GV8.

Daylight Report 1 of 1

Prepared for:
Westmeath County Council
Date: 9th December 2025

Revision 01

Daylight Impact Assessment Associated with a Proposed Residential Development at Cornamaddy, Athlone, Co. Westmeath.

Rev.	Description	Issued by	Date	Checked
Rev 01	Assessment of daylight impacts associated with a proposed residential development	RW	9th December 2025	KR

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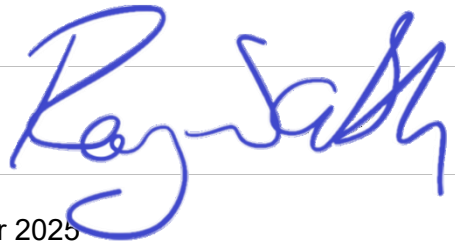
signature	
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CONTENTS

Glossary

Annual Probable Sunlight Hours (APSH)	the long-term average of the total number of hours during the year in which direct sunlight reaches the unobstructed ground (when clouds are considered)
Daylight	combined sunlight and skylight
Skylight	part of solar radiation that reaches the earth's surface as a result of scattering in the atmosphere.
Sunlight	part of solar radiation that reaches the earth's surface as parallel rays after selective attenuation by the atmosphere.
Vertical Sky Component	ratio of the part of illuminance, at a point on a given vertical plane, that is received directly from a CIE (Commission Internationale De L'Eclairge) standard overcast sky, to illuminance on a horizontal plane due to an unobstructed hemisphere of this sky. The VSC does not include reflected light, either from the ground of from other buildings.
Winter Probable Sunlight Hours (WPSH)	the long-term average of the total number of hours between the 21st of September and the 21st of March in which direct sunlight reaches the unobstructed ground (when clouds are considered)

Executive Summary

This report has been prepared to assess the daylight levels associated with a proposed residential development at Cornamaddy, Athlone, Co. Westmeath. More specifically this report considers the effect that the proposed development would have on the light levels available to neighbouring residences.

This assessment pays regard to the recommendations provided in the BRE guide *'Site layout planning for daylight and sunlight – A guide to good practice'* 3rd Edition.

Within these guides three specific tests have been identified which relate to the assessment of impact on neighbouring properties. The findings from these studies are reported in the following paragraphs.

Study A assessed the impact that the proposed development would have on the levels of skylight access which would be available to a sample of neighbouring accommodation. The results of this assessment indicate that reasonable levels of skylight would remain available to neighbouring properties with the proposed development in place. Full conformity with BRE recommendations has been demonstrated.

Study B assessed the impact that the proposed development would have on the levels of sunlight available to a sample of neighbouring accommodation. The results of this assessment indicate that reasonable levels of sunlight would remain available to neighbouring properties with the proposed development in place. Full conformity with BRE recommendations has been demonstrated.

Study C assessed the impact that the proposed development would have on the levels of sunlight available to a sample of outdoor areas in the immediate neighbourhood. The results of this study demonstrate that all the outdoor areas assessed within this study would receive levels of solar access which exceed advisory minimums. On the basis that full conformity with BRE guidelines has been demonstrated for these worst-case outdoor spaces it can be concluded with confidence that reasonable levels of sunlight would remain available to all neighbouring outdoor spaces with the proposed development in place.

On the basis that full conformity with all BRE guidelines for impact testing has been demonstrated it can be concluded with confidence that the development proposed would not cause any undue loss of daylight amenity to neighbouring properties.

Overview

GV8 have been engaged by Westmeath County Council to assess the daylight levels associated with a proposed residential development at Cornamaddy, Athlone, Co. Westmeath.

This assessment investigates the degree to which the proposed development would impact on the levels of daylight available to neighbouring properties. The proposed development relates principally to the delivery of 94 dwelling units.

Daylight impact has been assessed with respect to the methods and performance criteria detailed in the BRE (Building Research Establishment) guide *'Site layout planning for daylight and sunlight - A guide to good practice'* 3rd Edition.

A total of three separate daylight studies are presented in this report:

Study A: Assessment of skylight access levels available to neighbouring accommodation: An assessment of the extent to which the proposed development could impact on the skylight access levels available to the accommodation located in neighbouring properties.

Study B: Assessment of sunlight access levels available to neighbouring accommodation: An assessment of the extent to which the proposed development could impact on the levels of sunlight access available to accommodation in neighbouring residences.

Study C: Assessment of sunlight levels available to neighbouring recreation areas: An assessment of the extent to which the proposed development would impact on the levels of sunlight access available to neighbouring outdoor recreation areas.

As recommended in the BRE guide, a quantitative approach to the assessment of daylight impacts has been adopted in this study. Numeric calculations have been carried out to predict the daylight levels which would be available at a number of test points and areas. The results of these calculations are presented in tables.

The quantitative assessment has been carried out using computational methods. Three-dimensional computer models of the existing site, the existing buildings, and the proposed development have all been generated and simulated under appropriate sky conditions.

As is customary, impacts have been assessed by comparing the levels of light which would be available in an after-development scenario to the levels which would be provided in a baseline scenario. The baseline scenario adopted in this case is a greenfield site, see Figure 1; the after-development scenario is illustrated in Figure 2.

Information relating to the proposed development and the surrounding areas has been supplied to GV8 by Westmeath Country Council in electronic format. The study assumes that the information provided is accurate and that no omissions have been made. The particular information sources which have been used to develop the models used in this study are outlined in Appendix B: Source Material. As is customary[1] the effect which trees have on light levels has not been included in this impact assessment.

In line with guidance provided in Appendix H of the BRE Guide 3rd Edition a professional assessment of numeric outputs from BRE testing has been provided within this report. The professional assessment classifies the significance of the impact registering with reference to three separate factors including the magnitude of departure, the existence of mitigating factors and the sensitivity of the receptor to loss of light, see Appendix C: Conventions Used to Assess the Significance of Impacts. For each point of assessment GV8 advances a concluding opinion regarding the acceptability of the impact registering. As this opinion is informed by both the significance of the impact registering as well as its relationship to wider planning objectives it's validity should be accepted or rejected on its merits.

[1] When assessing sunlight access to outdoor spaces Paragraph 3.3.9 of the BRE Guide provides guidance on how trees should be represented *"Normally trees and shrubs need not be included, 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 buildings (this is especially true for deciduous trees)."*

Figure 1 Image depicting the baseline scenario adopted in all impact assessments. Baseline for this project includes both existing buildings and relevant extant permissions.

Figure 2 Image depicting the after-development scenario adopted in all impact assessments (proposed development on site highlighted in green).

Study A: Assessment of skylight levels available to neighbouring accommodation

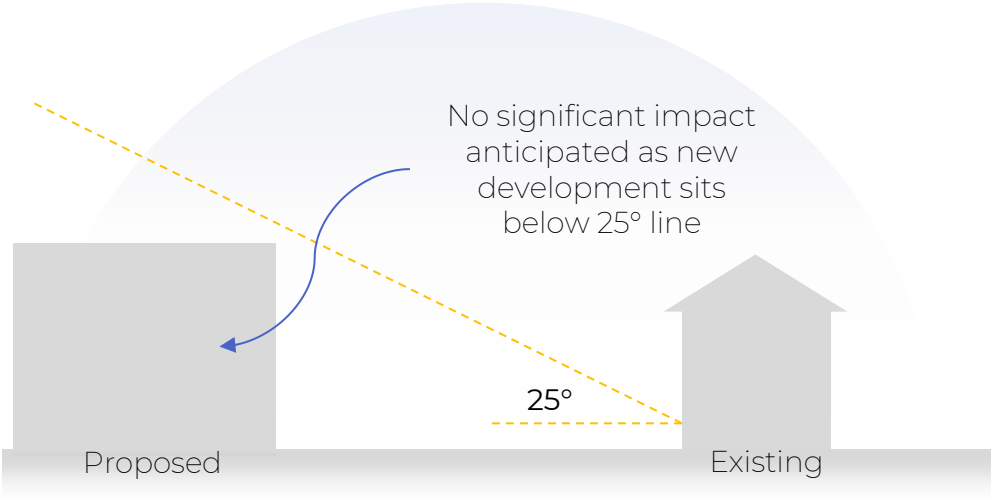
Study A: Assessment Overview

This assessment considers the degree to which the proposed development would affect the levels of diffuse skylight which would be available to neighbouring accommodation.

As recommended in national planning guidance[2]the assessment is carried out in the first instance with regard to the conventional tests recommended in the BRE guide *'Site layout planning for daylight and sunlight – A guide to good practice'* 3rd Edition.

According to the BRE guide, the potential for good daylighting can be initially assessed using an angular criterion. At section 2.2.5 of the BRE guide the following advice is provided:

> *First, draw a section in a plane perpendicular to each affected main window wall of the existing building. Measure the angle to the horizontal subtended by the new development at the level of the centre of the lowest window. If this angle is less than 25° for the whole of the development, then it is unlikely to have a substantial effect on the diffuse skylight enjoyed by the existing building. If, for any part of the new development, this angle is more than 25°, a more detailed check is needed to find the loss of skylight to the existing building.*



Study A: Assessment Points

A careful appraisal of the neighbouring environment identifies a number of properties which could potentially experience some form of altered lighting conditions as a result of the proposed development. A small sample of properties have been identified for testing in this assessment, see Figure 3 . These particular properties have been selected in order to capture the worst-case impacts that could register on neighbouring residences.

[2] See Appendix A: Policy Basis for Daylight Standards

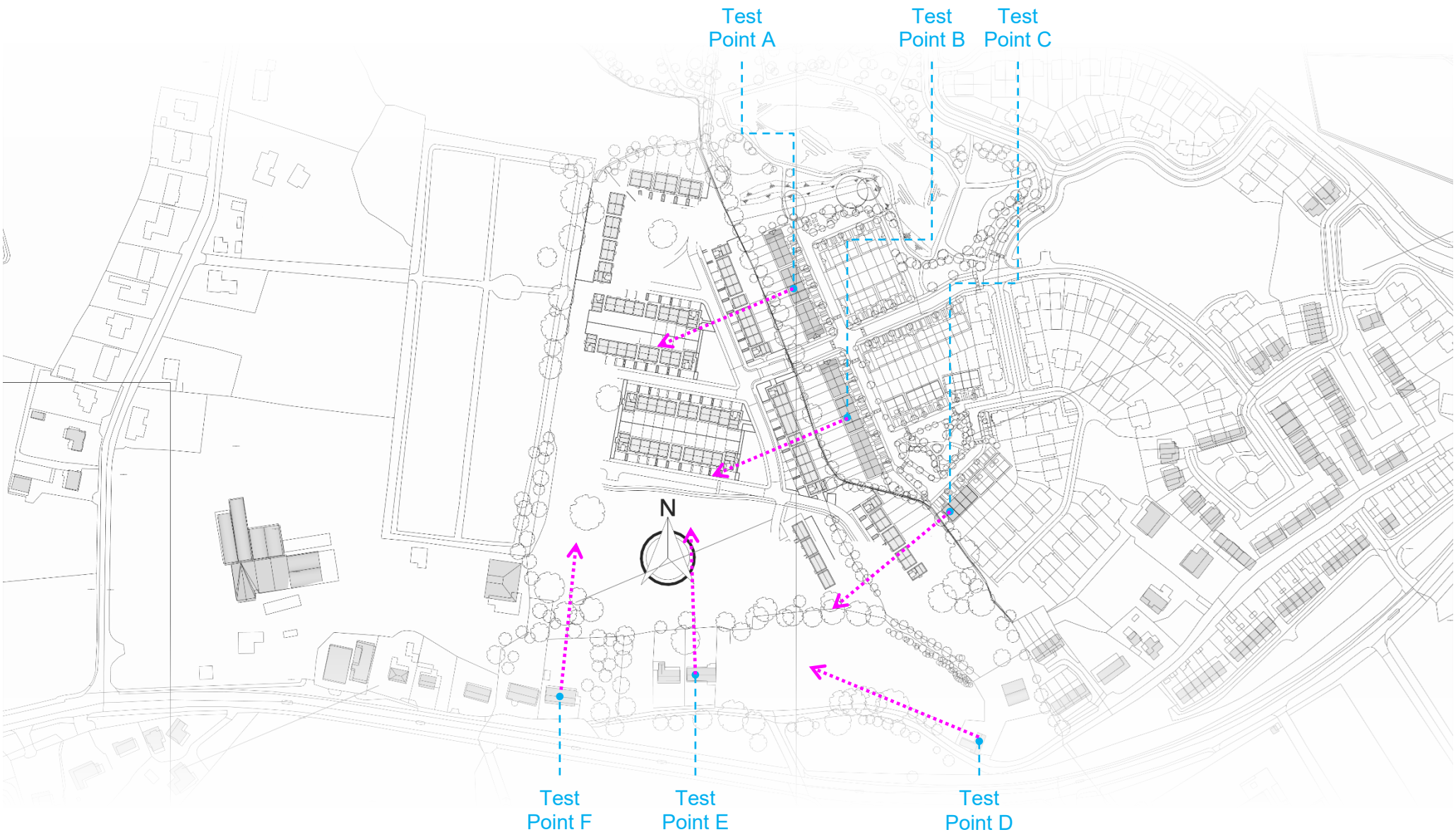


Figure 3 Sample of neighbouring residences selected for testing in this assessment. Pink arrow indicates direction the angular section was struck in 25-degree testing; see Appendix D: 25 Degree Line Testing.

Study A: Results

This study has assessed the levels of skylight access (assessed with respect to the BRE's 25 degree criterion) available to a sample of properties located in the immediate vicinity of the proposed development.

The results of this study (see Appendix D: 25 Degree Line Testing) indicate that conformity with BRE guidelines would be achieved in all cases. On the basis that conformity with BRE guidelines has been demonstrated for these worst-case instances it can be concluded with confidence that reasonable levels of skylight would remain available to all neighbouring residences with the proposed development in place.

Having established that reasonable skylight would remain available to neighbouring properties using the BRE's simple angular criteria the need to run more detailed Vertical Sky Component and No Sky Line testing is obviated.

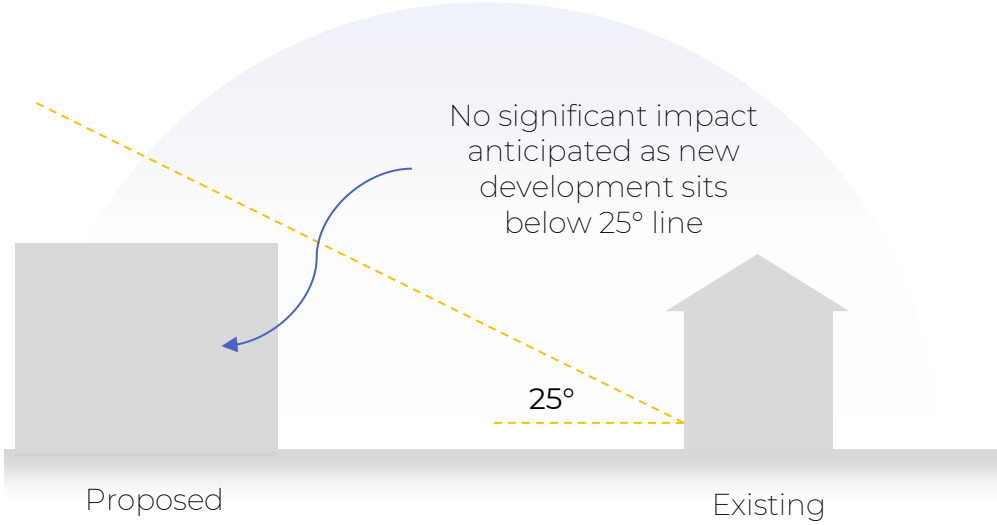
Study B: Assessment of sunlight levels available to neighbouring living rooms

Study B: Assessment Approach

According to the BRE guide, the potential for good sunlighting can be initially assessed using an angular criterion. At section 3.2.13 of the BRE guide the following advice is provided:

> *If a living room of an existing dwelling has a main window facing within 90° of due south, and any part of a new development subtends an angle of more than 25° to the horizontal measured from the centre of the window in a vertical section perpendicular to the window, then the sunlighting of the existing dwelling may be adversely affected.*

Having regard to the above it is possible to show that a new development will not adversely affect the sunlighting of neighbouring properties by demonstrating that the new development sits below a 25-degree line traced from sensitive windows in neighbouring properties.



Study B: Assessment Points

A careful appraisal of the neighbouring environment identifies a number of properties which could potentially experience some form of altered lighting conditions as a result of the proposed development. A small sample of properties have been identified for testing in this assessment, see Figure 3 . These particular properties have been selected in order to capture the worst-case impacts that could register on neighbouring residences.

Study B: Results

This study has assessed the levels of sunlight access (assessed with respect to the BRE's 25-degree criterion) available to a sample of properties located in the immediate vicinity of the proposed development.

The results of this study (see Appendix D: 25 Degree Line Testing) indicate that conformity with BRE guidelines would be achieved in all cases. On the basis that conformity with BRE guidelines has been demonstrated for these worst-case instances it can be concluded with confidence that reasonable levels of sunlight would remain available to all neighbouring residences with the proposed development in place.

Having established that reasonable sunlight would remain available to neighbouring properties using the BRE's simple angular criteria the need to run more detailed Annual Probable Sunlight Hours testing is obviated.

Study C: Assessment of sunlight levels available to neighbouring gardens.

Study C: Assessment Approach

The BRE recommends that a garden or amenity area will appear adequately sunlit throughout the year if at least half of it can receive at least two hours of sunlight on the 21st of March.

When impacts are being assessed the BRE advises that a noticeable loss of sunlight will register on a neighbouring recreation space if as a result of a new development less than 50% of the area is capable of receiving 2hrs of sunshine on the 21st of March and the area which is capable of receiving two hours is less than 0.8 times its former value.

In order to assess a particular amenity space an analysis grid is specified across its area. At each point on this grid the cumulative number of sunlight hours registering are calculated for the course of a specified day (21st of March). The percentage of the assessed area which receives more than 2 hours of sunlight on that day is then obtained.

The framework which GV8 adopts to determine the significance of impacts is presented in Appendix C: Conventions Used to Assess the Significance of Impacts.

Study C: Assessment Areas

The BRE recommends that the availability of sunlight should be checked for all open spaces where it would be required and that this would normally include:

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

A sample of seven (worst case) outdoor spaces are identified for testing, see Figure 4.

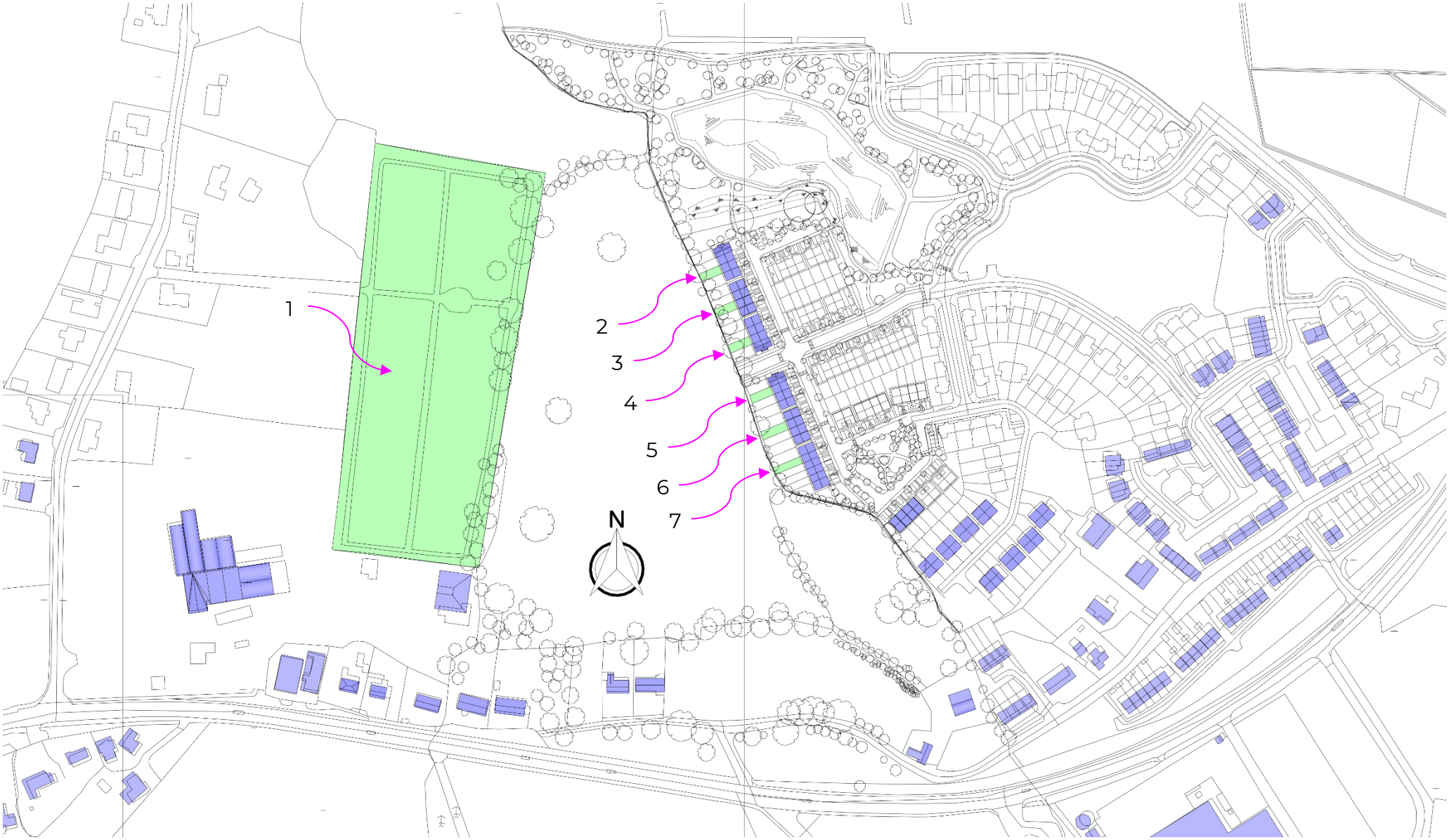


Figure 4 Plan showing the neighbouring spaces which have been assessed in this study.

Study C: Results

This study has assessed the degree to which the proposed development would impact on the levels of solar access available to a sample of seven outdoor areas. Numeric results are presented in Table 1, the associated solar distribution diagrams are presented in Figure 5 and Figure 6. Supplementary shadow casting imagery for the BRE's recommended test day (March 21st) has been included within Appendix F: Shadow Casting Imagery March.

The results of this study (see Table 1) demonstrate that all the outdoor areas assessed within this study would receive levels of solar access which exceed advisory minimums. On the basis that full conformity with BRE guidelines has been demonstrated for these worst-case instances it can be concluded with confidence that reasonable levels of sunlight would remain available to all neighbouring spaces with the proposed development in place.

Table 1 Solar access levels available to neighbouring outdoor areas; (BRE conformity results highlighted in blue; professional judgements highlighted in orange).

Area ID	Area Type [1]	BRE Testing of Solar Access Levels				Professional Assessment of Numeric Predictions [3]					
		% Area capable of receiving at least 2hrs of sunshine on the 21st of March			BRE conformity Demonstrated?	Magnitude of Impact [3]	Sensitivity of Area to Impact [3]	Mitigating Factors	Significance of Mitigating Factors	Significance of Impact [3]	Professional Opinion *(see notes at end of table for expanded explanation)*
		Existing	Advisory Minimum [2]	Proposed							
1	LO	100%	50%	100%	Yes	Negligible	High	-	Negligible	Negligible/Minor	*Reasonable solar access retained (∂)*
2	G	84%	50%	81%	Yes	Negligible	Medium	-	Negligible	Negligible	*Reasonable solar access retained (∂)*
3	G	84%	50%	80%	Yes	Negligible	Medium	-	Negligible	Negligible	*Reasonable solar access retained (∂)*
4	G	85%	50%	78%	Yes	Negligible	Medium	-	Negligible	Negligible	*Reasonable solar access retained (∂)*
5	G	85%	50%	79%	Yes	Negligible	Medium	-	Negligible	Negligible	*Reasonable solar access retained (∂)*
6	G	86%	50%	81%	Yes	Negligible	Medium	-	Negligible	Negligible	*Reasonable solar access retained (∂)*
7	G	84%	50%	76%	Yes	Negligible	Medium	-	Negligible	Negligible	*Reasonable solar access retained (∂)*

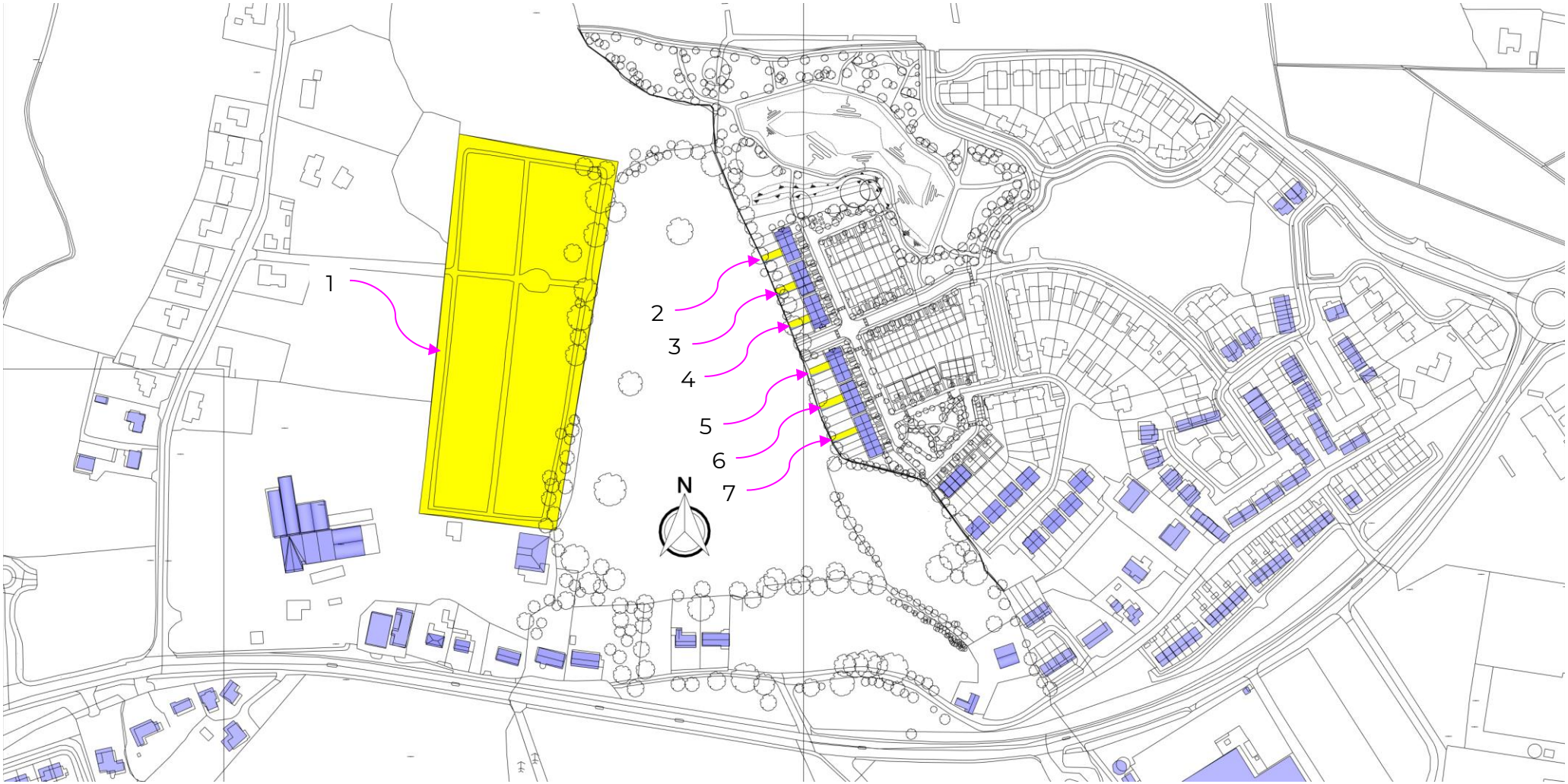
1 *See Appendix C: Conventions Used to Assess the Significance of Impacts for Area Type codes*

2 *Advisory minimum is 50% unless 0.8 times former value is lower*

3 *The framework used to classify impacts is described within Appendix C: Conventions Used to Assess the Significance of Impacts*

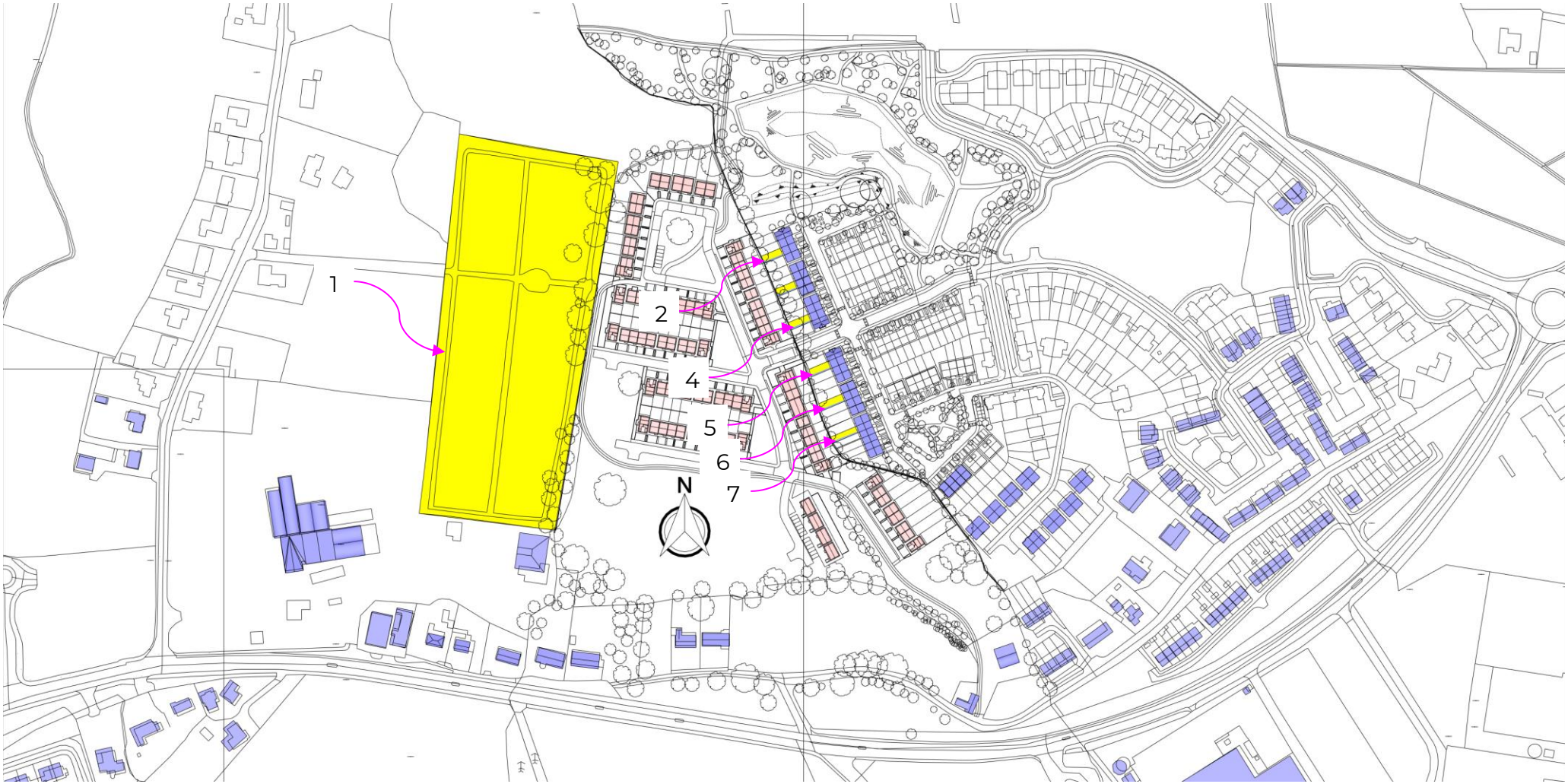
(∂) *On the basis that full conformity with BRE guidelines has been demonstrated it can be concluded with confidence that a reasonable level of solar access would remain available with the proposed development in place.*

Figure 5 Solar access distribution predicted for neighbouring recreation spaces (Before Scenario).



TOTAL NO. SUNLIGHT HOURS ON THE 21ST OF MARCH (HRS)	0 TO 2	> 2

Figure 6 Solar access distribution predicted for neighbouring recreation spaces (After Scenario).



TOTAL NO. SUNLIGHT HOURS ON THE 21ST OF MARCH (HRS)	0 TO 2	> 2

Appendix A: Policy Basis for Daylight Standards

The provisions which have been made to promote good daylighting in planning guidance are identified as follows:

Sustainable and Compact Settlements – Guidelines for Planning Authorities

Published by the Department of Environment Housing and Local Government in 2024, this guide includes a number of provisions related to daylight. Section 5.3.7 of the guide is particularly relevant:

> *"The provision of acceptable levels of daylight in new residential developments is an important planning consideration, in the interests of ensuring a high quality living environment for future residents. It is also important to safeguard against a detrimental impact on the amenity of other sensitive occupiers of adjacent properties.*
>
> *(a) The potential for poor daylight performance in a proposed development or for a material impact on neighbouring properties will generally arise in cases where the buildings are close together, where higher buildings are involved, or where there are other obstructions to daylight. Planning authorities do not need to undertake a detailed technical assessment in relation to daylight performance in all cases. It should be clear from the assessment of architectural drawings (including sections) in the case of low-rise housing with good separation from existing and proposed buildings that undue impact would not arise, and planning authorities may apply a level of discretion in this regard.*
>
> *(b) In cases where a technical assessment of daylight performance is considered by the planning authority to be necessary regard should be had to quantitative performance approaches to daylight provision outlined in guides like A New European Standard for Daylighting in Buildings IS EN17037:2018, UK National Annex BS EN17037:2019 and the associated BRE Guide 209 2022 Edition (June 2022), or any relevant future standards or guidance specific to the Irish context.*
>
> *In drawing conclusions in relation to daylight performance, planning authorities must weigh up the overall quality of the design and layout of the scheme and the measures proposed to maximise daylight provision, against the location of the site and the general presumption in favour of increased scales of urban residential*

development. Poor performance may arise due to design constraints associated with the site or location and there is a need to balance that assessment against the desirability of achieving wider planning objectives. Such objectives might include securing comprehensive urban regeneration and or an effective urban design and streetscape solution. "

Sustainable Urban Housing: Design Standards for New Apartments – Guidelines for Planning Authorities

Published by the Department of Environment Housing and Local Government in July 2022, provisions are made to safeguard daylight within Section 6.5, 6.6 and 6.7:

> *"6.5- The provision of acceptable levels of natural light in new apartment developments is an important planning consideration as it contributes to the liveability and amenity enjoyed by apartment residents. In assessing development proposals, planning authorities must however weigh up the overall quality of the design and layout of the scheme and the measures proposed to maximise daylight provision with the location of the site and the need to ensure an appropriate scale of urban residential development.*
>
> *6.6* – Planning authorities should ensure appropriate expert advice and input where necessary, and have regard to quantitative performance approaches to daylight provision outlined in guides like A New European Standard for Daylighting in Buildings EN17037 or UK National Annex BS EN17037 and the associated BRE Guide 209 2022 Edition (June 2022), or any relevant future guidance specific to the Irish context, when undertaken by development proposers which offer the capability to satisfy minimum standards of daylight provision.
>
> *6.7 – Where an applicant cannot fully meet all of the requirements of the daylight provisions above, this must be clearly identified and a rationale for any alternative, compensatory design solutions must be set out, which planning authorities should apply their discretion in accepting taking account of its assessment of specifics. This may arise due to design constraints associated with the site or location and the balancing of that assessment against the desirability of achieving wider planning objectives. Such objectives might include securing comprehensive urban regeneration and or an effective urban design and streetscape solution."*

Appendix B: Source Material

The 3D models used in our analysis were generated using information garnered from the following sources.

Model Elements	Source	Drawing No. / File Name /	Title / Description	Date Issued / Accessed
Proposed Development	WCC	127-WCC-ZZ-ZZ-M3-A-0001.rvt 127-WCC-ZZ-ZZ-M3-A-0002.rvt 127-WCC-ZZ-ZZ-M3-A-0003.rvt 127-WCC-ZZ-ZZ-M3-A-0004.rvt 127-WCC-ZZ-ZZ-M3-A-0005.rvt 127-WCC-ZZ-ZZ-M3-A-0006.rvt 127-WCC-ZZ-ZZ-M3-A-0007.rvt	Revit model of proposed development	08/12/2025
Macro Landscape and Wider Context	Google Earth			

Appendix C: Conventions Used to Assess the Significance of Impacts

Recognizing that all impacts are not the same it is important to endeavour to grade impacts in accordance with their significance[3].

The approach GV8 uses to assess significance of impact aligns with guidance provided in Appendix H of the BRE Guide 3rd Edition.

Appendix H of the BRE guide provides the following guidance on this matter:

> *"H4 The assessment of impact will depend on a combination of factors, and there is no simple rule of thumb that can be applied.*
> *H5 Where the loss of skylight or sunlight fully meets the guidelines in this document, the impact is assessed as negligible or minor adverse. Where the loss of light is well within the guidelines, or only a small number of windows or limited area of open space lose light (within the guidelines), a classification of negligible impact is more appropriate. Where the loss of light is only just within the guidelines, and a larger number of windows or open space area are affected, a minor adverse impact would be more appropriate, especially if there is a particularly strong requirement for daylight and sunlight in the affected building or open space.*
> *H6 Where the loss of skylight or sunlight does not meet the guidelines in this document, the impact is assessed as minor, moderate or major adverse. Factors tending towards a minor adverse impact include:*
> *- only a small number of windows or limited area of open space are affected*
> *- the loss of light is only marginally outside the guidelines*
> *- an affected room has other sources of skylight or sunlight*
> *- the affected building or open space only has a low level requirement for skylight or sunlight*
> *- there are particular reasons why an alternative, less stringent, guideline should be applied, for example an overhang above the window or a window standing unusually close to the boundary.*
> *H7 Factors tending towards a major adverse impact include:*
> *- a large number of windows or large area of open space are affected*
> *- the loss of light is substantially outside the guidelines*
> *- all the windows in a particular property are affected*
> *- the affected indoor or outdoor spaces have a particularly strong requirement for skylight or sunlight, e.g. a living room in a dwelling or a children's playground."*

GV8's interpretation of this guidance is detailed as follows:

- In the first instance it is important to recognise that the guidance provided in Appendix H of the BRE Guide is not intended to serve as a precise system by which impact categorisations can be automatically determined; this is clarified by the BRE at Section H4 *"the assessment of impact will depend on a combination of factors*

[3] Within the EPA guidelines *(Guidelines on the information to be contained in Environmental Impact Assessment Reports' 2017*) the significance of an effect is described as "the importance of the outcome of the effects (the consequence of the change)"

and there is ***no simple rule of thumb that can be applied"*** **[emphasis added].**

- Following from this it is important to recognise that the determination of impact classifications inevitably relies to a large extent on professional judgement.
- The guidance provided in Appendix H of the BRE guide is intended to provide daylight consultants with broad pointers regarding the factors which should be considered when determining the significance of the impact registering.
- According to the BRE an impact should be described as either Negligible, Minor, Moderate or Major depending on how significant it is determined to be.
- The BRE advance a number of factors which should be considered when assessing the significance of a particular impact. Observing some overlap between the various factors advanced GV8 synthesises the consideration into three main categories. These categories include:
    - The magnitude of the departure from advisory minimums
    - The sensitivity of the receptor to loss of light
    - The existence/significance of mitigating factors.

Conventions used by GV8 to determine impact classifications:

- GV8 classifies the significance of impact on a seven point scale ranging from Negligible, Negligible/Minor, Minor, Minor/Moderate, Moderate, Moderate/Major and Major.
- Significance of impact is determined with consideration to three factors including 1) the magnitude of the departure from advisory minimums 2) the sensitivity of the receptor to loss of light 3) the existence/significance of mitigating factors. The significance of each of these factors is classified individually on its own seven point scale.
- The magnitude of departure is classified with respect to the conventions detailed in Table 2.
- The sensitivity of receptor to loss of light is classified with respect to the conventions detailed in Table 3 and Table 4.
- The existence/significance of mitigating factors is classified, on a case-by-case basis, using professional judgement. In certain circumstances, secondary testing is carried out to inform this categorisation.

Having regard to the classification identified for all three of these factors a final significance of impact classification is determined.

Table 2 Conventions used to categorise the magnitude of impact.

Relative Departure from Advisory Minimum	Magnitude of Impact
No Departure	Negligible
0% to 8%	Negligible/Low
8% to 16%	Low
16% to 24%	Low/Medium
24% to 32%	Medium
32% to 40%	Medium/High
>40%	High

Table 3 Sensitivity ratings assumed for zones located within neighbouring properties.

ID	Zone Type	Sensitivity to Loss of Skylight (VSC)	Sensitivity to Loss of Sunlight (APSH)
CLR	Communal living space in retirement/care home	Major	Moderate
RW	Recovery ward in hospital	Major	Moderate
PLR	Private living space in retirement/care home	Major	Minor/Moderate
L	Principal living room in dwelling	Moderate/Major	Minor/Moderate
C	Classroom in primary/secondary school or creche facility	Moderate/Major	Minor
K	Kitchen in dwelling	Moderate	Minor
SO	Special office/studio where there is a reliance on natural light to carry out work-based tasks	Moderate	Minor
CAN	Canteen in workplace	Minor/Moderate	Minor
S	Study in Domestic Residence	Minor/Moderate	Minor
CH	Place of worship	Minor	Negligible/Minor
CRB	Café/ Restaurant / Bar	Minor/Moderate	Negligible/Minor
HC	Healthcare clinic	Minor/Moderate	Negligible/Minor
CLS	Communal living space in 3rd level student accommodation	Minor/Moderate	Negligible/Minor
B	Bedroom in dwelling	Minor	Negligible/Minor
CRBD	Café/ Restaurant / Bar where ambiance does not rely on the presence of natural light	Minor	Negligible/Minor
PER	Performance Space	Negligible/Minor	Negligible
BH	Bedroom in hotel	Negligible/Minor	Negligible
ED	Classroom in 3rd Level Facility	Minor	Negligible
O	Typical office/studio where natural light is welcomed but not essential for work activities	Minor	Negligible
BS	Bedroom in 3rd level student accommodation	Minor	Negligible
RL	Retail space which relies primarily on artificial light for displaying products	Minor	Negligible
REC	Reception Area in Public Space	Minor	Negligible
YCG	Games/Sports room in youth centre	Negligible/Minor	Negligible
BEA	Hairdresser / Beauty Treatment	Negligible/Minor	Negligible
KCOM	Commercial Kitchen	Negligible/Minor	Negligible
CS	Computer suite	Negligible/Minor	Negligible
WC	Toilet	Negligible	Negligible
CIR	Circulation Space	Negligible	Negligible
W	Warehouse / Storage Facility	Negligible	Negligible
GYM	Gym	Negligible	Negligible

Table 4 Sensitivity ratings assumed for neighbouring outdoor spaces.

Area Type ID	Type of Outdoor Space	Assumed sensitivity to loss of outdoor sunlight
LO	Large Public Park	Major
PRL	Public Realm with potential for lingering	Major
PP	Playground within public park	Major
PS	Playground on school grounds	Moderate/Major
SO	Small Public Open Space (Pocket Park, etc.)	Moderate/Major
G	Small Residential Garden	Moderate
CR	Private Communal Recreation Space	Moderate
PRT	Public Realm with transient use	Minor
Y	Small Residential Yard	Negligible/Minor

Appendix D: 25 Degree Line Testing

Test Point A

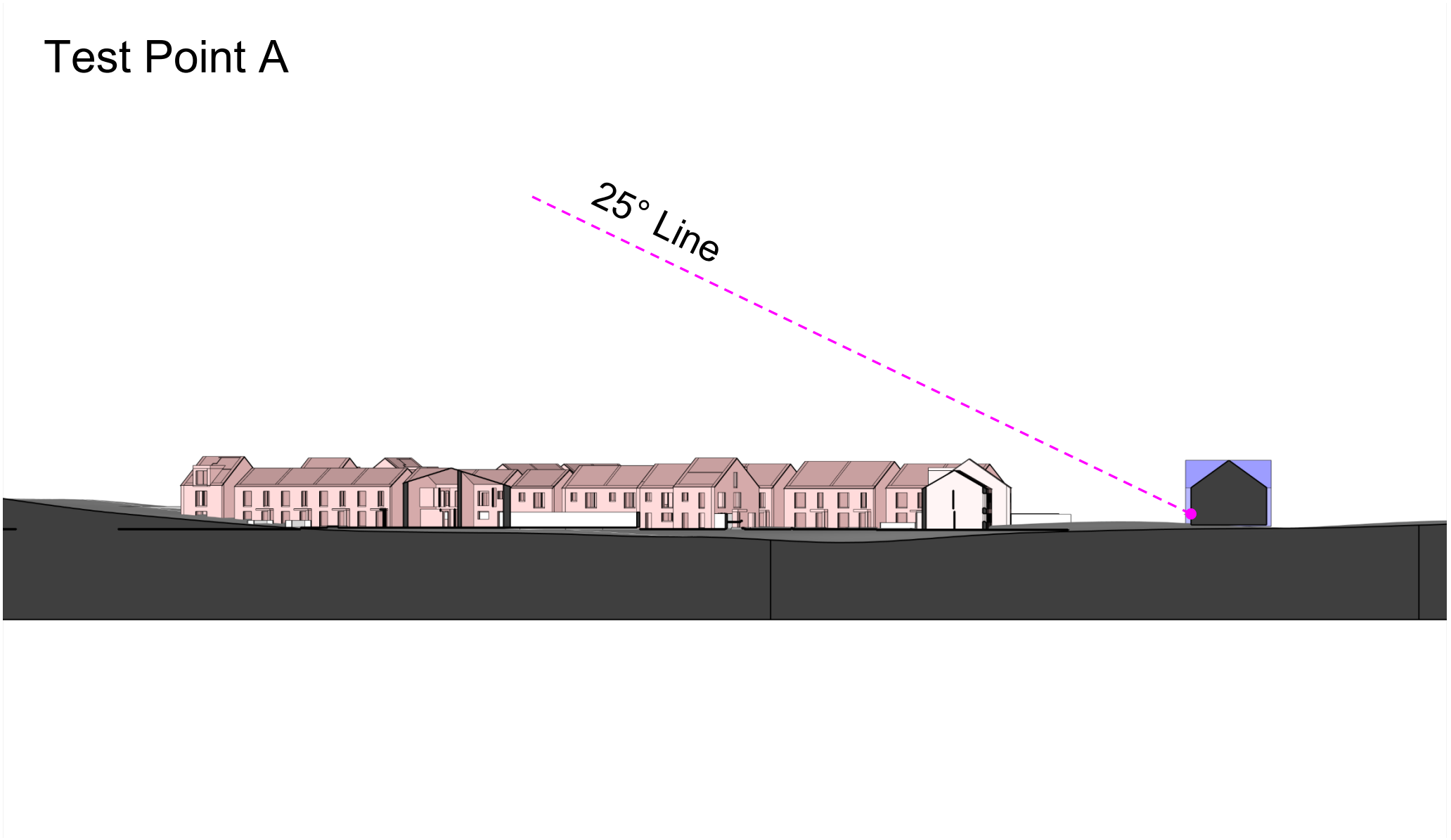


Figure 7 25 degree line struck from Test Point A showing proposed development (highlighted in pink) sitting comfortably below line.

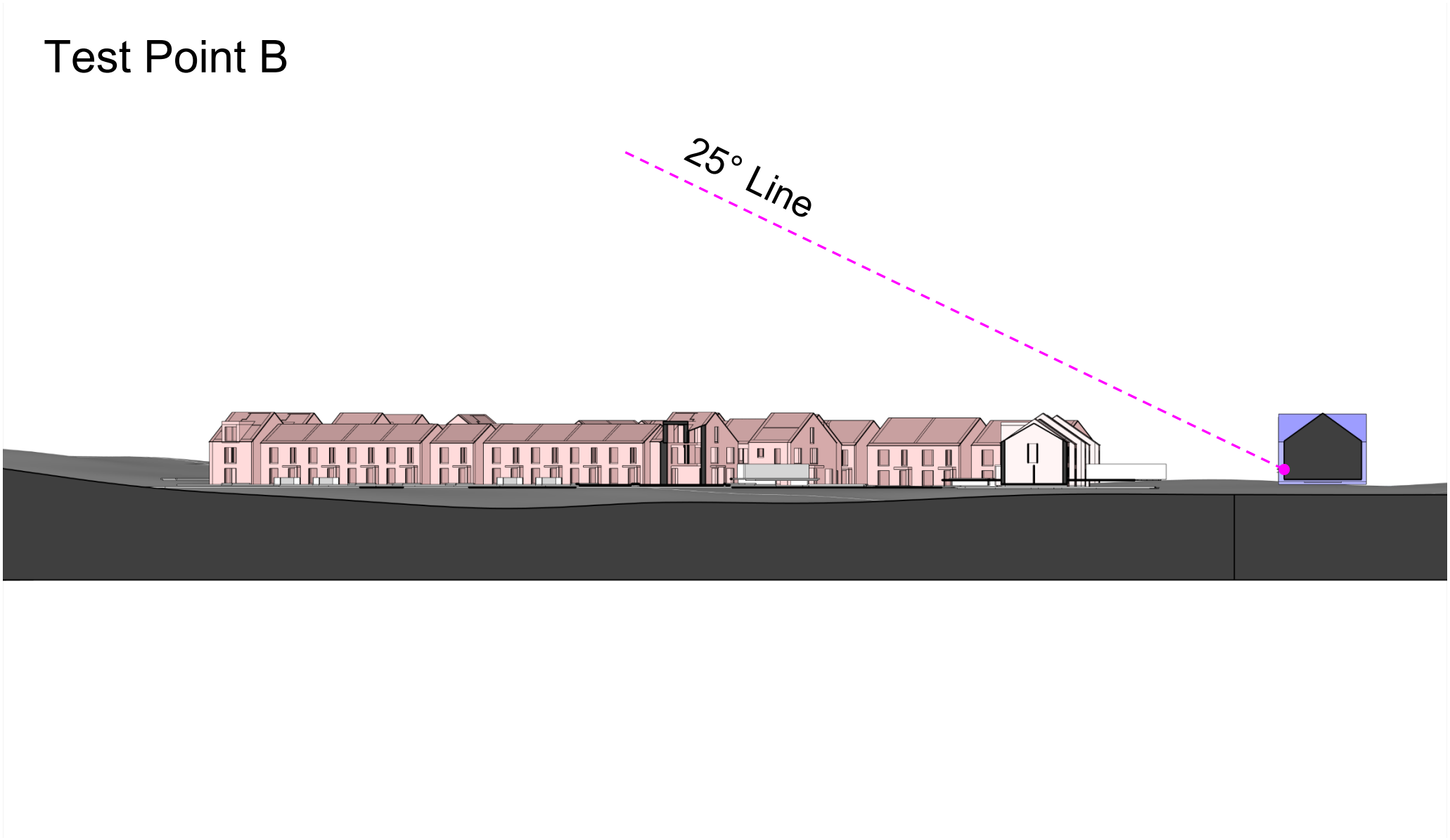


Figure 8 25 degree line struck from Test Point B showing proposed development (highlighted in pink) sitting comfortably below line.

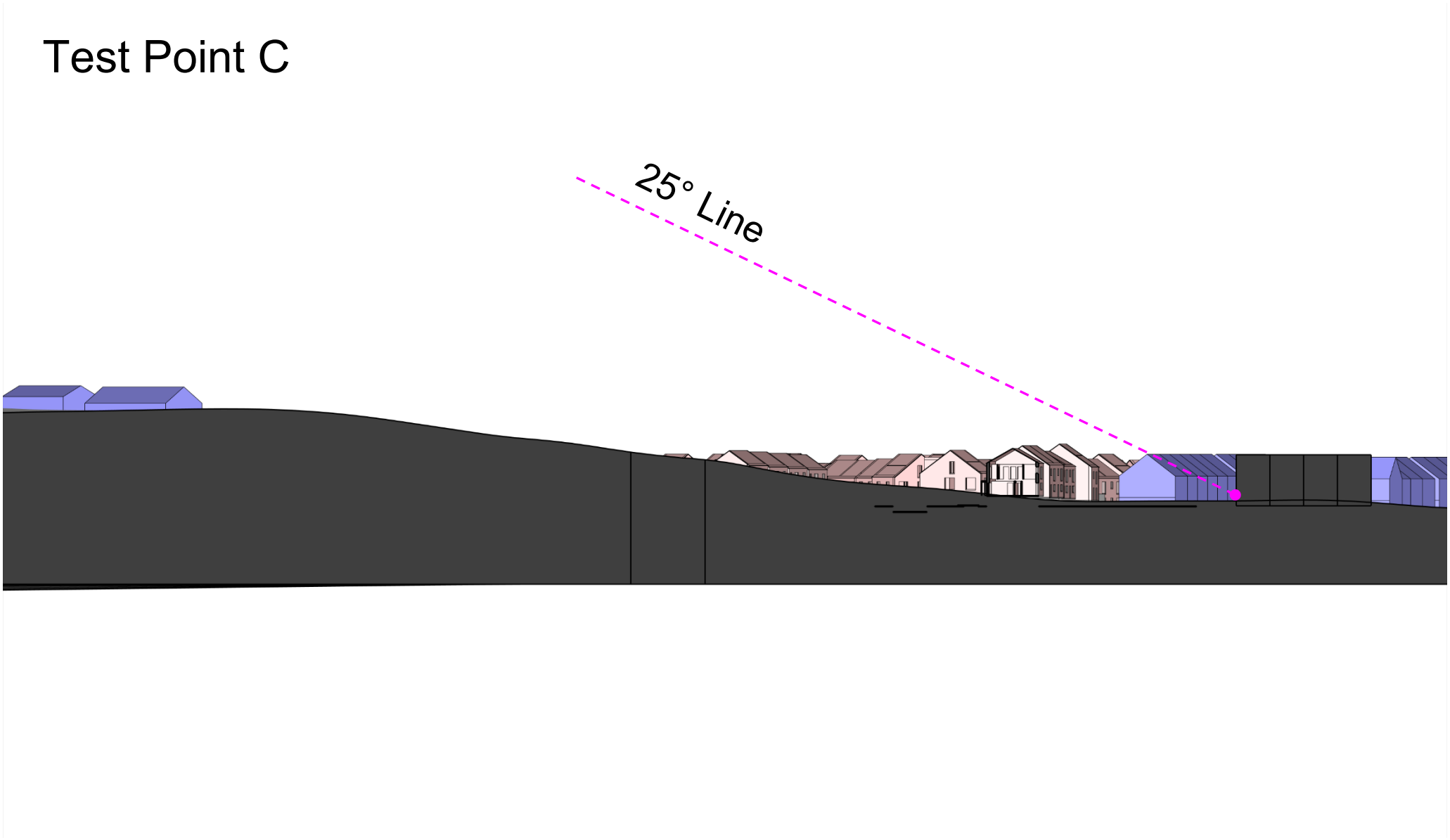


Figure 9 25 degree line struck from Test Point C showing proposed development (highlighted in pink) sitting comfortably below line.

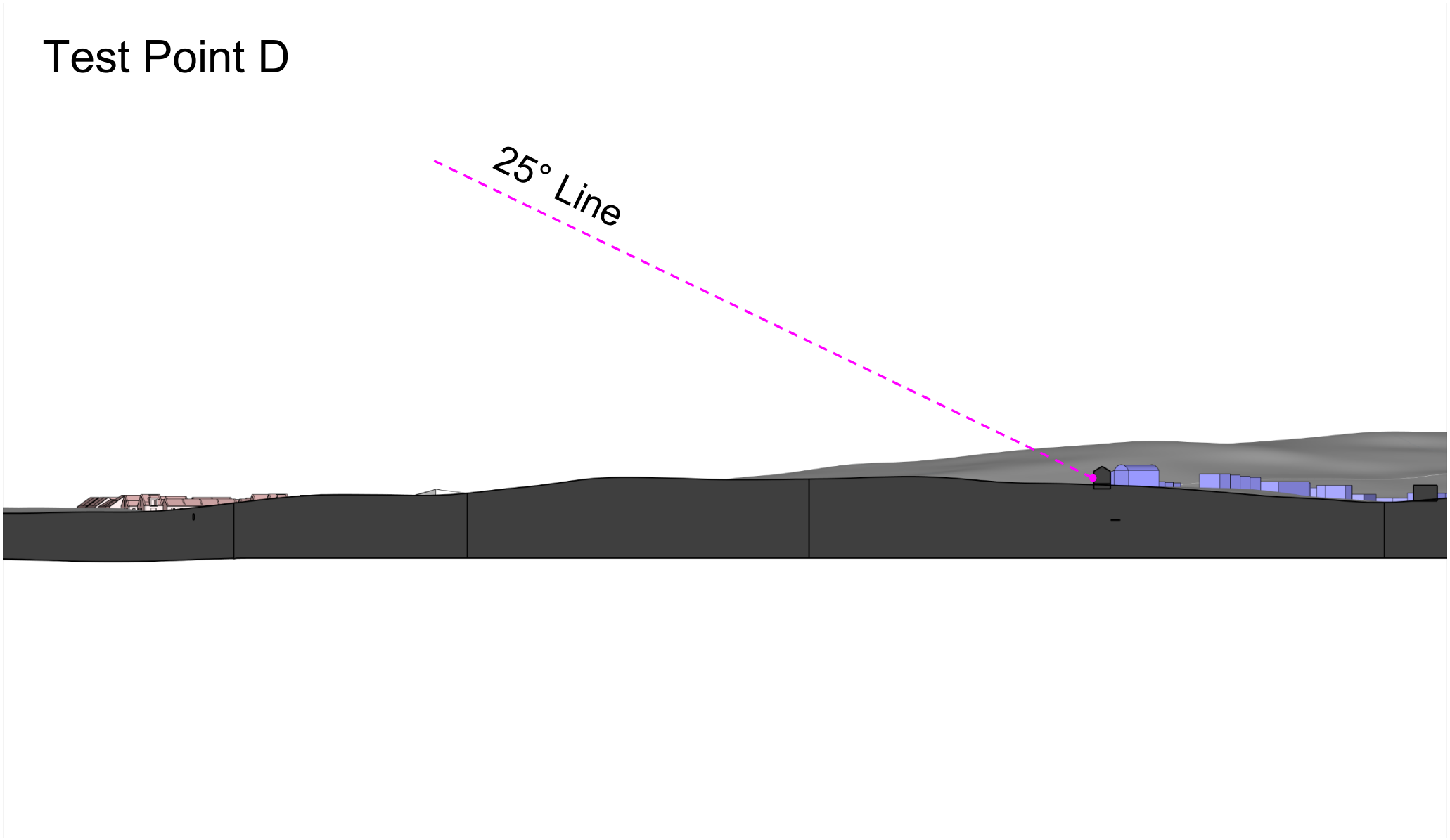


Figure 10 25 degree line struck from Test Point D showing proposed development (highlighted in pink) sitting comfortably below line.

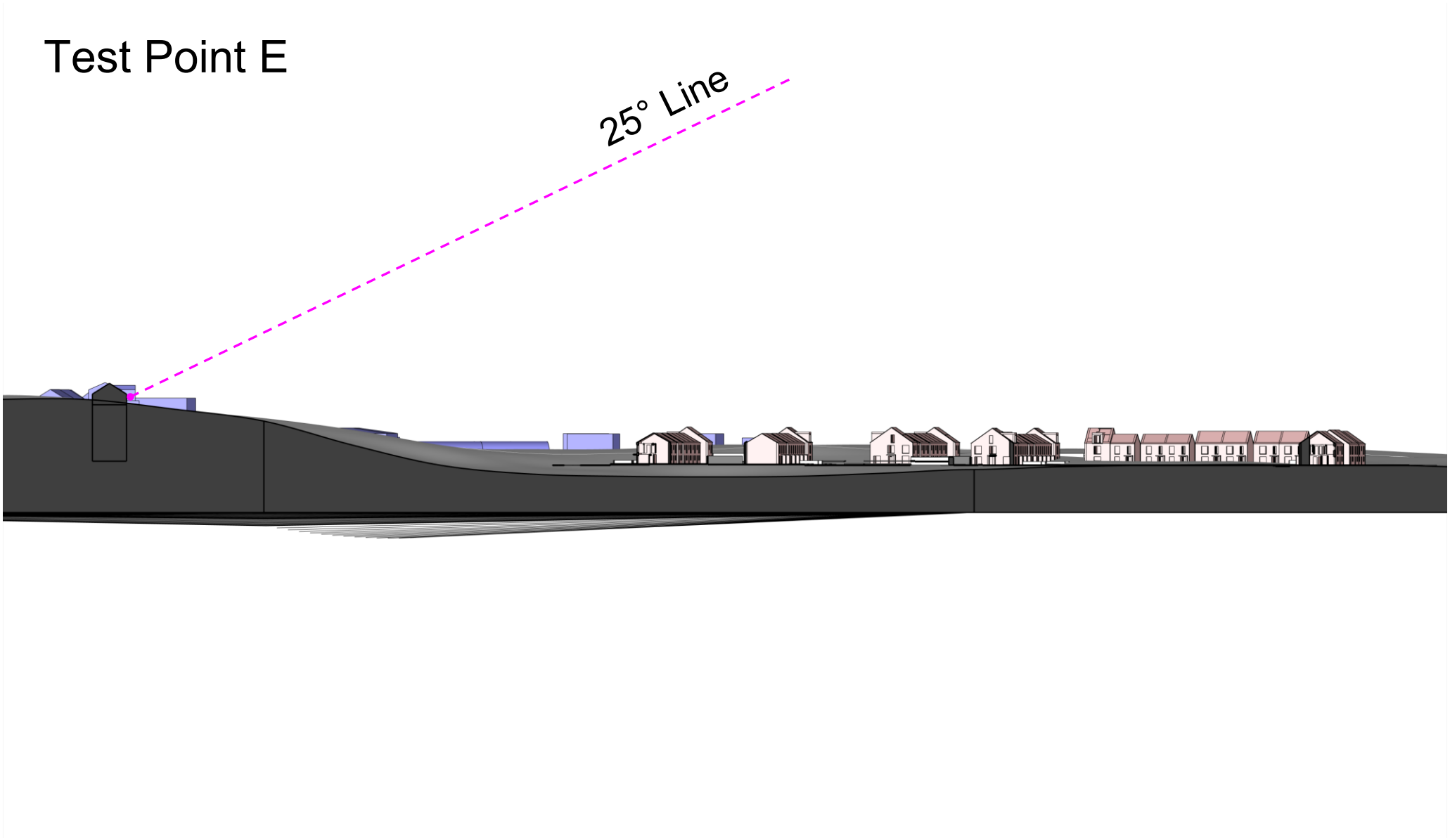


Figure 11 25 degree line struck from Test Point E showing proposed development (highlighted in pink) sitting comfortably below line.

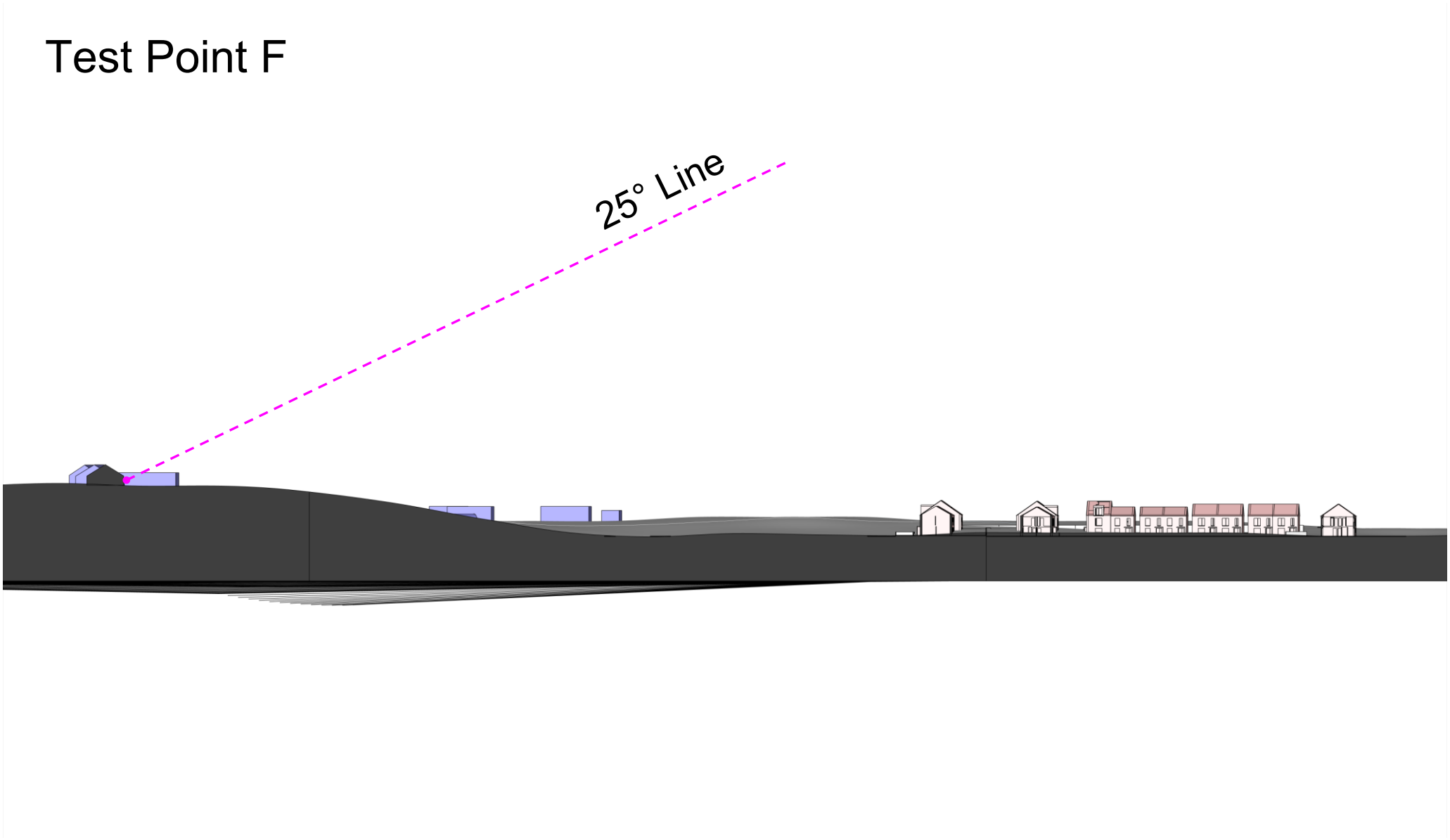


Figure 12 25 degree line struck from Test Point F showing proposed development (highlighted in pink) sitting comfortably below line.

Appendix E: Shadow Casting Imagery

The set of overshadowing diagrams which accompany this report are discretionary and are not an integral part of the recommended assessment procedure. They have been included simply to provide the reader with some context regarding the orientation of the site with respect to the sun.

Section 3.2 of the DoHPLG guideline document *'Urban Development and Building Heights – Guidelines for Planning Authorities'* 2018, provides the following guidance:

> *"In the event of making a planning application, the applicant shall demonstrate to the satisfaction of the Planning Authority/ An Bord Pleanála, that the proposed development satisfies the following criteria:*
>
> *At the scale of the site/building*
>
> *Appropriate and reasonable regard should be taken of* ***quantitative performance approaches to daylight provision*** *outlined in guides like the Building Research Establishment's 'Site Layout Planning for Daylight and Sunlight' (2nd edition) or BS 8206-2: 2008 – 'Lighting for Buildings – Part 2: Code of Practice for Daylighting."* ***[emphasis added]***

Accepting that the assessment of shadow casting imagery does not qualify as a quantitative approach (it is qualitative and subjective) it follows that this approach can no longer be regarded as an acceptable method for assessing impact in Ireland.

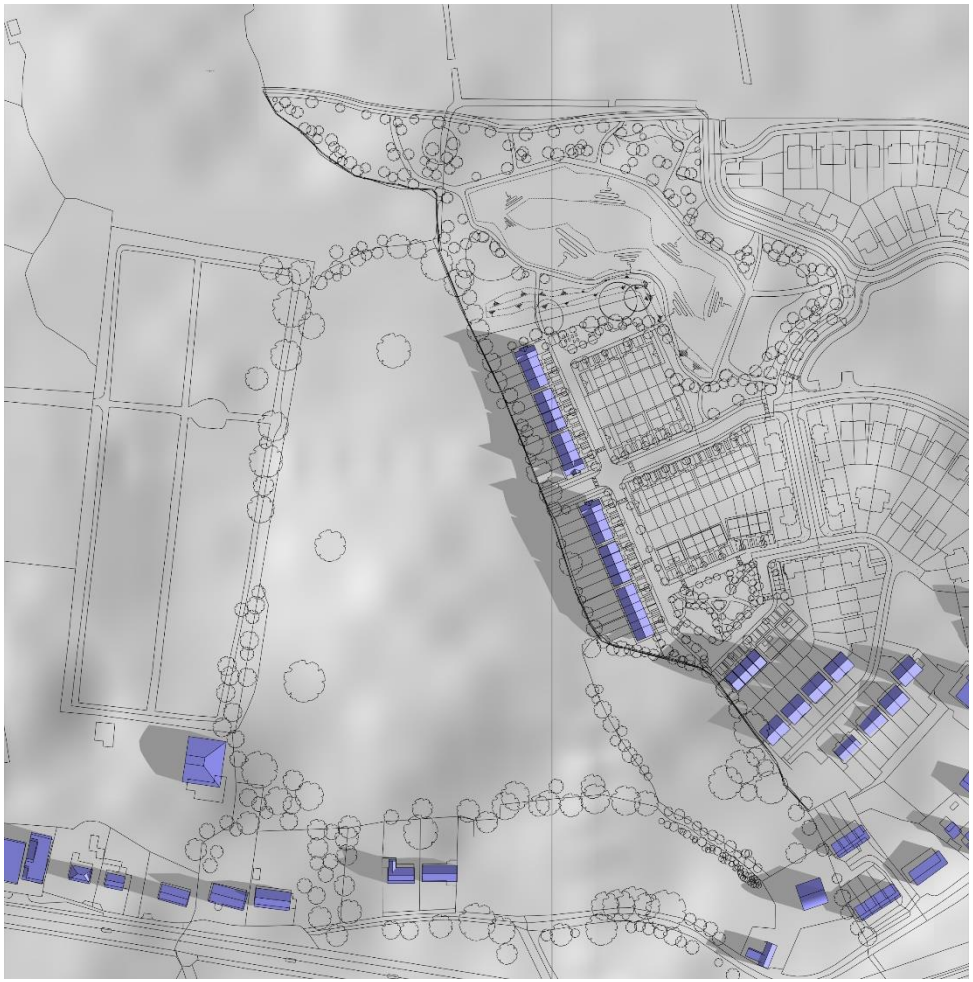
Where shadow casting imagery would have been used in the past to assess the degree to which a new development could impact on sunlight levels available to neighbouring gardens and amenity spaces, it is clear that this assessment must now be carried out on a quantitative basis. This quantitative assessment has been carried out and is presented in Study C of this report.

Without prejudice to the foregoing, a set of shadow casting imagery has been generated and is presented on the following pages. This material is presented on a strictly discretionary basis and the reader is advised that the information conveyed in the imagery carries no weight in the assessment of overshadowing or indeed in the determination of impact acceptability. The imagery has been included simply to provide the reader with some context regarding the orientation of the site with respect to the sun.

The BRE Guide provides the following guidance with respect to shadow plots:

> *"When there are existing buildings as well as the proposed one, 'before' and 'after' shadow plots showing the difference that the proposed building makes may be helpful. In interpreting the impact of such differences****, it must be borne in mind that nearly all structures will create areas of new shadow, and some degree of transient overshadowing of a space is to be expected****. "* ***[emphasis added]***

Appendix F: Shadow Casting Imagery March



Shadows Cast at 8am (UTC+0) on the 21st March - Before Development Scenario

Shadows Cast at 8am (UTC+0) on the 21st March - After Development Scenario

Shadows Cast at 10am (UTC+0) on the 21st March - Before Development Scenario

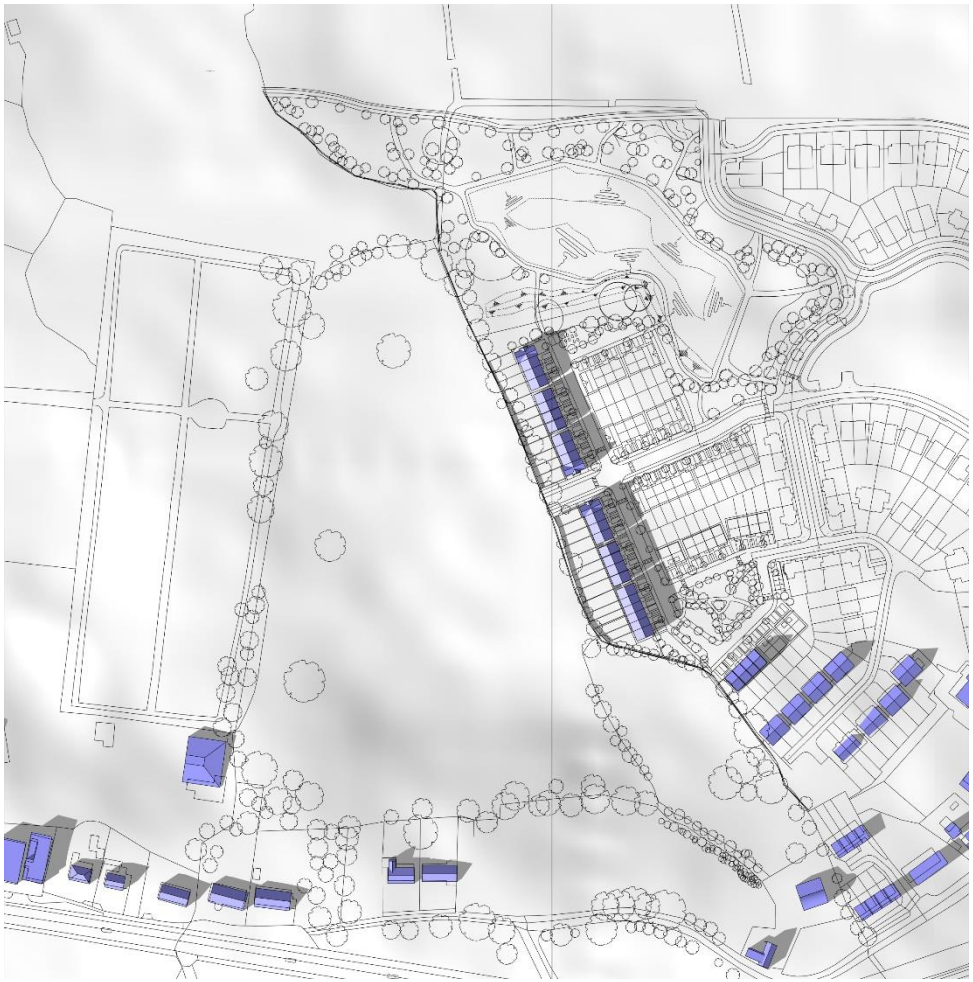
Shadows Cast at 10am (UTC+0) on the 21st March - After Development Scenario

Shadows Cast at 12pm (UTC+0) on the 21st March - Before Development Scenario

Shadows Cast at 12pm (UTC+0) on the 21st March - After Development Scenario

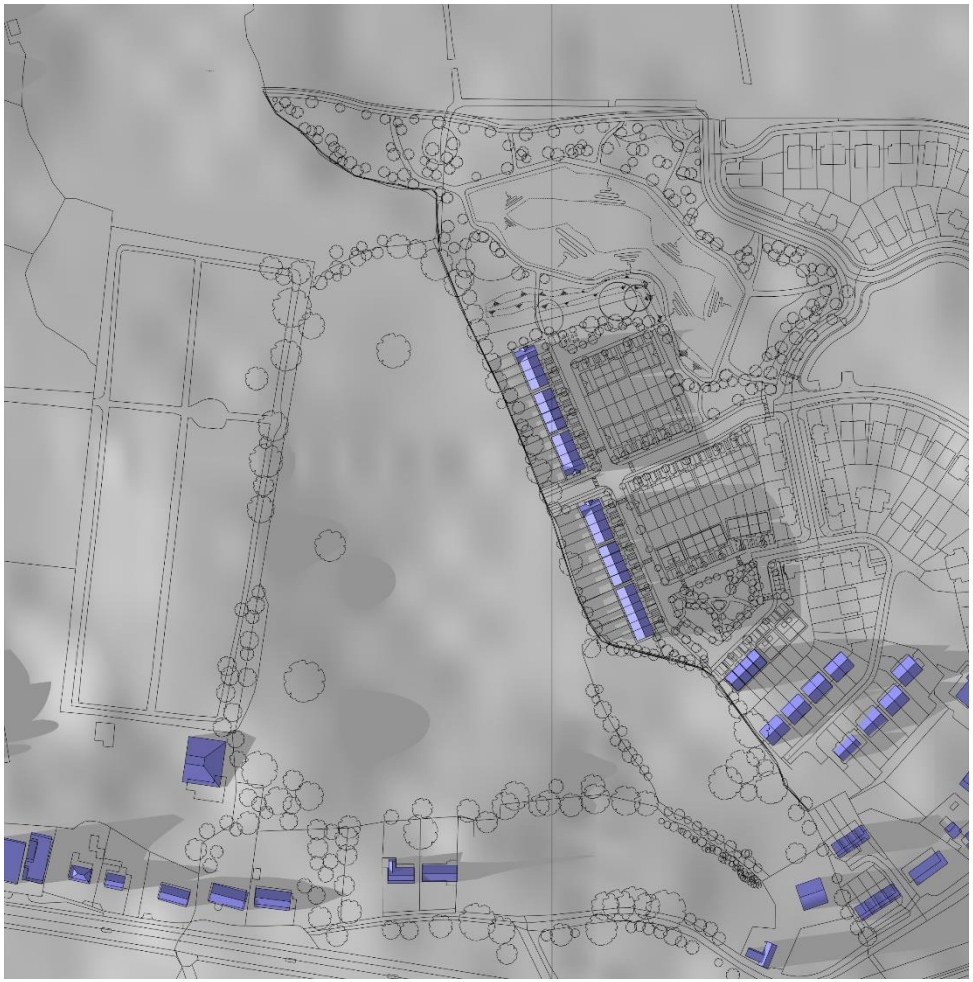
Shadows Cast at 2pm (UTC+0) on the 21st March - Before Development Scenario

Shadows Cast at 2pm (UTC+0) on the 21st March - After Development Scenario



Shadows Cast at 4pm (UTC+0) on the 21st March - Before Development Scenario

Shadows Cast at 4pm (UTC+0) on the 21st March - After Development Scenario



Shadows Cast at 6pm (UTC+0) on the 21st March - Before Development Scenario

Shadows Cast at 6pm (UTC+0) on the 21st March - After Development Scenario

Appendix G: About the Author

Rory Walsh BEng MEngSc MScSP PhD is a building performance engineer with key competencies in energy, comfort, and daylight modelling. Specialising in the assessment of daylight adequacy in a planning and development context Rory has had cause to write and review many daylight reports over the past ten years. Rory acts as principal consultant with GV8.

Education & Experience:

- Bachelor's degree in mechanical engineering, awarded by NUIG
- Master's in Engineering Science awarded for research on the subject of thermal mass in non-domestic buildings with the Energy Research Group, UCD
- Doctorate awarded for research on the subject of natural ventilation in non-domestic buildings with TrinityHaus, Trinity College Dublin.
- Master's in Spatial Planning, awarded by TU Dublin.
- 11 years practice as a daylight consultant working with Aurea Consult, BPG3 and more recently GV8.