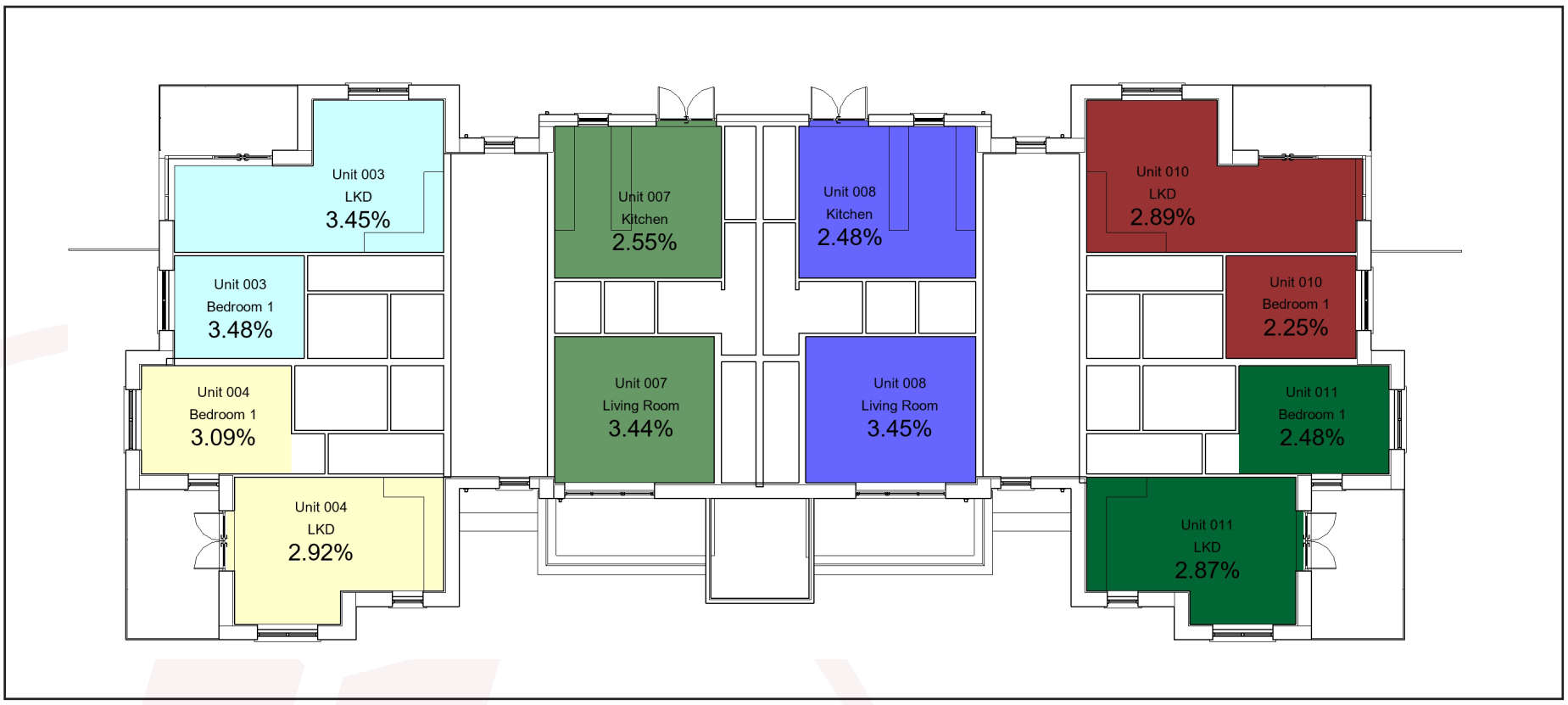


Figure 5.69: Floor plan of assessed bLock 17, Keyplan highlighting the assessed block 17.

Block 17 - First Floor

Table No. 5.55: ADF Results First Floor Block 17		
Unit Number	Room Description	Predicted ADF Value
Unit 003	LKD	3.45%
Unit 003	Bedroom 1	3.48%
Unit 004	LKD	2.92%
Unit 004	Bedroom 1	3.09%
Unit 007	Kitchen	2.55%
Unit 007	Living Room	3.44%
Unit 008	Kitchen	2.48%
Unit 008	Living Room	3.45%
Unit 010	LKD	2.89%
Unit 010	Bedroom 1	2.25%
Unit 011	LKD	2.87%
Unit 011	Bedroom 1	2.48%

The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.



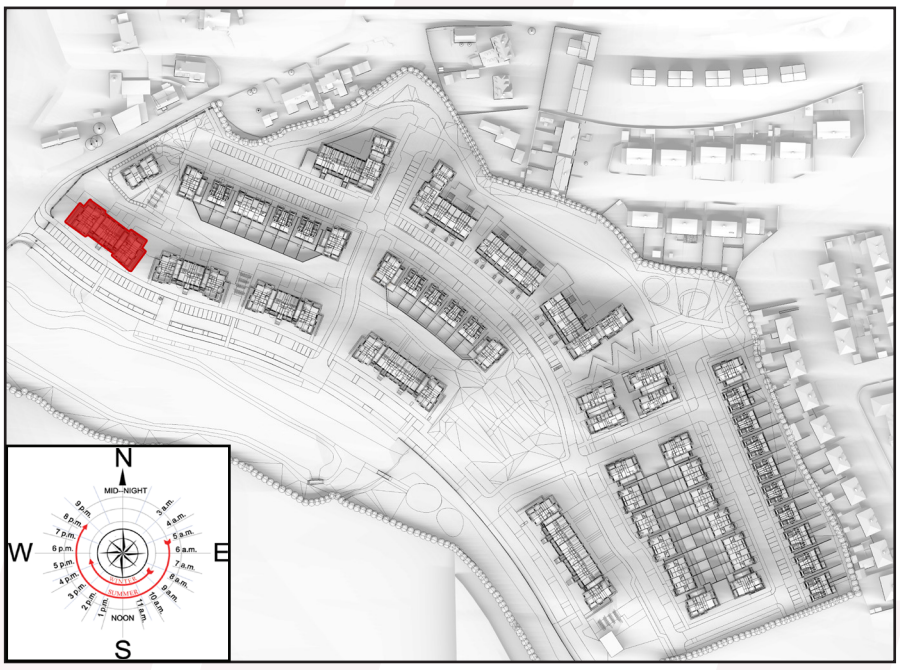
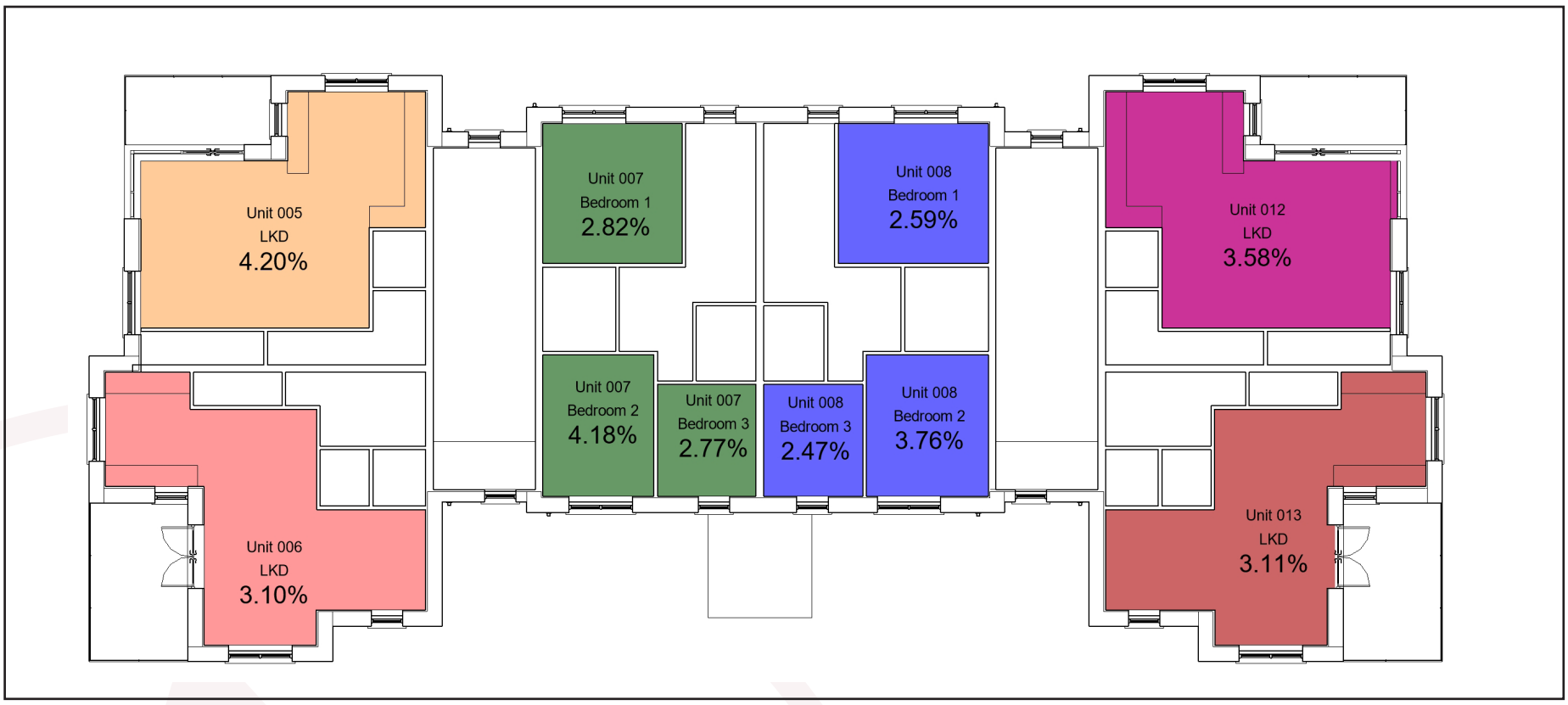


Figure 5.70: Floor plan of assessed bLock 17, Keyplan highlighting the assessed block 17.

Block 17 - Second Floor

Table No. 5.56: ADF Results Second Flookr Block 17		
Unit Number	Room Description	Predicted ADF Value
Unit 005	LKD	4.20%
Unit 006	LKD	3.10%
Unit 007	Bedroom 1	2.82%
Unit 007	Bedroom 2	4.18%
Unit 007	Bedroom 3	2.77%
Unit 008	Bedroom 1	2.59%
Unit 008	Bedroom 2	3.76%
Unit 008	Bedroom 3	2.47%
Unit 012	LKD	3.58%
Unit 013	LKD	3.11%
The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.		



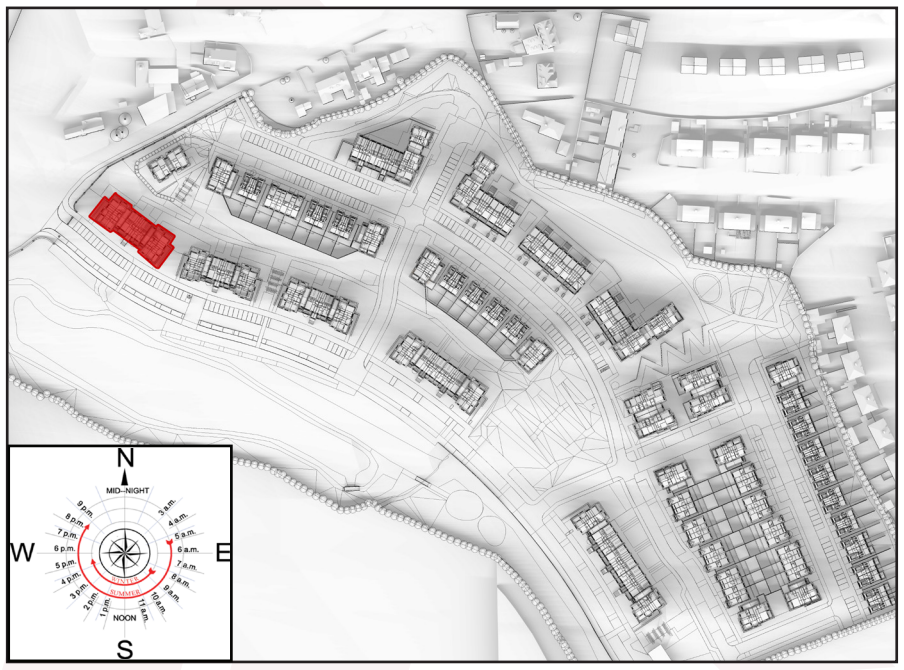
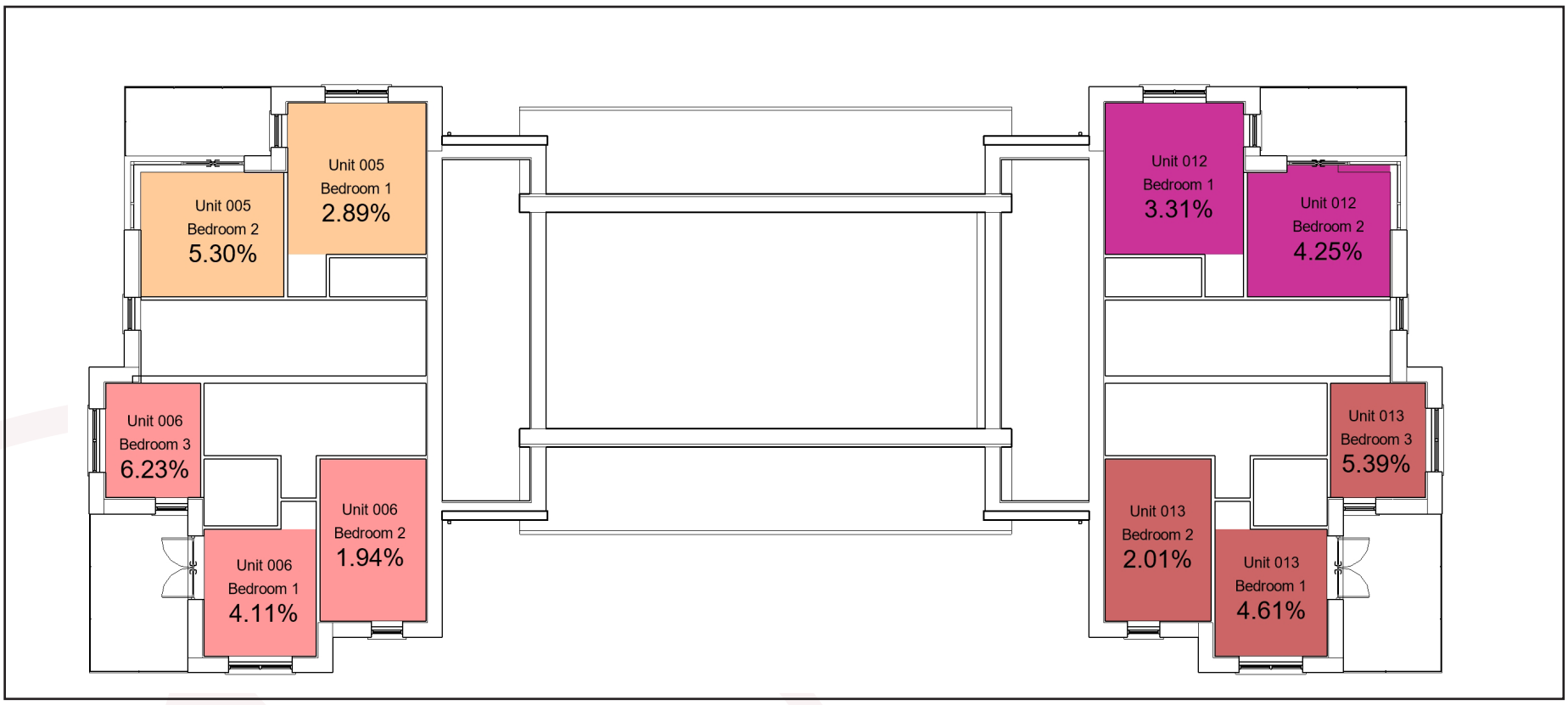


Figure 5.71: Floor plan of assessed bLock 17, Keyplan highlighting the assessed block 17.

Block 17 - Third Floor

Table No. 5.57: ADF Results Third Floor Block 17		
Unit Number	Room Description	Predicted ADF Value
Unit 005	Bedroom 1	2.89%
Unit 005	Bedroom 2	5.30%
Unit 006	Bedroom 1	4.11%
Unit 006	Bedroom 2	1.94%
Unit 006	Bedroom 3	6.23%
Unit 012	Bedroom 1	3.31%
Unit 012	Bedroom 2	4.25%
Unit 013	Bedroom 1	4.61%
Unit 013	Bedroom 2	2.01%
Unit 013	Bedroom 3	5.39%
The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.		



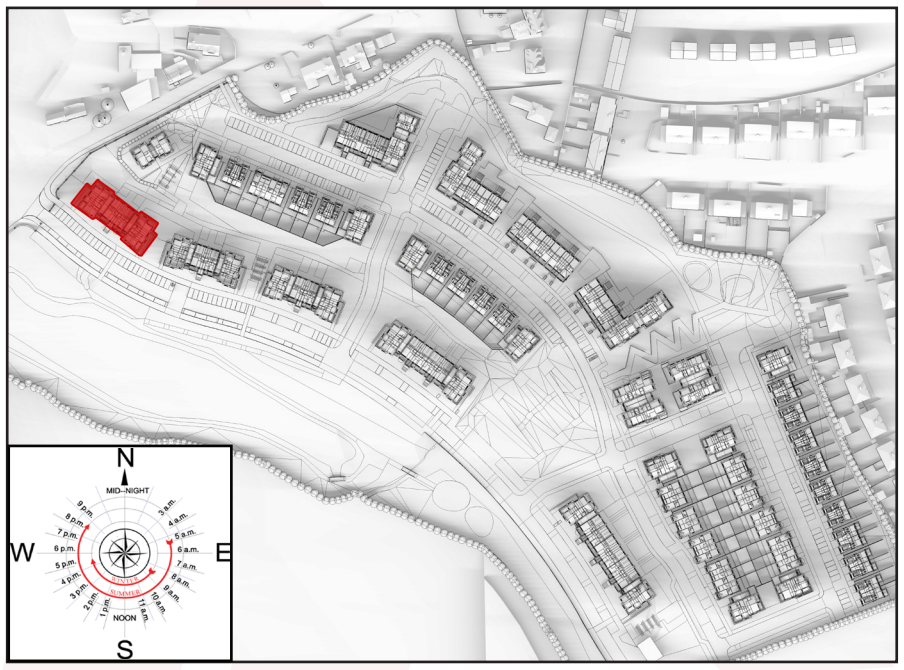


Figure 5.72: Floor plan of assessed bLock 17, Keyplan highlighting the assessed block 17.

5.8.10 Block 18 - Ground Floor - Third Floor

Block 18 - Ground Floor

Table No. 5.58: ADF Results Ground Floor Block 18		
Unit Number	Room Description	Predicted ADF Value
Unit 014	LKD	3.22%
Unit 014	Bedroom 1	1.44%
Unit 015	LKD	2.39%
Unit 015	Bedroom 1	4.29%
Unit 015	Bedroom 2	2.44%
Unit 022	LKD	3.24%
Unit 022	Bedroom 1	1.55%
The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.		

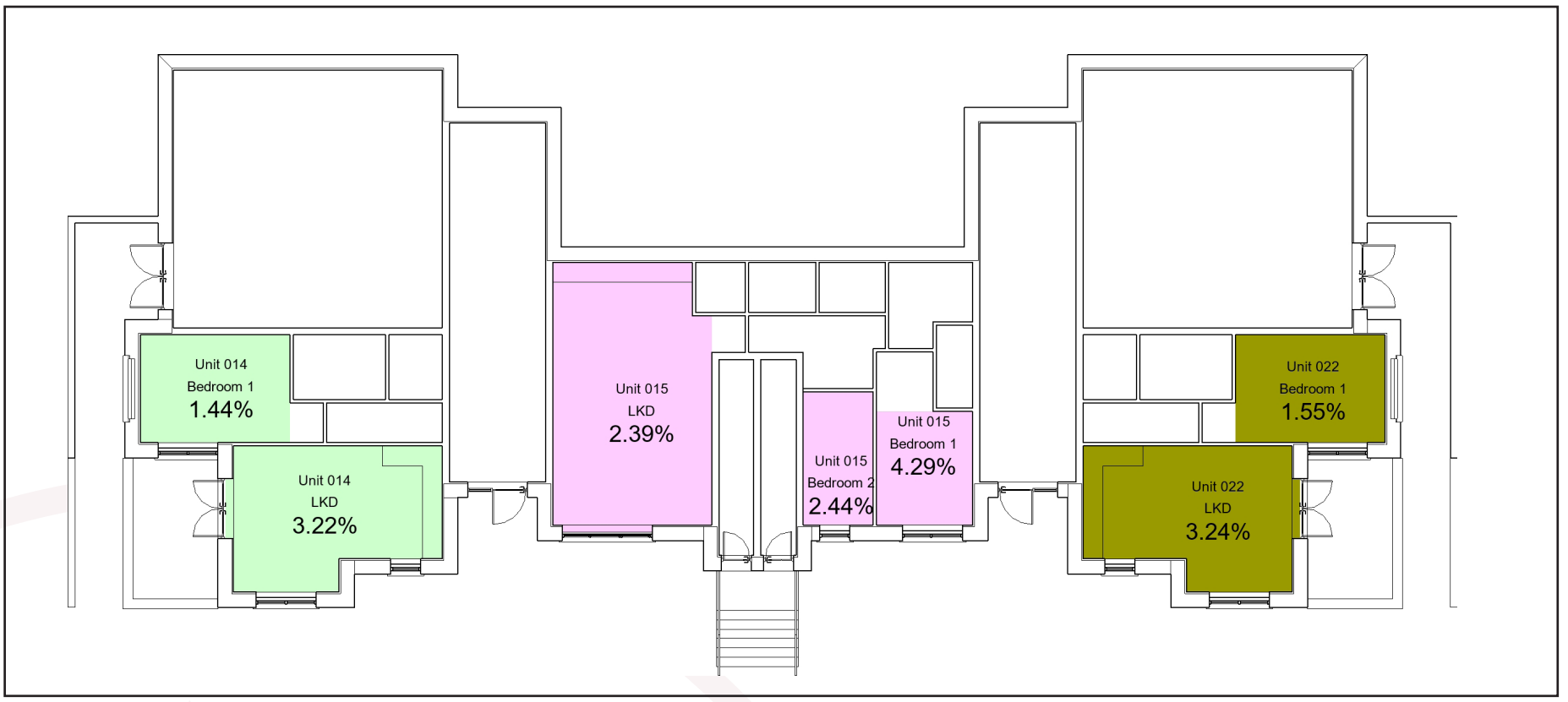
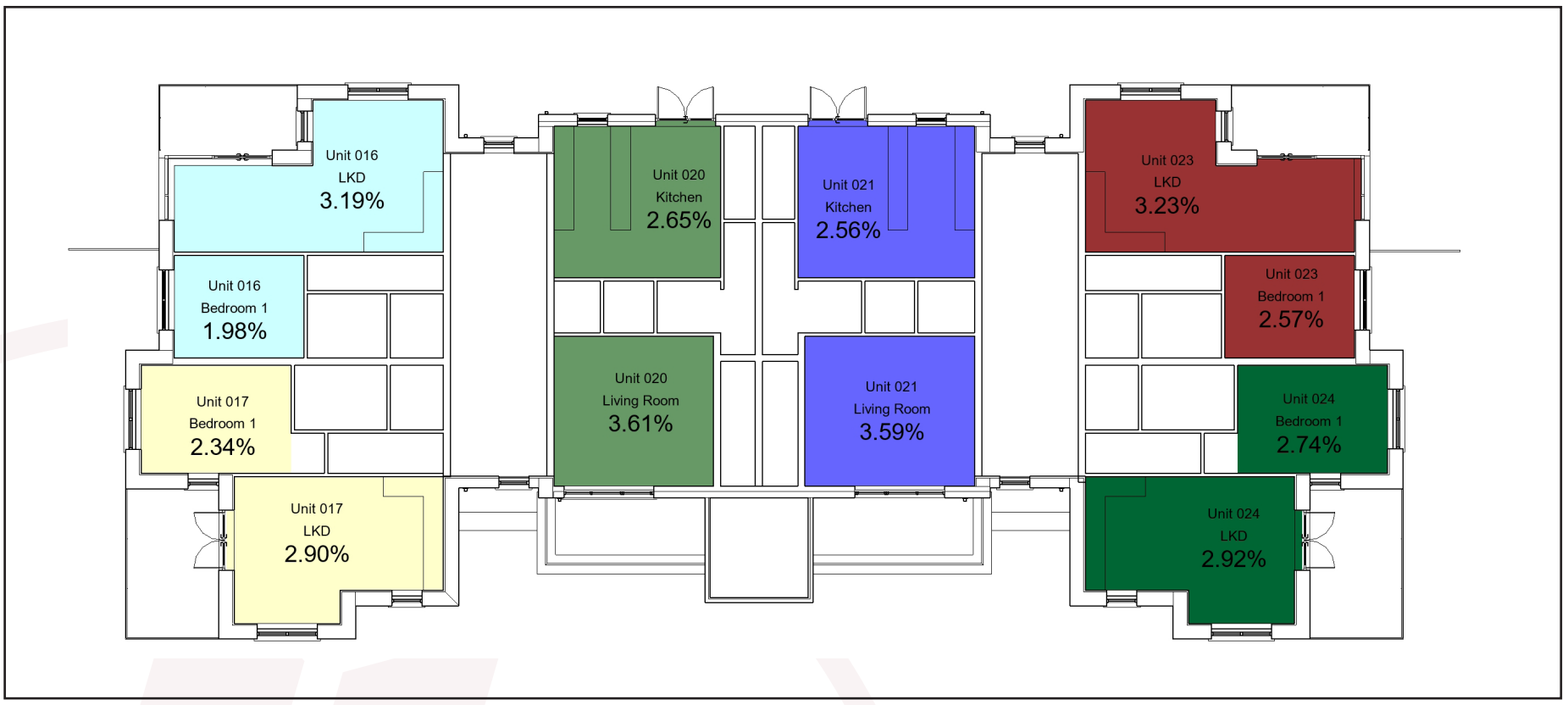


Figure 5.73: Floor plan of assessed bLock 18, Keyplan highlighting the assessed block 18.

Block 18 - First Floor

Table No. 5.59: ADF Results First Floor Block 18		
Unit Number	Room Description	Predicted ADF Value
Unit 016	LKD	3.19%
Unit 016	Bedroom 1	1.98%
Unit 017	LKD	2.90%
Unit 017	Bedroom 1	2.34%
Unit 020	Kitchen	2.65%
Unit 020	Living Room	3.61%
Unit 021	Kitchen	2.56%
Unit 021	Living Room	3.59%
Unit 023	LKD	3.23%
Unit 023	Bedroom 1	2.57%
Unit 024	LKD	2.92%
Unit 024	Bedroom 1	2.74%

The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.



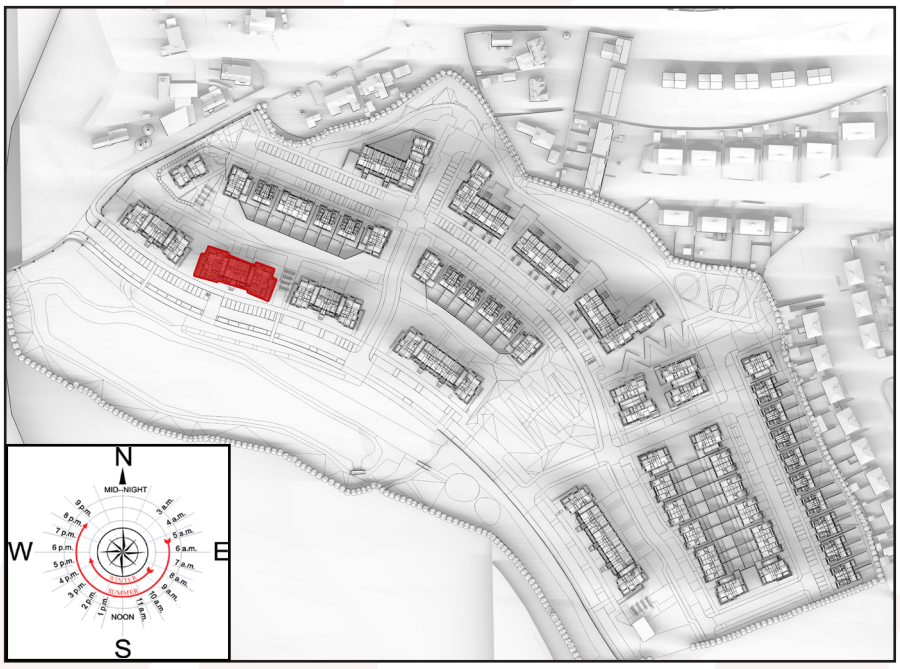
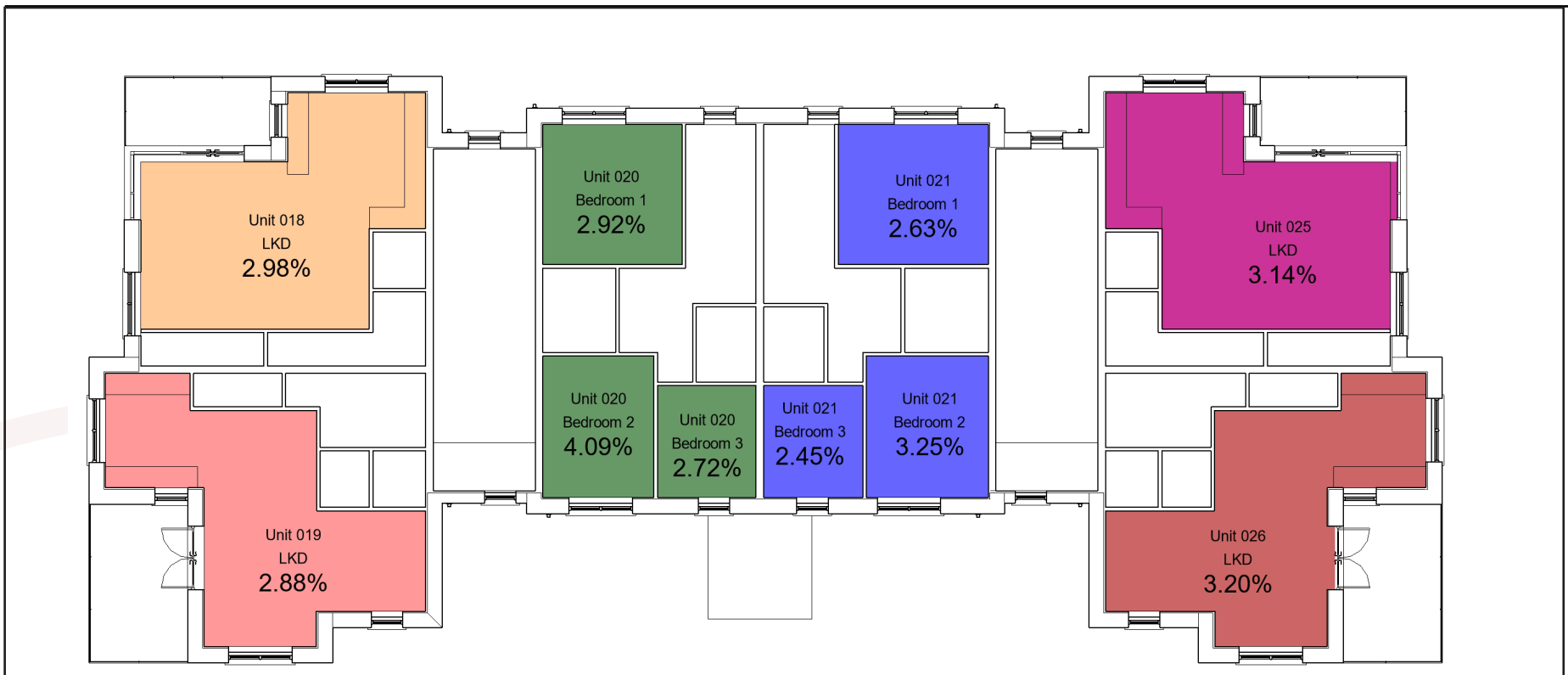


Figure 5.74: Floor plan of assessed bLock 18, Keyplan highlighting the assessed block 18.

Block 18 - Second Floor

Table No. 5.60: ADF Results Second Floor Block 18		
Unit Number	Room Description	Predicted ADF Value
Unit 018	LKD	2.98%
Unit 019	LKD	2.88%
Unit 020	Bedroom 1	2.92%
Unit 020	Bedroom 2	4.09%
Unit 020	Bedroom 3	2.72%
Unit 021	Bedroom 1	2.63%
Unit 021	Bedroom 2	3.25%
Unit 021	Bedroom 3	2.45%
Unit 025	LKD	3.14%
Unit 026	LKD	3.20%

The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.



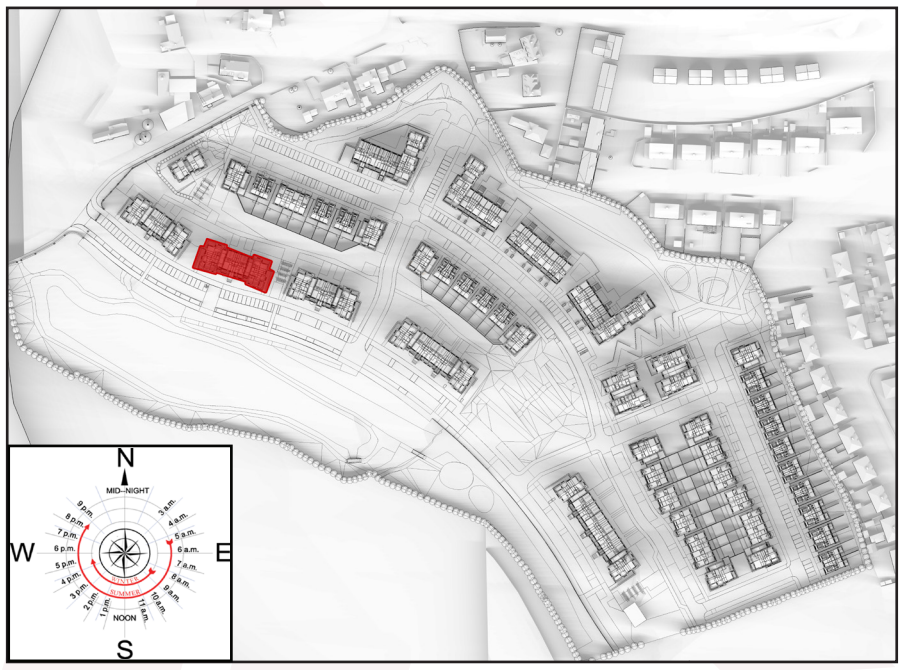
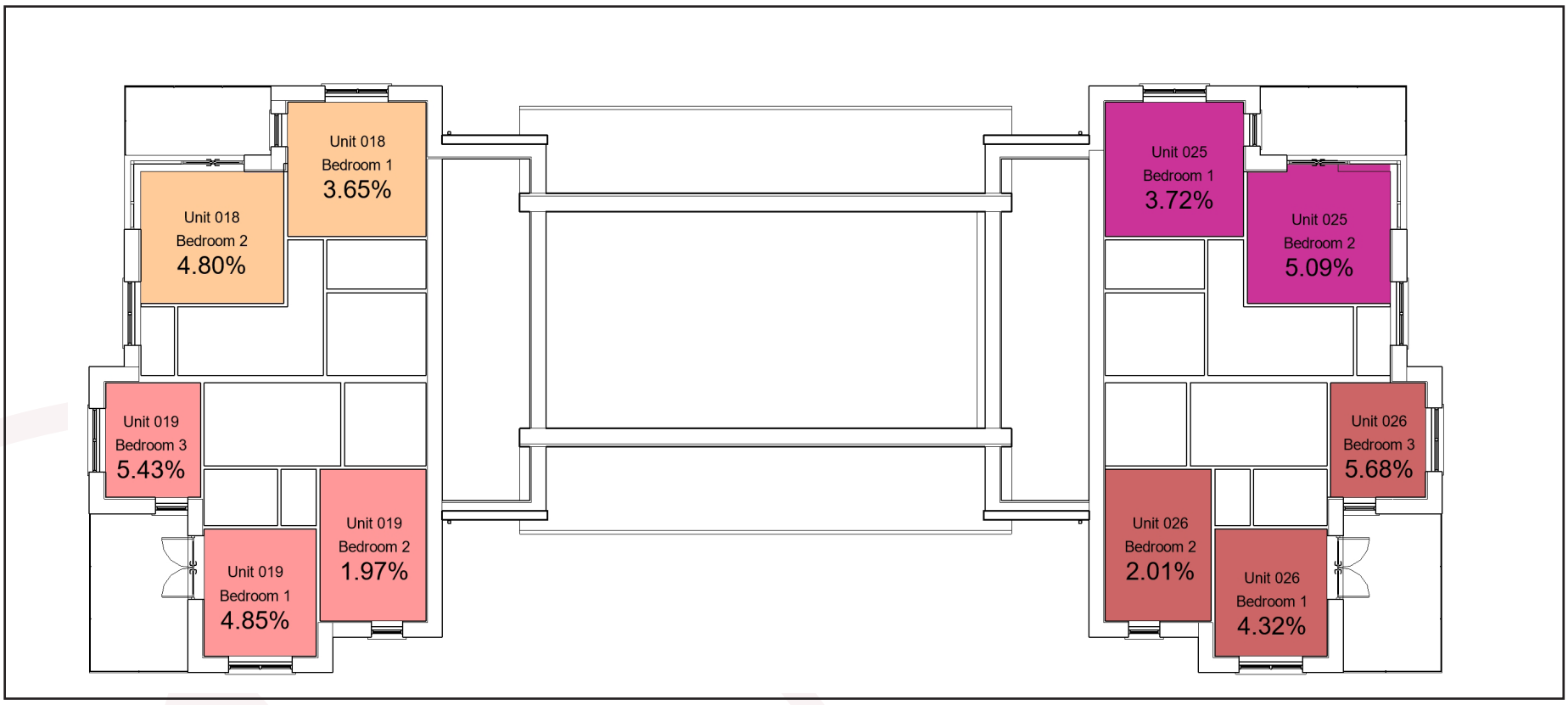


Figure 5.75: Floor plan of assessed bLock 18, Keyplan highlighting the assessed block 18.

Block 18 - Third Floor

Table No. 5.61: ADF Results Third Floor Block 18		
Unit Number	Room Description	Predicted ADF Value
Unit 018	Bedroom 1	3.65%
Unit 018	Bedroom 2	4.80%
Unit 019	Bedroom 1	4.85%
Unit 019	Bedroom 2	1.97%
Unit 019	Bedroom 3	5.43%
Unit 025	Bedroom 1	3.72%
Unit 025	Bedroom 2	5.09%
Unit 026	Bedroom 1	4.32%
Unit 026	Bedroom 2	2.01%
Unit 026	Bedroom 3	5.68%
The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.		



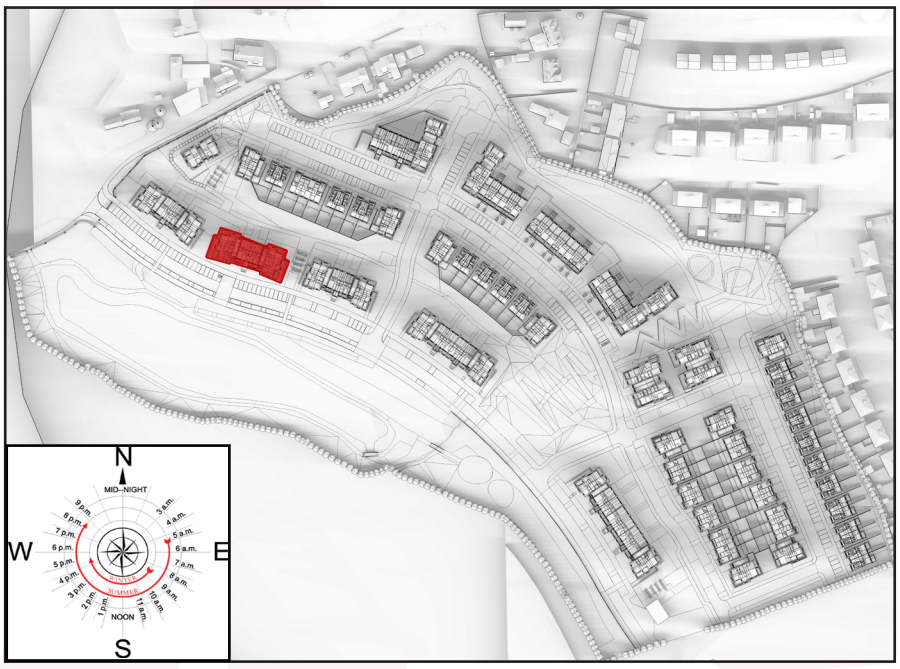


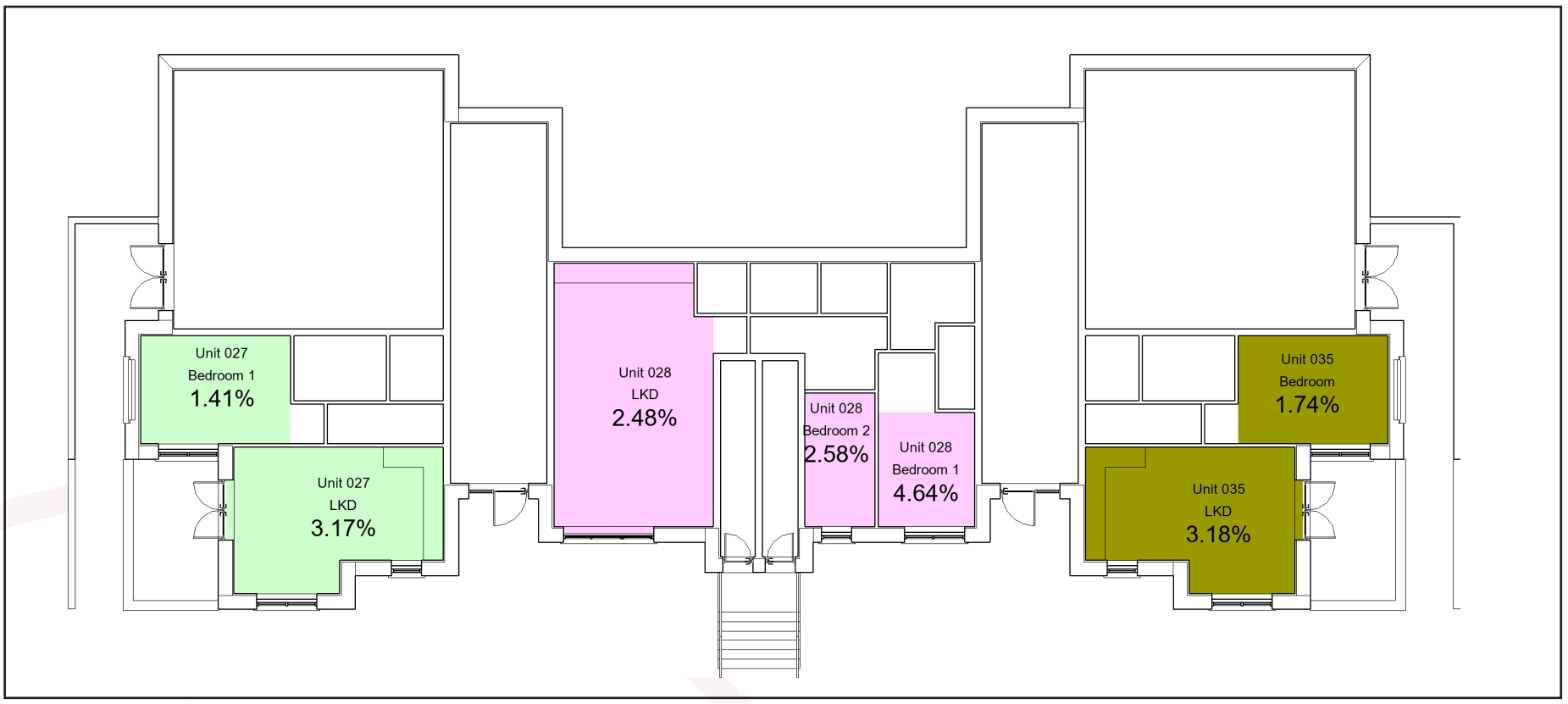
Figure 5.76: Floor plan of assessed bLock 18, Keyplan highlighting the assessed block 18.

5.8.11 Block 19 Ground Floor - Third Floor

Block 19 - Ground Floor

Table No. 5.62: ADF Results Ground Floor Block 19		
Unit Number	Room Description	Predicted ADF Value
Unit 027	LKD	3.17%
Unit 027	Bedroom 1	1.41%
Unit 028	LKD	2.48%
Unit 028	Bedroom 1	4.64%
Unit 028	Bedroom 2	2.58%
Unit 035	LKD	3.18%
Unit 035	Bedroom	1.74%

The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.



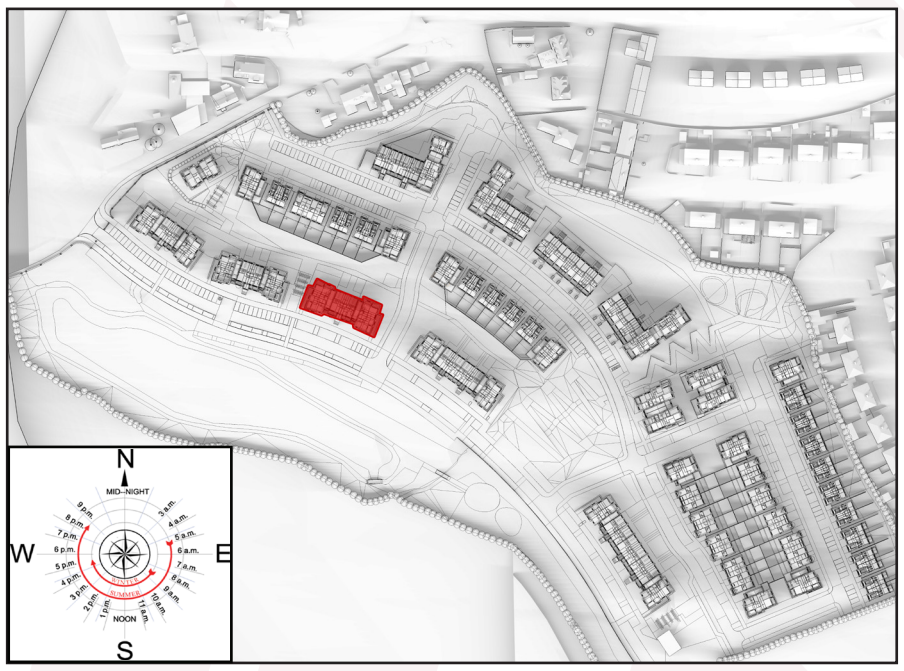
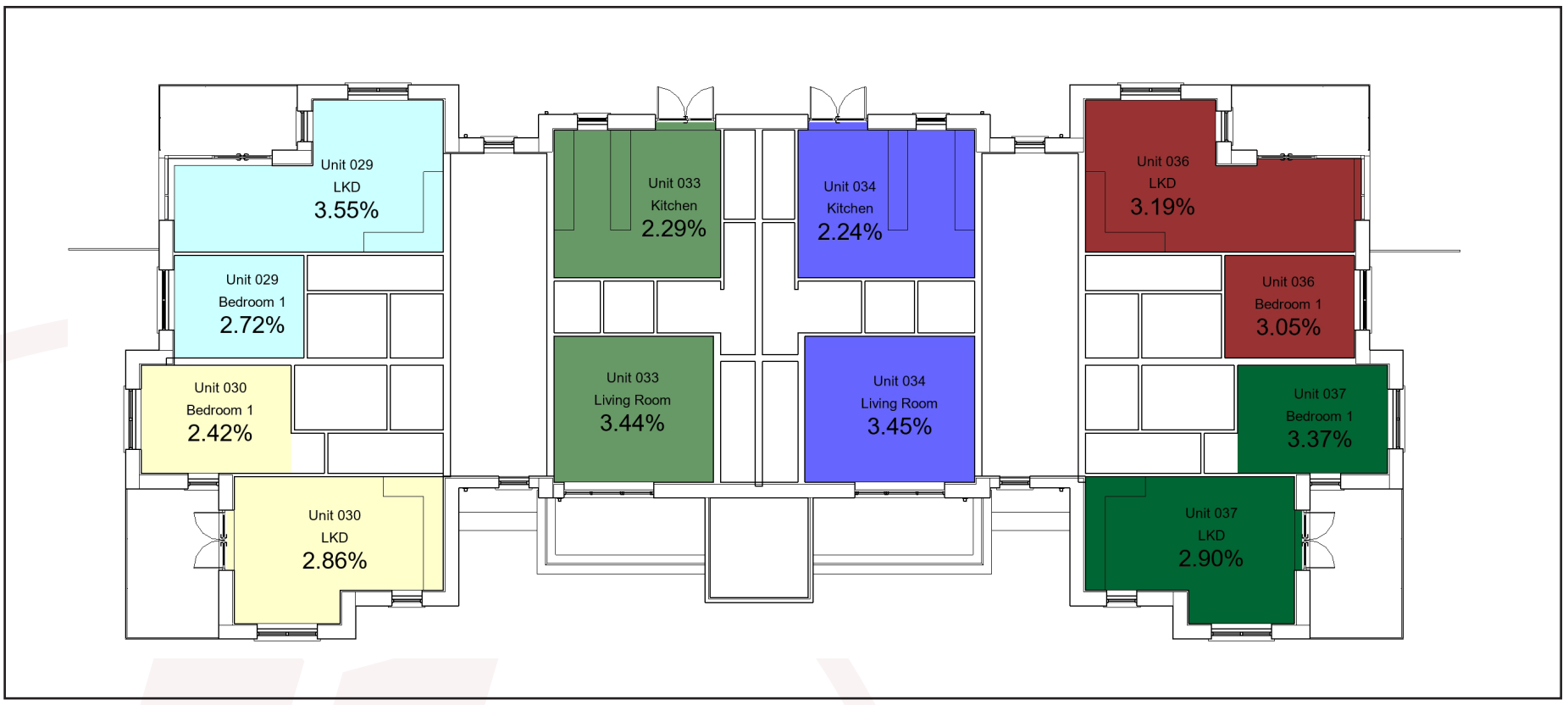


Figure 5.77: Floor plan of assessed bLock 19, Keyplan highlighting the assessed block 19.

Block 19 - First Floor

Table No. 5.63: ADF Results First Floor Block 19		
Unit Number	Room Description	Predicted ADF Value
Unit 029	LKD	3.55%
Unit 029	Bedroom 1	2.72%
Unit 030	LKD	2.86%
Unit 030	Bedroom 1	2.42%
Unit 033	Kitchen	2.29%
Unit 033	Living Room	3.44%
Unit 034	Kitchen	2.24%
Unit 034	Living Room	3.45%
Unit 036	LKD	3.19%
Unit 036	Bedroom 1	3.05%
Unit 037	LKD	2.90%
Unit 037	Bedroom 1	3.37%

The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.



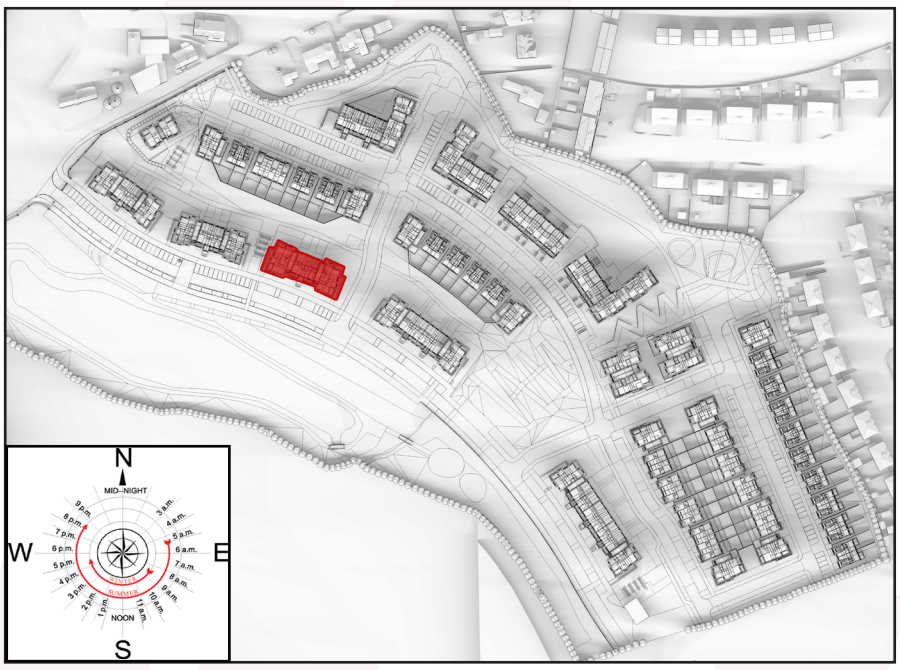
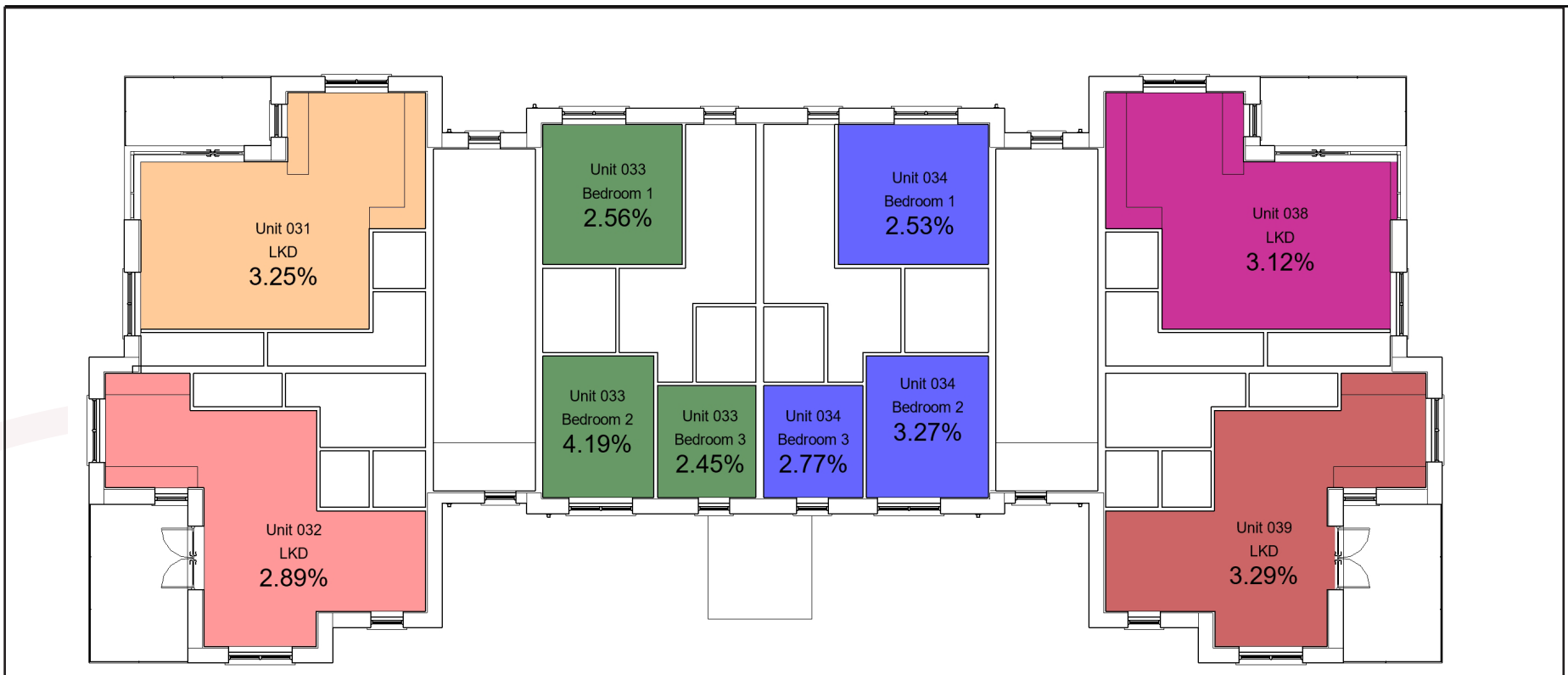


Figure 5.78: Floor plan of assessed bLock 19, Keyplan highlighting the assessed block 19.

Block 19 - Second Floor

Table No. 5.64: ADF Results Second Floor Block 19		
Unit Number	Room Description	Predicted ADF Value
Unit 031	LKD	3.25%
Unit 032	LKD	2.89%
Unit 033	Bedroom 1	2.56%
Unit 033	Bedroom 2	4.19%
Unit 033	Bedroom 3	2.45%
Unit 034	Bedroom 1	2.53%
Unit 034	Bedroom 2	3.27%
Unit 034	Bedroom 3	2.77%
Unit 038	LKD	3.12%
Unit 039	LKD	3.29%

The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.



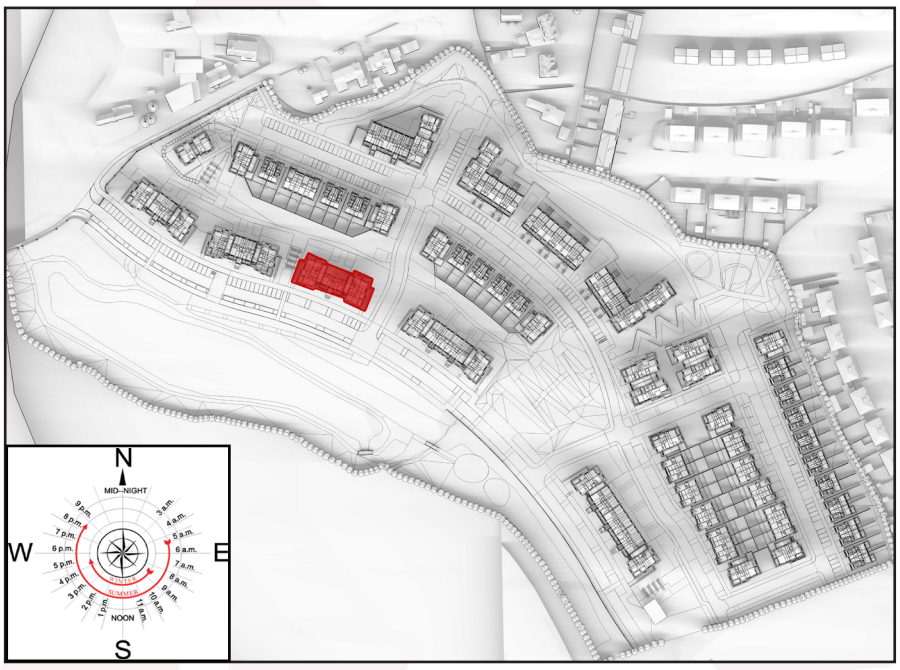
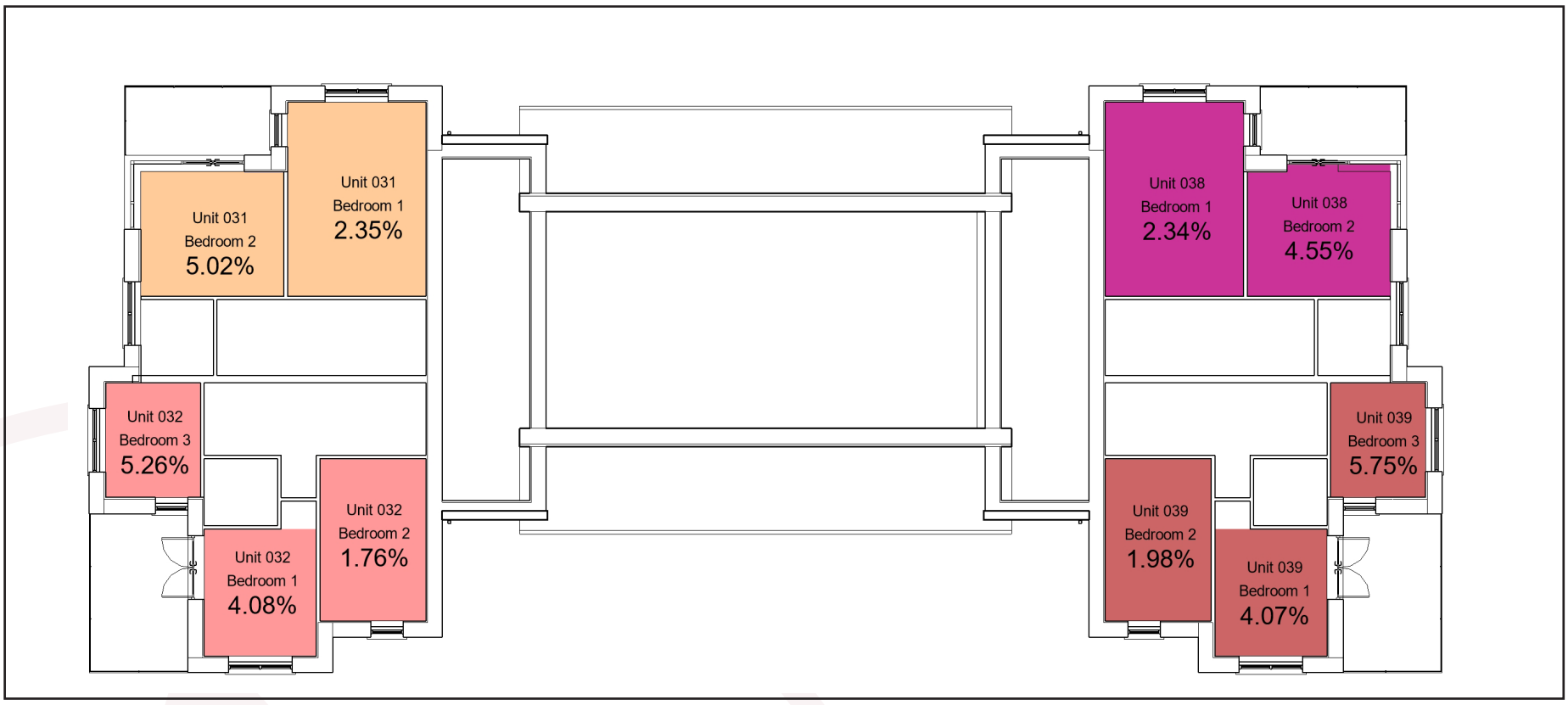


Figure 5.79: Floor plan of assessed bLock 19, Keyplan highlighting the assessed block 19.

Block 19 - Third Floor

Table No. 5.65: ADF Results Third Floor Block 19		
Unit Number	Room Description	Predicted ADF Value
Unit 031	Bedroom 1	2.35%
Unit 031	Bedroom 2	5.02%
Unit 032	Bedroom 1	4.08%
Unit 032	Bedroom 2	1.76%
Unit 032	Bedroom 3	5.26%
Unit 038	Bedroom 1	2.34%
Unit 038	Bedroom 2	4.55%
Unit 039	Bedroom 1	4.07%
Unit 039	Bedroom 2	1.98%
Unit 039	Bedroom 3	5.75%
The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.		



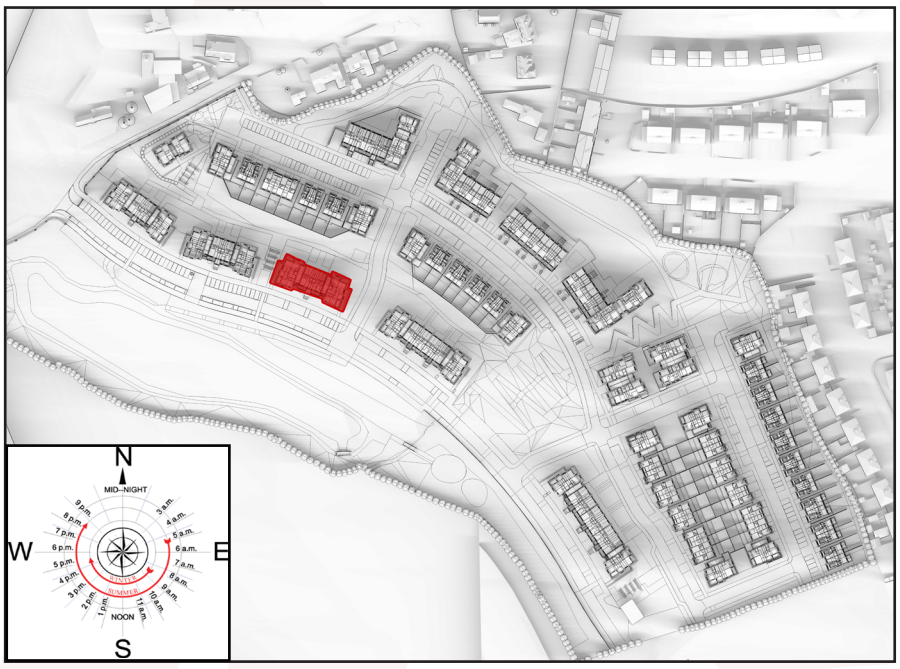


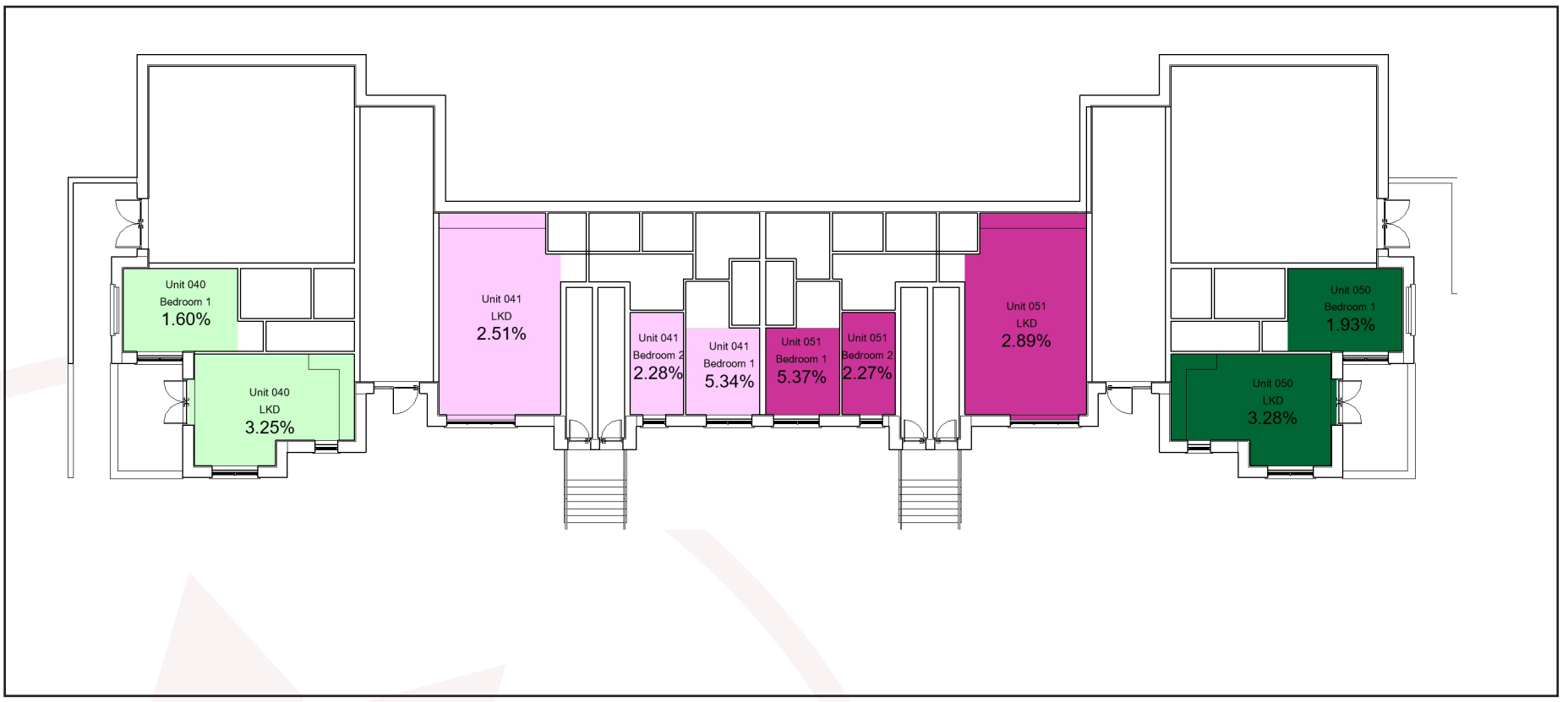
Figure 5.80: Floor plan of assessed bLock 19, Keyplan highlighting the assessed block 19.

5.8.12 Block 20 Ground Floor - Third Floor

Block 20 - Ground Floor

Table No. 5.66: ADF Results Ground Floor Block 20		
Unit Number	Room Description	Predicted ADF Value
Unit 040	LKD	3.25%
Unit 040	Bedroom 1	1.60%
Unit 041	LKD	2.51%
Unit 041	Bedroom 1	5.34%
Unit 041	Bedroom 2	2.28%
Unit 050	LKD	3.28%
Unit 050	Bedroom 1	1.93%
Unit 051	LKD	2.89%
Unit 051	Bedroom 1	5.37%
Unit 051	Bedroom 2	2.27%

The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.



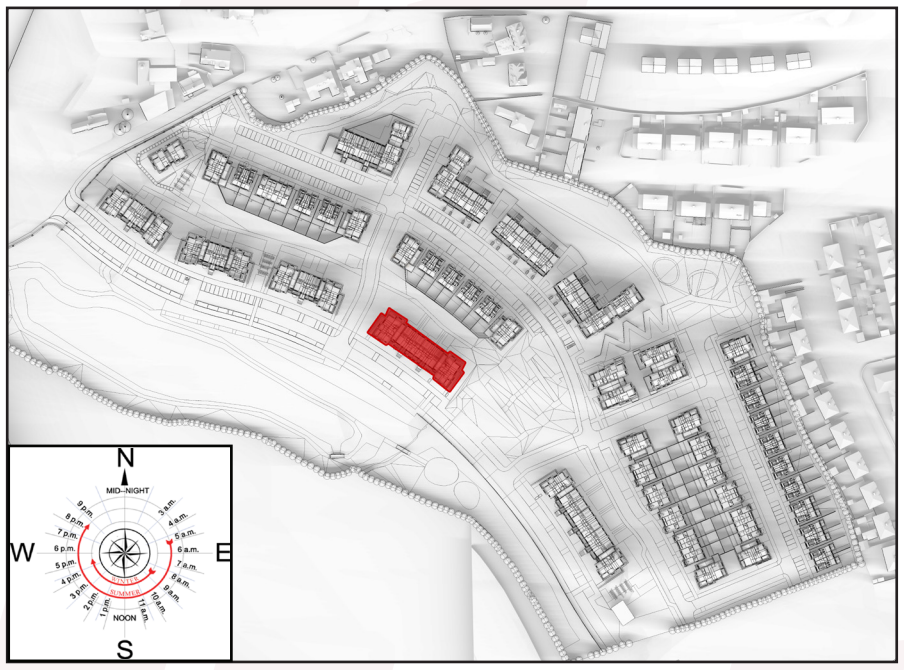
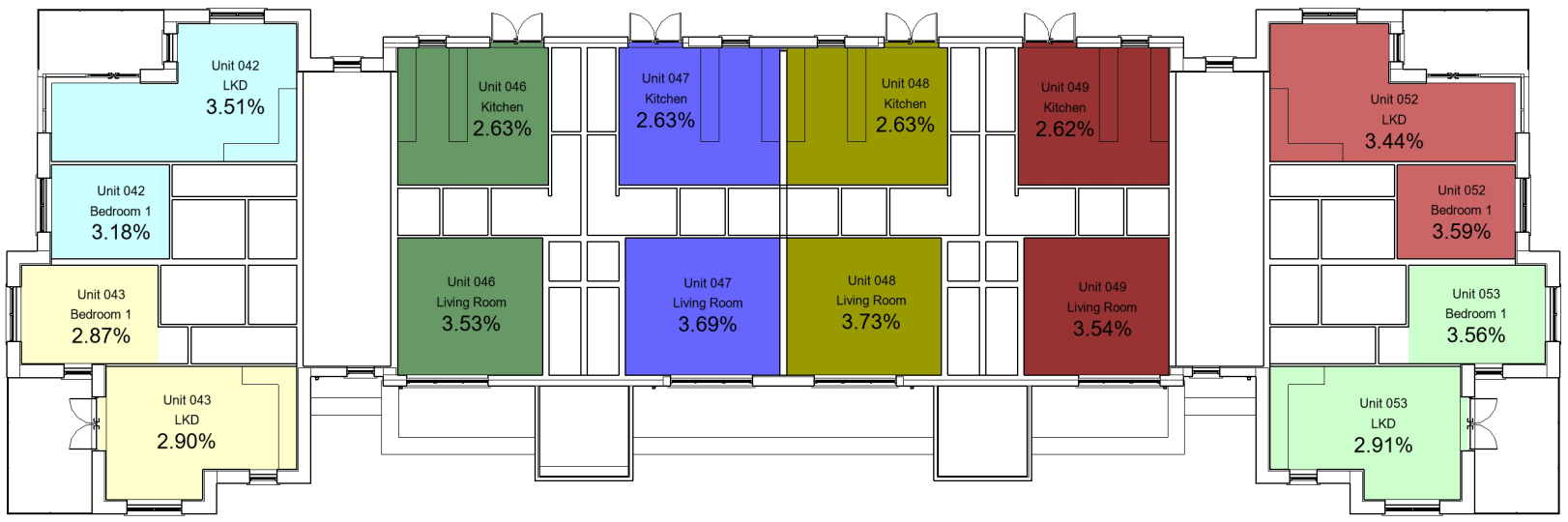


Figure 5.81: Floor plan of assessed bLock 20, Keyplan highlighting the assessed block 20.

Block 20 - First Floor

Table No. 5.67: ADF Results First Floor Block 20		
Unit Number	Room Description	Predicted ADF Value
Unit 042	LKD	3.51%
Unit 042	Bedroom 1	3.18%
Unit 043	LKD	2.90%
Unit 043	Bedroom 1	2.87%
Unit 046	Kitchen	2.63%
Unit 046	Living Room	3.53%
Unit 047	Kitchen	2.63%
Unit 047	Living Room	3.69%
Unit 048	Kitchen	2.63%
Unit 048	Living Room	3.73%
Unit 049	Kitchen	2.62%
Unit 049	Living Room	3.54%
Unit 052	LKD	3.44%
Unit 052	Bedroom 1	3.59%
Unit 053	LKD	2.91%
Unit 053	Bedroom 1	3.56%

The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.



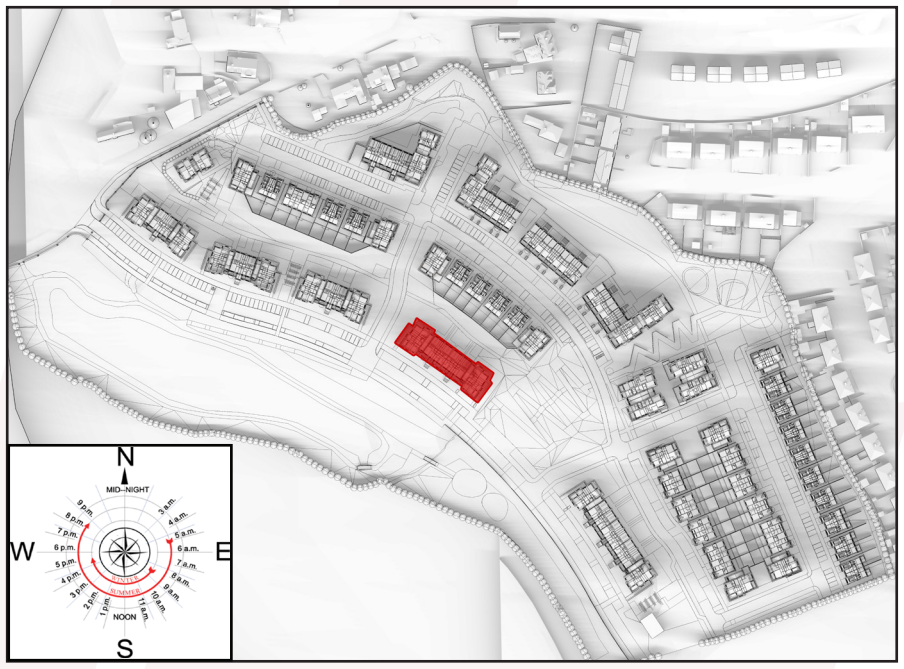
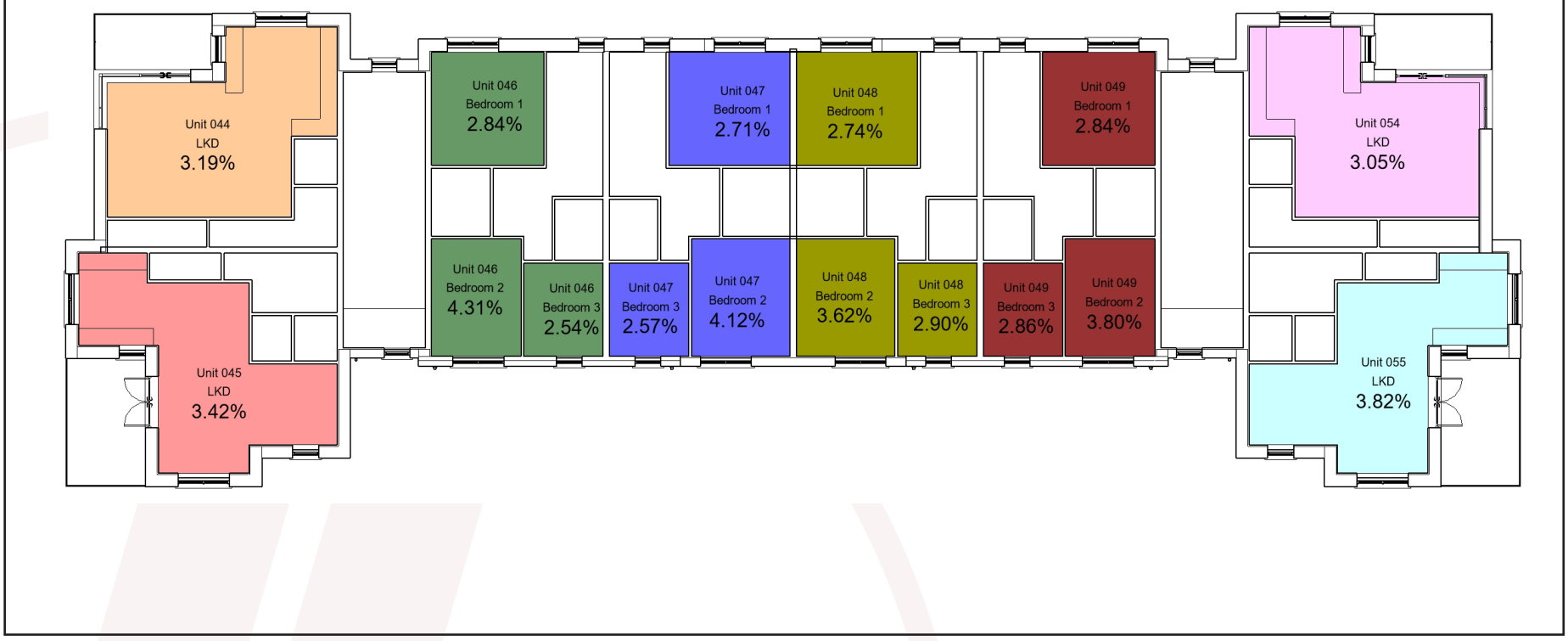


Figure 5.82: Floor plan of assessed bLock 18, Keyplan highlighting the assessed block 18.

Block 20 - Second Floor

Table No. 5.68: ADF Results Second Floor Block 20		
Unit Number	Room Description	Predicted ADF Value
Unit 044	LKD	3.19%
Unit 045	LKD	3.42%
Unit 046	Bedroom 1	2.84%
Unit 046	Bedroom 2	4.31%
Unit 046	Bedroom 3	2.54%
Unit 047	Bedroom 1	2.71%
Unit 047	Bedroom 2	4.12%
Unit 047	Bedroom 3	2.57%
Unit 048	Bedroom 1	2.74%
Unit 048	Bedroom 2	3.62%
Unit 048	Bedroom 3	2.90%
Unit 049	Bedroom 1	2.84%
Unit 049	Bedroom 2	3.80%
Unit 049	Bedroom 3	2.86%
Unit 054	LKD	3.05%
Unit 055	LKD	3.82%

The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.



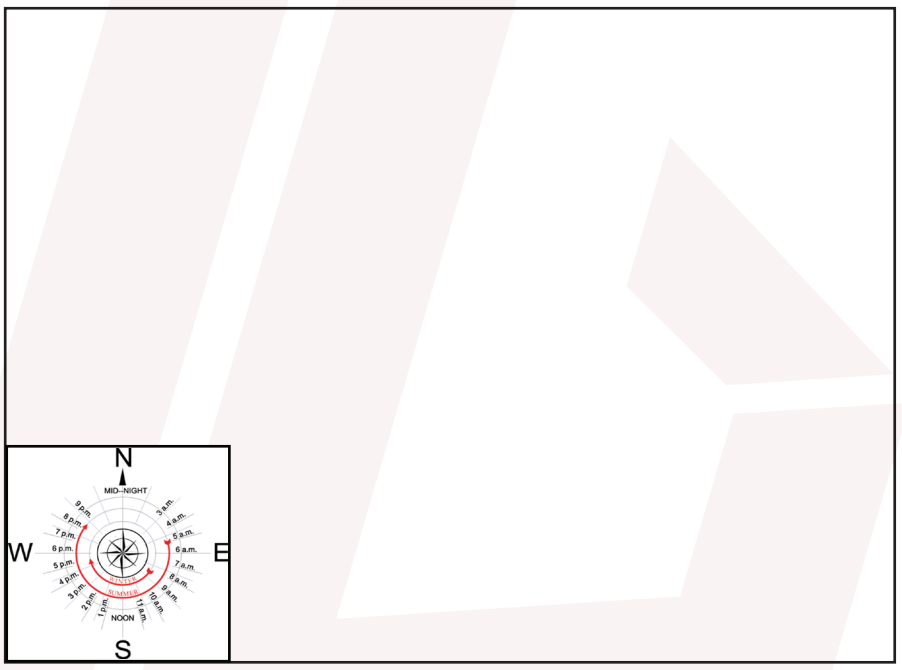
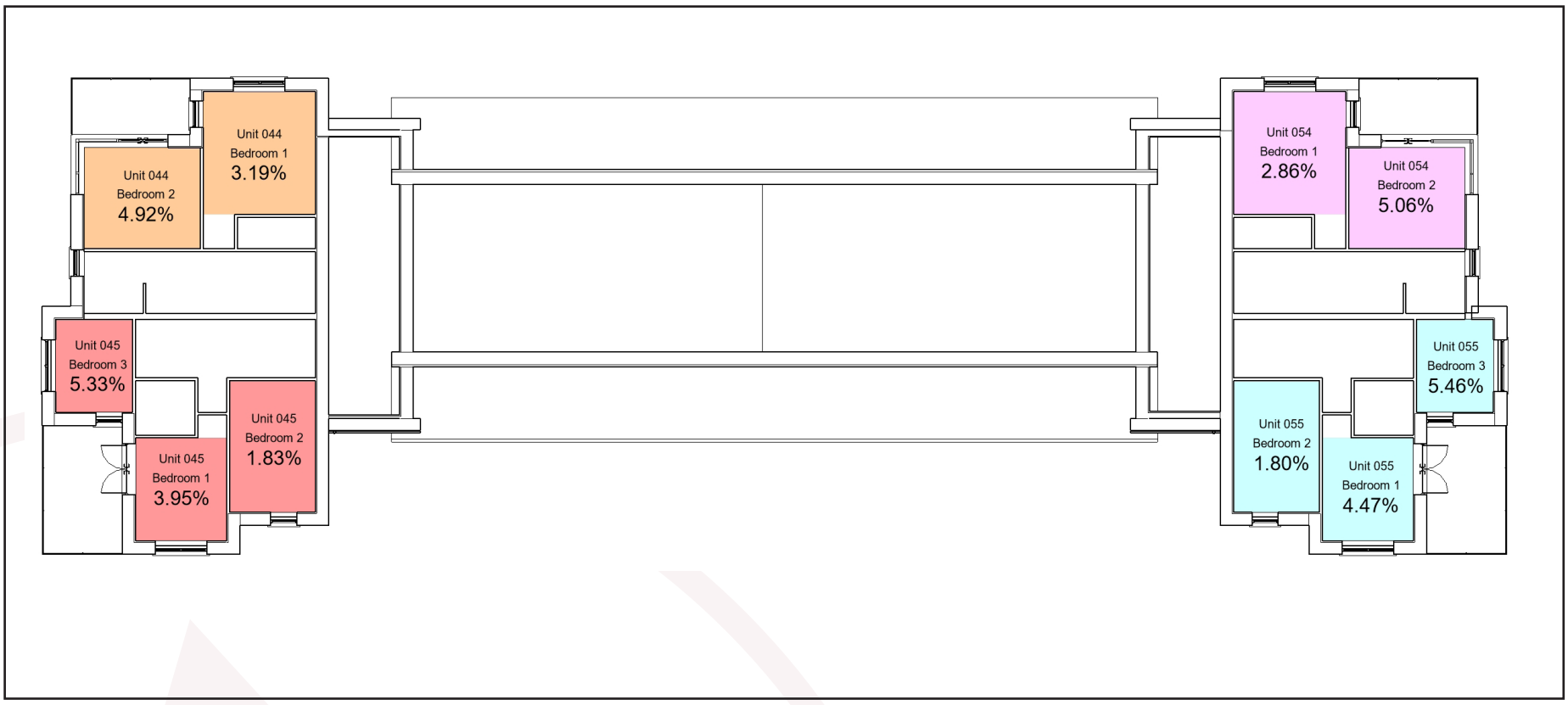


Figure 5.83: Floor plan of assessed bLock 20, Keyplan highlighting the assessed block 20.

Block 20 - Third Floor

Table No. 5.69: ADF Results Third Floor Block 20		
Unit Number	Room Description	Predicted ADF Value
Unit 044	Bedroom 1	3.19%
Unit 044	Bedroom 2	4.92%
Unit 045	Bedroom 1	3.95%
Unit 045	Bedroom 2	1.83%
Unit 045	Bedroom 3	5.33%
Unit 054	Bedroom 1	2.86%
Unit 054	Bedroom 2	5.06%
Unit 055	Bedroom 1	4.47%
Unit 055	Bedroom 2	1.80%
Unit 055	Bedroom 3	5.46%
The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.		



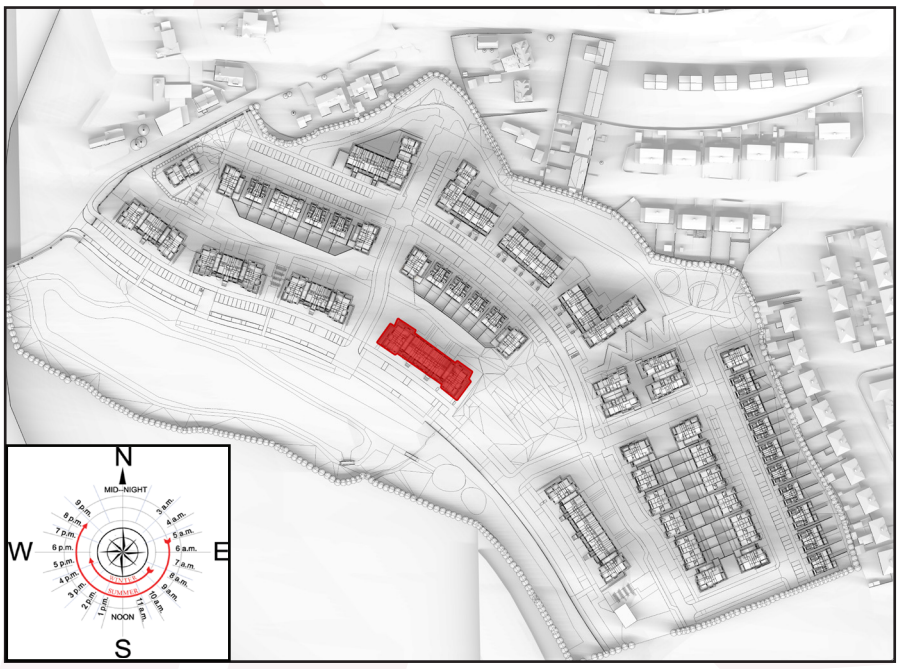


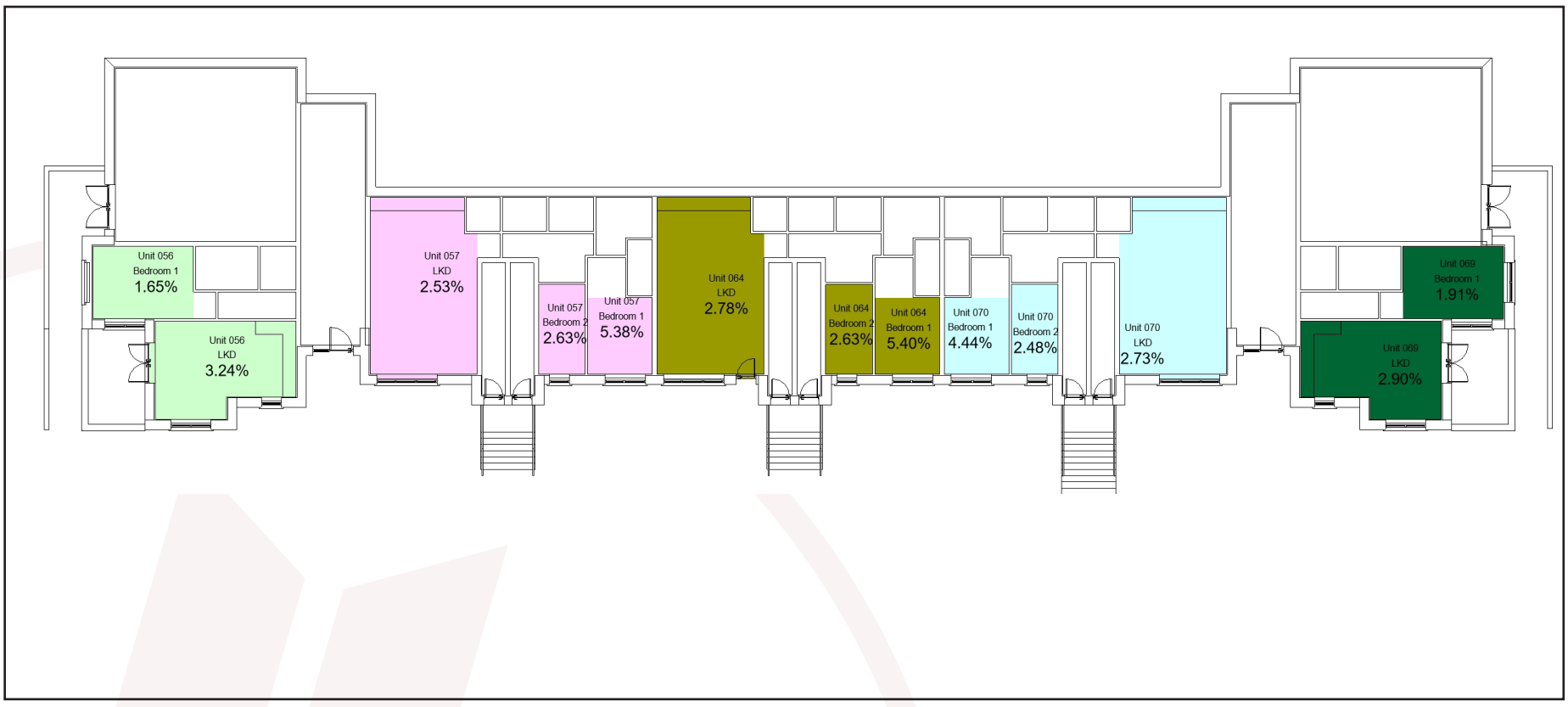
Figure 5.84: Floor plan of assessed bLock 20, Keyplan highlighting the assessed block 20.

5.8.13 Block 21 Ground Floor - Third Floor

Block 21 - Ground Floor

Table No. 5.70: ADF Results Ground Floor Block 21		
Unit Number	Room Description	Predicted ADF Value
Unit 056	LKD	3.24%
Unit 056	Bedroom 1	1.65%
Unit 057	LKD	2.53%
Unit 057	Bedroom 1	5.38%
Unit 057	Bedroom 2	2.63%
Unit 069	LKD	2.90%
Unit 069	Bedroom 1	1.91%
Unit 070	LKD	2.73%
Unit 070	Bedroom 1	4.44%
Unit 070	Bedroom 2	2.48%
Unit 064	LKD	2.78%
Unit 064	Bedroom 1	5.40%
Unit 064	Bedroom 2	2.63%

The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.



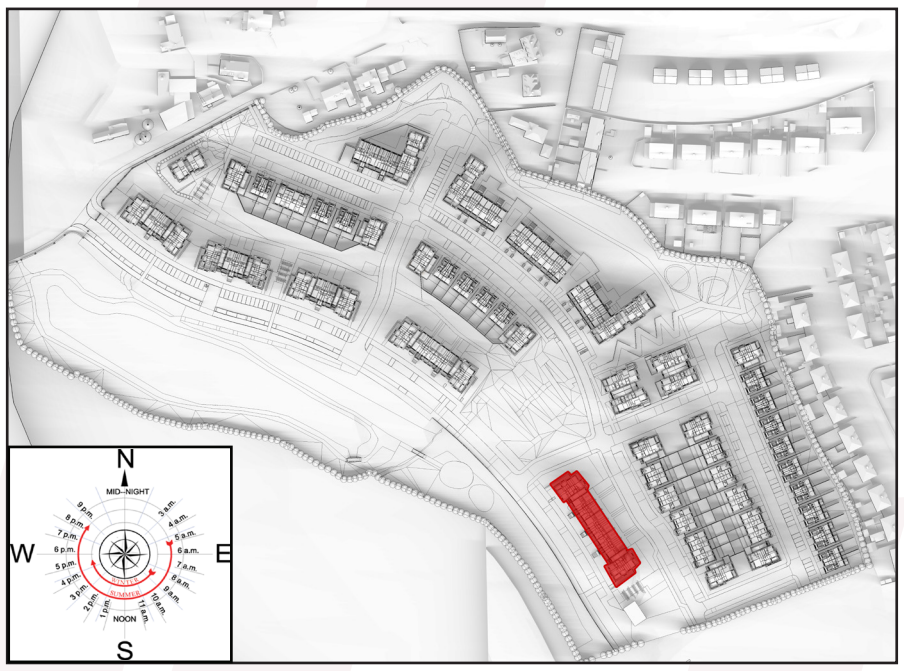
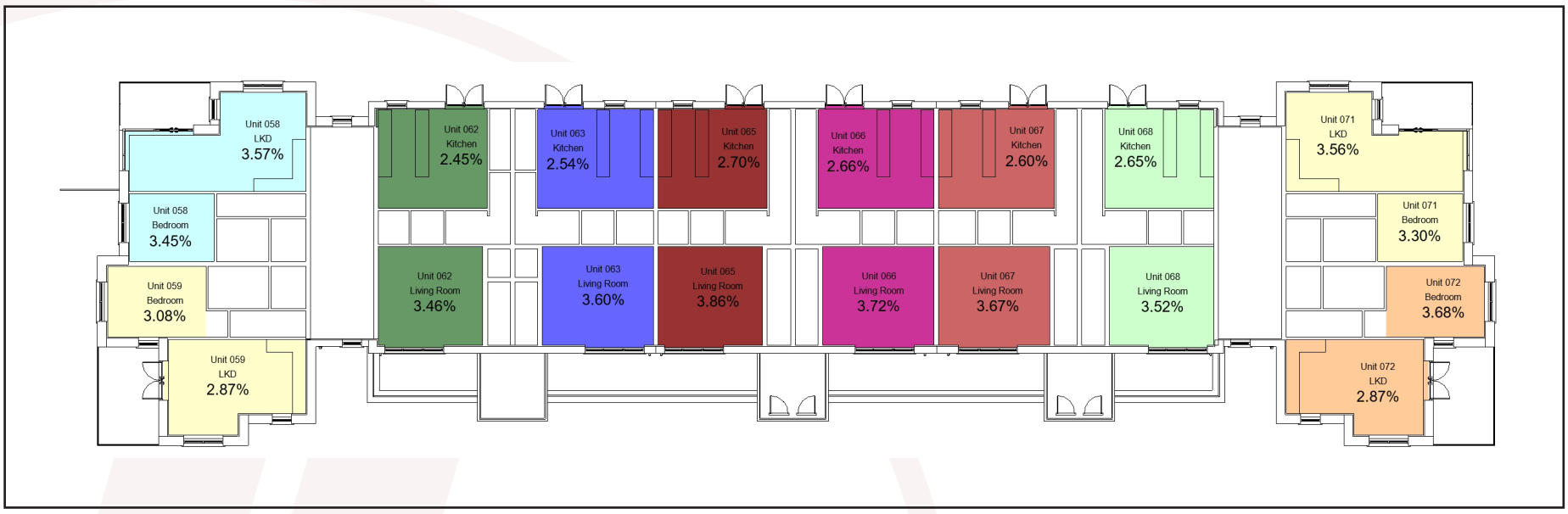


Figure 5.85: Floor plan of assessed bLock 21, Keyplan highlighting the assessed block 21.

Block 21 - First Floor

Table No. 5.71: ADF Results First Floor Block 21		
Unit Number	Room Description	Predicted ADF Value
Unit 058	LKD	3.57%
Unit 058	Bedroom	3.45%
Unit 059	LKD	2.87%
Unit 059	Bedroom	3.08%
Unit 062	Kitchen	2.45%
Unit 062	Living Room	3.46%
Unit 063	Kitchen	2.54%
Unit 063	Living Room	3.60%
Unit 065	Kitchen	2.70%
Unit 065	Living Room	3.86%
Unit 066	Kitchen	2.66%
Unit 066	Living Room	3.72%
Unit 067	Kitchen	2.60%
Unit 067	Living Room	3.67%
Unit 068	Kitchen	2.65%
Unit 068	Living Room	3.52%
Unit 071	LKD	3.56%
Unit 071	Bedroom	3.30%
Unit 072	LKD	2.87%
Unit 072	Bedroom	3.68%

The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.



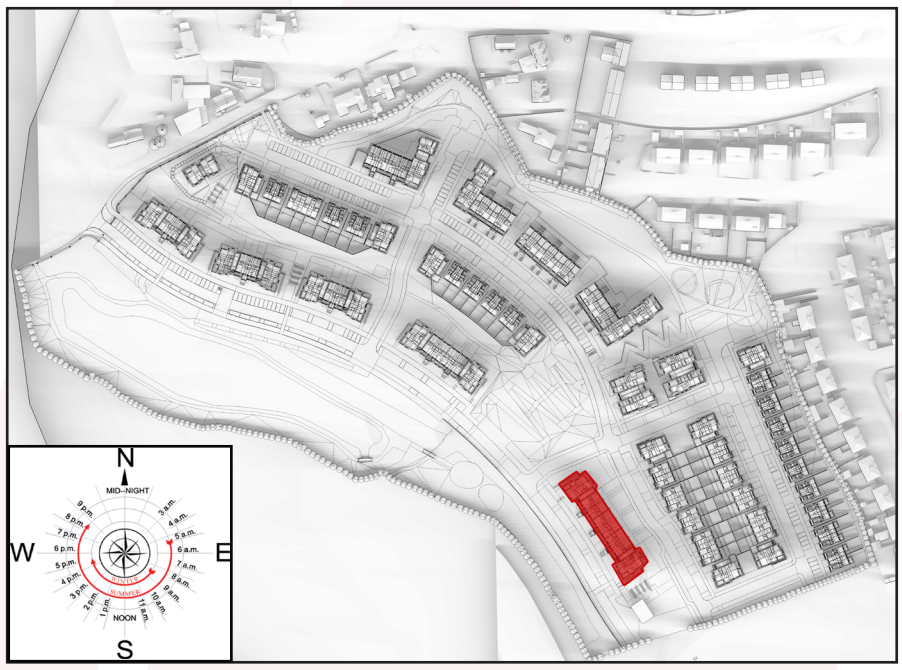
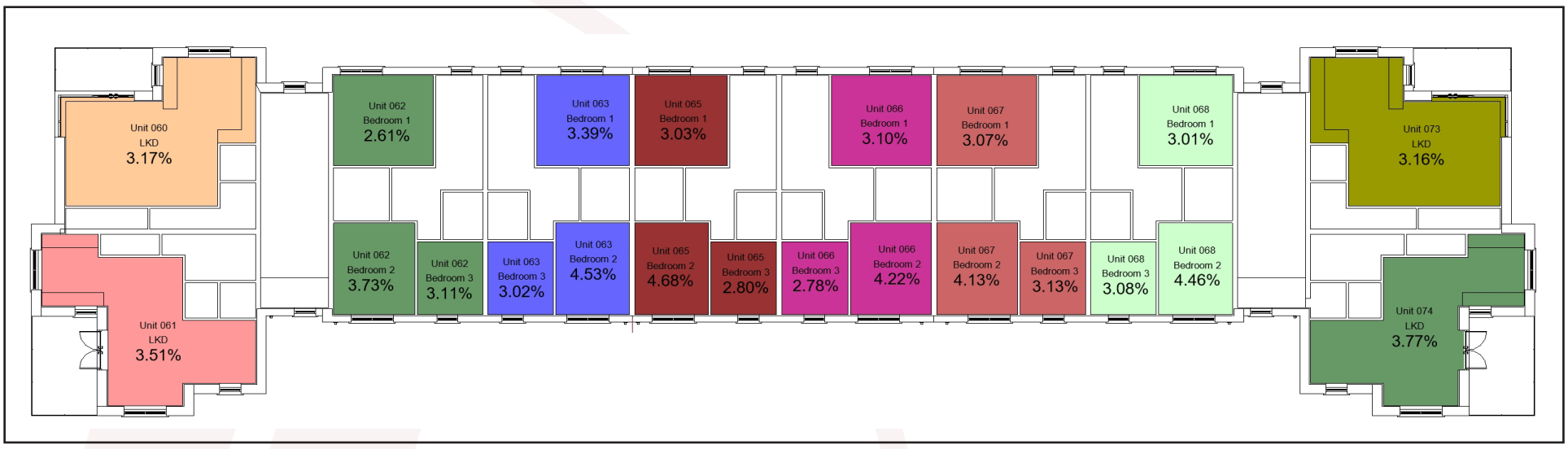


Figure 5.86: Floor plan of assessed bLock 21, Keyplan highlighting the assessed block 21.

Block 21 - Second Floor

Table No. 5.72: ADF Results Second Floor Block 21		
Unit Number	Room Description	Predicted ADF Value
Unit 060	LKD	3.17%
Unit 061	LKD	3.51%
Unit 062	Bedroom 1	2.61%
Unit 062	Bedroom 2	3.73%
Unit 062	Bedroom 3	3.11%
Unit 063	Bedroom 1	3.39%
Unit 063	Bedroom 2	4.53%
Unit 063	Bedroom 3	3.02%
Unit 065	Bedroom 1	3.03%
Unit 065	Bedroom 2	4.68%
Unit 065	Bedroom 3	2.80%
Unit 066	Bedroom 1	3.10%
Unit 066	Bedroom 2	4.22%
Unit 066	Bedroom 3	2.78%
Unit 067	Bedroom 1	3.07%
Unit 067	Bedroom 2	4.13%
Unit 067	Bedroom 3	3.13%
Unit 068	Bedroom 1	3.01%
Unit 068	Bedroom 2	4.46%
Unit 068	Bedroom 3	3.08%
Unit 073	LKD	3.16%
Unit 074	LKD	3.77%

The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.



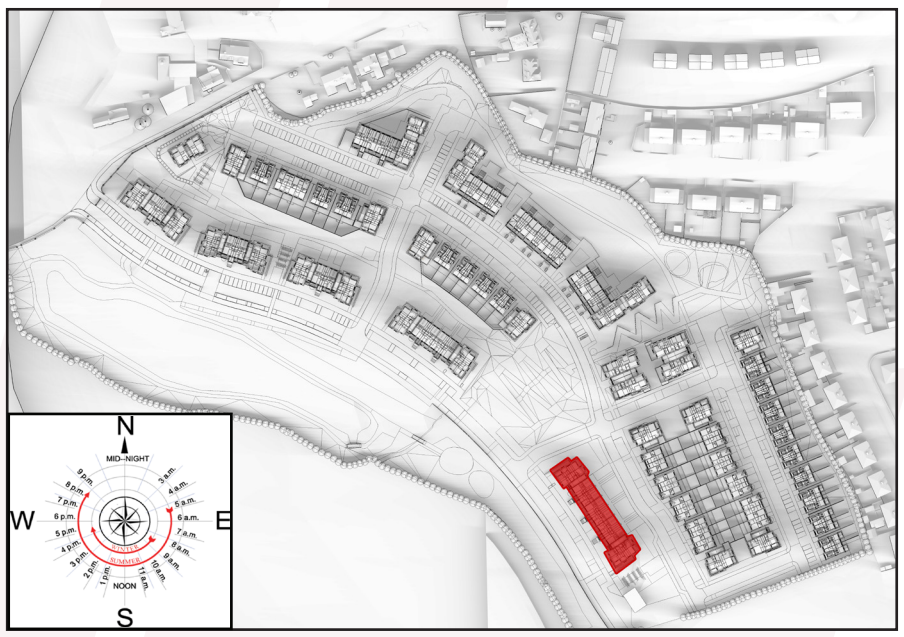
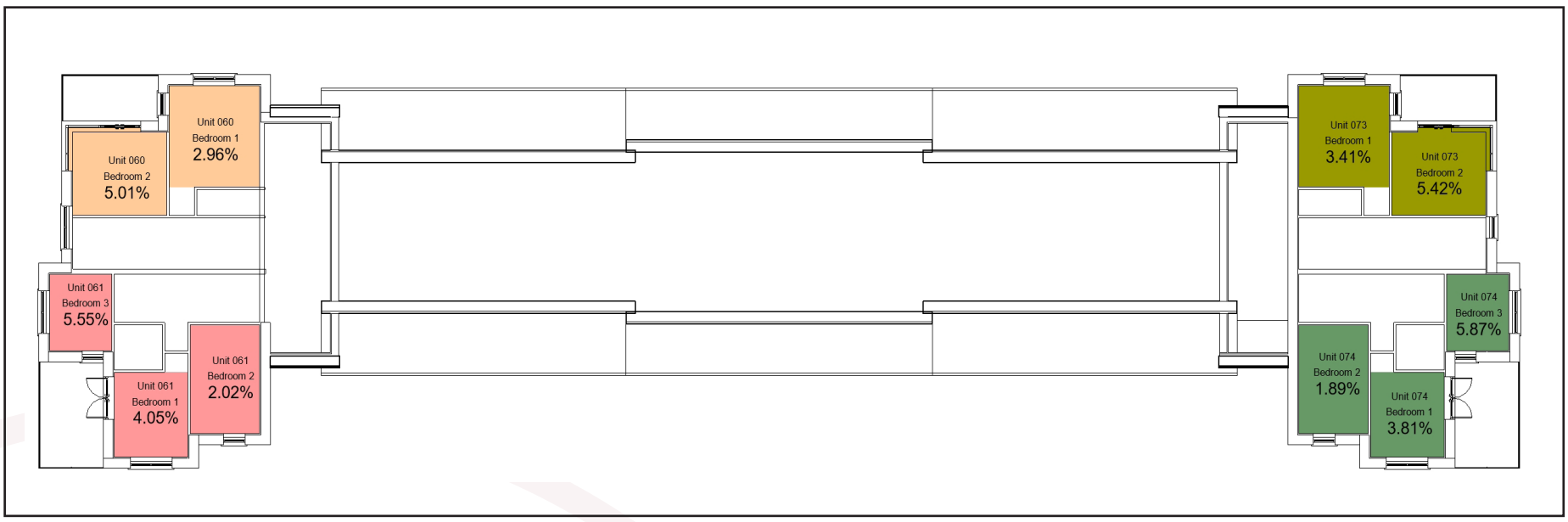


Figure 5.87: Floor plan of assessed bLock 21, Keyplan highlighting the assessed block 21.

Block 21 - Third Floor

Table No. 5.73: ADF Results Third Floor Block 21		
Unit Number	Room Description	Predicted ADF Value
Unit 060	Bedroom 1	2.96%
Unit 060	Bedroom 2	5.01%
Unit 061	Bedroom 1	4.05%
Unit 061	Bedroom 2	2.02%
Unit 061	Bedroom 3	5.55%
Unit 073	Bedroom 1	3.41%
Unit 073	Bedroom 2	5.42%
Unit 074	Bedroom 1	3.81%
Unit 074	Bedroom 2	1.89%
Unit 074	Bedroom 3	5.87%
The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.		



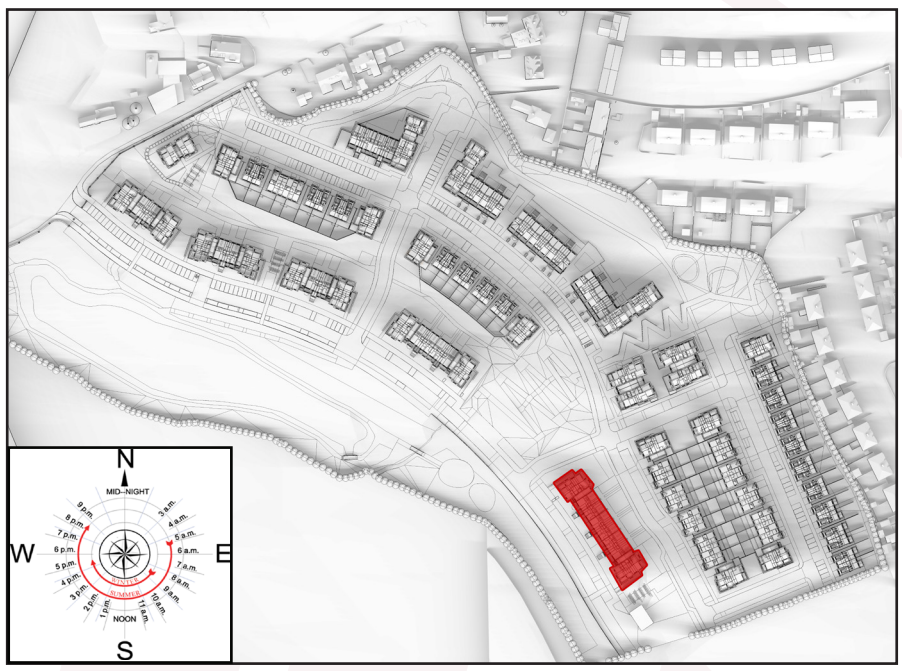


Figure 5.88: Floor plan of assessed bLock 21, Keyplan highlighting the assessed block 21.

5.8.14 85-86 House Types A

Table No. 5.74: ADF Results 85-86 House types A		
Unit Number	Room Description	Predicted ADF Value
House 85	Kitchen	2.30%
House 85	Living Room	2.90%
House 85	Bedroom 1	2.41%
House 85	Bedroom 2	2.75%
House 85	Bedroom 3	4.03%
House 86	Kitchen	2.14%
House 86	Living Room	2.68%
House 86	Bedroom 1	2.09%
House 86	Bedroom 2	2.29%
House 86	Bedroom 3	4.04%
The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.		

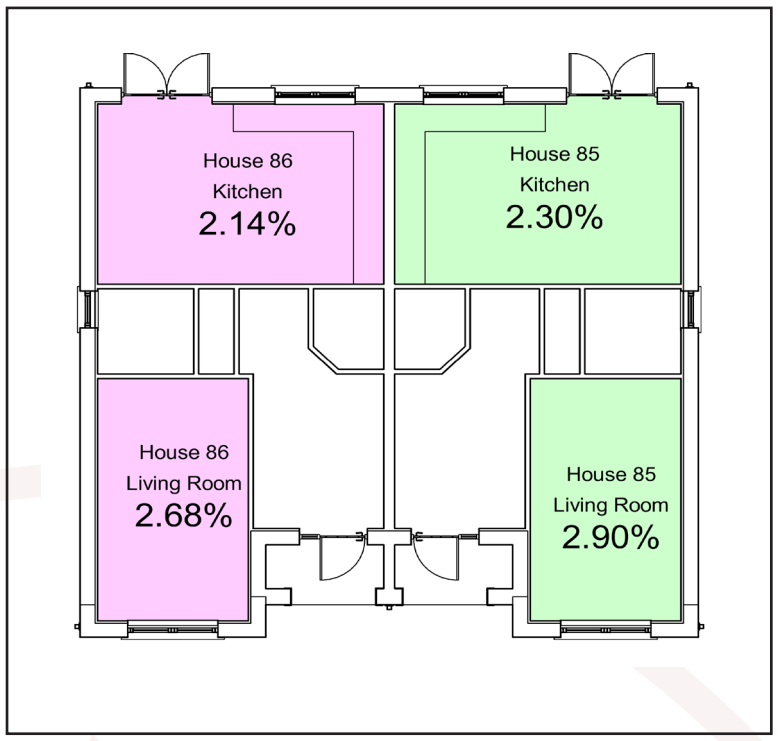


Figure 5.89: Ground Floor plan House Types A

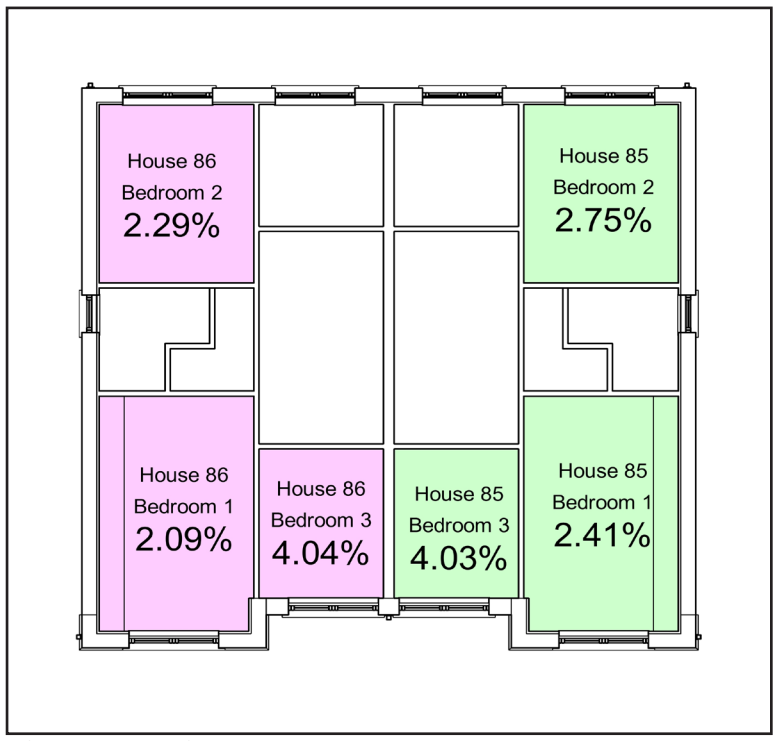


Figure 5.90: First Floor plan House Types A

Figure 5.91: Keyplan highlighting the assessed House Types A

5.8.15 83-84 House Types B

Table No. 5.75: ADF Results 83-84 House type B		
Unit Number	Room Description	Predicted ADF Value
House 83	Kitchen	2.13%
House 83	Living Room	2.61%
House 83	Bedroom 1	2.42%
House 83	Bedroom 2	2.73%
House 83	Bedroom 3	4.03%
House 84	Kitchen	2.16%
House 84	Living Room	2.41%
House 84	Bedroom 1	2.06%
House 84	Bedroom 2	2.70%
House 84	Bedroom 3	3.55%
The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.		

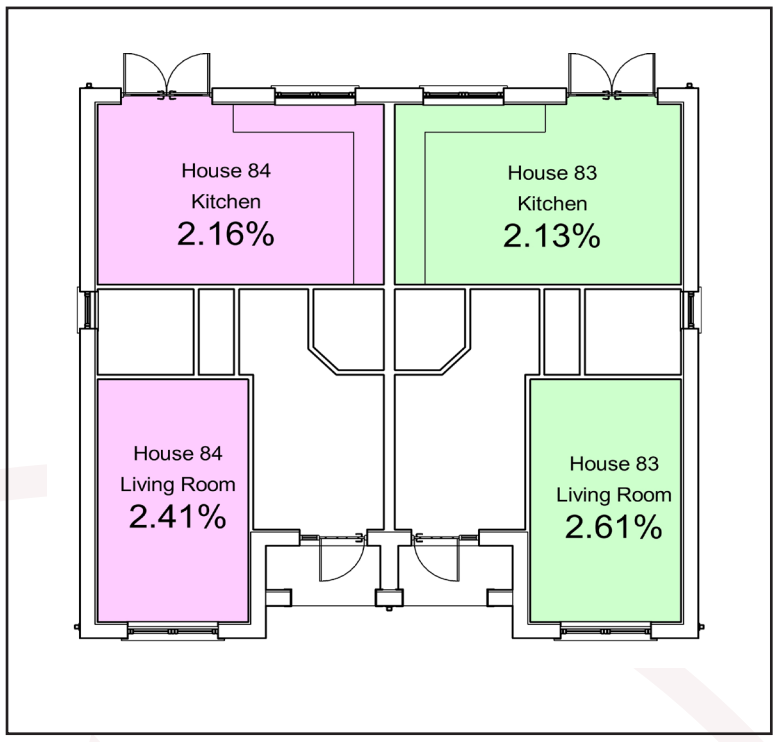


Figure 5.92: Ground Floor plan House Types B

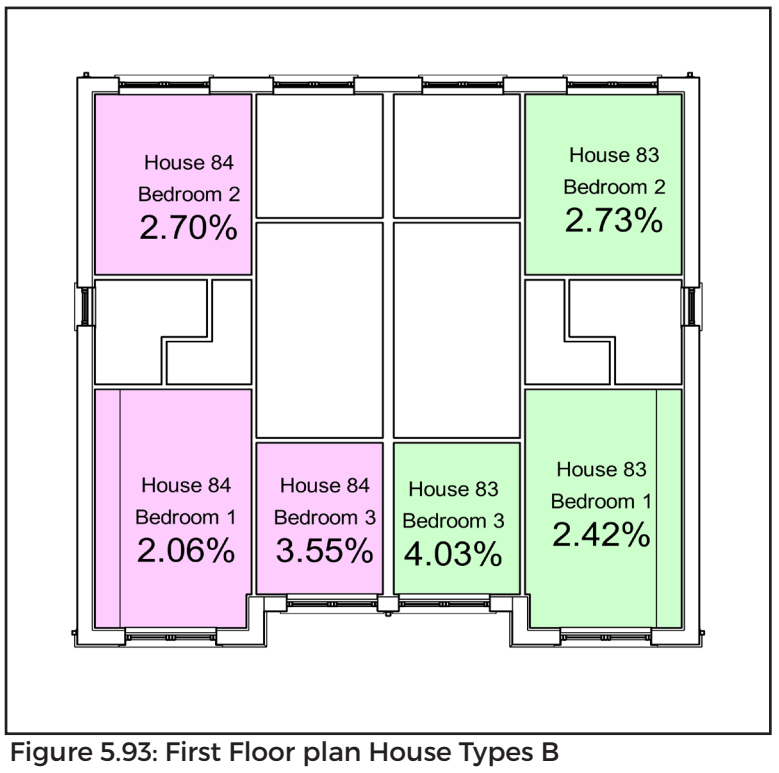


Figure 5.93: First Floor plan House Types B

Figure 5.94: Keyplan highlighting the assessed House Types B

5.8.16 217-218 House Types C

Table No. 5.76: ADF Results 217-218 House types C		
Unit Number	Room Description	Predicted ADF Value
House 217	Kitchen	3.01%
House 217	Living Room	2.79%
House 217	Bedroom 1	2.77%
House 217	Bedroom 2	3.14%
House 217	Bedroom 3	3.91%
House 218	Kitchen	2.66%
House 218	Living Room	2.49%
House 218	Bedroom 1	2.72%
House 218	Bedroom 2	2.80%
House 218	Bedroom 3	3.95%
The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.		

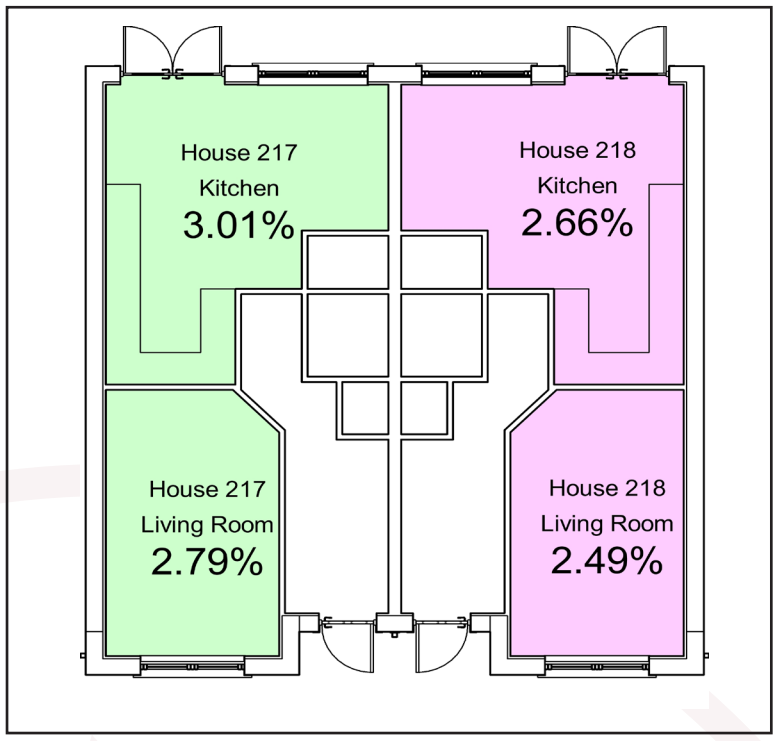


Figure 5.95: Ground Floor plan House Types C

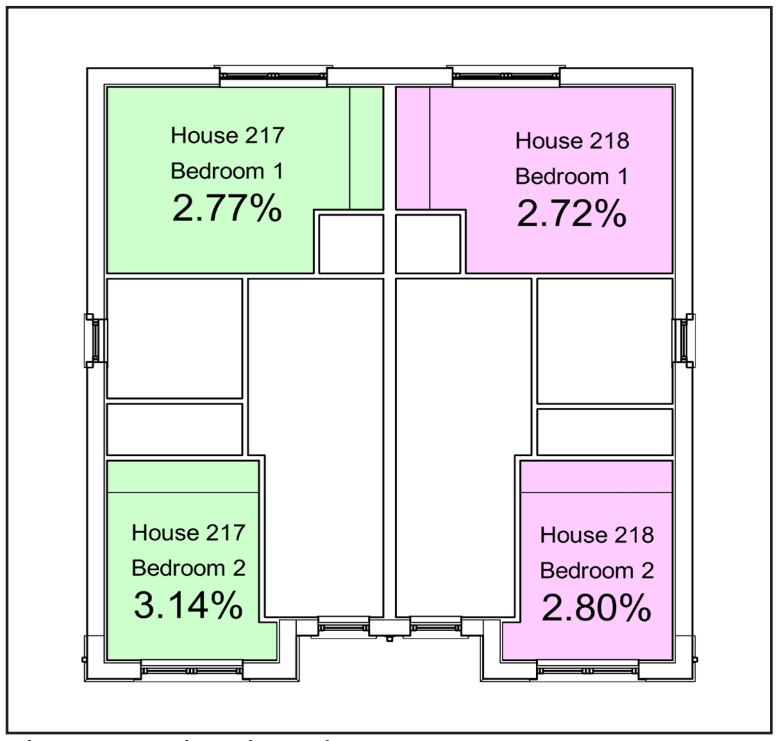


Figure 5.96: First Floor plan House Types C

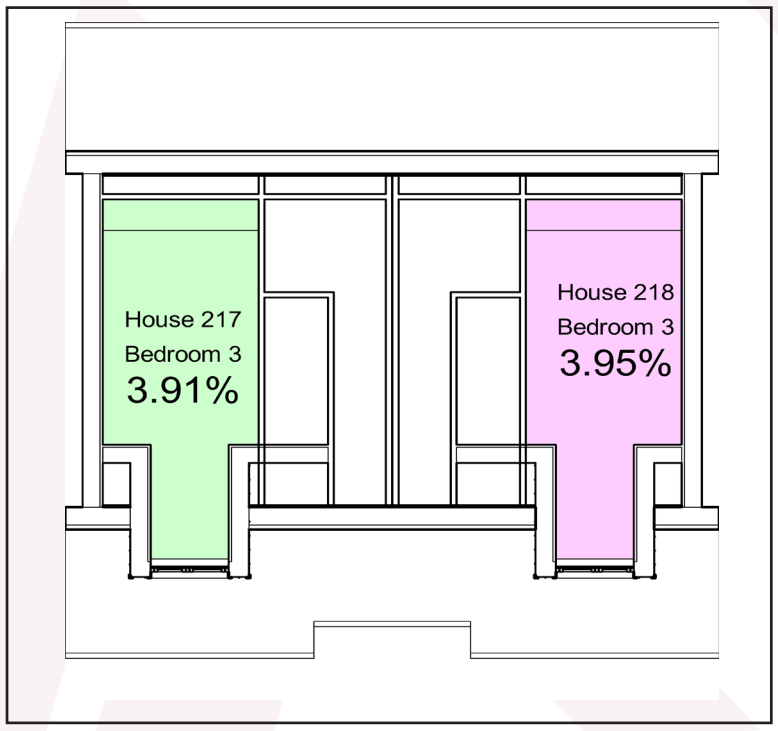


Figure 5.97: Second Floor plan House Types C

Figure 5.98: Keyplan highlighting the assessed House Types C

5.8.17 221-223 House Types D

Table No. 5.77: ADF Results 221-223 House types D		
Unit Number	Room Description	Predicted ADF Value
House 221	Kitchen	2.70%
House 221	Living Room	2.86%
House 221	Bedroom 1	2.04%
House 221	Bedroom 2	3.09%
House 221	Bedroom 3	4.00%
House 222	Kitchen	2.58%
House 222	Living Room	2.33%
House 222	Bedroom 1	3.15%
House 222	Bedroom 2	2.35%
House 222	Bedroom 3	2.76%
House 223	Kitchen	2.71%
House 223	Living Room	2.42%
House 223	Bedroom 1	2.42%
House 223	Bedroom 2	2.69%
House 222	Bedroom 3	2.76%

The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.

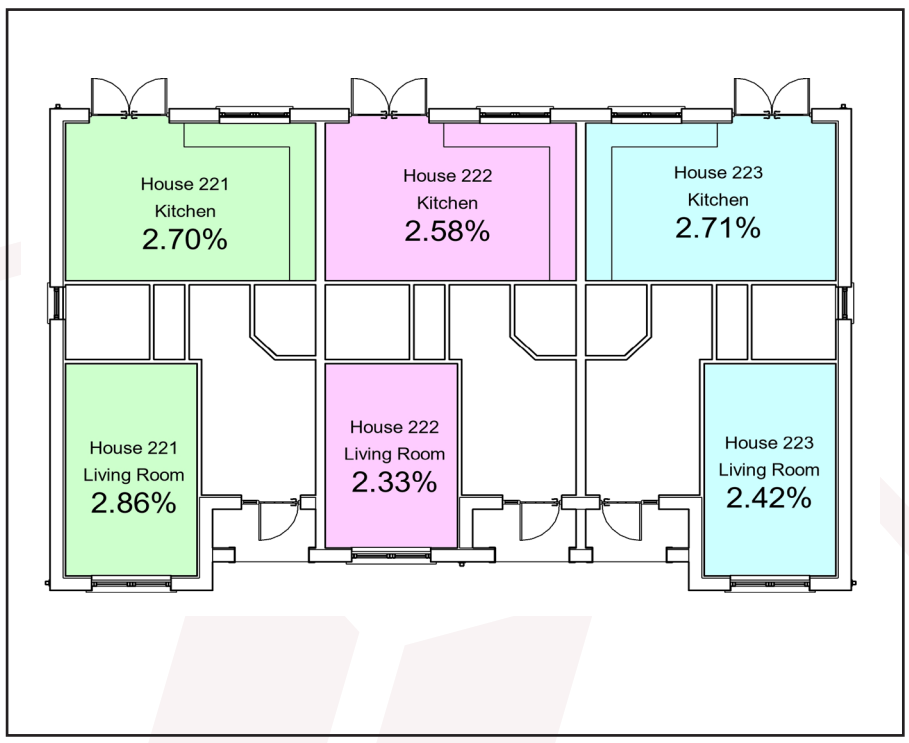


Figure 5.99: Ground Floor plan House Types D

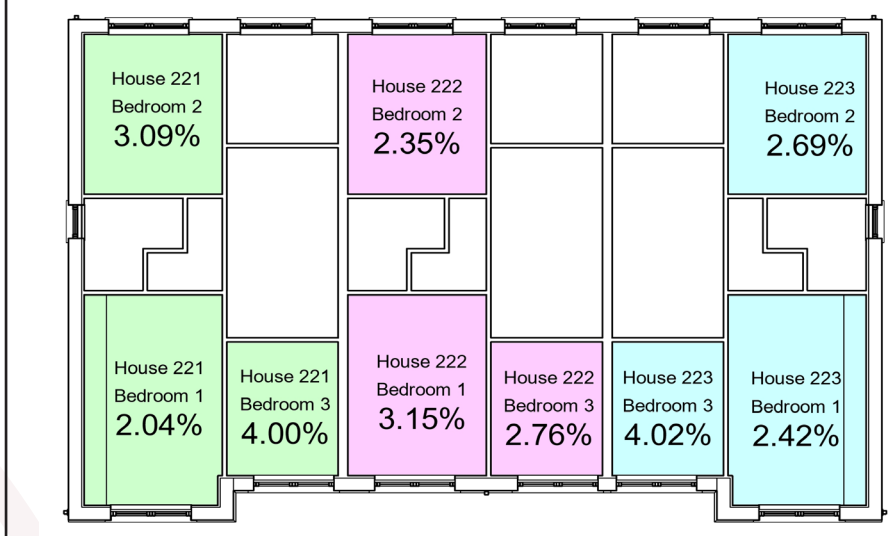


Figure 5.100: First Floor plan House Types D

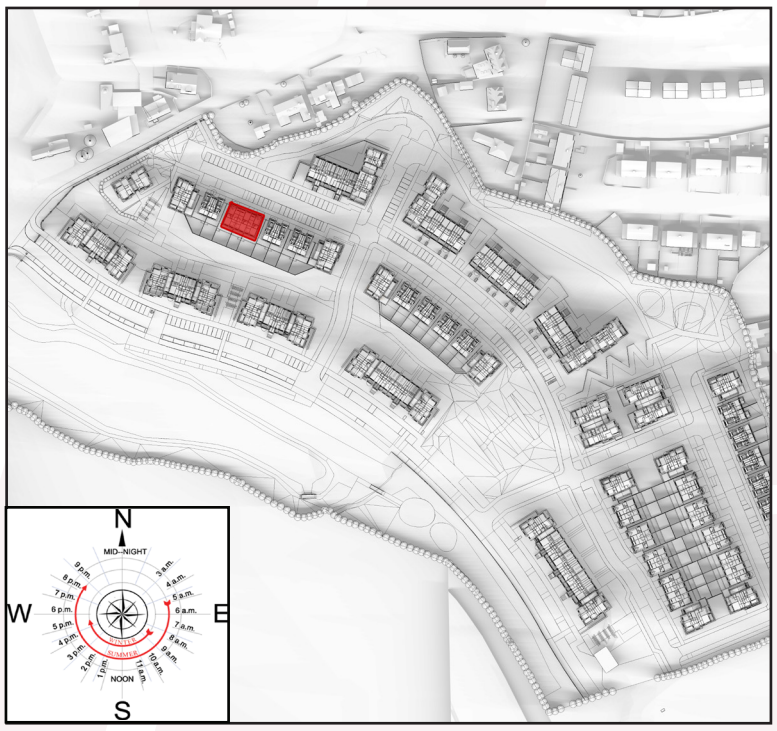


Figure 5.101: Keyplan highlighting the assessed House Types D

5.8.18 192-193 House Types E

Table No. 5.78: ADF Results 192-193 House types E		
Unit Number	Room Description	Predicted ADF Value
House 192	Kitchen	2.85%
House 192	Living Room	3.03%
House 192	Bedroom 1	2.78%
House 192	Bedroom 2	3.08%
House 192	Bedroom 3	3.84%
House 193	Kitchen	2.53%
House 193	Living Room	2.72%
House 193	Bedroom 1	2.74%
House 193	Bedroom 2	2.66%
House 193	Bedroom 3	3.82%
The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.		

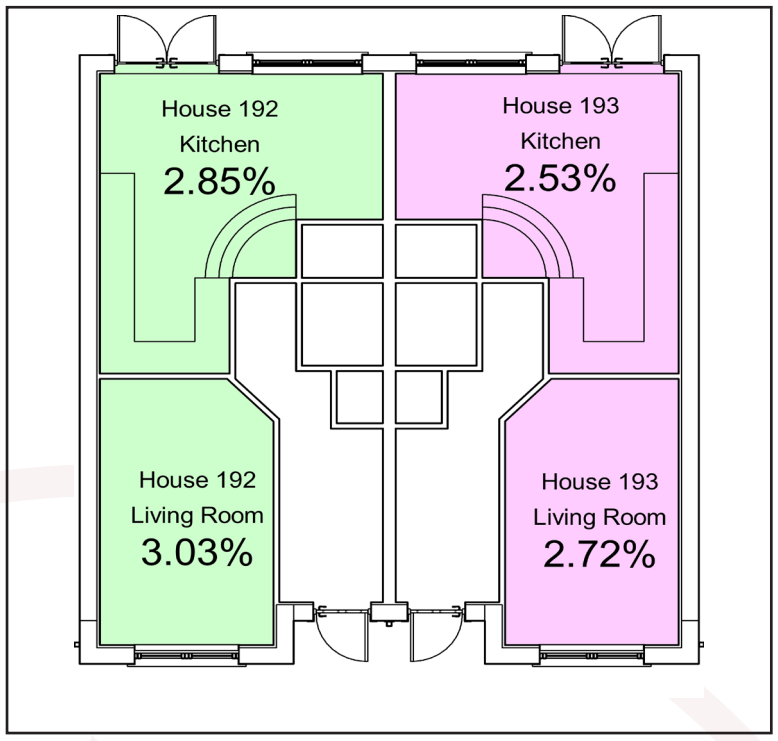


Figure 5.102: Ground Floor plan House Types E

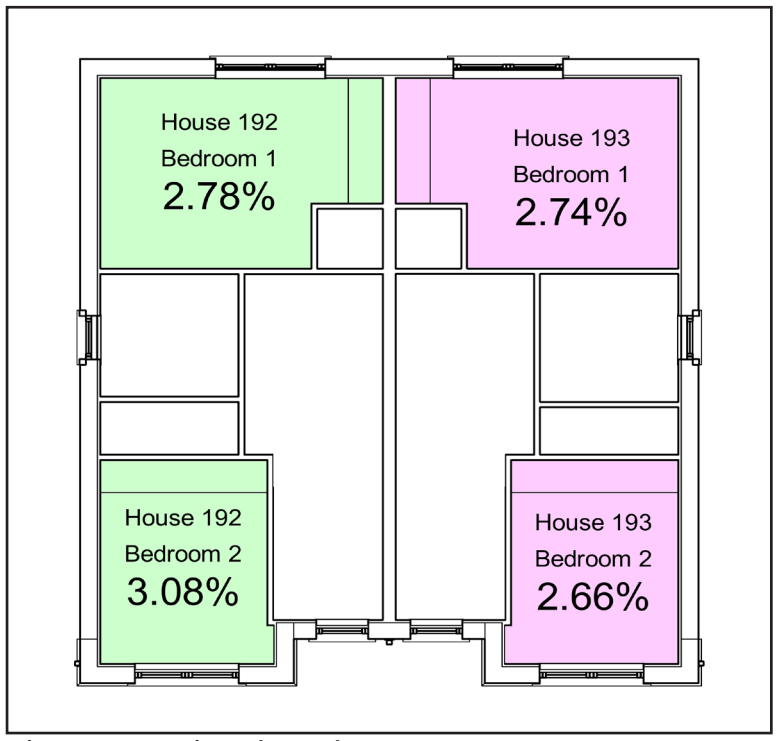


Figure 5.103: First Floor plan House Types E

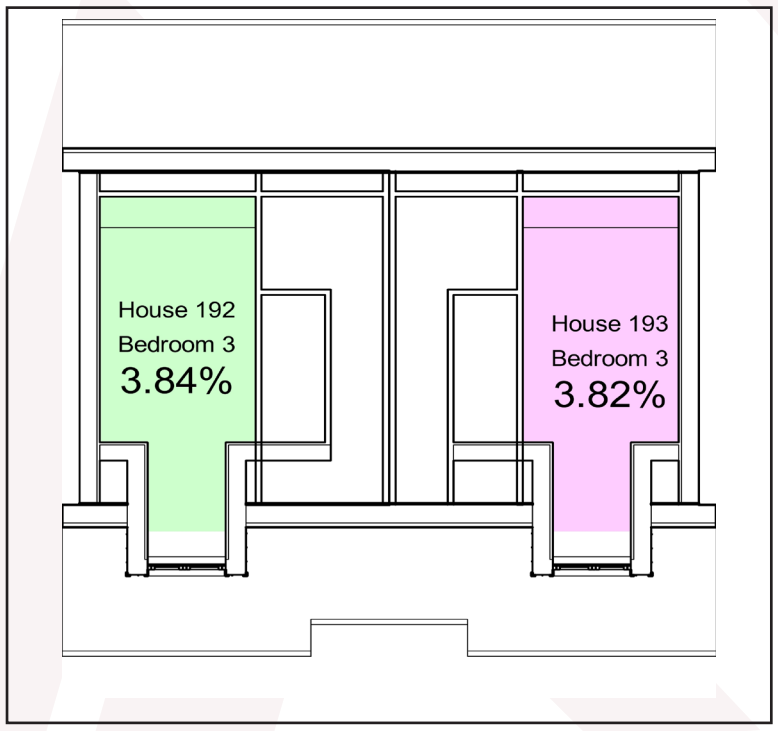


Figure 5.104: Second Floor plan House Types E

Figure 5.105: Keyplan highlighting the assessed House Types E

5.8.19 123-124 House Types F

Table No. 5.79: ADF Results 123-124 House types F		
Unit Number	Room Description	Predicted ADF Value
House 123	kitchen	2.12%
House 123	Living Room	2.65%
House 123	Bedroom 1	3.27%
House 123	Bedroom 2	3.72%
House 123	Bedroom 3	2.70%
House 123	Bedroom 4	3.25%
House 124	kitchen	2.32%
House 124	Living Room	2.32%
House 124	Bedroom 1	2.81%
House 124	Bedroom 2	2.64%
House 124	Bedroom 3	3.32%
House 124	Bedroom 4	3.20%

The following ADF target values should be considered when reading the above table of results: 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. For LKDs a target value of 2% or 1.5% can be appropriate. Consideration should be given to the methodology section of this report, specifically “Recommended Minimum ADF” on page 17, when reviewing these results. The circa compliance rates across the entire scheme can be found in section 6.5 on page 117.

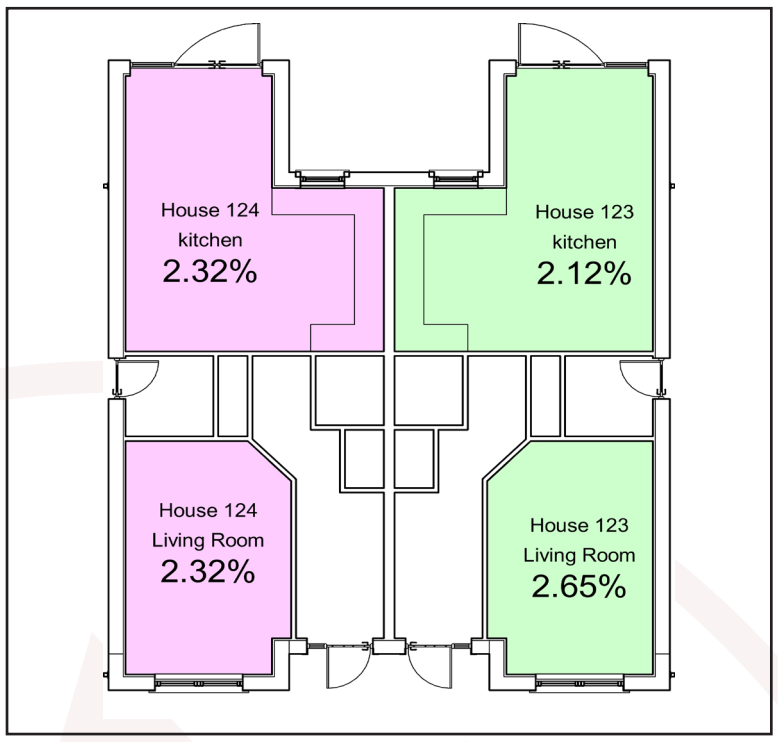


Figure 5.106: Ground Floor plan House Type

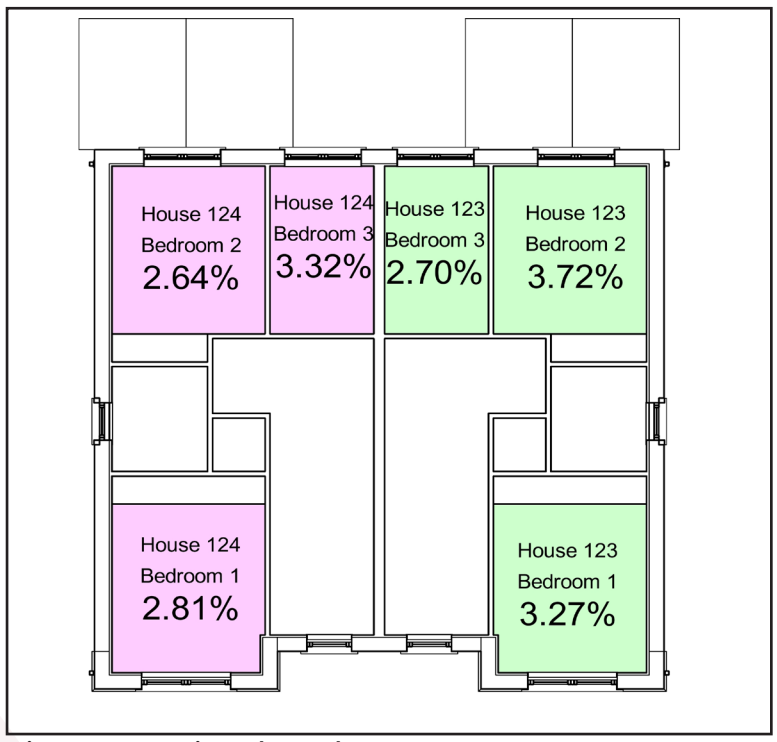


Figure 5.107: First Floor plan House Type

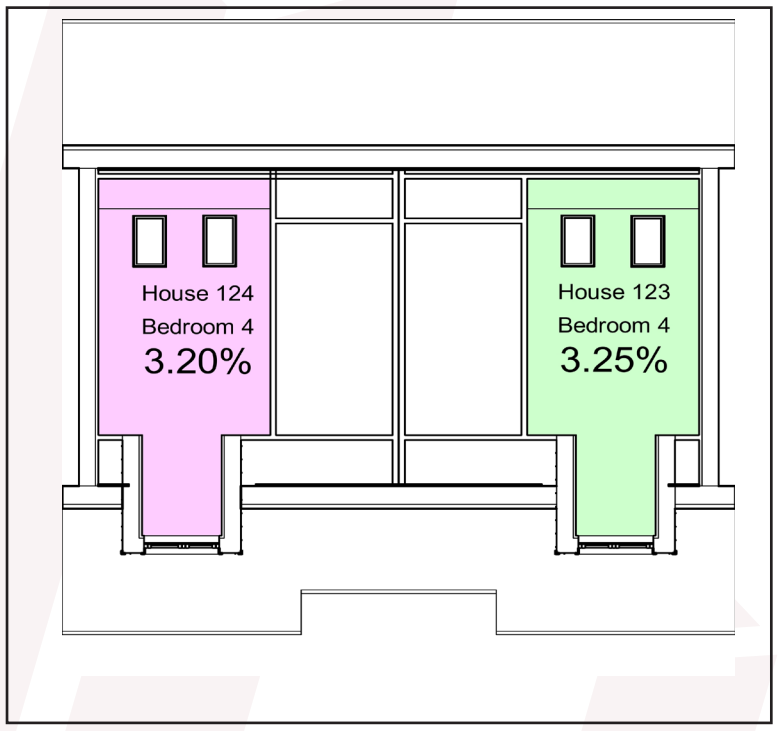


Figure 5.108: Second Floor plan House Type

Figure 5.109: Keyplan highlighting the assessed House Type

6.0 Analysis of Results

Results were generated and analysed for the following studies:

- Vertical Sky Component
  - A-D Carley's Bridge
  - Carrigabruce
  - Hillgrange, Carley's Bridge
  - 1-18 Millbrook
  - Sundale, Carley's Bridge
  - 13-23 Urrin Valley
  - Westlands, Carley's Bridge
- Annual Probable Sunlight Hours
  - A-D Carley's Bridge
  - Carrigabruce
  - Hillgrange, Carley's Bridge
  - 1-18 Millbrook
  - Sundale, Carley's Bridge
  - 13-23 Urrin Valley
  - Westlands, Carley's Bridge
- Sunlighting in Existing Gardens
  - A and B Carley's Bridge
  - Hillgrange, Carley's Bridge
  - 1-18 Millbrook
  - Sundale, Carley's Bridge
  - 13-23 Urrin Valley
  - Westlands, Carley's Bridge
- Sunlighting in Proposed Gardens/Amenity Spaces
  - 13 No. spaces in the proposed development.
- Average Daylight Factor
  - 501 No. spaces in the proposed development.

6.1 Effect on Vertical Sky Component (VSC)

The effect on VSC has been assessed for 195 No. windows across the surrounding properties. 195 No. of these windows would be considered *imperceptible*.

This shows that 100% of the assessed windows will experience an imperceptible level of effect.

The proposed development will not impact the surrounding neighbouring properties regarding levels of VSC. Neighbouring properties are capable of receiving good levels of daylight. The results can be considered positive,.

The complete results for the study on the effect on VSC caused by the proposed development can be found in Section 5.1 on page 19.

6.2 Effect on Annual/Winter Probable Sunlight Hours (APSH/WPSH)

The APSH/WPSH assessment has been carried out on the relevant windows of the surrounding properties that have an orientation within 90 degrees of due south.

The effect on APSH has been assessed for 168 No. of windows of the surrounding existing properties across A-D Carley's Bridge | Carrigabruce | Hillgrange, Carley's Bridge | 1-18 Millbrook | Sundale, Carley's Bridge | 13-23 Urrin Valley | Westlands, Carley's Bridge. The effect on the APSH of 168 No. of these windows would be considered *imperceptible*.

100% of these windows have met the criteria for effect on APSH as set out in the BRE Guidelines.

The neighbouring properties will not suffer any levels of impact by the proposed development, and occupants will keep receiving good levels of sunlight. The results of this study can be considered very favourable.

The results of the study on APSH can be found in Section 5.2 on page 30.

6.3 Effect on Sunlighting in Existing Gardens

This study has assessed the effect the proposed development would have on the level of sunlight on March 21st in the rear gardens of the neighbouring properties that are located along A and B Carley's Bridge | Hillgrange, Carley's Bridge | 1-18 Millbrook Sundale | Carley's Bridge | 13-23 Urrin Valley Westlands | Carley's Bridge.

In total 33 No. spaces have been assessed, 33 No. of which would experience an *imperceptible* level of effect.

100% of these outdoor spaces have met the criteria for effect on sunlighting as set out in the BRE Guidelines.

These assessed spaces are capable of a good level of sunlight on March 21st which indicates that they will be adequately sunlit throughout the year and results can be considered very favourable.

The complete results of the study on effect on sunlight the neighbouring gardens can be found In Section 5.3 on page 52.

A visual representation of these readings can be seen in the 2 hour false colour plans in Section 5.3 and in the hourly shadow diagrams for March 21st In Section 5.6.1 on page 58.

6.4 Sunlighting in Proposed Outdoor Amenity Areas

This study has assessed the level of sunlight on March 21st within the proposed amenity areas.

In total 13 No. spaces have been assessed, 13 No. of which would meet the criteria as set out in the BRE Guidelines.

These assessed proposed spaces would be capable of a good level of sunlight on March 21st which indicates that they would be adequately sunlit throughout the year and results can be considered very favourable.

The complete results for the study on sunlighting in the proposed outdoor amenity spaces can be found in Section 5.4 on page 56.

A visual representation of these readings can be seen in the false colour plan in Section 5.4 and in the hourly shadow diagrams for March 21st in Section 5.6.1 on page 58.

6.5 Average Daylight Factor (ADF)

This study has assessed the Average Daylight Factor (ADF) received in all habitable rooms across the ground, first, second and third floors of the proposed development. This has ensured that where unit types differ by way of layout and/or floor to ceiling heights, a clear understanding has been obtained of the performance of the scheme with regard to ADF.

Typically, ADF values increase in rooms located on higher floor levels, due to an improved relationship with adjacent obstructions. Therefore, where a room meets its recommended minimum value, it was assumed that the corresponding room on subsequent floors also meet this target value. No further study was carried out on the upper floors for these units/rooms.

Where individual rooms have fallen short of the recommended minimum target value, the equivalent room on the floor above has been assessed. This study has been carried out up to the floor where room meets the minimum recommended value.

The above assumptions were made based on unit types being repeated in other areas of the proposed development with similarities in room type and context. Our methodology in conjunction with this reasonable assumption gives us our circa compliance rate/s for the entire scheme.

This proposed development consists of 233 no. units, which makes up approximately 851 no. habitable rooms.

If the appropriate target value for LKDs is considered to be 2%, the ADF value in 501 no. habitable rooms meet or exceed their target values. The combination of these rooms plus the 0 no. inferred rooms that meet the ADF recommendations, give a circa compliance rate of 100%. For a scheme of this size, this could be considered an excellent level of compliance.

If the appropriate target value for LKDs is considered to be 1.5%, the ADF value in 501 no. habitable rooms meet or exceed their target values. The combination of these rooms plus the 0 no. inferred rooms that meet the ADF recommendations, give a circa compliance rate of 100% . For a scheme of this size, this could be considered an excellent level of compliance.

The complete results for the study on ADF can be seen in Section 5.8 on page 76.

7.0 Conclusion

3D Design Bureau (3DDB) were commissioned to carry out a daylight assessment, sunlight assessment and shadow study for the Strategic Housing Development, Carley's Bridge, Enniscorthy, Co. Wexford.

This assessment has studied the effect the proposed development would have on the level of daylight and sunlight received by the neighbouring residential properties that are in close proximity to the proposed development.

It can be concluded that due to the good design of the proposed development, as well as the excellent distribution of houses and apartments blocks in the subject site, the level of effect on daylight and sunlight to the surrounding existing properties can be considered very favourable and acceptable. No existing properties will experience an unacceptable drop in levels of daylight or sunlight. The results of this assessment presented 100% or circa compliance in terms of VSC, APSH, and Sunlighting. These results can be considered very favourable, and this development should be constructed as proposed.

Finally, future occupants will enjoy good levels of daylight within the vast majority of the proposed units with a 100% compliance rate in terms of Internal ADF and will have access to amenity areas that are capable of receiving excellent levels of sunlight.