Dundrum Village Strategic Housing Development
Daylight and Shadow Impact Assessment

RE: DUNDRUM VILLAGE
STRATEGIC HOUSING DEVELOPMENT (SHD)

APPLICANT: Dundrum Retail GP DAC
(Acting for and on behalf of Dundrum Retail Limited Partnership)

BDP Job No: P3000832
Issue: Planning
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BDP.

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Executive Summary

This report comprises an assessment of the likely potential sunlight and overshadowing impacts associated with the proposed Dundrum Village Strategic Housing Development (SHD) located on Dundrum Main Street.

The assessment of daylight for this planning application was prepared using the methodology outlined in BS 8206-2: 2008 'Lighting for Buildings Part 2', whilst the impact of overshadowing was prepared using the methodology set out in BRE 209, 'Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice', Second Edition 2011, by P. J. Littlefair. This is the non-statutory guide referred to in the current development plan (and the new 'DLRCOCO County Development Plan 2022-2028' (that will become operative on 21st April 2022), the 'Sustainable Urban Housing: Design Standards for New Apartments' (last revised 23 December 2020) and the 'Urban Development and Building Heights Guidelines for Planning Authorities" (published December 2018).

Three separate assessments shall be carried out as part of this report to assess the impact of the proposed Dundrum Village SHD on the local area and the sunlight and daylight availability for the new building itself:

- Daylight Availability within Apartments
- Overshadowing and Amenity Space Access to Sunlight
- Sunlight Hours Impact Assessment of Neighbouring Properties

Daylight Assessment:

Target:
British Standard 8206-2:2008 is referred to in the BRE 209 guide (2011). This standard provides advisory numerical targets that represent good practice daylight levels for dwellings. The standard recommends a minimum Average Daylight Factor of 2% for kitchens, 1.5% for living rooms and 1% for bedrooms.

However, within open plan apartment developments the following note is considered appropriate for the assessment to ensure adequate daylight levels are achieved.

> "Where one room serves more than one purpose, the minimum average daylight factor should be that for the room type with the highest value. For example, in a space which combines a living room and a kitchen the minimum average daylight factor should be 2%."

The design team therefore adopted the following targets for average daylight factor to ensure the more conservative target of daylight availability is considered.

- Bedrooms – 1% Average Daylight Factor
- Living / Kitchen Space – 2% Average Daylight Factor

Assessment Result:
The daylight assessment results demonstrate that of the 2,359 relevant spaces; **96%** of them met and exceeded in many cases the recommended daylight factors outlined in BRE 209 (ADF 1.0 bedrooms & ADF 2.0 kitchen/living). In BDP's experience this is a very commendable result as schemes of a similar nature would typically be expected to exceed over 90% compliance with this guidance. A full table of results is appended to this report (Appendix B) with the compensatory design solutions set out within section 5 as requested by the 'Sustainable Urban Housing: Design Standards for New Apartments' (last revised 23 December 2020) and 'Urban Development and Building Heights Guidelines for Planning Authorities" (published December 2018). Appendix C & D include a mark-up of the space that don't meet the targets and the daylight factor contour levels visually overlaid on the plans for reference.

Overshadowing Assessment:

Target:
The BRE 209 (2011) guidance recommends that at least half of the area of relevant amenity spaces should receive at least two hours of sunlight on 21st March. The 21st March is chosen because this represents the average sunlight path for the year. In this specific site location no residential amenity space was adversely impacted by the Dundrum Village SHD massing. This can be visualised by reviewing the shadow plans within Appendix A of this report. A detailed assessment on the access to direct sunlight to the residential amenity spaces and new public realm associated with Dundrum Village SHD was also completed.

Assessment Result:
IES VE Simulation software was utilised to assess the overshadowing impact and sunlight hours on the amenity space and public streetscape. IES VE uses an application called SunCast (based on Sunpath diagram) which calculates the position of the sun in the sky, tracks solar penetration through the building interior and calculates shadows. The software was therefore used to plot the direction and altitude of the sun for every two minutes and every day of the year and plots exactly where the shadow from buildings is cast. It then calculates the total number of hours of sunlight on a surface and when sun obstruction will occur.

The amenity space within Dundrum Village SHD is at podium level (access from Dundrum Main Street) and roof level and receives well in excess of 2 hours of direct sunlight on over 50% of the area. Furthermore the existing Dundrum public streetscape within the vicinity of the site meet and exceed the BRE 209 (2011) recommendations for direct sunlight post development. It is therefore clear that Dundrum Village SHD residents will receive high levels of sunlight and BRE 209 guidelines are met. The shadow plans for the March equinox, summer solstice and winter solstice are detailed in Appendix A of this report. Following interrogation of the shadow plans for all periods of the year it was determined that the Dundrum Village SHD shall not have any adverse impact on other amenity spaces such as residential gardens, parks, playing fields and playgrounds.

Sunlight Hours & VSC Assessment:

Target:
The BRE Report recommends that an assessment of the Annual Probable Sunlight Hours (APSH) and vertical sky component (VSC) assessment is completed on all residential properties adversely affected by the new shadow environment.

Assessment Result:
A Sunlight and Overshadowing assessment is normally carried out with particular regard to potential impacts on the living spaces and private open spaces of neighbouring residential properties. The site survey and analysis of existing properties in the area highlighted that there were very few existing residential units impacted by the new shadow environment created by the proposed Dundrum Village SHD. To determine the true impact BDP completed a detailed solar exposure analysis on all residential and non-residential buildings impacted by the developments shadow. The properties impacted can be seen on the shadow plans In Appendix A of this report. BRE 209 (2011) advise that a loss of sunlight greater than 20% would be considered “noticeable”. With the exception of five residential properties on Sweetmount Avenue the impact of sunlight was less than 20% and therefore not noticeable.

For number 2, 4, 6 8 & 10 Sweetmount Avenue the impact is approximately 25% loss of sunlight but all five still receive high levels of direct sunlight that meet the BRE 209 (2011) guidelines for Annual Probable Sunlight Hours and VSC (vertical sky component). This is detailed within Section 7 of this report.

After interrogation of all the sunlight analysis a definition of impact of the proposed Dundrum Village SHD on sunlight access to the adjacent properties was defined as **Slight Effects:** *An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.*

The definition is chosen because the scale of the development at Dundrum Village SHD will have an impact on the shadow environment but the consequences of this will not affect the sensitivities of the area due to the site orientation and existing suburban density of the area.

1 Introduction

This report comprises an assessment of the likely potential sunlight and overshadowing impacts associated with the proposed Dundrum Village SHD of a residential scheme within Dundrum Village. This Sunlight, Shadow and Daylight analysis requirement is referred to in the ''Sustainable Urban Housing: Design Standards for New Apartments' (last revised 23 December 2020) and 'Urban Development and Building Heights Guidelines for Planning Authorities' (published December 2018).

The proposed Dundrum Village SHD site is indicated in red on Figure 1 below.

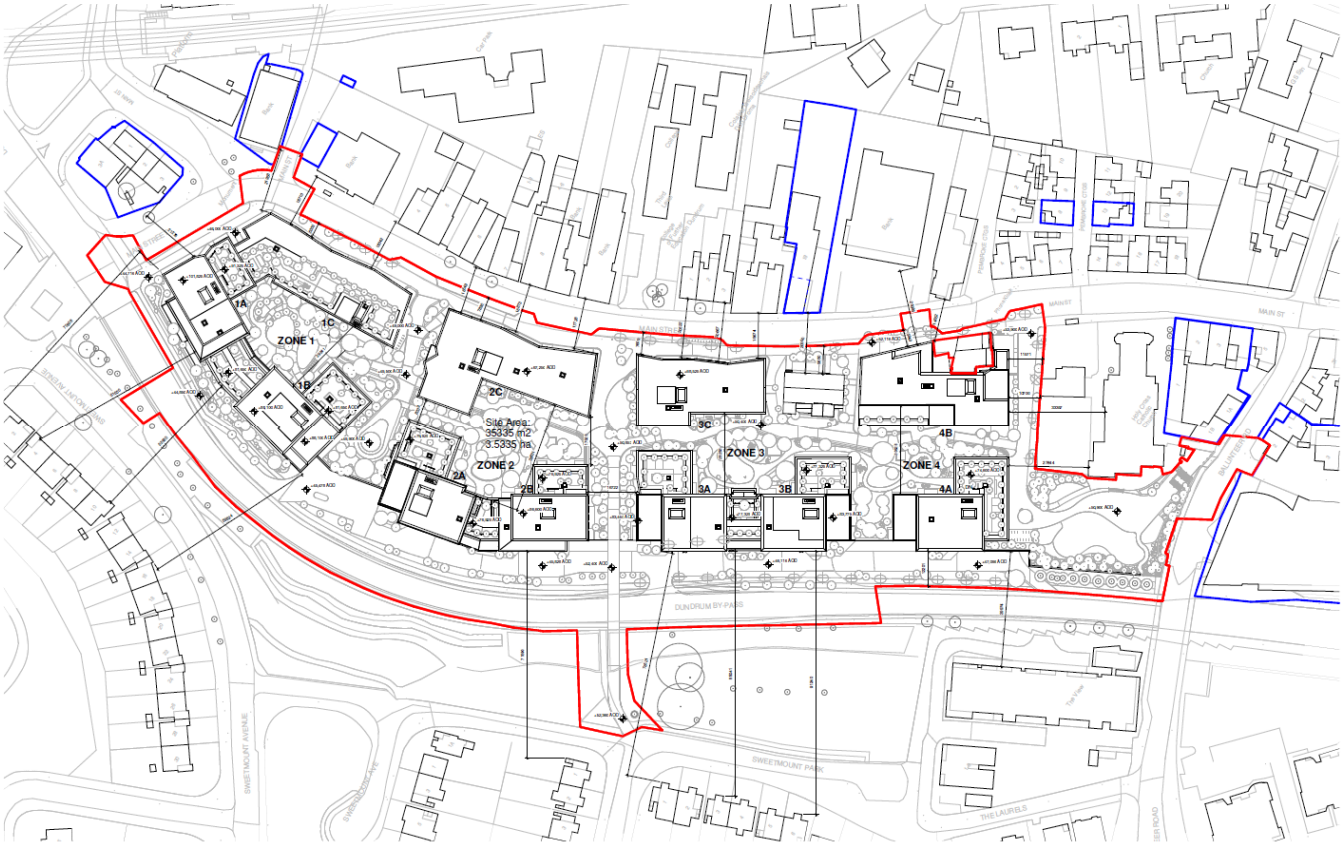


Figure 1: Location of Proposed Dundrum Village SHD (in red)

The development comprises 11no. urban blocks arranged around the central pedestrian spine and a series of 4 courtyards corresponding to 4 separate "zones" or character areas. The buildings range in height from 4-5 storeys on Main Street to 9-16 storeys to the Dundrum Bypass.

The development will consist of c. 881no. Residential units. This development also includes a food store, retail, café/restaurant and a crèche are at ground floor level, fronting Main Street, as detailed in the Schedule of Accommodation included with this submission. The development will include the demolition of all existing structures on the site with the exception of No.'s 1-3 Glenville Terrace which will be refurbished.

Vehicular and cycle parking is provided below podium with visitor cycle parking spaces in the public realm. Vehicular access to serve the proposed development will be provided via Dundrum Bypass. The existing vehicular entrance on Main Street will be closed. Pedestrian connections and linkages are proposed through the site, forming connections that are not currently possible from within the site to Main Street; to the south via Church Square and Don Marmion Bridge; and west via the proposed new Sweetmount Bridge connecting Main Street to the residential communities west of the Bypass.

2 Guidance Document & Assessment Tool

The assessment of daylight for this planning application was prepared using the methodology outlined in BS 8206-2: 2008 'Lighting for Buildings Part 2', whilst the impact of overshadowing was prepared using the methodology set out in BRE 209, 'Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice', Second Edition 2011, by P. J. Littlefair. This is the non-statutory guide referred to in the current development plan (and the new 'DLRCOCO County Development Plan 2022-2028' that will become operative on 21 April 2022), the 'Sustainable Urban Housing: Design Standards for New Apartments' and the 'Urban Development and Building Heights Guidelines for Planning Authorities".

The Sustainable Urban Housing: Design Standards for New Apartments December 2020 states the following in Section 6.6:

> *"Planning authorities should have regard to quantitative performance approaches to daylight provision outlined in guides like the BRE guide 'Site Layout Planning for Daylight and Sunlight' (2nd edition) or BS 8206-2: 2008 – 'Lighting for Buildings – Part 2: Code of Practice for Daylighting' when undertaken by development proposers which offer the capability to satisfy minimum standards of daylight provision."*

It is noted that BS 8206-2:2008: Lighting for buildings - Part 2: Code of practice for daylighting was recently replaced, in the United Kingdom, with BS EN 17037:2018 Daylight in Buildings. This British Standard includes a "National Annex" with requirements for dwellings that mean it is comparable with the previous standard. In Ireland, there is only IS EN 17037:2018. Unlike the British Standard (BS EN 17037), the Irish implementation does not contain a National Annex. It therefore offers only a single target for new buildings (there are no space-by-space targets – e.g. a kitchen or bedroom would have the same target as a warehouse or office). Moreover, the IS EN 17037:2018 standard does not address the assessment of impact on sunlight and daylight access, such as the impact of proposed development on sunlight and daylight received in the surrounding area.

BDP believe these limitations make the Irish implementation currently unsuitable for use in residential planning applications. The 'Sustainable Urban Housing: Design Standards for New Apartments' (last revised 23 December 2020), the 'Urban Development and Building Heights Guidelines for Planning Authorities" (published December 2018) and the new 'DLRCOCO County Development Plan 2022-2028' (adopted 10 March 2022, which will become operative on 21 April 2022) do not mention, address or require compliance with the European Standard (published 12 December 2018) or the Irish implementation (published 28 January 2019).

Accordingly, BDP has completed this assessment by reference to the widely referenced and well-established daylight and sunlight targets within BRE 209 (2011) and BS 8206:2008 for this assessment. Furthermore the benefit of using these well-established 'guides' is that the Dundrum Village Strategic Housing Development can be benchmarked against previous planning applications of a similar nature and scale. The excellent 96% compliance rate for this scheme (detailed within Section 5 of this report) demonstrates the Applicant's commitment to achieving a high quality design, good access to daylight for residents and massing that is sensitive to its surrounding area and proposed amenity.

The daylight modelling and shadow assessment were assessed and created using Integrated Environmental Solutions (IES). IES is a software package that dynamically calculates environmental conditions within a defined space. The software uses 3D geometry to represent the building design, configuration and external shading provisions, as well as the shape and form of any surrounding buildings that could have an influence on the solar access of the building. IES is certified in accordance with the ANSI/ASHRAE Standard 140-2007 "*Standard Method of Test for Evaluation of Building Energy Analysis Computer Programs*".

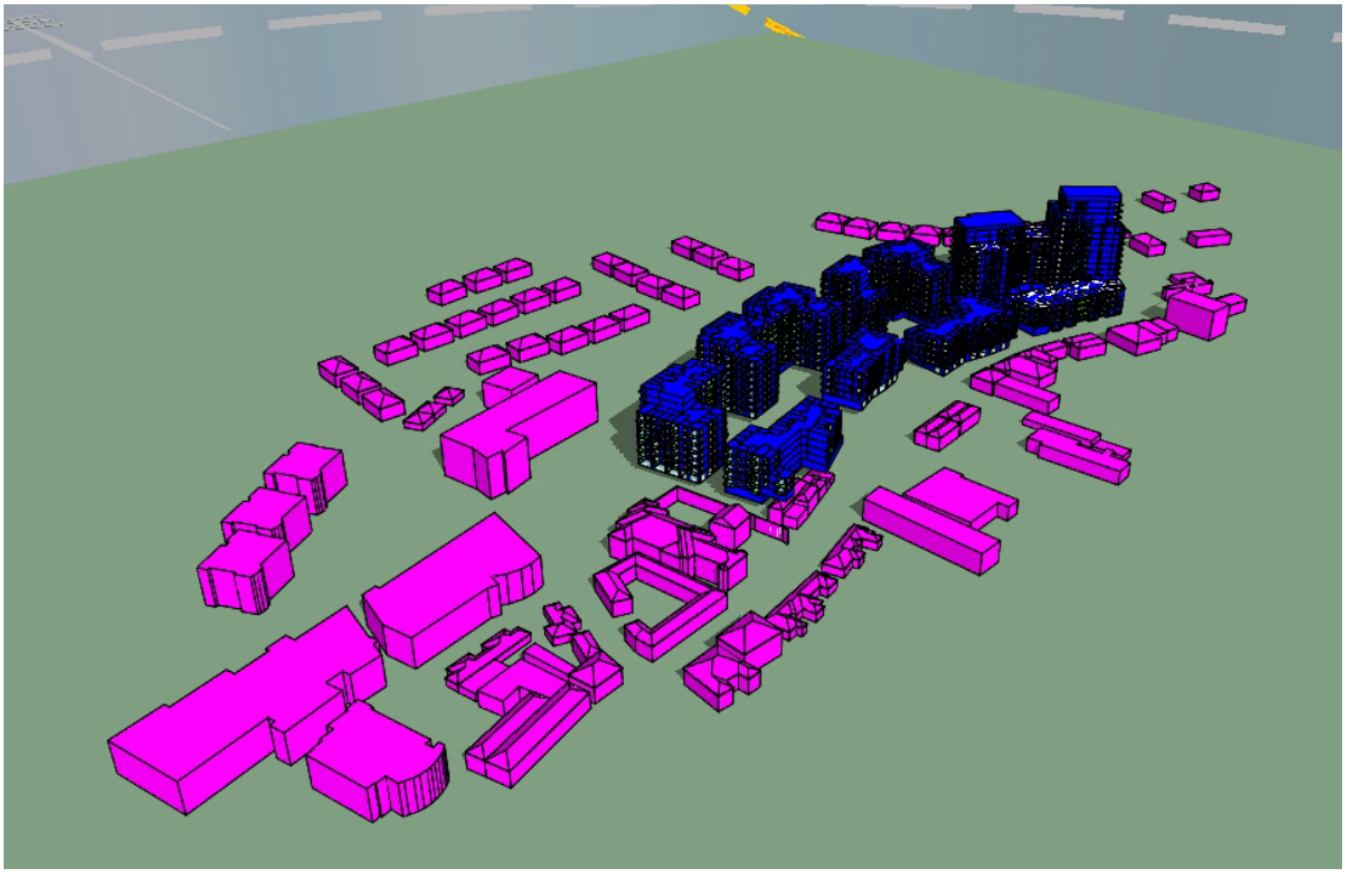


Figure 2: IES Geometric Model with Dundrum Village SHD Highlighted in Blue

3 Assessment Methodology

A Daylight and Shadow Impact assessment is normally carried out with particular regard to potential impacts on the living spaces and private open spaces of neighbouring residential properties both within the site curtilage itself and neighbouring properties. In the case of the proposed Dundrum Village SHD the assessment will look at neighbouring residential units. Furthermore, it will verify the sites amenity space and public streetscapes receive levels of sunlight meeting BRE 209 (2011) recommendations.

IES VE Simulation software uses an application called SunCast (based on Sunpath diagram) which calculates the position of the sun in the sky, tracks solar penetration through the building interior and calculates shadows. The software was therefore used to plot the direction and altitude of the sun for every two minutes and every day of the year and checks whether any elements of the 3D model obstruct the line of sight from the sun to particular reference points. It then calculates the total number of hours of daylight during which sun obstruction will occur.

The guidance documents, referenced above, indicate that site specific characteristics be taken into account when carrying out assessments. As such, the locations of the spaces assessed in this report are provided below in Section 4: Location.

Sunlight

The BRE Report recommends that loss of sunlight should be checked for main living rooms of dwellings, where they have a window facing within 90° of due south.

The Sunlight will be quantified in terms of the Annual Probable Sunlight Hours (APSH) for any given location. Annual Probable Sunlight Hours is the total number of hours in the year that the sun is expected to shine on unobstructed ground while allowing for average monthly levels of cloud cover for the specific location.

The APSH for any given location depends on its latitude and longitude which determines the number of daylight hours for any particular location, but also on statistical records for that location which indicates the number of daylight hours that are likely to experience sunshine.

The BRE Report recommends that the centre of the window in a dwelling living space; a point 1.6m above floor level, should receive at least 25% of the APSH, including at least 5% of the APSH from 21st September to 21st March. If the available sunlight hours become less than this, and less than 0.8 times their former value, either over the whole year or just in the winter months, then a noticeable loss of sunlight can occur.

IES VE Simulation software uses an application called SunCast (based on Sunpath diagram) which calculates the position of the sun in the sky, tracks solar penetration through the building interior and calculates shadows. The software was therefore used to plot the direction and altitude of the sun for every two minutes and every day of the year and checks whether any elements of the 3D model obstruct the line of sight from the sun to particular reference points. It then calculates the total number of hours of daylight during which sun obstruction will occur.

In the context of this development, the areas of interest are as follows:

- Dundrum View Apartments
- Residential Houses on ‘the Laurels’
- Residential Houses on Sweetmount Avenue
- Holy Cross Church and Parochial House
- Lisney Real Estate on Dundrum Main Street
- Mulveys Pharmacy on Dundrum Main Street

Where the sunlight assessment determines there shall be an impact; another consideration is whether the new buildings are good neighbours, standing a reasonable distance from the boundary and taking no more than their fair share of light. Any reduction in the total amount of skylight can be calculated by determining the vertical sky component (VSC) at the centre of key reference points. The vertical sky component definition from the BRE guide is described below:

Vertical sky component (VSC)	Ratio of that part of illuminance, at a point on a given vertical plane, that is received directly from a CIE standard overcast sky, 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.

The maximum possible VSC value for an opening in a vertical wall, assuming no obstructions, is 40%. This VSC at any given point can be tested in RadianceIES, a module of IES VE. For typical residential schemes the BRE 209 guide (2011) states the following in Section 2.2.7:

> *"If this VSC is greater than 27% then enough skylight should still be reaching the window of the existing building. Any reduction below this level should be kept to a minimum"*

As such this additional study shall be utilised on residential properties that are considered to have sunlight impacted. The study shall compare the existing VSC of these properties to the VSC post development and consider if the values on the proposed properties are still above 27% post development or not less than 0.8 times their former value.

Overshadowing

The BRE 209 guide (2011) acknowledges the value of sunlight in external spaces in enhancing their overall appearance, ambience and amenity. Relevant spaces noted in the report include private gardens of dwellings, amenity spaces such as parks, playing fields and playgrounds, and also public spaces between non-domestic buildings and in streetscapes. The BRE 209 guide (2011) recommends that at least half of the area of relevant spaces should receive at least two hours of sunlight on 21st March. The 21st March (Spring Equinox) is used for overshadowing analysis as this date illustrates an average level of shadowing for the year.

In the context of this development, the areas of interest are as follows:

- New residential amenity with Dundrum Village SHD
- New public amenity within Dundrum Village SHD
- Existing pedestrian areas of streetscapes directly adjacent to the proposed development i.e. Dundrum Main Street

Sunlight Exposure Plans and Shadow Plans are provided to show the effect of overshadowing of the proposed Dundrum Village SHD on the adjoining public spaces and properties, using 3D digital models of existing buildings and structures in and around the site.

Shadow plans are prepared for 21st March (equinox), 21st June (summer solstice) and 21st December (winter solstice). The overshadow impact on the 21st March and throughout the year are discussed in Section 6 of this report and all shadow plans for the march equinox, summer solstice and winter solstice are appended to this report (Appendix A).

Daylight

British Standard 8206-2:2008 is referred to in the BRE 209 guide (2011). This standard provides advisory numerical targets that represent good practice daylight levels for dwellings. The standard recommends a minimum Average Daylight Factor of 2% for kitchens, 1.5% for living rooms and 1% for bedrooms.

However, within open plan apartment developments the following note is considered appropriate for the assessment to ensure adequate daylight levels are achieved.

> "Where one room serves more than one purpose, the minimum average daylight factor should be that for the room type with the highest value. For example, in a space which combines a living room and a kitchen the minimum average daylight factor should be 2%."

The design team therefore adopted a target of 2.0% average daylight factor to ensure the more conservative target of daylight availability is considered.

4 Location

The Dundrum Village SHD site forms the western and northern boundary of Main Street and includes land bounded by Dundrum By-pass to the west and Ballinteer Road and Dundrum Town Centre to the south. The old Dundrum Shopping Centre (anchored by Lidl) and the surrounding surface car parking makes up the majority of the site.

The proposed location of new buildings is indicated in red on Figure 3 below. Please refer to section 1 to see the full extents of the site boundary.

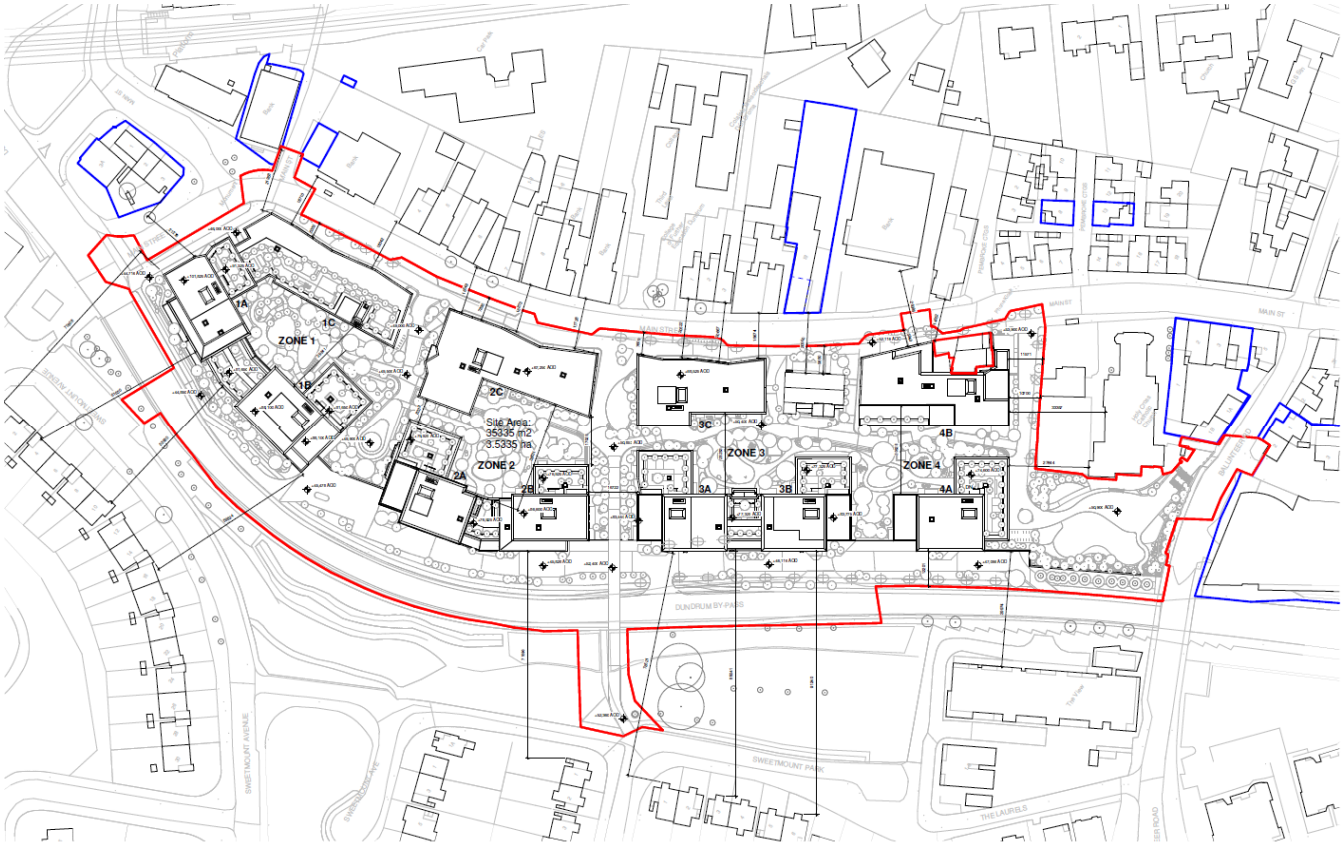


Figure 3: Dundrum Village SHD Location

The analysis notes the low density of the site at present and therefore it should be noted that this will exaggerate the impact of the proposed Dundrum Village SHD on the surrounding area. Following a site survey and detailed shadow assessment it was determined that there are no existing residential properties significantly impacted by the proposed Dundrum Village SHD. The full suite of shadow plans can be visualised in Appendix A.

5 Daylight Assessment

A Daylight assessment requirement is referred to in the 'Sustainable Urban Housing: Design Standards for New Apartments' (last revised 23 December 2020) and 'Urban Development and Building Heights Guidelines for Planning Authorities' (published December 2018). The guidance refers to the assessment of daylight using the methodology outlined in BRE 209 and BS 8206-2: 2008 'Lighting for Buildings Part 2',

British Standard 8206-2:2008 is referred to in the BRE 209 Guide. This standard provides advisory numerical targets that represent good practice daylight levels for dwellings. The standard recommends a minimum Average Daylight Factor of 2% for kitchens, 1.5% for living rooms and 1% for bedrooms.

However, within open plan apartment developments the following note in BRE 209 is considered appropriate for the assessment to ensure adequate daylight levels are achieved.

> "Where one room serves more than one purpose, the minimum average daylight factor should be that for the room type with the highest value. For example, in a space which combines a living room and a kitchen the minimum average daylight factor should be 2%."

The design team therefore adopted the following targets for average daylight factor to ensure the more conservative target of daylight availability is considered.

- Bedrooms – 1% Average Daylight Factor
- Living / Kitchen Space – 2% Average Daylight Factor

It is noted that BS 8206-2:2008: Lighting for buildings - Part 2: Code of practice for daylighting was recently replaced with BS EN 17037:2018 Daylight in Buildings. However, given that the assessment of the pre-application submission and the Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities all refer to the BS 8206-2:2008 and not to BS EN 17037:2018, BS 8206:2008 has been referenced in the preparation of this report.

Assessment Methodology for Daylight Access

BDP constructed 3D models of the proposed development and of the existing surrounding buildings.

Using Daylight simulation software the daylight levels were assessed on the working plane. The results of the analysis describe daylight access in terms of Average Daylight Factor (ADF), which expresses average daylight illuminance as a percentage of unobstructed outdoor illuminance. The factors considered in calculating Average Daylight Factor on the working plane include the light coming from the sky (i.e., the sky component), the light reflected from surfaces outside the room directly to the point being considered (i.e., the externally reflected component) and the light reflected from surfaces inside the room (i.e., the internally reflected component).

Due to the variability in sky luminance over the course of any given day depending on weather conditions, cloud cover and different seasons; in order for daylight factor to be useful and comparable, it is necessary to assume a particular luminance distribution for the sky when calculating Average Daylight Factor. This daylight access analysis uses the Commission Internationale de l'Eclairage (CIE) Standard Overcast Sky Distribution model in its calculations, which is the standard sky most commonly used in daylight access analysis.

This model assumes that sky luminance varies from horizon to zenith and is considered to correspond to an overcast day. As such, calculation of Average Daylight Factor in a room in circumstances where the sky luminance corresponds to the CIE Standard Overcast Sky Distribution could be considered to represent a worst case scenario.

Daylight Factor - The ratio of daylight levels inside a structure to the light levels outside the structure.

Dundrum Village SHD – Residential Daylighting Results:

The daylight assessment pie chart results below summarise the Average Daylight Factor compliance rate for the bedrooms and open plan living/kitchen spaces within each of the zones in the proposed Dundrum Village SHD. In total of the 2,359 relevant spaces **96%** of them met and exceeded in many cases the recommended daylight factors outlined in BRE 209 (ADF 1.0 bedrooms & ADF 2.0 kitchen/living). In BDP's experience this is a very commendable result as schemes of a similar nature would typically be expected to exceed over 90% compliance with this guidance. Refer to Section 4 Location for zone reference. The individual zone results are summarised below with the full table of results appended to this report in Appendix B. Daylight Factor Contour images from the analysis are also included in Appendix D for reference.

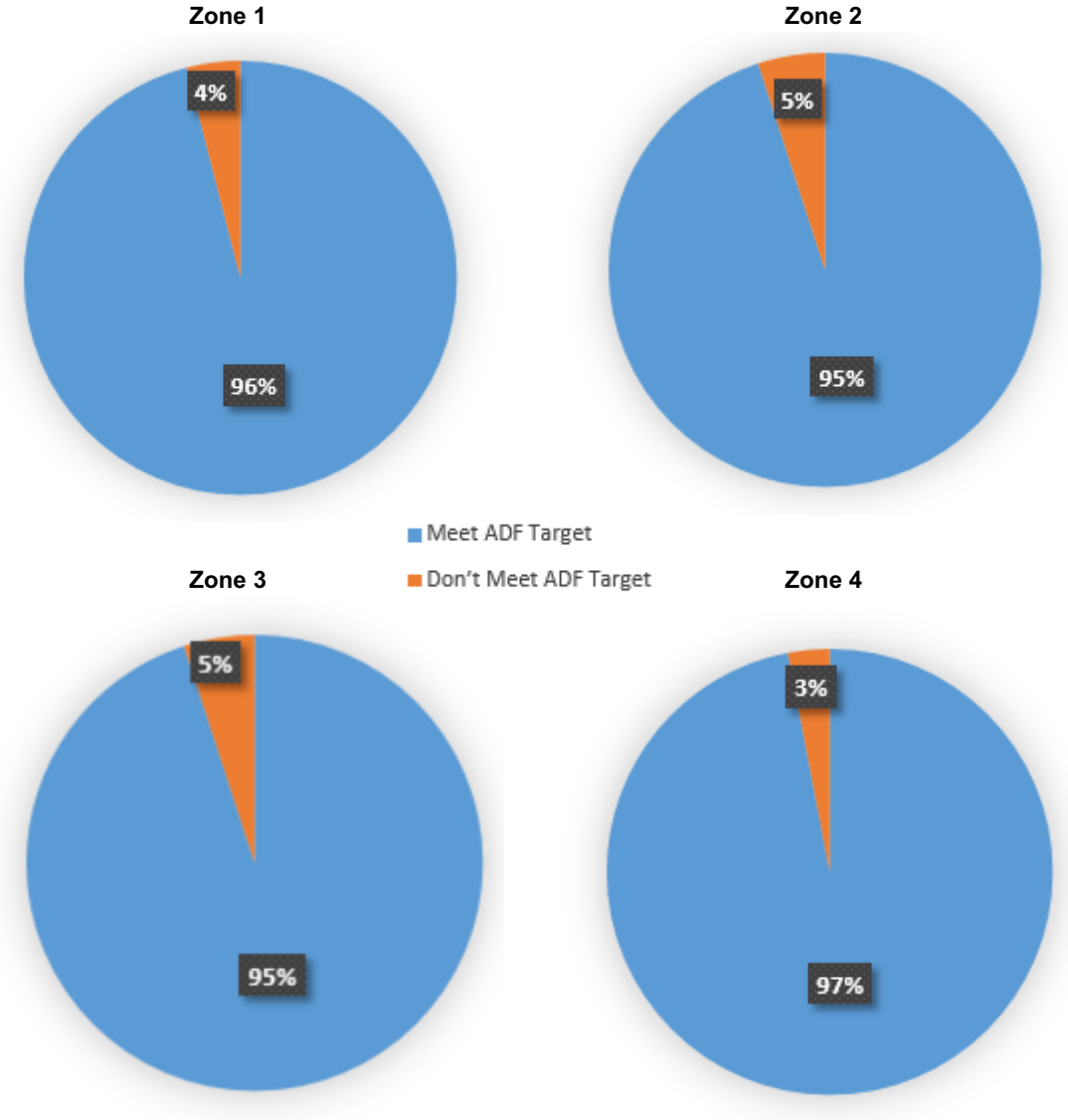


Figure 4: Daylight Compliance Summary

Following interrogation of the results it was found that all bedrooms exceed the guidance target and the open plan living / kitchen areas that were not meeting the targets set were on the lower levels and generally within the corners of the building facing into internal amenity space which can prove very difficult to overcome. BDP reviewed this with the design team and found that in some circumstances the apartment could have been handed (location of unit's bedroom and living/kitchen swapped) so that the open plan living/kitchen is provided with a higher degree of average daylight. However on review whilst this would provide a better ADF result it would result in apartments with a very poor level of daylight uniformity resulting in high levels of contrast in natural daylight from the window to the back of the space; giving the occupant an impression that it is darker at the back of the open plan living/kitchen space than it actually is. Therefore a decision was made to provide compensatory design solutions for these apartments rather than chasing an average daylight factor threshold to the detriment of design and space quality.

Compensatory Design Solutions:

As noted within Urban Development and Building Height Guidelines where a proposal may not be able to fully meet all the requirements of the daylight provisions within BS 8206-2:2008; this must be clearly identified and a rationale for any alternative, compensatory design solutions must be set out.

The following compensatory design solutions (CDS) are set out for the apartments not meeting the project average daylight factor targets set. Each compensatory design solution has been given a reference number so that it can be assigned to each apartment for full transparency (see the table below).

Reference	Compensatory Design Solution Applied
CDS 1	A typical slab to slab height of 3225mm has been proposed resulting in a minimum internal floor to ceiling height of 2.5m or above which is greater than recommended good building practice
CDS 2	Provision of both Internal and external communal amenity spaces within the apartment scheme
CDS 3	A very good building form which maximises efficiency – Note good levels of building form are an indication of potential energy savings within an apartment.
CDS 4	Space faces in to landscaped open space which provides enhanced vistas
CDS 5	Larger than required Balcony / Private amenity space provision
CDS 6	The apartment exceeds the minimum area requirement by 10% or more
CDS 7	Open Plan Living / Kitchen still meets or exceeds the BS 8206-2:2008 requirement of 1.5 Average Daylight Factor for a Living space which is where occupants will spend most of their time

The table below and continued on the next two pages highlights the applicable compensatory design solution for each space that does not achieve the average daylight factor target set by the project.

The Zone reference refers to [zone number]-[unit number]-[space type]. I.e. Z1-143-KL refers to [Zone 1]-[Unit number 143]-[Open Plan Kitchen Living]. Where a tick (√) is provided this means that the referenced compensatory design solution is applicable to this space. The compensatory design solutions for each space are as follows:

Zone Reference	Achieved ADF	CDS 1	CDS 2	CDS 3	CDS 4	CDS 5	CDS 6	CDS 7
Z1-143-KL	1.2%	√	√	√	√		√	
Z1-251-KL	0.8%	√	√	√	√		√	
Z1-252-KL	0.7%	√	√	√	√			
Z1-258-KL	1.2%	√	√	√			√	
Z1-259-KL	1.7%	√	√	√			√	√
Z1-020-KL	0.8%	√	√	√	√	√	√	
Z1-019-KL	0.8%	√	√	√	√			
Z1-262-KL	1.8%	√	√	√	√			√
Z1-263-KL	1.0%	√	√	√	√			
Z1-264-KL	1.2%	√	√	√		√		
Z1-268-KL	0.8%	√	√	√			√	
Z1-269-KL	0.6%	√	√	√			√	
Z1-151-KL	1.2%	√	√	√	√		√	
Z1-159-KL	1.8%	√	√	√	√	√	√	√
Z1-032-KL	0.8%	√	√	√	√	√	√	
Z1-274-KL	1.1%	√	√	√	√			

Zone Reference	Achieved ADF	CDS 1	CDS 2	CDS 3	CDS 4	CDS 5	CDS 6	CDS 7
Z1-275-KL	1.3%	√	√	√		√		
Z1-279-KL	0.9%	√	√	√			√	
Z1-280-KL	0.7%	√	√	√			√	
Z1-162-KL	1.3%	√	√	√	√		√	
Z1-170-KL	0.7%	√	√	√	√	√	√	
Z1-044-KL	1.0%	√	√	√	√	√	√	
Z1-285-KL	1.2%	√	√	√	√			
Z1-286-KL	1.5%	√	√	√		√		√
Z1-290-KL	0.9%	√	√	√			√	
Z1-291-KL	0.6%	√	√	√			√	
Z1-173-KL	1.4%	√	√	√	√		√	
Z1-055-KL	1.7%	√	√	√	√	√	√	√
Z1-184-KL	0.8%	√	√	√	√		√	
Z1-066-KL	1.8%	√	√	√	√	√	√	√
Z1-195-KL	0.9%	√	√	√	√		√	
Z1-206-KL	1.0%	√	√	√	√		√	
Z1-217-KL	1.1%	√	√	√	√		√	
Z2-397-KL	1.0%	√	√	√	√		√	
Z2-301-KL	1.3%	√	√	√	√	√		
Z2-483-KL	1.5%	√	√	√	√	√	√	√
Z2-407-KL	1.0%	√	√	√	√		√	
Z2-312-KL	1.4%	√	√	√	√	√	√	
Z2-404-KL	1.8%	√	√	√	√	√	√	√
Z2-403-KL	1.8%	√	√	√	√	√		√
Z2-302-KL	1.8%	√	√	√	√	√		√
Z2-417-KL	1.0%	√	√	√	√		√	
Z2-323-KL	1.4%	√	√	√	√	√	√	
Z2-313-KL	1.9%	√	√	√	√	√		√
Z2-427-KL	1.1%	√	√	√	√		√	
Z2-334-KL	1.5%	√	√	√	√	√	√	√
Z2-437-KL	1.2%	√	√	√	√		√	
Z2-345-KL	1.6%	√	√	√	√	√	√	√
Z2-447-KL	1.3%	√	√	√	√		√	
Z2-356-KL	1.7%	√	√	√	√	√	√	√
Z2-457-KL	1.4%	√	√	√	√		√	
Z2-367-KL	1.8%	√	√	√	√	√	√	√
Z2-467-KL	1.5%	√	√	√	√		√	√
Z2-487-KL	1.3%	√	√	√	√	√	√	
Z2-494-KL	1.5%	√	√	√	√			√
Z2-495-KL	1.5%	√	√	√	√			
Z2-484-B1	0.5%	√	√	√	√	√	√	
Z2-484-KL	0.9%	√	√	√	√	√	√	
Z2-499-KL	1.6%	√	√	√	√	√	√	√
Z2-496-B1	0.5%	√	√	√	√	√	√	
Z2-496-KL	1.0%	√	√	√	√	√	√	

Zone Reference	Achieved ADF	CDS 1	CDS 2	CDS 3	CDS 4	CDS 5	CDS 6	CDS 7
Z2-508-B1	0.6%	√	√	√	√	√	√	
Z2-508-KL	1.2%	√	√	√	√	√	√	
Z3-539-KL	1.3%	√	√	√	√	√		
Z3-549-KL	1.2%	√	√	√	√	√	√	
Z3-536-KL	1.3%	√	√	√	√			
Z3-628-KL	1.3%	√	√	√	√		√	
Z3-713-KL	1.2%	√	√	√	√		√	
Z3-711-KL	1.3%	√	√	√	√			
Z3-712-KL	1.3%	√	√	√	√		√	
Z3-546-KL	1.5%	√	√	√	√			√
Z3-638-KL	1.1%	√	√	√	√		√	
Z3-722-KL	1.5%	√	√	√	√		√	√
Z3-723-KL	1.5%	√	√	√	√		√	√
Z3-714-KL	1.4%	√	√	√	√		√	
Z3-559-KL	1.3%	√	√	√	√	√	√	
Z3-556-KL	1.5%	√	√	√	√			√
Z3-648-KL	1.2%	√	√	√	√		√	
Z3-732-KL	1.7%	√	√	√	√		√	√
Z3-733-KL	1.7%	√	√	√	√		√	√
Z3-724-KL	1.7%	√	√	√	√		√	√
Z3-569-KL	1.4%	√	√	√	√	√	√	
Z3-566-KL	1.6%	√	√	√	√			√
Z3-658-KL	1.3%	√	√	√	√		√	
Z3-579-KL	1.5%	√	√	√	√	√	√	
Z3-576-KL	1.6%	√	√	√	√			√
Z3-668-KL	1.4%	√	√	√	√		√	
Z3-589-KL	1.6%	√	√	√	√	√	√	√
Z3-586-KL	1.7%	√	√	√	√			√
Z3-678-KL	1.6%	√	√	√	√		√	√
Z3-599-KL	1.7%	√	√	√	√	√	√	√
Z3-596-KL	1.8%	√	√	√	√			√
Z3-688-KL	1.8%	√	√	√	√		√	√
Z4-759-KL	1.7%	√	√	√	√			√
Z4-845-KL	1.0%	√	√	√	√		√	
Z4-768-KL	1.6%	√	√	√	√			√
Z4-769-KL	1.6%	√	√	√	√	√	√	√
Z4-849-KL	1.7%	√	√	√	√		√	√
Z4-781-KL	1.7%	√	√	√	√	√	√	√
Z4-850-KL	1.8%	√	√	√	√			√
Z4-859-KL	1.3%	√	√	√	√		√	
Z4-860-KL	1.5%	√	√	√	√			√

6 Overshadowing Assessment

The BRE 209 guide (2011) recommends that in all relevant amenity spaces; at least half of the area should receive at least **two hours** of sunlight on 21st March. The 21st March is used because this represents the average sun path for the year. As illustrated in the shadow plans within Appendix A; the shadow cast does not adversely impact and neighbouring residential amenity space as the orientation relative to the site is very favourable. Following a thorough review it was determined that all existing amenity spaces within the vicinity of the site still receives well in excess of 2 hours of direct sunlight on the 21st March; meeting the BRE 209 guidelines (2011). The proposed Dundrum Village SHD will have a greater impact on the newly created amenity and public space within the development itself and therefore detailed analysis was carried out and reported below.

Below is an image of the communal residential amenity space (in green) and public spaces (in pink). The number references are as follows; 1 - Usher Place, 2- Sweetmount Place, 3 - Glenville Terrace, 4 - Church Square.

Figure 5: Amenity and Public Space at Ground Level

Figure 6: Amenity Space at Roof Level

The courtyards and public spaces have been divided into boxes of 1m x 1m to clearly illustrate how the direct sunlight availability is present. Figure 7 & 8 below demonstrates that the communal amenity, public spaces and rooftop amenity exceeds 2 hours on well in excess of 50% of the area (areas in dark orange).

March Equinox 21st March Sunlight hours between 0 – 2 hours:

Ground Floor Amenity / Public Streetscape

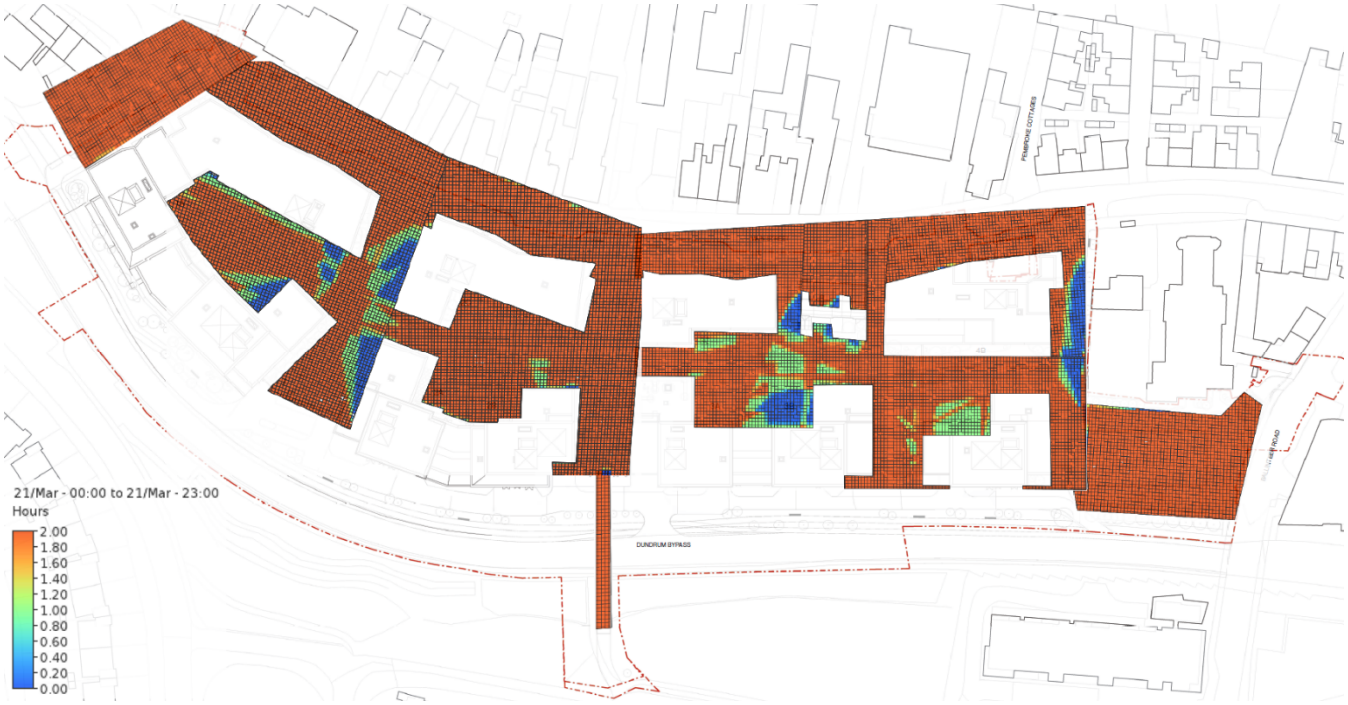


Figure 7: Ground Area (in Orange) Exceeding 2 hours on 21st March

Rooftop Amenity

Figure 8: Roof Area (in Orange) Exceeding 2 hours on 21st March

All private amenity spaces and new public streetscape exceed the BRE 209 (2011) requirement by receiving direct sunlight over 50% of the space on the 21st of March as shown in table below.

Space	Percentage of area exceeding 2hrs of direct sunlight on 21st March.	Pass / Fail.
Courtyard 1 & Roof Amenity	Greater than 80%	PASS
Courtyard 2 & Roof Amenity	Greater than 90%	PASS
Courtyard 3 & Roof Amenity	Greater than 60%	PASS
Courtyard 4 & Roof Amenity	Greater than 80%	PASS
Public Streetscape	Greater than 90%	PASS

The analysis demonstrates that the design of Dundrum Village SHD maximises access to sunlight in amenity spaces for both residents and the public and so the BRE 209 guidelines (2011) are easily achieved.

Sunlight Exposure Plans and Shadow Plans are provided in Appendix A to show the effect of overshadowing of the proposed Dundrum Village SHD on the adjoining public spaces and properties, using 3D digital models of existing buildings and structures in and around the site. Shadow plans are prepared for 21st March (equinox), 21st June (summer solstice) and 21st December (winter solstice). The red outline highlights the location of the new massing within the development and by reviewing these shadow plans you can clearly identify the shadow cast and how it moves throughout the day.

Given the suburban nature of the site and relative scale of development the shadow cast has a relatively minor impact on existing residential properties or public spaces within the area. This is further reviewed in the next chapter.

7 Sunlight Hours & VSC Assessment

A Sunlight and Overshadowing assessment is normally carried out with particular regard to potential impacts on the living spaces and private open spaces of residential properties. To determine this BDP completed a detailed solar exposure analysis on all residential and non-residential buildings impacted by the developments shadow. The properties impacted can be seen on the shadow plans appended to this report. BRE 209 (2011) advise that a loss of sunlight greater than 20% would be considered “noticeable”. Where the loss of sunlight is less than 5% this is defined as having ‘no impact’.

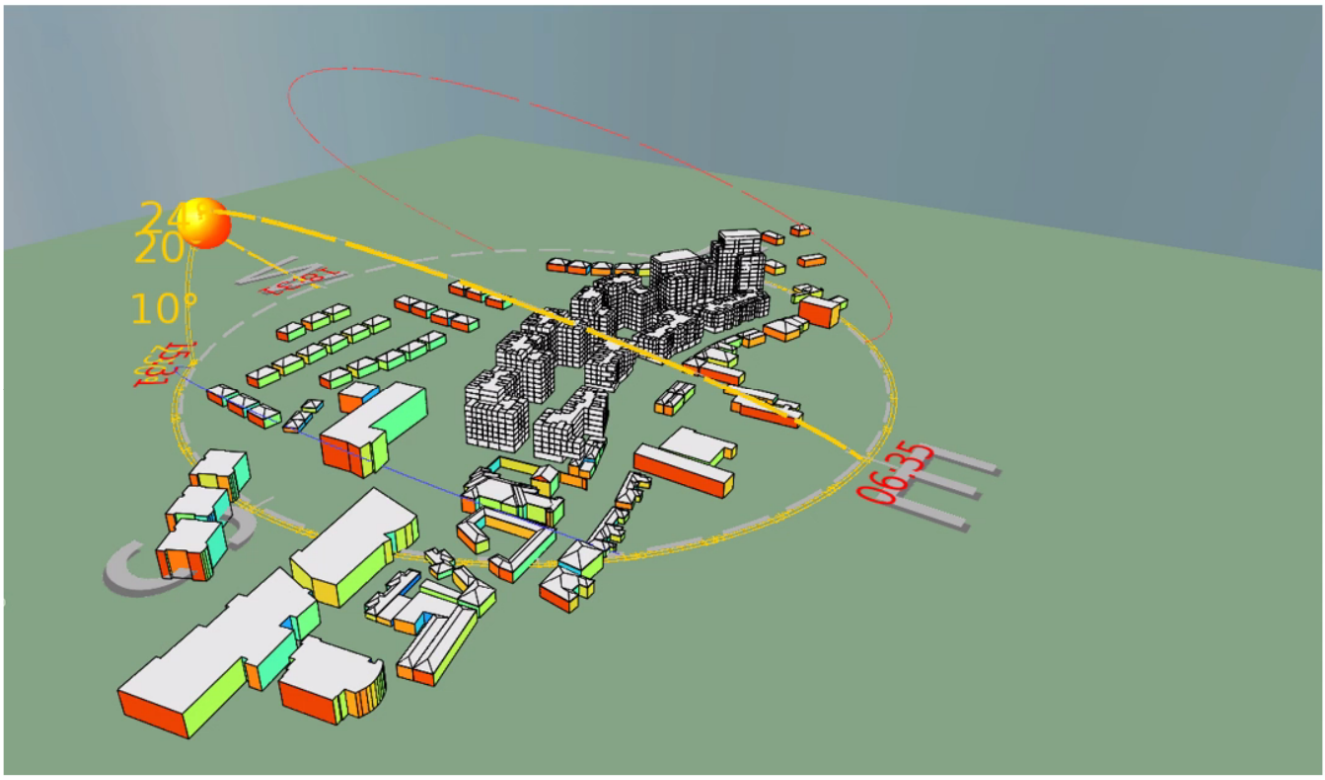


Figure 9: Sunlight Analysis

BDP acknowledge the DLRCC response issued on the 1st November and the assessment of the pre-application submission and specifically Section 2.2.8 ‘Building Height’ which references the Stage 2 Daylight, Sunlight and Overshadowing submitted by the applicant.

In relation to this chapter the comment on sunlight analysis and impact on neighbouring residential properties was as follows:

> *The criteria referred to in SPPR3 comprise development management criteria at various scales and specific assessments. It is noted in that regard that the Applicant has submitted various assessments, including, inter alia a sunlight and daylight assessment of impacts on neighbouring properties. The report concludes that 4 no. properties (number 2, 4, 6 & 8 Sweetmount Avenue) will experience an impact consisting of approximately 25% loss of sunlight. The Applicant notes that this issue will be further investigated with the refined design as part of the Stage 3 Application. The Applicant is advised to minimise impact on neighbouring properties.*

BDP would like to acknowledge that the 4 no. properties highlighted as part of the pre-application should have in fact read 5 no. properties and this was an error within the report but has been addressed as part of this assessment and results overleaf.

The results overleaf highlight that very few properties are impacted by the proposed development and where there is impact it is considered not noticeable in most cases because the loss of sunlight is less than 20% (BRE 209).

Revised Sunlight Impact Results:

Units Reviewed	Impact	Comments
Dundrum View Apartments	No impact	Building is to the south west of the development and therefore there is no impact.
Houses on 'the Laurels'	<20%	Whilst there is a small impact on the sunlight availability to these properties on the eastern elevation only the loss in sunlight is less than 20% and therefore is considered not noticeable.
House Numbers 2, 4, 6, 8 & 10 Sweetmount Avenue	25% loss of Sunlight	These 5 houses shall have approximately 25% less direct sunlight over a full year due to the site development at Dundrum Village SHD. The detail of this is examined in the next section.
House Numbers 10 to 30 Sweetmount Avenue	9-18%	Whilst there is a small impact on the sunlight availability to these properties the loss in sunlight is less than 20% and therefore is considered not noticeable
Holy Cross Church and Parochial House	No impact	Building is to the south east of the development and therefore not impacted

In the case of the proposed Dundrum Village SHD, there are very few existing residential properties impacted by overshadowing due to the site location and orientation to other existing buildings. For number 2, 4, 6, 8 & 10 Sweetmount Avenue the impact is approximately 25% loss of sunlight. However over the next few pages (pages 22-24) it is established that all five still receive high levels of direct sunlight that meet the BRE 209 guidelines (2011) for Annual Probable Sunlight Hours (APSH) and Vertical Sky Component (VSC). The next few pages (pages 22-24) looks at the properties from 2 to 30 Sweetmount Avenue to give a more detailed sense of the direct sunlight impact and assesses this using two criterion for both the Annual Probable Sunlight Hours (APSH) assessment and Vertical Sky Component (VSC) assessment.

The Sunlight will be quantified in terms of the Annual Probable Sunlight Hours (APSH) for any given location. Annual Probable Sunlight Hours is the total number of hours in the year that the sun is expected to shine on unobstructed ground while allowing for average monthly levels of cloud cover for the specific location.

The APSH for any given location depends on its latitude and longitude which determines the number of daylight hours for any particular location, but also on statistical records for that location which indicates the number of daylight hours that are likely to experience sunshine.

The BRE Report recommends that the centre of the window in a dwelling living space; a point 1.6m above floor level, should receive at least 25% of the APSH, including at least 5% of the APSH from 21st September to 21st March. If the available sunlight hours become less than this, and less than 0.8 times their former value, either over the whole year or just in the winter months, then BRE suggest a noticeable loss of sunlight can occur. This therefore was used a Criterion 1 which is explained overleaf.

The reduction in the total amount of skylight can be calculated by determining the vertical sky component (VSC) at the centre of key reference points. The vertical sky component definition from the BRE guide is described below:

Vertical sky component (VSC)	Ratio of that part of illuminance, at a point on a given vertical plane, that is received directly from a CIE standard overcast sky, 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.

The maximum possible VSC value for an opening in a vertical wall, assuming no obstructions, is 40%. This VSC at any given point was tested in RadianceIES, a module of IES VE. For typical residential schemes the BRE 209 guide (2011) states the following in Section 2.2.7: *"If this VSC is greater than 27% then enough skylight should still be reaching the window of the existing building. Any reduction below this level should be kept to a minimum"*

Annual Probable Sunlight Hours (APSH) Assessment

Criterion 1 - Percentage Impact

Using the IES VE software an approximate amount of hours can be evaluated on the glazing of the targeted buildings. This amount of hours can be compared from the baseline model to the proposed model to see if there is a loss of over 20% of daylight which is the Criterion 1 (CR01) used. This is measured over a full annual year using the SunCast calculation methods in IES VE. An average hours of exposure is used from all the windows on the façade to assimilate the results.

Criterion 2 - Annual Probable Sunlight Hours (APSH)

The number of daylight hours in Dublin ranges from 7hrs 30mins on 21st December to 17hrs 00mins on 21st June. Over the whole year, there are a total of probable 4,409 daylight hours. In order to determine sunlight hours, statistical data is available from Met Eireann that identifies the mean daily duration of sunshine for each month of the year averaged over the 30 year period from 1960 to 1990, recorded at Dublin Airport. This data is collated on the table overleaf.

Average Monthly Sunshine Hours Recorded at Dublin Airport from 1960 to 1990			
Month	**Daylight Hours**	**Average Sunlight Hours**	**Factor**
January	245	56	23%
February	269	70	26%
March	361	112	31%
April	413	156	38%
May	484	189	39%
June	499	180	36%
July	502	167	33%
August	452	158	35%
September	377	129	34%
October	324	96	30%
November	255	72	28%
December	229	53	23%
Winter (21st Sept to 21st Mar)	**1,677**	**465**	**28%**
Summer (22nd Mar to 20th Sept)	**2,706**	**969**	**36%**
Total	**4,409**	**1,438**	**33%**

While the average percentage of daylight hours likely to experience sunshine is 31%, this varies substantially from just below 23% in December to just over 39% in May. The BRE Report recommends that the centre of the window; a point 1.6m above floor level, should receive at least 25% of the APSH. If the available sunlight hours become less than this, and less than 0.8 times their former value then a noticeable loss of sunlight can occur.

For Dublin, 25% of the APSH, totalling 1,438 hours as seen in table above, equates to 25% of 1,438 hours, or 359.5 hours. Therefore for Criterion 2 (CR02) the annual recommended target is **359.5** probable sunlight hours. This only applies to windows with an orientation within 90 degrees of due south.

A Sunpath is used to calculate the Annual Probable Sunlight Hours for any given reference point. Sunpath Diagrams are generated for different longitudinal locations using solar data for different days of the year at times of day. The Sunpath Diagram comprises a ‘plot’ of the path of the sun as ‘seen’ from a particular location on different days of the year and at different times of the day. Generally, sunlight in the lowest six degrees of elevation is discounted to take account of existing built or planted obstructions at or near the horizon.

Vertical Sky Component (VSC) Assessment

Using the IES VE Radiance software an approximate amount of hours can be evaluated on the glazing of the targeted buildings. For typical residential schemes the BRE 209 guide (2011) states the following in Section 2.2.7: *"If this VSC is greater than 27% then enough skylight should still be reaching the window of the existing building. Any reduction below this level should be kept to a minimum"*

A VSC of 27% maintained post development therefore becomes the assessment target for VSC.

The additional detailed study of the houses along Sweetmount Avenue (numbers 2 to 30) was carried out due to their proximity to the proposed development. The table of results are as follows:

House Number	Sunlight Hours	APSH CR01	APSH CR02	VSC
	% Loss	Noticeable Loss	Compliance with APSH	Average VSC (%)
2 Sweetmount Avenue	23%	YES	YES	30.5%
4 Sweetmount Avenue	25%	YES	YES	28.9%
6 Sweetmount Avenue	25%	YES	YES	27.6%
8 Sweetmount Avenue	25%	YES	YES	27.5%
10 Sweetmount Avenue	25%	YES	YES	27.5%
12 Sweetmount Avenue	18%	NO	YES	27.8%
14 Sweetmount Avenue	18%	NO	YES	27.8%
16 Sweetmount Avenue	17%	NO	YES	28.9%
18 Sweetmount Avenue	17%	NO	YES	30.5%
20 Sweetmount Avenue	16%	NO	YES	31.0%
22 Sweetmount Avenue	16%	NO	YES	31.2%
24 Sweetmount Avenue	13%	NO	YES	31.8%
26 Sweetmount Avenue	13%	NO	YES	31.9%
28 Sweetmount Avenue	9%	NO	YES	32.5%
30 Sweetmount Avenue	9%	NO	YES	32.5%

The analysis shows that of the 15 houses on that row on Sweetmount Avenue; just five have a noticeable loss of direct sunlight. It is however also demonstrated through both the APSH requirements (criterion 2) and vertical sky component (VSC) assessment that the houses still receive sunlight which meets the BRE 209 guidance (2011).

Given the easterly orientation of the houses the direct sunlight through windows shall be early in the morning and late in the afternoon when the suns altitude will be always be very low. This means that any development of scale to the east or west will have some degree of impact which is unavoidable. Whilst the applicant endeavoured to keep the impact of overshadowing to neighbours relatively low; as the Dundrum Village SHD site is to the east of numbers 2, 4, 6, 8 & 10 Sweetmount Avenue it is clear that any development of scale will have some impact on the access to sunlight. To highlight this visually the sun path is illustrated in figure 10 below.

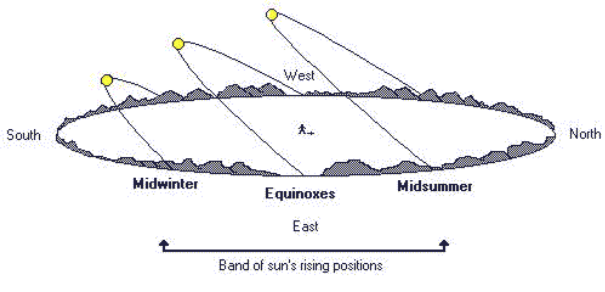


Figure 10: Sun Path

The second comment from the assessment of the pre-application submission and specific to the sunlight analysis was:

> *It is also noted that there appear to be windows to the rear of Mulvey's / Lisney at first floor level that could be block under the current proposal. Any proposal for redevelopment of the site, which does not include those properties, should respect both the existing amenities and development potential of adjoining sites.*

As neither property is a residential dwelling the impact on sunlight availability and meeting BRE 209 criteria is not required. However as the properties were highlighted within the assessment of the pre-application; BDP completed a detailed sunlight assessment before and after development.

The south and east facing elevations of both properties are not impacted by the development as all new massing is to the west and north of the existing properties. However the west facing elevation of Mulvey's which has windows at 1st floor level and the roof lights to the Lisney property on the west facing pitch are overshadowed and shall have a noticeable loss of sunlight.

Figure 11: Massing Impact behind Mulveys/Linseys looking South

It is important to note that the 1st floor of the Mulvey's property fronting main street is currently vacant and in control of the Applicant who has confirmed there is no intention to convert this to a future residential property. The roof lights within the Lisney property shall only be impacted in the afternoon and shall still have access to sunlight from the south in the early afternoon. The main windows to this space face east and look onto Main Street. Moreover this property is not residential and is used solely for commercial purposes and so the impact is considered proportionate as it would be culturally or socially acceptable for commercial properties to have some overshadowing.

Taking into consideration the impact of the proposed development the next section defines this using guidelines from the Environmental Impact Statement prepared by the Environmental Protection Agency (2017 Draft).

Definition of Impacts on Sunlight Access

The list of definitions given below is taken from the *Guidelines on the Information to be Contained in Environmental Impact Statements prepared* by the Environmental Protection Agency (2017 Draft).

- ***Imperceptible Impact:*** *An effect capable of measurement but without significant consequences.*
- ***Not Significant:*** *An effect which causes noticeable changes in the character of the environment but without significant consequences.*
- ***Slight Effects:*** *An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.*
- ***Moderate Effects****: An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends*
- ***Significant Effects:*** *An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.*
- ***Very Significant:*** *An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.*
- ***Profound Impact:*** *An impact which obliterates sensitive characteristics.*

The extent of the impact of a development is usually proportional to the extent to which that development is large in scale and/or height and its proximity to the location. This proportionality may be modified by the extent to which the development is seen as culturally or socially acceptable, and on the interaction between the proposed development, the character of the existing shadow environment and the land use pattern of the receiving environment.

The impact of the proposed Dundrum Village SHD on sunlight access to the adjacent properties is therefore defined as **Slight Effects:** *An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.*

The definition is chosen because the scale of the development at Dundrum Village SHD will have an impact on the shadow environment but the consequences of this will not affect the sensitivities of the area due to the site orientation and existing suburban density of the area.

8 Conclusion

The following can be concluded based on the assessments undertaken.

Daylight Assessment

The daylight assessment results demonstrate that the Average Daylight Factor compliance rate for the bedrooms and open plan living/kitchen spaces is very high in the proposed Dundrum Village SHD. In total of the 2,359 relevant spaces 96% of them met and exceeded in many cases the recommended daylight factors outlined in BRE 209 (ADF 1.0 bedrooms & ADF 2.0 kitchen/living). In BDP's experience this is a very commendable result as schemes of a similar nature would typically be expected to exceed over 90% compliance with this guidance.

No apartment contains more than one space that does not meet the ADF target and where they do contain a space that does not meet the target; a number of compensatory design solutions have been clearly set out.

Overshadowing Assessment

All private amenity spaces and new public streetscape exceed the BRE 209 (2011) requirement by receiving direct sunlight over 50% of the space on the 21st of March. The percentage of area exceeding 2hrs of direct sunlight varies from 60% to 90%. The analysis demonstrates that the design of Dundrum Village SHD maximises access to sunlight in amenity spaces for both residents and the public and so the BRE 209 guidelines (2011) are easily achieved.

Sunlight Exposure Plans and Shadow Plans are provided in Appendix A to show the effect of overshadowing of the proposed Dundrum Village SHD on the adjoining public spaces and properties, using 3D digital models of existing buildings and structures in and around the site. Shadow plans are prepared for 21st March (equinox), 21st June (summer solstice) and 21st December (winter solstice).

Sunlight & VSC Assessment

Given the easterly orientation of the houses the direct sunlight through windows shall be early in the morning and late in the afternoon when the suns altitude will be always be very low. This means that any development of scale to the east or west will have some degree of impact which is unavoidable. Whilst the applicant endeavoured to keep the impact of overshadowing to neighbours relatively low; as the Dundrum Village SHD site is to the east of numbers 2, 4, 6, 8 & 10 Sweetmount Avenue. Therefore of the multiple existing residential properties within the Dundrum village area; only these 5 hours along Sweetmount Avenue have what would be considered a noticeable loss of sunlight (by BRE 209 guidance). Further assessment of the post development annual probable sunlight hours (APSH) and vertical sky component (VSC) demonstrate that even though there is a slight impact the existing properties still receive high levels of sunlight and compliance with BRE 209 guidance (2011) is still met.

The impact of the proposed Dundrum Village SHD on sunlight access to the adjacent properties is therefore defined as **Slight Effects:** *An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.*

The definition is chosen because the scale of the development at Dundrum Village SHD will have an impact on the shadow environment but the consequences of this will not affect the sensitivities of the area due to the site orientation and existing suburban density of the area.

References

- BS 8206-2:'Lighting for Buildings Part 2' - British Standards Institution: London. Mansfield, KP; (2008)
- BRE 209, 'Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice', - by P. J. Littlefair. Second Edition 2011
- Sustainable Urban Housing: Design Standards for New Apartments - Department of Housing, Local Government and Heritage (last revised 23 December 2020)
- Urban Development and Building Heights Guidelines for Planning Authorities - Department of Housing, Local Government and Heritage (published December 2018)
- Guidelines on the Information to be Contained in Environmental Impact Statements prepared by the Environmental Protection Agency (2017 Draft).

Appendix A - Shadow Plans

March Equinox

March 21st 08:00

March 21st 09:00

March 21st 10:00

March 21st 11:00

March 21st 12:00

March 21st 13:00

March 21st 14:00

March 21st 15:00

March 21st 16:00

March 21st 17:00

Summer Solstice

June 21st 08:00

June 21st 09:00

June 21st 10:00

June 21st 11:00

June 21st 12:00

June 21st 13:00

June 21st 14:00

June 21st 15:00

June 21st 16:00

June 21st 17:00

June 21st 18:00

June 21st 19:00

June 21st 20:00

Winter Solstice:

December 21st 10:00

December 21st 11:00

December 21st 12:00

December 21st 13:00

December 21st 14:00

December 21st 15:00

December 21st 16:00

Appendix B – Full Table of Average Daylight Factor Results

Spaces with a green cell result achieve full compliance with both BS8206-2:2008 and BRE 209 whilst spaces with an orange cell result only meet BS8206-2:2008 target for living spaces (1.5 ADF). Spaces with a red cell result don't meet the ADF targets. Compensatory design solutions have been outlined in section 5 for all spaces with both orange and red cells and these spaces have also been identified on building plans within Appendix C.

Zone 1 Daylight Results:

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z1-001-B1	1.0%	5.0%	Y
Z1-001-B2	1.0%	3.8%	Y
Z1-001-KL	2.0%	4.0%	Y
Z1-002-B1	1.0%	3.4%	Y
Z1-002-B2	1.0%	6.0%	Y
Z1-002-KL	2.0%	3.2%	Y
Z1-003-B1	1.0%	3.6%	Y
Z1-003-KL	2.0%	4.3%	Y
Z1-004-B1	1.0%	3.5%	Y
Z1-004-KL	2.0%	3.4%	Y
Z1-005-B1	1.0%	3.1%	Y
Z1-005-B2	1.0%	3.7%	Y
Z1-005-KL	2.0%	7.1%	Y
Z1-006-B1	1.0%	2.9%	Y
Z1-006-KL	2.0%	3.3%	Y
Z1-007-B1	1.0%	3.8%	Y
Z1-007-B2	1.0%	2.4%	Y
Z1-007-KL	2.0%	2.5%	Y
Z1-008-B1	1.0%	1.0%	Y
Z1-008-KL	2.0%	2.0%	Y
Z1-143-B1	1.0%	3.7%	Y
Z1-143-B2	1.0%	3.3%	Y
Z1-143-B3	1.0%	1.8%	Y
Z1-143-KL	2.0%	1.2%	N
Z1-144-B1	1.0%	6.4%	Y
Z1-144-B2	1.0%	2.6%	Y
Z1-144-KL	2.0%	5.1%	Y
Z1-145-B1	1.0%	4.4%	Y
Z1-145-KL	2.0%	4.8%	Y
Z1-146-B1	1.0%	4.6%	Y
Z1-146-KL	2.0%	3.3%	Y
Z1-147-B1	1.0%	3.9%	Y
Z1-147-B2	1.0%	3.6%	Y
Z1-147-KL	2.0%	3.6%	Y
Z1-148-B1	1.0%	3.7%	Y
Z1-148-B2	1.0%	4.6%	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z1-148-KL	2.0%	3.6%	Y
Z1-149-B1	1.0%	2.0%	Y
Z1-149-B2	1.0%	1.9%	Y
Z1-149-KL	2.0%	2.2%	Y
Z1-150-B1	1.0%	1.8%	Y
Z1-150-B2	1.0%	2.2%	Y
Z1-150-KL	2.0%	2.7%	Y
Z1-251-B1	1.0%	1.0%	Y
Z1-251-B2	1.0%	1.3%	Y
Z1-251-B2	1.0%	1.1%	Y
Z1-251-KL	2.0%	0.8%	N
Z1-252-B1	1.0%	1.1%	Y
Z1-252-B3	1.0%	1.7%	Y
Z1-252-KL	2.0%	0.7%	N
Z1-253-KL	2.0%	2.4%	Y
Z1-254-B1	1.0%	3.7%	Y
Z1-254-B2	1.0%	7.6%	Y
Z1-254-B3	1.0%	3.5%	Y
Z1-254-KL	2.0%	2.3%	Y
Z1-255-B1	1.0%	2.8%	Y
Z1-255-B2	1.0%	2.5%	Y
Z1-255-KL	2.0%	4.1%	Y
Z1-256-B1	1.0%	4.8%	Y
Z1-256-B1	1.0%	2.7%	Y
Z1-256-KL	2.0%	3.3%	Y
Z1-257-B1	1.0%	2.6%	Y
Z1-257-B2	1.0%	3.6%	Y
Z1-257-KL	2.0%	3.3%	Y
Z1-258-B1	1.0%	3.5%	Y
Z1-258-KL	2.0%	1.2%	N
Z1-259-B1	1.0%	4.4%	Y
Z1-259-KL	2.0%	1.7%	N
Z1-018-B2	1.0%	1.2%	Y
Z1-018-B1	1.0%	1.6%	Y
Z1-019-KL	2.0%	2.0%	Y
Z1-015-KL	2.0%	2.1%	Y
Z1-017-B1	1.0%	3.3%	Y
Z1-015-B2	1.0%	2.2%	Y
Z1-016-KL	2.0%	2.0%	Y
Z1-016-B1	1.0%	2.7%	Y
Z1-017-B1	1.0%	3.1%	Y
Z1-015-B2	1.0%	3.1%	Y
Z1-017-KL	2.0%	5.0%	Y
Z1-013-KL	2.0%	2.8%	Y
Z1-013-B1	1.0%	2.9%	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z1-011-B2	1.0%	3.2%	Y
Z1-011-KL	2.0%	2.0%	Y
Z1-011-B1	1.0%	2.8%	Y
Z1-012-B2	1.0%	2.7%	Y
Z1-012-KL	2.0%	2.0%	Y
Z1-012-B1	1.0%	2.5%	Y
Z1-009-KL	2.0%	2.0%	Y
Z1-009-B2	1.0%	1.1%	Y
Z1-020-B1	1.0%	1.0%	Y
Z1-020-KL	2.0%	0.8%	N
Z1-019-KL	2.0%	0.8%	N
Z1-019-B1	1.0%	1.2%	Y
Z1-010-B1	1.0%	2.7%	Y
Z1-009-B1	1.0%	3.6%	Y
Z1-010-KL	2.0%	2.0%	Y
Z1-261-B1	1.0%	1.0%	Y
Z1-261-KL	2.0%	2.0%	Y
Z1-261-B2	1.0%	1.0%	Y
Z1-261-B3	1.0%	1.1%	Y
Z1-262-B1	1.0%	1.0%	Y
Z1-262-KL	2.0%	1.8%	N
Z1-262-B2	1.0%	1.2%	Y
Z1-263-B1	1.0%	1.0%	Y
Z1-263-KL	2.0%	1.0%	N
Z1-263-B2	1.0%	1.0%	Y
Z1-264-B1	1.0%	1.6%	Y
Z1-264-KL	2.0%	1.2%	N
Z1-265-KL	2.0%	4.0%	Y
Z1-265-B1	1.0%	1.5%	Y
Z1-265-B2	1.0%	1.2%	Y
Z1-266-B1	1.0%	5.1%	Y
Z1-266-KL	2.0%	3.0%	Y
Z1-266-B2	1.0%	1.4%	Y
Z1-267-B1	1.0%	1.3%	Y
Z1-268-KL	2.0%	0.8%	N
Z1-268-B1	1.0%	4.2%	Y
Z1-269-B1	1.0%	2.8%	Y
Z1-269-KL	2.0%	0.6%	N
Z1-270-KL	2.0%	6.0%	Y
Z1-260-B3	1.0%	1.1%	Y
Z1-260-B2	1.0%	1.3%	Y
Z1-260-KL	2.0%	2.0%	Y
Z1-260-B1	1.0%	2.0%	Y
Z1-270-B2	1.0%	2.3%	Y
Z1-270-B1	1.0%	2.6%	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z1-264-B2	1.0%	5.8%	Y
Z1-267-KL	2.0%	3.2%	Y
Z1-267-B2	1.0%	3.1%	Y
Z1-160-B1	1.0%	2.2%	Y
Z1-161-B2	1.0%	2.6%	Y
Z1-151-B1	1.0%	1.3%	Y
Z1-152-B2	1.0%	2.2%	Y
Z1-151-B3	1.0%	1.0%	Y
Z1-151-B2	1.0%	1.9%	Y
Z1-151-KL	2.0%	1.2%	N
Z1-161-KL	2.0%	2.0%	Y
Z1-161-B1	1.0%	1.2%	Y
Z1-159-B1	1.0%	2.2%	Y
Z1-158-B1	1.0%	1.4%	Y
Z1-157-KL	2.0%	2.0%	Y
Z1-157-B1	1.0%	2.2%	Y
Z1-158-B2	1.0%	3.1%	Y
Z1-158-KL	2.0%	2.0%	Y
Z1-159-B2	1.0%	1.6%	Y
Z1-159-KL	2.0%	1.8%	N
Z1-160-B2	1.0%	1.3%	Y
Z1-160-KL	2.0%	2.1%	Y
Z1-153-KL	2.0%	2.8%	Y
Z1-153-B1	1.0%	3.4%	Y
Z1-154-B1	1.0%	3.1%	Y
Z1-154-KL	2.0%	2.0%	Y
Z1-155-B2	1.0%	3.4%	Y
Z1-155-KL	2.0%	2.0%	Y
Z1-155-B1	1.0%	3.1%	Y
Z1-156-B1	1.0%	3.1%	Y
Z1-156-B2	1.0%	3.0%	Y
Z1-156-KL	2.0%	2.3%	Y
Z1-152-B1	1.0%	3.4%	Y
Z1-152-KL	2.0%	3.7%	Y
Z1-014-B1	1.0%	3.1%	Y
Z1-014-KL	2.0%	2.0%	Y
Z1-030-B2	1.0%	1.6%	Y
Z1-030-B1	1.0%	2.0%	Y
Z1-030-KL	2.0%	2.0%	Y
Z1-029-KL	2.0%	2.0%	Y
Z1-029-B1	1.0%	3.4%	Y
Z1-029-B2	1.0%	2.2%	Y
Z1-028-KL	2.0%	2.0%	Y
Z1-028-B1	1.0%	2.8%	Y
Z1-027-B1	1.0%	3.1%	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z1-027-B2	1.0%	3.1%	Y
Z1-027-KL	2.0%	5.0%	Y
Z1-025-KL	2.0%	2.8%	Y
Z1-025-B1	1.0%	2.9%	Y
Z1-023-B2	1.0%	3.2%	Y
Z1-023-KL	2.0%	2.0%	Y
Z1-023-B1	1.0%	2.8%	Y
Z1-024-B2	1.0%	2.7%	Y
Z1-024-KL	2.0%	2.0%	Y
Z1-024-B1	1.0%	2.5%	Y
Z1-021-KL	2.0%	2.0%	Y
Z1-021-B2	1.0%	1.4%	Y
Z1-031-B1	1.0%	1.2%	Y
Z1-031-KL	2.0%	2.1%	Y
Z1-031-B1	1.0%	1.4%	Y
Z1-032-KL	2.0%	0.8%	N
Z1-032-B1	1.0%	1.2%	Y
Z1-022-B1	1.0%	2.9%	Y
Z1-021-B1	1.0%	4.0%	Y
Z1-022-KL	2.0%	2.0%	Y
Z1-272-B1	1.0%	1.1%	Y
Z1-272-KL	2.0%	2.1%	Y
Z1-272-B2	1.0%	1.2%	Y
Z1-272-B3	1.0%	1.3%	Y
Z1-273-B1	1.0%	1.1%	Y
Z1-273-KL	2.0%	2.0%	Y
Z1-273-B2	1.0%	1.0%	Y
Z1-274-B1	1.0%	1.0%	Y
Z1-274-KL	2.0%	1.1%	N
Z1-274-B2	1.0%	1.0%	Y
Z1-275-B1	1.0%	1.7%	Y
Z1-275-KL	2.0%	1.3%	N
Z1-276-KL	2.0%	4.0%	Y
Z1-276-B1	1.0%	1.6%	Y
Z1-276-B2	1.0%	1.3%	Y
Z1-277-B1	1.0%	5.3%	Y
Z1-277-KL	2.0%	3.1%	Y
Z1-277-B2	1.0%	1.5%	Y
Z1-277-B1	1.0%	1.4%	Y
Z1-279-KL	2.0%	0.9%	N
Z1-279-B1	1.0%	4.0%	Y
Z1-280-B1	1.0%	3.8%	Y
Z1-280-KL	2.0%	0.7%	N
Z1-281-KL	2.0%	6.3%	Y
Z1-271-B3	1.0%	1.3%	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z1-271-B2	1.0%	1.6%	Y
Z1-271-KL	2.0%	2.0%	Y
Z1-271-B1	1.0%	2.5%	Y
Z1-281-B2	1.0%	2.8%	Y
Z1-281-B1	1.0%	2.0%	Y
Z1-275-B2	1.0%	6.0%	Y
Z1-277-KL	2.0%	3.3%	Y
Z1-277-B2	1.0%	3.2%	Y
Z1-170-B1	1.0%	2.6%	Y
Z1-171-B2	1.0%	3.0%	Y
Z1-162-B1	1.0%	1.3%	Y
Z1-163-B2	1.0%	2.3%	Y
Z1-162-B3	1.0%	1.0%	Y
Z1-162-B2	1.0%	2.0%	Y
Z1-162-KL	2.0%	1.3%	N
Z1-171-KL	2.0%	2.2%	Y
Z1-172-B1	1.0%	1.4%	Y
Z1-171-B1	1.0%	2.5%	Y
Z1-169-B1	1.0%	1.6%	Y
Z1-168-KL	2.0%	2.0%	Y
Z1-168-B1	1.0%	2.4%	Y
Z1-169-B2	1.0%	3.4%	Y
Z1-169-KL	2.0%	2.1%	Y
Z1-170-B2	1.0%	1.9%	Y
Z1-170-KL	2.0%	0.7%	N
Z1-172-B2	1.0%	1.4%	Y
Z1-172-KL	2.0%	2.6%	Y
Z1-164-KL	2.0%	2.8%	Y
Z1-164-B1	1.0%	3.4%	Y
Z1-165-B1	1.0%	3.1%	Y
Z1-165-KL	2.0%	2.0%	Y
Z1-166-B2	1.0%	3.4%	Y
Z1-166-KL	2.0%	2.0%	Y
Z1-166-B1	1.0%	3.1%	Y
Z1-167-B1	1.0%	3.1%	Y
Z1-167-B2	1.0%	3.0%	Y
Z1-167-KL	2.0%	2.3%	Y
Z1-163-B1	1.0%	3.4%	Y
Z1-163-KL	2.0%	3.7%	Y
Z1-026-B1	1.0%	3.1%	Y
Z1-026-KL	2.0%	2.0%	Y
Z1-042-B2	1.0%	2.2%	Y
Z1-042-B1	1.0%	2.4%	Y
Z1-042-KL	2.0%	3.6%	Y
Z1-041-KL	2.0%	2.0%	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z1-041-B1	1.0%	3.4%	Y
Z1-041-B2	1.0%	2.2%	Y
Z1-040-KL	2.0%	2.0%	Y
Z1-040-B1	1.0%	2.8%	Y
Z1-039-B1	1.0%	3.1%	Y
Z1-039-B2	1.0%	3.1%	Y
Z1-039-KL	2.0%	5.0%	Y
Z1-038-KL	2.0%	2.8%	Y
Z1-038-B1	1.0%	2.9%	Y
Z1-035-B2	1.0%	3.2%	Y
Z1-035-KL	2.0%	2.0%	Y
Z1-035-B1	1.0%	2.8%	Y
Z1-036-B2	1.0%	2.7%	Y
Z1-036-KL	2.0%	2.0%	Y
Z1-036-B1	1.0%	2.5%	Y
Z1-033-KL	2.0%	2.0%	Y
Z1-033-B2	1.0%	1.6%	Y
Z1-044-B1	1.0%	1.4%	Y
Z1-044-KL	2.0%	1.0%	N
Z1-043-KL	2.0%	2.0%	Y
Z1-043-B1	1.0%	1.5%	Y
Z1-034-B1	1.0%	3.1%	Y
Z1-033-B1	1.0%	4.4%	Y
Z1-034-KL	2.0%	2.1%	Y
Z1-283-B1	1.0%	1.4%	Y
Z1-283-KL	2.0%	2.2%	Y
Z1-283-B2	1.0%	1.8%	Y
Z1-283-B3	1.0%	1.6%	Y
Z1-284-B1	1.0%	1.4%	Y
Z1-284-KL	2.0%	2.0%	Y
Z1-284-B2	1.0%	1.4%	Y
Z1-285-B1	1.0%	1.1%	Y
Z1-285-KL	2.0%	1.2%	N
Z1-285-B2	1.0%	1.0%	Y
Z1-286-B1	1.0%	1.8%	Y
Z1-286-KL	2.0%	1.5%	N
Z1-287-KL	2.0%	4.2%	Y
Z1-287-B1	1.0%	1.6%	Y
Z1-287-B2	1.0%	1.3%	Y
Z1-288-B1	1.0%	4.3%	Y
Z1-288-KL	2.0%	3.2%	Y
Z1-288-B2	1.0%	1.5%	Y
Z1-289-B1	1.0%	1.4%	Y
Z1-290-KL	2.0%	0.9%	N
Z1-290-B1	1.0%	4.0%	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z1-291-B1	1.0%	2.9%	Y
Z1-291-KL	2.0%	0.6%	N
Z1-292-KL	2.0%	6.0%	Y
Z1-282-B3	1.0%	1.6%	Y
Z1-282-B2	1.0%	2.1%	Y
Z1-282-KL	2.0%	2.6%	Y
Z1-282-B1	1.0%	3.2%	Y
Z1-292-B2	1.0%	3.4%	Y
Z1-292-B1	1.0%	2.5%	Y
Z1-286-B2	1.0%	6.2%	Y
Z1-289-KL	2.0%	3.4%	Y
Z1-289-B2	1.0%	3.2%	Y
Z1-182-B1	1.0%	3.0%	Y
Z1-183-B2	1.0%	3.3%	Y
Z1-173-B1	1.0%	1.4%	Y
Z1-174-B2	1.0%	2.4%	Y
Z1-173-B3	1.0%	1.0%	Y
Z1-173-B2	1.0%	2.1%	Y
Z1-173-KL	2.0%	1.4%	N
Z1-183-KL	2.0%	2.4%	Y
Z1-183-B1	1.0%	1.6%	Y
Z1-181-B1	1.0%	2.6%	Y
Z1-180-B1	1.0%	1.7%	Y
Z1-037-B2	1.0%	2.7%	Y
Z1-037-KL	2.0%	2.0%	Y
Z1-037-B1	1.0%	2.5%	Y
Z1-180-KL	2.0%	2.2%	Y
Z1-181-KL	2.0%	2.0%	Y
Z1-182-KL	2.0%	2.6%	Y
Z1-174-B1	1.0%	2.4%	Y
Z1-174-KL	2.0%	3.7%	Y
Z1-175-B1	1.0%	3.4%	Y
Z1-175-KL	2.0%	2.8%	Y
Z1-176-B1	1.0%	3.1%	Y
Z1-176-KL	2.0%	2.0%	Y
Z1-177-B1	1.0%	3.4%	Y
Z1-177-KL	2.0%	2.0%	Y
Z1-177-B2	1.0%	3.0%	Y
Z1-178-B1	1.0%	3.1%	Y
Z1-178-KL	2.0%	2.3%	Y
Z1-178-B2	1.0%	3.0%	Y
Z1-179-B1	1.0%	2.4%	Y
Z1-179-KL	2.0%	2.0%	Y
Z1-180-B1	1.0%	1.6%	Y
Z1-180-KL	2.0%	2.1%	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z1-180-B2	1.0%	3.4%	Y
Z1-045-B1	1.0%	5.1%	Y
Z1-045-B2	1.0%	1.9%	Y
Z1-045-KL	2.0%	2.0%	Y
Z1-046-B1	1.0%	3.6%	Y
Z1-046-KL	2.0%	2.8%	Y
Z1-047-B1	1.0%	3.2%	Y
Z1-047-B2	1.0%	3.5%	Y
Z1-047-KL	2.0%	2.5%	Y
Z1-048-B1	1.0%	2.7%	Y
Z1-048-B2	1.0%	3.0%	Y
Z1-048-KL	2.0%	2.0%	Y
Z1-049-B1	1.0%	3.4%	Y
Z1-049-KL	2.0%	2.5%	Y
Z1-050-B1	1.0%	3.3%	Y
Z1-050-KL	2.0%	3.4%	Y
Z1-051-B1	1.0%	3.4%	Y
Z1-051-B2	1.0%	3.4%	Y
Z1-051-KL	2.0%	5.4%	Y
Z1-052-B1	1.0%	3.1%	Y
Z1-052-KL	2.0%	2.5%	Y
Z1-053-B1	1.0%	5.7%	Y
Z1-053-B2	1.0%	2.4%	Y
Z1-053-KL	2.0%	2.0%	Y
Z1-054-B1	1.0%	2.1%	Y
Z1-054-KL	2.0%	3.2%	Y
Z1-055-B1	1.0%	1.6%	Y
Z1-055-KL	2.0%	1.7%	N
Z1-184-B1	1.0%	1.8%	Y
Z1-184-B2	1.0%	2.6%	Y
Z1-184-B3	1.0%	1.0%	Y
Z1-184-KL	2.0%	0.8%	N
Z1-185-B1	1.0%	3.8%	Y
Z1-185-B2	1.0%	2.8%	Y
Z1-185-KL	2.0%	4.3%	Y
Z1-186-B1	1.0%	3.7%	Y
Z1-186-KL	2.0%	3.2%	Y
Z1-187-B1	1.0%	3.3%	Y
Z1-187-KL	2.0%	2.0%	Y
Z1-188-B1	1.0%	3.5%	Y
Z1-188-B2	1.0%	3.6%	Y
Z1-188-KL	2.0%	2.4%	Y
Z1-189-B1	1.0%	3.3%	Y
Z1-189-B2	1.0%	3.5%	Y
Z1-189-KL	2.0%	3.1%	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z1-190-B1	1.0%	3.0%	Y
Z1-190-KL	2.0%	2.5%	Y
Z1-191-B1	1.0%	2.2%	Y
Z1-191-B2	1.0%	4.3%	Y
Z1-191-KL	2.0%	2.1%	Y
Z1-192-B1	1.0%	3.3%	Y
Z1-192-B2	1.0%	2.4%	Y
Z1-192-KL	2.0%	2.2%	Y
Z1-193-B1	1.0%	3.4%	Y
Z1-193-B2	1.0%	2.1%	Y
Z1-193-KL	2.0%	3.7%	Y
Z1-194-B1	1.0%	2.2%	Y
Z1-194-B2	1.0%	3.7%	Y
Z1-194-KL	2.0%	3.1%	Y
Z1-056-B1	1.0%	5.2%	Y
Z1-056-B2	1.0%	2.0%	Y
Z1-056-KL	2.0%	2.1%	Y
Z1-057-B1	1.0%	3.7%	Y
Z1-057-KL	2.0%	2.9%	Y
Z1-058-B1	1.0%	3.3%	Y
Z1-058-B2	1.0%	3.6%	Y
Z1-058-KL	2.0%	2.6%	Y
Z1-059-B2	1.0%	3.1%	Y
Z1-059-KL	2.0%	2.1%	Y
Z1-060-B1	1.0%	2.8%	Y
Z1-060-KL	2.0%	2.6%	Y
Z1-061-B1	1.0%	3.4%	Y
Z1-061-B1	1.0%	3.4%	Y
Z1-061-KL	2.0%	3.5%	Y
Z1-062-B1	1.0%	3.5%	Y
Z1-062-B2	1.0%	3.5%	Y
Z1-062-KL	2.0%	5.5%	Y
Z1-063-B1	1.0%	3.2%	Y
Z1-063-KL	2.0%	2.6%	Y
Z1-064-B1	1.0%	5.8%	Y
Z1-064-B2	1.0%	2.5%	Y
Z1-064-KL	2.0%	2.1%	Y
Z1-065-B1	1.0%	2.2%	Y
Z1-065-KL	2.0%	3.3%	Y
Z1-066-B1	1.0%	1.7%	Y
Z1-066-KL	2.0%	1.8%	N
Z1-195-B1	1.0%	1.9%	Y
Z1-195-B2	1.0%	2.7%	Y
Z1-195-B3	1.0%	1.1%	Y
Z1-195-KL	2.0%	0.9%	N

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z1-196-B1	1.0%	3.9%	Y
Z1-196-B2	1.0%	2.9%	Y
Z1-196-KL	2.0%	4.4%	Y
Z1-197-B1	1.0%	3.8%	Y
Z1-197-KL	2.0%	3.3%	Y
Z1-198-B1	1.0%	3.4%	Y
Z1-198-KL	2.0%	2.1%	Y
Z1-199-B1	1.0%	3.6%	Y
Z1-199-B2	1.0%	3.7%	Y
Z1-199-KL	2.0%	2.5%	Y
Z1-200-B1	1.0%	3.4%	Y
Z1-200-B2	1.0%	3.6%	Y
Z1-200-KL	2.0%	3.2%	Y
Z1-201-B1	1.0%	3.1%	Y
Z1-201-KL	2.0%	2.6%	Y
Z1-202-B1	1.0%	2.3%	Y
Z1-202-B2	1.0%	4.4%	Y
Z1-202-KL	2.0%	2.2%	Y
Z1-203-B1	1.0%	3.4%	Y
Z1-203-B2	1.0%	2.5%	Y
Z1-203-KL	2.0%	2.3%	Y
Z1-204-B1	1.0%	3.5%	Y
Z1-204-B2	1.0%	2.2%	Y
Z1-204-KL	2.0%	3.8%	Y
Z1-205-B1	1.0%	2.3%	Y
Z1-205-B2	1.0%	3.8%	Y
Z1-205-KL	2.0%	3.2%	Y
Z1-067-B1	1.0%	5.3%	Y
Z1-067-B2	1.0%	2.1%	Y
Z1-067-KL	2.0%	2.2%	Y
Z1-068-B1	1.0%	3.8%	Y
Z1-068-KL	2.0%	3.0%	Y
Z1-069-B1	1.0%	3.4%	Y
Z1-069-B2	1.0%	3.7%	Y
Z1-069-KL	2.0%	2.7%	Y
Z1-070-B1	1.0%	2.9%	Y
Z1-070-B2	1.0%	3.2%	Y
Z1-070-KL	2.0%	2.2%	Y
Z1-071-B1	1.0%	3.6%	Y
Z1-071-KL	2.0%	2.7%	Y
Z1-072-B1	1.0%	3.5%	Y
Z1-072-KL	2.0%	3.6%	Y
Z1-073-B1	1.0%	3.6%	Y
Z1-073-B2	1.0%	3.6%	Y
Z1-073-KL	2.0%	5.6%	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z1-074-B1	1.0%	3.3%	Y
Z1-074-KL	2.0%	2.7%	Y
Z1-075-B1	1.0%	5.9%	Y
Z1-075-B2	1.0%	2.6%	Y
Z1-075-KL	2.0%	2.2%	Y
Z1-076-B1	1.0%	2.3%	Y
Z1-076-KL	2.0%	3.4%	Y
Z1-077-B1	1.0%	1.8%	Y
Z1-077-KL	2.0%	2.0%	Y
Z1-206-B1	1.0%	2.0%	Y
Z1-206-B2	1.0%	2.8%	Y
Z1-206-B3	1.0%	1.2%	Y
Z1-206-KL	2.0%	1.0%	N
Z1-207-B1	1.0%	4.0%	Y
Z1-207-B2	1.0%	3.0%	Y
Z1-207-KL	2.0%	4.5%	Y
Z1-208-B1	1.0%	3.9%	Y
Z1-208-KL	2.0%	3.4%	Y
Z1-209-B1	1.0%	3.5%	Y
Z1-209-KL	2.0%	2.2%	Y
Z1-210-B1	1.0%	3.7%	Y
Z1-210-B2	1.0%	3.8%	Y
Z1-210-KL	2.0%	2.6%	Y
Z1-211-B1	1.0%	3.5%	Y
Z1-211-B2	1.0%	3.7%	Y
Z1-211-KL	2.0%	3.3%	Y
Z1-212-B1	1.0%	3.2%	Y
Z1-212-KL	2.0%	2.7%	Y
Z1-213-B1	1.0%	2.4%	Y
Z1-213-B2	1.0%	4.5%	Y
Z1-213-KL	2.0%	2.3%	Y
Z1-214-B1	1.0%	3.5%	Y
Z1-214-B2	1.0%	2.6%	Y
Z1-214-KL	2.0%	2.4%	Y
Z1-215-B1	1.0%	3.6%	Y
Z1-215-B2	1.0%	2.3%	Y
Z1-215-KL	2.0%	3.9%	Y
Z1-216-B1	1.0%	2.4%	Y
Z1-216-B2	1.0%	3.9%	Y
Z1-216-KL	2.0%	3.3%	Y
Z1-078-B1	1.0%	5.4%	Y
Z1-078-B2	1.0%	2.2%	Y
Z1-078-KL	2.0%	2.3%	Y
Z1-079-B1	1.0%	3.9%	Y
Z1-079-KL	2.0%	3.1%	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z1-080-B1	1.0%	3.5%	Y
Z1-080-B2	1.0%	3.8%	Y
Z1-080-KL	2.0%	2.8%	Y
Z1-081-B1	1.0%	3.0%	Y
Z1-081-B2	1.0%	3.3%	Y
Z1-081-KL	2.0%	2.3%	Y
Z1-082-B1	1.0%	3.7%	Y
Z1-082-KL	2.0%	2.8%	Y
Z1-083-B1	1.0%	3.6%	Y
Z1-083-KL	2.0%	3.7%	Y
Z1-084-B1	1.0%	3.7%	Y
Z1-084-B2	1.0%	3.7%	Y
Z1-084-KL	2.0%	5.7%	Y
Z1-085-B1	1.0%	3.4%	Y
Z1-085-KL	2.0%	2.8%	Y
Z1-086-B1	1.0%	6.0%	Y
Z1-086-B2	1.0%	2.7%	Y
Z1-086-KL	2.0%	2.3%	Y
Z1-087-B1	1.0%	2.4%	Y
Z1-087-KL	2.0%	3.5%	Y
Z1-088-B1	1.0%	1.9%	Y
Z1-088-KL	2.0%	2.0%	Y
Z1-217-B1	1.0%	2.1%	Y
Z1-217-B2	1.0%	2.9%	Y
Z1-217-B3	1.0%	1.3%	Y
Z1-217-KL	2.0%	1.1%	N
Z1-218-B1	1.0%	4.1%	Y
Z1-218-B2	1.0%	3.1%	Y
Z1-218-KL	2.0%	4.6%	Y
Z1-219-B1	1.0%	4.0%	Y
Z1-219-KL	2.0%	3.5%	Y
Z1-220-B1	1.0%	3.6%	Y
Z1-220-KL	2.0%	2.3%	Y
Z1-221-B1	1.0%	3.8%	Y
Z1-221-B2	1.0%	3.9%	Y
Z1-221-KL	2.0%	2.7%	Y
Z1-222-B1	1.0%	3.6%	Y
Z1-222-B2	1.0%	3.8%	Y
Z1-222-KL	2.0%	3.4%	Y
Z1-223-B1	1.0%	3.3%	Y
Z1-223-KL	2.0%	2.8%	Y
Z1-224-B1	1.0%	2.5%	Y
Z1-224-B2	1.0%	4.6%	Y
Z1-224-KL	2.0%	2.4%	Y
Z1-225-B1	1.0%	3.6%	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z1-225-B2	1.0%	2.7%	Y
Z1-225-KL	2.0%	2.5%	Y
Z1-226-B1	1.0%	3.7%	Y
Z1-226-B2	1.0%	2.4%	Y
Z1-226-KL	2.0%	4.0%	Y
Z1-227-B1	1.0%	2.5%	Y
Z1-227-B2	1.0%	4.0%	Y
Z1-227-KL	2.0%	3.4%	Y
Z1-089-B1	1.0%	5.0%	Y
Z1-089-B2	1.0%	2.1%	Y
Z1-089-KL	2.0%	2.1%	Y
Z1-090-B1	1.0%	1.2%	Y
Z1-090-KL	2.0%	2.3%	Y
Z1-091-B1	1.0%	2.4%	Y
Z1-091-B2	1.0%	3.2%	Y
Z1-091-KL	2.0%	2.9%	Y
Z1-092-B1	1.0%	2.7%	Y
Z1-092-B2	1.0%	3.0%	Y
Z1-092-KL	2.0%	2.1%	Y
Z1-093-B1	1.0%	3.4%	Y
Z1-093-KL	2.0%	2.4%	Y
Z1-094-B1	1.0%	3.4%	Y
Z1-094-KL	2.0%	3.4%	Y
Z1-095-B1	1.0%	3.4%	Y
Z1-095-B2	1.0%	3.4%	Y
Z1-095-KL	2.0%	5.4%	Y
Z1-096-B1	1.0%	3.1%	Y
Z1-096-KL	2.0%	2.4%	Y
Z1-097-B1	1.0%	5.7%	Y
Z1-097-B2	1.0%	2.5%	Y
Z1-097-KL	2.0%	2.0%	Y
Z1-098-B1	1.0%	2.7%	Y
Z1-098-KL	2.0%	3.7%	Y
Z1-099-B1	1.0%	1.7%	Y
Z1-099-KL	2.0%	2.1%	Y
Z1-231-B1	1.0%	3.3%	Y
Z1-231-KL	2.0%	2.0%	Y
Z1-230-B1	1.0%	3.6%	Y
Z1-230-KL	2.0%	3.3%	Y
Z1-236-B1	1.0%	4.1%	Y
Z1-236-B2	1.0%	3.4%	Y
Z1-236-KL	2.0%	2.6%	Y
Z1-238-B1	1.0%	4.2%	Y
Z1-238-B2	1.0%	3.8%	Y
Z1-238-KL	2.0%	5.4%	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z1-237-B1	1.0%	3.5%	Y
Z1-237-B2	1.0%	3.1%	Y
Z1-237-KL	2.0%	5.5%	Y
Z1-235-B1	1.0%	3.0%	Y
Z1-235-B2	1.0%	4.7%	Y
Z1-235-KL	2.0%	2.4%	Y
Z1-232-B1	1.0%	3.5%	Y
Z1-232-B2	1.0%	3.7%	Y
Z1-232-KL	2.0%	2.4%	Y
Z1-234-B1	1.0%	1.1%	Y
Z1-234-KL	2.0%	2.2%	Y
Z1-228-B1	1.0%	2.3%	Y
Z1-228-B2	1.0%	3.5%	Y
Z1-228-B3	1.0%	2.9%	Y
Z1-228-KL	2.0%	2.3%	Y
Z1-229-B1	1.0%	3.7%	Y
Z1-229-B2	1.0%	3.4%	Y
Z1-229-KL	2.0%	4.6%	Y
Z1-233-B1	1.0%	3.0%	Y
Z1-233-B2	1.0%	2.5%	Y
Z1-233-KL	2.0%	3.5%	Y
Z1-100-B1	1.0%	5.3%	Y
Z1-100-B2	1.0%	2.2%	Y
Z1-100-KL	2.0%	2.1%	Y
Z1-101-B1	1.0%	2.7%	Y
Z1-101-B2	1.0%	3.9%	Y
Z1-101-KL	2.0%	2.1%	Y
Z1-102-B1	1.0%	3.3%	Y
Z1-102-KL	2.0%	2.4%	Y
Z1-103-B1	1.0%	3.2%	Y
Z1-103-KL	2.0%	3.4%	Y
Z1-104-B1	1.0%	3.4%	Y
Z1-104-B2	1.0%	3.5%	Y
Z1-104-KL	2.0%	5.5%	Y
Z1-105-B1	1.0%	3.1%	Y
Z1-105-KL	2.0%	2.5%	Y
Z1-106-B1	1.0%	5.7%	Y
Z1-106-B2	1.0%	2.4%	Y
Z1-106-KL	2.0%	2.0%	Y
Z1-107-B1	1.0%	3.0%	Y
Z1-107-KL	2.0%	3.8%	Y
Z1-108-B1	1.0%	1.8%	Y
Z1-108-KL	2.0%	2.3%	Y
Z1-239-B1	1.0%	2.4%	Y
Z1-239-B2	1.0%	3.7%	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z1-240-B1	1.0%	3.8%	Y
Z1-240-KL	2.0%	3.3%	Y
Z1-240-KL	2.0%	4.8%	Y
Z1-241-B1	1.0%	3.8%	Y
Z1-241-B2	1.0%	3.1%	Y
Z1-242-B1	1.0%	3.4%	Y
Z1-242-KL	2.0%	2.1%	Y
Z1-243-B1	1.0%	4.0%	Y
Z1-243-B2	1.0%	3.8%	Y
Z1-243-KL	2.0%	2.4%	Y
Z1-244-B1	1.0%	3.7%	Y
Z1-244-B2	1.0%	4.9%	Y
Z1-244-B2	1.0%	6.5%	Y
Z1-244-KL	2.0%	2.1%	Y
Z1-109-B1	1.0%	5.4%	Y
Z1-109-B2	1.0%	2.3%	Y
Z1-109-KL	2.0%	2.2%	Y
Z1-110-B1	1.0%	2.8%	Y
Z1-110-B2	1.0%	4.0%	Y
Z1-110-KL	2.0%	2.2%	Y
Z1-111-B1	1.0%	3.4%	Y
Z1-111-KL	2.0%	2.5%	Y
Z1-112-B1	1.0%	3.3%	Y
Z1-112-KL	2.0%	3.5%	Y
Z1-113-B1	1.0%	3.5%	Y
Z1-113-B2	1.0%	3.6%	Y
Z1-113-KL	2.0%	5.6%	Y
Z1-114-B1	1.0%	3.2%	Y
Z1-114-KL	2.0%	2.6%	Y
Z1-115-B1	1.0%	5.8%	Y
Z1-115-B2	1.0%	2.5%	Y
Z1-115-KL	2.0%	2.1%	Y
Z1-116-B1	1.0%	3.1%	Y
Z1-116-KL	2.0%	3.9%	Y
Z1-117-B1	1.0%	1.9%	Y
Z1-117-KL	2.0%	2.4%	Y
Z1-245-B1	1.0%	2.5%	Y
Z1-245-B2	1.0%	3.8%	Y
Z1-246-B1	1.0%	3.9%	Y
Z1-246-B2	1.0%	3.4%	Y
Z1-246-KL	2.0%	4.9%	Y
Z1-247-B1	1.0%	3.9%	Y
Z1-247-KL	2.0%	3.2%	Y
Z1-248-B1	1.0%	3.5%	Y
Z1-248-KL	2.0%	2.2%	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z1-249-B1	1.0%	4.1%	Y
Z1-249-B2	1.0%	3.9%	Y
Z1-249-KL	2.0%	2.5%	Y
Z1-250-B1	1.0%	3.8%	Y
Z1-250-B2	1.0%	5.0%	Y
Z1-250-B3	1.0%	6.6%	Y
Z1-250-KL	2.0%	2.2%	Y
Z1-118-B1	1.0%	5.6%	Y
Z1-118-B2	1.0%	2.7%	Y
Z1-118-KL	2.0%	2.3%	Y
Z1-119-B1	1.0%	2.7%	Y
Z1-119-B2	1.0%	4.0%	Y
Z1-119-KL	2.0%	2.1%	Y
Z1-120-B1	1.0%	3.3%	Y
Z1-121-B1	1.0%	3.4%	Y
Z1-120-KL	2.0%	3.4%	Y
Z1-121-KL	2.0%	2.5%	Y
Z1-122-B1	1.0%	3.4%	Y
Z1-122-B2	1.0%	3.5%	Y
Z1-122-KL	2.0%	5.5%	Y
Z1-123-B1	1.0%	3.1%	Y
Z1-123-KL	2.0%	2.5%	Y
Z1-124-B1	1.0%	6.1%	Y
Z1-124-B2	1.0%	2.4%	Y
Z1-124-KL	2.0%	3.2%	Y
Z1-125-B1	1.0%	3.5%	Y
Z1-125-KL	2.0%	5.0%	Y
Z1-126-B1	1.0%	2.5%	Y
Z1-126-KL	2.0%	3.5%	Y
Z1-127-B1	1.0%	1.1%	Y
Z1-127-B2	1.0%	3.8%	Y
Z1-127-B3	1.0%	5.7%	Y
Z1-127-KL	2.0%	3.6%	Y
Z1-128-B1	1.0%	3.1%	Y
Z1-128-B2	1.0%	4.2%	Y
Z1-128-KL	2.0%	3.4%	Y
Z1-129-B1	1.0%	3.7%	Y
Z1-129-KL	2.0%	3.8%	Y
Z1-130-B1	1.0%	2.6%	Y
Z1-130-B1	1.0%	3.5%	Y
Z1-130-KL	2.0%	4.6%	Y
Z1-130-KL	2.0%	4.5%	Y
Z1-131-B1	1.0%	3.5%	Y
Z1-131-B1	1.0%	3.4%	Y
Z1-131-B2	1.0%	3.9%	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z1-131-B2	1.0%	3.8%	Y
Z1-131-KL	2.0%	5.6%	Y
Z1-131-KL	2.0%	5.5%	Y
Z1-132-B1	1.0%	6.9%	Y
Z1-132-B1	1.0%	6.8%	Y
Z1-132-KL	2.0%	2.5%	Y
Z1-132-KL	2.0%	2.5%	Y
Z1-133-B1	1.0%	4.7%	Y
Z1-133-B2	1.0%	4.9%	Y
Z1-133-KL	2.0%	5.8%	Y
Z1-134-B1	1.0%	4.3%	Y
Z1-134-KL	2.0%	5.4%	Y
Z1-135-B1	1.0%	3.8%	Y
Z1-135-KL	2.0%	5.5%	Y
Z1-136-B1	1.0%	3.5%	Y
Z1-136-B2	1.0%	4.0%	Y
Z1-136-KL	2.0%	5.6%	Y
Z1-137-B1	1.0%	6.8%	Y
Z1-137-KL	2.0%	2.5%	Y
Z1-138-B1	1.0%	4.8%	Y
Z1-138-B2	1.0%	5.0%	Y
Z1-138-KL	2.0%	5.9%	Y
Z1-139-B1	1.0%	4.4%	Y
Z1-139-KL	2.0%	5.5%	Y
Z1-140-B1	1.0%	3.9%	Y
Z1-140-KL	2.0%	5.6%	Y
Z1-141-B1	1.0%	3.6%	Y
Z1-141-B2	1.0%	4.1%	Y
Z1-141-KL	2.0%	5.7%	Y
Z1-142-B1	1.0%	6.9%	Y
Z1-142-KL	2.0%	2.6%	Y

Zone 2 Daylight Results:

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z2-395-B1	1.0%	1.0 %	Y
Z2-395-B2	1.0%	1.1 %	Y
Z2-395-KL	2.0%	2.4 %	Y
Z2-396-B1	1.0%	3.0 %	Y
Z2-395-KL	2.0%	2.5 %	Y
Z2-397-B1	1.0%	1.4 %	Y
Z2-397-KL	2.0%	1.0 %	N
Z2-397-B2	1.0%	1.6 %	Y
Z2-391-B1	1.0%	1.7 %	Y
Z2-391-KL	2.0%	6.2 %	Y
Z2-391-B2	1.0%	3.5 %	Y
Z2-392-B1	1.0%	5.6 %	Y
Z2-392-KL	2.0%	2.5 %	Y
Z2-392-B2	1.0%	4.2 %	Y
Z2-393-KL	2.0%	3.1 %	Y
Z2-393-B1	1.0%	5.1 %	Y
Z2-394-KL	2.0%	2.2 %	Y
Z2-394-B1	1.0%	1.2 %	Y
Z2-394-B2	1.0%	2.2 %	Y
Z2-299-KL	2.0%	2.9 %	Y
Z2-299-B1	1.0%	1.9 %	Y
Z2-298-KL	2.0%	2.0 %	Y
Z2-298-B1	1.0%	1.0 %	Y
Z2-297-B1	1.0%	1.0 %	Y
Z2-297-KL	2.0%	2.0 %	Y
Z2-296-B2	1.0%	1.0 %	Y
Z2-296-KL	2.0%	4.9 %	Y
Z2-296-B1	1.0%	2.1 %	Y
Z2-299-B2	1.0%	1.4 %	Y
Z2-300-B1	1.0%	1.4 %	Y
Z2-300-KL	2.0%	2.7 %	Y
Z2-300-B2	1.0%	1.9 %	Y
Z2-301-B1	1.0%	1.9 %	Y
Z2-301-KL	2.0%	1.3 %	N
Z2-295-KL	2.0%	3.1 %	Y
Z2-295-B1	1.0%	3.0 %	Y
Z2-294-B1	1.0%	3.0 %	Y
Z2-294-KL	2.0%	3.1 %	Y
Z2-293-B3	1.0%	3.0 %	Y
Z2-293-KL	2.0%	3.1 %	Y
Z2-293-B2	1.0%	1.5 %	Y
Z2-293-B1	1.0%	1.3 %	Y
Z2-483-B2	1.0%	1.9 %	Y
Z2-483-KL	2.0%	1.5 %	N

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z2-483-B1	1.0%	1.9 %	Y
Z2-482-B3	1.0%	1.8 %	Y
Z2-482-KL	2.0%	2.0 %	Y
Z2-482-B1	1.0%	1.0 %	Y
Z2-482-B2	1.0%	1.1 %	Y
Z2-405-B1	1.0%	3.5 %	Y
Z2-405-KL	2.0%	4.5 %	Y
Z2-407-B1	1.0%	1.5 %	Y
Z2-407-KL	2.0%	1.0 %	N
Z2-407-B2	1.0%	1.8 %	Y
Z2-398-B1	1.0%	1.9 %	Y
Z2-398-KL	2.0%	7.0 %	Y
Z2-398-B2	1.0%	3.9 %	Y
Z2-399-B1	1.0%	5.9 %	Y
Z2-399-KL	2.0%	2.7 %	Y
Z2-399-B2	1.0%	4.4 %	Y
Z2-400-KL	2.0%	3.3 %	Y
Z2-400-B1	1.0%	5.3 %	Y
Z2-310-KL	2.0%	3.1 %	Y
Z2-310-B1	1.0%	2.2 %	Y
Z2-309-KL	2.0%	2.0 %	Y
Z2-308-B1	1.0%	1.0 %	Y
Z2-309-B1	1.0%	1.0 %	Y
Z2-308-KL	2.0%	2.0 %	Y
Z2-307-B1	1.0%	2.3 %	Y
Z2-307-KL	2.0%	5.2 %	Y
Z2-307-B2	1.0%	4.3 %	Y
Z2-310-B2	1.0%	1.6 %	Y
Z2-311-B1	1.0%	1.6 %	Y
Z2-311-KL	2.0%	3.1 %	Y
Z2-311-B2	1.0%	2.2 %	Y
Z2-312-B1	1.0%	2.1 %	Y
Z2-312-KL	2.0%	1.4 %	N
Z2-305-KL	2.0%	4.6 %	Y
Z2-305-B1	1.0%	3.5 %	Y
Z2-306-B1	1.0%	3.7 %	Y
Z2-306-KL	2.0%	3.2 %	Y
Z2-404-KL	2.0%	1.8 %	N
Z2-402-B2	1.0%	2.9 %	Y
Z2-403-B1	1.0%	3.9 %	Y
Z2-403-B2	1.0%	2.2 %	Y
Z2-403-KL	2.0%	1.8 %	N
Z2-404-B1	1.0%	1.7 %	Y
Z2-406-KL	2.0%	4.1 %	Y
Z2-406-B1	1.0%	3.3 %	Y
Z2-401-B1	1.0%	5.1 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z2-401-KL	2.0%	4.8 %	Y
Z2-402-B1	1.0%	3.4 %	Y
Z2-402-KL	2.0%	2.0 %	Y
Z2-303-KL	2.0%	2.0 %	Y
Z2-303-B2	1.0%	3.6 %	Y
Z2-304-B1	1.0%	6.5 %	Y
Z2-304-KL	2.0%	2.7 %	Y
Z2-304-B2	1.0%	4.0 %	Y
Z2-312-B2	1.0%	1.9 %	Y
Z2-302-KL	2.0%	1.8 %	N
Z2-302-B1	1.0%	2.4 %	Y
Z2-302-B2	1.0%	2.9 %	Y
Z2-303-B1	1.0%	2.6 %	Y
Z2-416-B1	1.0%	3.9 %	Y
Z2-416-KL	2.0%	5.1 %	Y
Z2-417-B1	1.0%	1.7 %	Y
Z2-417-KL	2.0%	1.0 %	N
Z2-417-B2	1.0%	1.9 %	Y
Z2-408-B1	1.0%	2.0 %	Y
Z2-408-KL	2.0%	7.1 %	Y
Z2-408-B2	1.0%	3.9 %	Y
Z2-409-B1	1.0%	5.9 %	Y
Z2-409-KL	2.0%	2.0 %	Y
Z2-409-B2	1.0%	4.4 %	Y
Z2-410-KL	2.0%	2.0 %	Y
Z2-410-B1	1.0%	5.2 %	Y
Z2-321-KL	2.0%	3.6 %	Y
Z2-321-B1	1.0%	2.3 %	Y
Z2-320-KL	2.0%	2.0 %	Y
Z2-320-B1	1.0%	1.0 %	Y
Z2-319-B1	1.0%	1.0 %	Y
Z2-319-KL	2.0%	2.0 %	Y
Z2-318-B2	1.0%	2.4 %	Y
Z2-318-KL	2.0%	5.2 %	Y
Z2-318-B1	1.0%	4.3 %	Y
Z2-321-B2	1.0%	2.1 %	Y
Z2-322-B1	1.0%	2.1 %	Y
Z2-322-KL	2.0%	3.7 %	Y
Z2-322-B2	1.0%	2.4 %	Y
Z2-323-B1	1.0%	2.3 %	Y
Z2-323-KL	2.0%	1.4 %	N
Z2-317-KL	2.0%	4.6 %	Y
Z2-317-B1	1.0%	3.5 %	Y
Z2-316-B1	1.0%	3.7 %	Y
Z2-316-KL	2.0%	3.2 %	Y
Z2-414-KL	2.0%	2.0 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z2-412-B2	1.0%	3.0 %	Y
Z2-413-B1	1.0%	4.2 %	Y
Z2-413-B2	1.0%	2.4 %	Y
Z2-413-KL	2.0%	2.0 %	Y
Z2-414-B1	1.0%	1.9 %	Y
Z2-415-KL	2.0%	4.8 %	Y
Z2-415-B1	1.0%	3.6 %	Y
Z2-411-B1	1.0%	5.0 %	Y
Z2-411-KL	2.0%	4.8 %	Y
Z2-412-B1	1.0%	3.4 %	Y
Z2-412-KL	2.0%	3.8 %	Y
Z2-314-KL	2.0%	4.0 %	Y
Z2-314-B2	1.0%	3.5 %	Y
Z2-315-B1	1.0%	6.5 %	Y
Z2-315-KL	2.0%	2.7 %	Y
Z2-315-B2	1.0%	4.0 %	Y
Z2-323-B2	1.0%	2.1 %	Y
Z2-313-KL	2.0%	1.9 %	N
Z2-313-B1	1.0%	2.6 %	Y
Z2-313-B2	1.0%	3.1 %	Y
Z2-314-B1	1.0%	2.7 %	Y
Z2-426-B1	1.0%	4.2 %	Y
Z2-426-KL	2.0%	5.8 %	Y
Z2-427-B1	1.0%	1.8 %	Y
Z2-427-KL	2.0%	1.1 %	N
Z2-427-B2	1.0%	2.0 %	Y
Z2-418-B1	1.0%	2.1 %	Y
Z2-418-KL	2.0%	7.1 %	Y
Z2-418-B2	1.0%	3.8 %	Y
Z2-419-B1	1.0%	5.9 %	Y
Z2-419-KL	2.0%	2.7 %	Y
Z2-419-B2	1.0%	4.4 %	Y
Z2-420-KL	2.0%	3.3 %	Y
Z2-420-B1	1.0%	5.2 %	Y
Z2-332-KL	2.0%	4.2 %	Y
Z2-332-B1	1.0%	2.5 %	Y
Z2-331-KL	2.0%	2.0 %	Y
Z2-331-B1	1.0%	1.0 %	Y
Z2-330-B1	1.0%	1.1 %	Y
Z2-330-KL	2.0%	2.0 %	Y
Z2-329-B1	1.0%	2.5 %	Y
Z2-329-KL	2.0%	5.3 %	Y
Z2-329-B2	1.0%	4.3 %	Y
Z2-332-B2	1.0%	2.9 %	Y
Z2-333-B1	1.0%	2.9 %	Y
Z2-333-KL	2.0%	4.4 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z2-333-B2	1.0%	2.6 %	Y
Z2-333-B1	1.0%	2.5 %	Y
Z2-334-KL	2.0%	1.5 %	N
Z2-328-KL	2.0%	4.6 %	Y
Z2-328-B1	1.0%	3.5 %	Y
Z2-327-B1	1.0%	3.7 %	Y
Z2-327-KL	2.0%	3.1 %	Y
Z2-424-KL	2.0%	2.0 %	Y
Z2-422-B2	1.0%	3.2 %	Y
Z2-423-B1	1.0%	4.3 %	Y
Z2-423-B2	1.0%	2.5 %	Y
Z2-423-KL	2.0%	2.0 %	Y
Z2-424-B1	1.0%	1.9 %	Y
Z2-425-KL	2.0%	5.4 %	Y
Z2-425-B1	1.0%	3.9 %	Y
Z2-421-B1	1.0%	5.0 %	Y
Z2-421-KL	2.0%	4.8 %	Y
Z2-422-B1	1.0%	3.4 %	Y
Z2-422-KL	2.0%	3.8 %	Y
Z2-325-KL	2.0%	3.9 %	Y
Z2-325-B2	1.0%	3.5 %	Y
Z2-326-B1	1.0%	6.5 %	Y
Z2-326-KL	2.0%	2.7 %	Y
Z2-326-B2	1.0%	4.0 %	Y
Z2-333-B2	1.0%	2.1 %	Y
Z2-324-KL	2.0%	2.0 %	Y
Z2-324-B1	1.0%	2.8 %	Y
Z2-324-B2	1.0%	3.3 %	Y
Z2-325-B1	1.0%	2.9 %	Y
Z2-436-B1	1.0%	4.3 %	Y
Z2-436-KL	2.0%	6.3 %	Y
Z2-437-B1	1.0%	2.0 %	Y
Z2-437-KL	2.0%	1.2 %	N
Z2-437-B2	1.0%	2.1 %	Y
Z2-428-B1	1.0%	2.3 %	Y
Z2-428-KL	2.0%	7.2 %	Y
Z2-428-B2	1.0%	3.8 %	Y
Z2-429-B1	1.0%	5.9 %	Y
Z2-429-KL	2.0%	2.6 %	Y
Z2-429-B2	1.0%	4.4 %	Y
Z2-430-KL	2.0%	3.2 %	Y
Z2-430-B1	1.0%	5.2 %	Y
Z2-343-KL	2.0%	4.8 %	Y
Z2-343-B1	1.0%	2.8 %	Y
Z2-342-KL	2.0%	2.0 %	Y
Z2-342-B1	1.0%	1.0 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z2-341-B1	1.0%	1.1 %	Y
Z2-341-KL	2.0%	2.0 %	Y
Z2-340-B2	1.0%	2.7 %	Y
Z2-340-KL	2.0%	5.4 %	Y
Z2-340-B1	1.0%	4.3 %	Y
Z2-343-B2	1.0%	3.5 %	Y
Z2-344-B1	1.0%	3.6 %	Y
Z2-344-KL	2.0%	5.1 %	Y
Z2-344-B2	1.0%	2.9 %	Y
Z2-345-B1	1.0%	2.7 %	Y
Z2-345-KL	2.0%	1.6 %	N
Z2-339-KL	2.0%	4.6 %	Y
Z2-339-B1	1.0%	3.5 %	Y
Z2-338-B1	1.0%	3.7 %	Y
Z2-338-KL	2.0%	3.1 %	Y
Z2-434-KL	2.0%	2.2 %	Y
Z2-432-B2	1.0%	3.4 %	Y
Z2-433-B1	1.0%	4.6 %	Y
Z2-433-B2	1.0%	2.7 %	Y
Z2-433-KL	2.0%	2.0 %	Y
Z2-434-B1	1.0%	2.0 %	Y
Z2-435-KL	2.0%	5.9 %	Y
Z2-435-B1	1.0%	4.1 %	Y
Z2-431-B1	1.0%	5.0 %	Y
Z2-431-KL	2.0%	4.8 %	Y
Z2-432-B1	1.0%	3.4 %	Y
Z2-432-KL	2.0%	3.8 %	Y
Z2-336-KL	2.0%	3.9 %	Y
Z2-336-B2	1.0%	3.5 %	Y
Z2-337-B1	1.0%	6.6 %	Y
Z2-337-KL	2.0%	2.7 %	Y
Z2-337-B2	1.0%	4.0 %	Y
Z2-345-B2	1.0%	2.2 %	Y
Z2-335-KL	2.0%	2.0 %	Y
Z2-335-B1	1.0%	2.9 %	Y
Z2-335-B2	1.0%	3.5 %	Y
Z2-336-B1	1.0%	3.1 %	Y
Z2-446-B1	1.0%	4.4 %	Y
Z2-446-KL	2.0%	6.7 %	Y
Z2-447-B1	1.0%	2.3 %	Y
Z2-447-KL	2.0%	1.3 %	N
Z2-447-B2	1.0%	2.3 %	Y
Z2-438-B1	1.0%	2.4 %	Y
Z2-438-KL	2.0%	7.3 %	Y
Z2-438-B2	1.0%	3.8 %	Y
Z2-439-B1	1.0%	6.0 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z2-439-KL	2.0%	2.6 %	Y
Z2-439-B2	1.0%	4.4 %	Y
Z2-440-KL	2.0%	3.2 %	Y
Z2-440-B1	1.0%	5.2 %	Y
Z2-354-KL	2.0%	5.1 %	Y
Z2-354-B1	1.0%	3.1 %	Y
Z2-353-KL	2.0%	2.0 %	Y
Z2-353-B1	1.0%	1.0 %	Y
Z2-352-B1	1.0%	1.3 %	Y
Z2-352-KL	2.0%	2.0 %	Y
Z2-351-B2	1.0%	2.9 %	Y
Z2-351-KL	2.0%	5.5 %	Y
Z2-351-B1	1.0%	4.3 %	Y
Z2-354-B2	1.0%	3.7 %	Y
Z2-355-B1	1.0%	3.8 %	Y
Z2-355-KL	2.0%	5.4 %	Y
Z2-355-B2	1.0%	3.2 %	Y
Z2-356-B1	1.0%	2.9 %	Y
Z2-356-KL	2.0%	1.7 %	N
Z2-350-KL	2.0%	4.7 %	Y
Z2-350-B1	1.0%	3.5 %	Y
Z2-349-B1	1.0%	3.7 %	Y
Z2-349-KL	2.0%	3.1 %	Y
Z2-444-KL	2.0%	2.4 %	Y
Z2-442-B2	1.0%	3.5 %	Y
Z2-443-B1	1.0%	4.8 %	Y
Z2-443-B2	1.0%	2.8 %	Y
Z2-443-KL	2.0%	2.1 %	Y
Z2-444-B1	1.0%	2.1 %	Y
Z2-445-KL	2.0%	6.2 %	Y
Z2-445-B1	1.0%	4.2 %	Y
Z2-441-B1	1.0%	5.0 %	Y
Z2-441-KL	2.0%	4.8 %	Y
Z2-442-B1	1.0%	3.4 %	Y
Z2-442-KL	2.0%	3.8 %	Y
Z2-347-KL	2.0%	4.0 %	Y
Z2-347-B2	1.0%	3.5 %	Y
Z2-348-B1	1.0%	6.7 %	Y
Z2-348-KL	2.0%	2.7 %	Y
Z2-348-B2	1.0%	4.0 %	Y
Z2-356-B2	1.0%	2.3 %	Y
Z2-346-KL	2.0%	2.0 %	Y
Z2-346-B1	1.0%	3.0 %	Y
Z2-346-B2	1.0%	3.7 %	Y
Z2-347-B1	1.0%	3.2 %	Y
Z2-456-B1	1.0%	4.5 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z2-456-KL	2.0%	7.1 %	Y
Z2-457-B1	1.0%	2.7 %	Y
Z2-457-KL	2.0%	1.4 %	N
Z2-457-B2	1.0%	2.7 %	Y
Z2-448-B1	1.0%	2.8 %	Y
Z2-448-KL	2.0%	7.5 %	Y
Z2-448-B2	1.0%	3.9 %	Y
Z2-449-B1	1.0%	6.0 %	Y
Z2-449-KL	2.0%	2.7 %	Y
Z2-449-B2	1.0%	4.5 %	Y
Z2-450-KL	2.0%	3.2 %	Y
Z2-450-B1	1.0%	5.2 %	Y
Z2-365-KL	2.0%	5.5 %	Y
Z2-365-B1	1.0%	3.5 %	Y
Z2-364-KL	2.0%	2.3 %	Y
Z2-364-B1	1.0%	1.2 %	Y
Z2-363-B1	1.0%	1.5 %	Y
Z2-363-KL	2.0%	2.3 %	Y
Z2-362-B2	1.0%	3.1 %	Y
Z2-362-KL	2.0%	5.7 %	Y
Z2-362-B1	1.0%	4.4 %	Y
Z2-365-B2	1.0%	3.8 %	Y
Z2-366-B1	1.0%	3.8 %	Y
Z2-366-KL	2.0%	5.6 %	Y
Z2-366-B2	1.0%	3.6 %	Y
Z2-367-B1	1.0%	3.2 %	Y
Z2-367-KL	2.0%	1.8 %	N
Z2-361-KL	2.0%	4.7 %	Y
Z2-361-B1	1.0%	3.5 %	Y
Z2-360-B1	1.0%	3.7 %	Y
Z2-360-KL	2.0%	3.1 %	Y
Z2-454-KL	2.0%	2.6 %	Y
Z2-452-B2	1.0%	3.7 %	Y
Z2-453-B1	1.0%	5.0 %	Y
Z2-453-B2	1.0%	2.9 %	Y
Z2-453-KL	2.0%	2.1 %	Y
Z2-454-B1	1.0%	2.2 %	Y
Z2-455-KL	2.0%	6.5 %	Y
Z2-455-B1	1.0%	4.2 %	Y
Z2-451-B1	1.0%	5.1 %	Y
Z2-451-KL	2.0%	5.0 %	Y
Z2-452-B1	1.0%	3.5 %	Y
Z2-452-KL	2.0%	3.8 %	Y
Z2-358-KL	2.0%	3.9 %	Y
Z2-358-B2	1.0%	3.6 %	Y
Z2-359-B1	1.0%	7.0 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z2-359-KL	2.0%	2.7 %	Y
Z2-359-B2	1.0%	4.0 %	Y
Z2-367-B2	1.0%	2.6 %	Y
Z2-357-KL	2.0%	2.1 %	Y
Z2-357-B1	1.0%	3.1 %	Y
Z2-357-B2	1.0%	3.7 %	Y
Z2-358-B1	1.0%	3.4 %	Y
Z2-466-B1	1.0%	4.5 %	Y
Z2-466-KL	2.0%	9.6 %	Y
Z2-467-B1	1.0%	3.2 %	Y
Z2-467-KL	2.0%	1.5 %	N
Z2-467-B2	1.0%	3.0 %	Y
Z2-458-B1	1.0%	3.2 %	Y
Z2-458-KL	2.0%	7.9 %	Y
Z2-458-B2	1.0%	4.0 %	Y
Z2-459-B1	1.0%	4.8 %	Y
Z2-459-KL	2.0%	3.4 %	Y
Z2-459-B2	1.0%	4.7 %	Y
Z2-460-KL	2.0%	3.3 %	Y
Z2-460-B1	1.0%	5.3 %	Y
Z2-376-KL	2.0%	7.7 %	Y
Z2-376-B1	1.0%	3.9 %	Y
Z2-375-KL	2.0%	4.6 %	Y
Z2-375-B1	1.0%	2.6 %	Y
Z2-374-B1	1.0%	3.1 %	Y
Z2-374-KL	2.0%	4.3 %	Y
Z2-373-B2	1.0%	3.4 %	Y
Z2-373-KL	2.0%	5.9 %	Y
Z2-373-B1	1.0%	4.4 %	Y
Z2-376-B2	1.0%	3.8 %	Y
Z2-377-B1	1.0%	3.8 %	Y
Z2-377-KL	2.0%	7.6 %	Y
Z2-377-B2	1.0%	4.0 %	Y
Z2-378-B1	1.0%	3.5 %	Y
Z2-378-KL	2.0%	2.0 %	Y
Z2-372-KL	2.0%	4.8 %	Y
Z2-372-B1	1.0%	3.6 %	Y
Z2-371-B1	1.0%	3.7 %	Y
Z2-371-KL	2.0%	3.2 %	Y
Z2-464-KL	2.0%	4.3 %	Y
Z2-462-B2	1.0%	3.8 %	Y
Z2-463-B1	1.0%	5.3 %	Y
Z2-463-B2	1.0%	3.0 %	Y
Z2-463-KL	2.0%	2.2 %	Y
Z2-464-B1	1.0%	3.1 %	Y
Z2-465-KL	2.0%	8.8 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z2-465-B1	1.0%	4.2 %	Y
Z2-461-B1	1.0%	5.1 %	Y
Z2-461-KL	2.0%	5.1 %	Y
Z2-462-B1	1.0%	3.9 %	Y
Z2-462-KL	2.0%	6.0 %	Y
Z2-369-KL	2.0%	6.0 %	Y
Z2-369-B2	1.0%	3.9 %	Y
Z2-370-B1	1.0%	7.2 %	Y
Z2-370-KL	2.0%	2.7 %	Y
Z2-370-B2	1.0%	4.0 %	Y
Z2-378-B2	1.0%	3.7 %	Y
Z2-368-KL	2.0%	2.3 %	Y
Z2-368-B1	1.0%	3.2 %	Y
Z2-368-B2	1.0%	3.9 %	Y
Z2-369-B1	1.0%	3.5 %	Y
Z2-469-B1	1.0%	3.6 %	Y
Z2-469-KL	2.0%	8.4 %	Y
Z2-469-B2	1.0%	4.2 %	Y
Z2-383-B2	1.0%	3.6 %	Y
Z2-383-KL	2.0%	6.1 %	Y
Z2-383-B1	1.0%	4.5 %	Y
Z2-382-KL	2.0%	4.9 %	Y
Z2-382-B1	1.0%	3.6 %	Y
Z2-381-B1	1.0%	3.7 %	Y
Z2-381-KL	2.0%	3.2 %	Y
Z2-473-KL	2.0%	4.9 %	Y
Z2-473-B3	1.0%	3.5 %	Y
Z2-380-B1	1.0%	7.4 %	Y
Z2-380-KL	2.0%	2.7 %	Y
Z2-380-B2	1.0%	4.1 %	Y
Z2-384-KL	2.0%	8.3 %	Y
Z2-384-B1	1.0%	3.9 %	Y
Z2-468-B1	1.0%	3.5 %	Y
Z2-468-KL	2.0%	4.0 %	Y
Z2-379-B1	1.0%	4.0 %	Y
Z2-379-KL	2.0%	2.9 %	Y
Z2-379-B2	1.0%	5.4 %	Y
Z2-379-B3	1.0%	3.6 %	Y
Z2-473-B2	1.0%	5.7 %	Y
Z2-472-KL	2.0%	6.5 %	Y
Z2-472-B1	1.0%	5.1 %	Y
Z2-471-B1	1.0%	5.4 %	Y
Z2-471-KL	2.0%	4.5 %	Y
Z2-470-B2	1.0%	4.8 %	Y
Z2-470-KL	2.0%	2.3 %	Y
Z2-470-B1	1.0%	10.1 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z2-475-B1	1.0%	4.3 %	Y
Z2-475-KL	2.0%	9.1 %	Y
Z2-475-B2	1.0%	4.5 %	Y
Z2-387-B1	1.0%	3.8 %	Y
Z2-389-KL	2.0%	7.7 %	Y
Z2-386-B2	1.0%	5.1 %	Y
Z2-388-KL	2.0%	6.4 %	Y
Z2-386-B1	1.0%	3.6 %	Y
Z2-385-B3	1.0%	3.8 %	Y
Z2-387-KL	2.0%	4.6 %	Y
Z2-477-KL	2.0%	6.1 %	Y
Z2-477-B3	1.0%	3.6 %	Y
Z2-385-B1	1.0%	7.7 %	Y
Z2-386-KL	2.0%	3.9 %	Y
Z2-385-B2	1.0%	4.5 %	Y
Z2-390-KL	2.0%	8.4 %	Y
Z2-388-B1	1.0%	4.0 %	Y
Z2-474-B1	1.0%	4.3 %	Y
Z2-474-KL	2.0%	4.3 %	Y
Z2-389-B1	1.0%	4.1 %	Y
Z2-385-KL	2.0%	4.4 %	Y
Z2-389-B2	1.0%	7.0 %	Y
Z2-390-B1	1.0%	3.9 %	Y
Z2-476-KL	2.0%	6.1 %	Y
Z2-476-B1	1.0%	7.8 %	Y
Z2-477-B1	1.0%	4.5 %	Y
Z2-477-B2	1.0%	6.1 %	Y
Z2-479-B1	1.0%	4.7 %	Y
Z2-479-KL	2.0%	11.2 %	Y
Z2-479-B2	1.0%	4.6 %	Y
Z2-481-KL	2.0%	7.8 %	Y
Z2-481-B3	1.0%	3.6 %	Y
Z2-478-B1	1.0%	8.5 %	Y
Z2-478-KL	2.0%	4.6 %	Y
Z2-480-KL	2.0%	8.3 %	Y
Z2-480-B1	1.0%	7.8 %	Y
Z2-481-B1	1.0%	4.5 %	Y
Z2-481-B2	1.0%	6.2 %	Y
Z2-486-KL	2.0%	2.6 %	Y
Z2-486-B2	1.0%	2.2 %	Y
Z2-487-B1	1.0%	2.4 %	Y
Z2-487-KL	2.0%	1.3 %	N
Z2-487-B2	1.0%	1.0 %	Y
Z2-488-B1	1.0%	1.9 %	Y
Z2-488-B2	1.0%	2.3 %	Y
Z2-488-B3	1.0%	3.5 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z2-488-KL	2.0%	7.3 %	Y
Z2-489-B2	1.0%	1.3 %	Y
Z2-489-B1	1.0%	2.0 %	Y
Z2-489-KL	2.0%	6.9 %	Y
Z2-490-KL	2.0%	2.0 %	Y
Z2-490-B1	1.0%	4.0 %	Y
Z2-490-B2	1.0%	4.8 %	Y
Z2-491-KL	2.0%	2.0 %	Y
Z2-491-B1	1.0%	6.4 %	Y
Z2-491-B2	1.0%	3.5 %	Y
Z2-491-B3	1.0%	5.8 %	Y
Z2-492-KL	2.0%	5.3 %	Y
Z2-492-B1	1.0%	2.9 %	Y
Z2-492-B2	1.0%	2.5 %	Y
Z2-492-B3	1.0%	2.4 %	Y
Z2-493-B1	1.0%	2.2 %	Y
Z2-493-KL	2.0%	2.7 %	Y
Z2-493-B2	1.0%	2.1 %	Y
Z2-493-B3	1.0%	2.6 %	Y
Z2-494-KL	2.0%	1.5 %	N
Z2-494-B1	1.0%	1.5 %	Y
Z2-494-B2	1.0%	2.3 %	Y
Z2-494-B3	1.0%	2.5 %	Y
Z2-495-B1	1.0%	2.2 %	Y
Z2-495-KL	2.0%	1.5 %	N
Z2-495-B2	1.0%	2.2 %	Y
Z2-484-B1	1.0%	0.5 %	N
Z2-484-KL	2.0%	0.9 %	N
Z2-485-B1	1.0%	2.6 %	Y
Z2-485-KL	2.0%	2.3 %	Y
Z2-485-B2	1.0%	1.0 %	Y
Z2-486-B1	1.0%	1.0 %	Y
Z2-498-KL	2.0%	2.9 %	Y
Z2-498-B2	1.0%	2.5 %	Y
Z2-499-B1	1.0%	2.7 %	Y
Z2-499-KL	2.0%	1.6 %	N
Z2-499-B2	1.0%	1.0 %	Y
Z2-500-B1	1.0%	2.3 %	Y
Z2-500-B2	1.0%	2.7 %	Y
Z2-500-B3	1.0%	4.0 %	Y
Z2-500-KL	2.0%	7.6 %	Y
Z2-501-B2	1.0%	1.3 %	Y
Z2-501-B1	1.0%	2.1 %	Y
Z2-501-KL	2.0%	7.1 %	Y
Z2-502-KL	2.0%	2.0 %	Y
Z2-502-B1	1.0%	4.1 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z2-502-B2	1.0%	4.8 %	Y
Z2-503-KL	2.0%	2.0 %	Y
Z2-503-B1	1.0%	6.5 %	Y
Z2-503-B2	1.0%	3.5 %	Y
Z2-503-B3	1.0%	5.9 %	Y
Z2-504-KL	2.0%	5.4 %	Y
Z2-504-B1	1.0%	3.4 %	Y
Z2-504-B2	1.0%	2.9 %	Y
Z2-504-B3	1.0%	2.8 %	Y
Z2-505-B1	1.0%	2.6 %	Y
Z2-505-KL	2.0%	3.2 %	Y
Z2-505-B2	1.0%	2.3 %	Y
Z2-505-B3	1.0%	3.0 %	Y
Z2-506-KL	2.0%	2.0 %	Y
Z2-506-B1	1.0%	1.6 %	Y
Z2-506-B2	1.0%	2.6 %	Y
Z2-506-B3	1.0%	2.7 %	Y
Z2-507-B1	1.0%	2.4 %	Y
Z2-507-KL	2.0%	2.0 %	Y
Z2-507-B2	1.0%	2.5 %	Y
Z2-496-B1	1.0%	0.5 %	N
Z2-496-KL	2.0%	1.0 %	N
Z2-497-B1	1.0%	3.0 %	Y
Z2-497-KL	2.0%	2.7 %	Y
Z2-497-B2	1.0%	1.0 %	Y
Z2-498-B1	1.0%	1.0 %	Y
Z2-510-KL	2.0%	3.3 %	Y
Z2-510-B2	1.0%	2.9 %	Y
Z2-511-B1	1.0%	3.1 %	Y
Z2-511-KL	2.0%	2.0 %	Y
Z2-511-B2	1.0%	1.0 %	Y
Z2-512-B1	1.0%	2.6 %	Y
Z2-512-B2	1.0%	3.0 %	Y
Z2-512-B3	1.0%	4.6 %	Y
Z2-512-KL	2.0%	8.4 %	Y
Z2-513-B2	1.0%	1.3 %	Y
Z2-513-B1	1.0%	3.1 %	Y
Z2-513-KL	2.0%	7.2 %	Y
Z2-514-KL	2.0%	2.6 %	Y
Z2-514-B1	1.0%	4.2 %	Y
Z2-514-B2	1.0%	4.8 %	Y
Z2-515-KL	2.0%	2.4 %	Y
Z2-515-B1	1.0%	6.9 %	Y
Z2-515-B2	1.0%	3.5 %	Y
Z2-515-B3	1.0%	5.9 %	Y
Z2-516-KL	2.0%	5.9 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z2-516-B1	1.0%	3.9 %	Y
Z2-516-B2	1.0%	3.3 %	Y
Z2-516-B3	1.0%	3.3 %	Y
Z2-517-B1	1.0%	3.1 %	Y
Z2-517-KL	2.0%	3.8 %	Y
Z2-517-B2	1.0%	2.5 %	Y
Z2-517-B3	1.0%	3.4 %	Y
Z2-518-KL	2.0%	2.0 %	Y
Z2-518-B1	1.0%	1.9 %	Y
Z2-518-B2	1.0%	2.9 %	Y
Z2-518-B3	1.0%	3.0 %	Y
Z2-519-B1	1.0%	2.7 %	Y
Z2-519-KL	2.0%	2.3 %	Y
Z2-519-B2	1.0%	3.1 %	Y
Z2-508-B1	1.0%	0.6 %	N
Z2-508-KL	2.0%	1.2 %	N
Z2-509-B1	1.0%	3.4 %	Y
Z2-509-KL	2.0%	3.2 %	Y
Z2-509-B2	1.0%	1.2 %	Y
Z2-510-B1	1.0%	1.2 %	Y
Z2-522-KL	2.0%	5.6 %	Y
Z2-522-B2	1.0%	3.3 %	Y
Z2-523-B1	1.0%	3.4 %	Y
Z2-523-KL	2.0%	3.3 %	Y
Z2-523-B2	1.0%	2.8 %	Y
Z2-524-B1	1.0%	2.9 %	Y
Z2-524-B2	1.0%	3.2 %	Y
Z2-524-B3	1.0%	6.3 %	Y
Z2-524-KL	2.0%	10.9 %	Y
Z2-525-B2	1.0%	1.3 %	Y
Z2-525-B1	1.0%	6.6 %	Y
Z2-525-KL	2.0%	8.1 %	Y
Z2-526-KL	2.0%	5.3 %	Y
Z2-526-B1	1.0%	5.2 %	Y
Z2-526-B2	1.0%	4.8 %	Y
Z2-527-KL	2.0%	6.1 %	Y
Z2-527-B1	1.0%	8.2 %	Y
Z2-527-B2	1.0%	3.6 %	Y
Z2-527-B3	1.0%	5.9 %	Y
Z2-528-KL	2.0%	8.6 %	Y
Z2-528-B1	1.0%	4.6 %	Y
Z2-528-B2	1.0%	3.7 %	Y
Z2-528-B3	1.0%	3.8 %	Y
Z2-529-B1	1.0%	3.6 %	Y
Z2-529-KL	2.0%	6.8 %	Y
Z2-529-B2	1.0%	2.8 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z2-529-B3	1.0%	3.9 %	Y
Z2-530-KL	2.0%	3.0 %	Y
Z2-530-B1	1.0%	3.6 %	Y
Z2-530-B2	1.0%	3.3 %	Y
Z2-530-B3	1.0%	3.3 %	Y
Z2-531-B1	1.0%	3.0 %	Y
Z2-531-KL	2.0%	4.8 %	Y
Z2-531-B2	1.0%	3.7 %	Y
Z2-520-B1	1.0%	2.0 %	Y
Z2-520-KL	2.0%	3.3 %	Y
Z2-521-B1	1.0%	3.9 %	Y
Z2-521-KL	2.0%	5.6 %	Y
Z2-521-B2	1.0%	1.6 %	Y
Z2-522-B1	1.0%	1.5 %	Y
Z2-473-B1	1.0%	3.1 %	Y

Zone 3 Daylight Results:

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z3-539-KL	2.0%	1.3 %	N
Z3-549-KL	2.0%	1.2 %	N
Z3-539-B1	1.0%	2.8 %	Y
Z3-538-B1	1.0%	3.0 %	Y
Z3-537-B1	1.0%	1.9 %	Y
Z3-538-B2	1.0%	1.8 %	Y
Z3-538-KL	2.0%	2.9 %	Y
Z3-537-B2	1.0%	3.0 %	Y
Z3-537-KL	2.0%	3.4 %	Y
Z3-536-B1	1.0%	1.8 %	Y
Z3-536-KL	2.0%	1.3 %	N
Z3-536-B2	1.0%	2.4 %	Y
Z3-536-B3	1.0%	2.2 %	Y
Z3-535-B1	1.0%	3.0 %	Y
Z3-535-KL	2.0%	5.1 %	Y
Z3-535-B2	1.0%	6.0 %	Y
Z3-533-B1	1.0%	5.4 %	Y
Z3-533-KL	2.0%	3.2 %	Y
Z3-532-KL	2.0%	4.4 %	Y
Z3-532-B1	1.0%	6.4 %	Y
Z3-532-B2	1.0%	2.6 %	Y
Z3-532-B3	1.0%	2.1 %	Y
Z3-625-B1	1.0%	2.1 %	Y
Z3-625-B2	1.0%	2.6 %	Y
Z3-625-B3	1.0%	6.4 %	Y
Z3-625-KL	2.0%	4.4 %	Y
Z3-624-KL	2.0%	3.2 %	Y
Z3-624-B1	1.0%	5.4 %	Y
Z3-623-B1	1.0%	5.5 %	Y
Z3-623-KL	2.0%	4.6 %	Y
Z3-622-B1	1.0%	5.9 %	Y
Z3-622-KL	2.0%	5.1 %	Y
Z3-622-B2	1.0%	2.6 %	Y
Z3-628-B1	1.0%	2.8 %	Y
Z3-628-KL	2.0%	1.3 %	N
Z3-628-B2	1.0%	3.5 %	Y
Z3-627-B1	1.0%	3.5 %	Y
Z3-627-KL	2.0%	4.3 %	Y
Z3-627-B2	1.0%	4.7 %	Y
Z3-626-B1	1.0%	4.3 %	Y
Z3-626-B2	1.0%	5.7 %	Y
Z3-626-B3	1.0%	2.8 %	Y
Z3-626-KL	2.0%	2.0 %	Y
Z3-713-B1	1.0%	1.4 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z3-713-KL	2.0%	1.2 %	N
Z3-712-B1	1.0%	2.1 %	Y
Z3-711-KL	2.0%	1.3 %	N
Z3-711-B1	1.0%	1.0 %	Y
Z3-712-KL	2.0%	1.3 %	N
Z3-534-B1	1.0%	5.5 %	Y
Z3-534-KL	2.0%	4.9 %	Y
Z3-549-B1	1.0%	2.2 %	Y
Z3-548-B1	1.0%	2.5 %	Y
Z3-548-KL	2.0%	2.8 %	Y
Z3-548-B2	1.0%	1.8 %	Y
Z3-547-B1	1.0%	1.8 %	Y
Z3-547-B2	1.0%	2.6 %	Y
Z3-547-KL	2.0%	3.2 %	Y
Z3-546-B1	1.0%	1.4 %	Y
Z3-546-KL	2.0%	1.5 %	N
Z3-546-B2	1.0%	2.1 %	Y
Z3-546-B3	1.0%	1.9 %	Y
Z3-545-B1	1.0%	2.4 %	Y
Z3-545-KL	2.0%	4.3 %	Y
Z3-545-B2	1.0%	4.9 %	Y
Z3-544-KL	2.0%	4.0 %	Y
Z3-544-B1	1.0%	4.5 %	Y
Z3-543-B1	1.0%	4.3 %	Y
Z3-543-KL	2.0%	2.7 %	Y
Z3-542-B1	1.0%	4.0 %	Y
Z3-542-B2	1.0%	4.7 %	Y
Z3-542-KL	2.0%	2.5 %	Y
Z3-541-B1	1.0%	1.3 %	Y
Z3-541-B2	1.0%	1.4 %	Y
Z3-633-B1	1.0%	1.4 %	Y
Z3-633-B1	1.0%	1.4 %	Y
Z3-632-B1	1.0%	4.7 %	Y
Z3-632-KL	2.0%	2.6 %	Y
Z3-632-B2	1.0%	4.3 %	Y
Z3-631-KL	2.0%	2.7 %	Y
Z3-631-B1	1.0%	4.3 %	Y
Z3-630-B1	1.0%	4.5 %	Y
Z3-630-KL	2.0%	3.8 %	Y
Z3-629-B1	1.0%	4.8 %	Y
Z3-629-KL	2.0%	4.2 %	Y
Z3-629-B2	1.0%	2.0 %	Y
Z3-638-B1	1.0%	2.3 %	Y
Z3-638-KL	2.0%	1.1 %	N
Z3-638-B2	1.0%	2.9 %	Y
Z3-637-B1	1.0%	2.9 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z3-637-KL	2.0%	3.7 %	Y
Z3-637-B2	1.0%	3.7 %	Y
Z3-636-B1	1.0%	4.0 %	Y
Z3-636-KL	2.0%	3.8 %	Y
Z3-636-B2	1.0%	2.5 %	Y
Z3-635-KL	2.0%	2.0 %	Y
Z3-635-B1	1.0%	1.5 %	Y
Z3-634-B1	1.0%	3.7 %	Y
Z3-634-KL	2.0%	2.0 %	Y
Z3-634-B2	1.0%	2.7 %	Y
Z3-633-KL	2.0%	2.0 %	Y
Z3-541-KL	2.0%	2.0 %	Y
Z3-540-B1	1.0%	2.3 %	Y
Z3-540-KL	2.0%	2.0 %	Y
Z3-540-B3	1.0%	1.3 %	Y
Z3-540-B2	1.0%	3.4 %	Y
Z3-721-B1	1.0%	4.4 %	Y
Z3-721-KL	2.0%	3.8 %	Y
Z3-722-KL	2.0%	1.5 %	N
Z3-722-B1	1.0%	2.2 %	Y
Z3-723-KL	2.0%	1.5 %	N
Z3-723-B1	1.0%	1.9 %	Y
Z3-714-KL	2.0%	1.4 %	N
Z3-714-B1	1.0%	1.1 %	Y
Z3-715-KL	2.0%	2.2 %	Y
Z3-715-B1	1.0%	1.2 %	Y
Z3-716-B1	1.0%	1.3 %	Y
Z3-716-KL	2.0%	2.2 %	Y
Z3-716-B2	1.0%	4.1 %	Y
Z3-717-B1	1.0%	2.6 %	Y
Z3-717-B2	1.0%	3.0 %	Y
Z3-717-B3	1.0%	3.8 %	Y
Z3-717-KL	2.0%	6.9 %	Y
Z3-718-B1	1.0%	6.1 %	Y
Z3-718-B2	1.0%	3.3 %	Y
Z3-718-KL	2.0%	6.6 %	Y
Z3-719-KL	2.0%	4.5 %	Y
Z3-719-B1	1.0%	4.7 %	Y
Z3-719-B2	1.0%	4.7 %	Y
Z3-720-B1	1.0%	3.5 %	Y
Z3-720-B2	1.0%	4.2 %	Y
Z3-720-KL	2.0%	4.1 %	Y
Z3-559-KL	2.0%	1.3 %	N
Z3-559-B1	1.0%	2.4 %	Y
Z3-558-B1	1.0%	2.7 %	Y
Z3-558-KL	2.0%	3.4 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z3-558-B2	1.0%	2.5 %	Y
Z3-557-B1	1.0%	2.5 %	Y
Z3-557-B2	1.0%	2.8 %	Y
Z3-557-KL	2.0%	3.7 %	Y
Z3-556-B1	1.0%	1.5 %	Y
Z3-556-KL	2.0%	1.5 %	N
Z3-556-B2	1.0%	2.2 %	Y
Z3-556-B3	1.0%	2.1 %	Y
Z3-555-B1	1.0%	2.7 %	Y
Z3-555-KL	2.0%	4.4 %	Y
Z3-555-B2	1.0%	4.9 %	Y
Z3-554-KL	2.0%	4.1 %	Y
Z3-554-B1	1.0%	4.5 %	Y
Z3-553-B1	1.0%	4.2 %	Y
Z3-553-KL	2.0%	2.7 %	Y
Z3-552-B1	1.0%	4.0 %	Y
Z3-552-B2	1.0%	4.7 %	Y
Z3-552-KL	2.0%	2.5 %	Y
Z3-551-B1	1.0%	1.3 %	Y
Z3-551-B2	1.0%	1.4 %	Y
Z3-643-B1	1.0%	1.4 %	Y
Z3-643-B1	1.0%	1.4 %	Y
Z3-642-B1	1.0%	4.7 %	Y
Z3-642-KL	2.0%	2.6 %	Y
Z3-642-B2	1.0%	4.3 %	Y
Z3-641-KL	2.0%	2.7 %	Y
Z3-641-B1	1.0%	4.4 %	Y
Z3-640-B1	1.0%	4.5 %	Y
Z3-640-KL	2.0%	3.8 %	Y
Z3-639-B1	1.0%	4.8 %	Y
Z3-639-KL	2.0%	4.3 %	Y
Z3-639-B2	1.0%	2.1 %	Y
Z3-648-B1	1.0%	2.5 %	Y
Z3-648-KL	2.0%	1.2 %	N
Z3-648-B2	1.0%	3.1 %	Y
Z3-647-B1	1.0%	3.1 %	Y
Z3-647-KL	2.0%	4.1 %	Y
Z3-647-B2	1.0%	3.9 %	Y
Z3-646-B1	1.0%	4.2 %	Y
Z3-646-KL	2.0%	4.2 %	Y
Z3-646-B2	1.0%	2.7 %	Y
Z3-645-KL	2.0%	2.0 %	Y
Z3-645-B1	1.0%	1.4 %	Y
Z3-644-B1	1.0%	3.8 %	Y
Z3-644-KL	2.0%	2.0 %	Y
Z3-644-B2	1.0%	2.7 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z3-643-KL	2.0%	2.1 %	Y
Z3-551-KL	2.0%	2.0 %	Y
Z3-550-B1	1.0%	2.5 %	Y
Z3-550-KL	2.0%	2.0 %	Y
Z3-559-B3	1.0%	1.4 %	Y
Z3-550-B2	1.0%	3.7 %	Y
Z3-731-B1	1.0%	4.6 %	Y
Z3-731-KL	2.0%	4.3 %	Y
Z3-732-KL	2.0%	1.7 %	N
Z3-732-B1	1.0%	2.5 %	Y
Z3-733-KL	2.0%	1.7 %	N
Z3-733-B1	1.0%	2.2 %	Y
Z3-724-KL	2.0%	1.7 %	N
Z3-724-B1	1.0%	1.2 %	Y
Z3-725-KL	2.0%	2.5 %	Y
Z3-725-B1	1.0%	1.3 %	Y
Z3-726-B1	1.0%	1.4 %	Y
Z3-726-KL	2.0%	2.6 %	Y
Z3-726-B1	1.0%	3.9 %	Y
Z3-727-B1	1.0%	2.8 %	Y
Z3-727-B2	1.0%	3.5 %	Y
Z3-727-B3	1.0%	5.3 %	Y
Z3-728-B1	1.0%	5.9 %	Y
Z3-728-B2	1.0%	3.2 %	Y
Z3-728-KL	2.0%	6.5 %	Y
Z3-729-KL	2.0%	4.4 %	Y
Z3-729-B1	1.0%	4.7 %	Y
Z3-729-B2	1.0%	4.6 %	Y
Z3-730-B1	1.0%	3.4 %	Y
Z3-727-KL	2.0%	6.4 %	Y
Z3-730-B2	1.0%	4.8 %	Y
Z3-730-KL	2.0%	5.9 %	Y
Z3-569-KL	2.0%	1.4 %	N
Z3-569-B1	1.0%	2.6 %	Y
Z3-568-B1	1.0%	2.9 %	Y
Z3-568-KL	2.0%	4.2 %	Y
Z3-568-B2	1.0%	3.4 %	Y
Z3-567-B1	1.0%	3.4 %	Y
Z3-567-B2	1.0%	3.0 %	Y
Z3-567-KL	2.0%	4.2 %	Y
Z3-566-B1	1.0%	1.6 %	Y
Z3-566-KL	2.0%	1.6 %	N
Z3-566-B2	1.0%	2.5 %	Y
Z3-566-B3	1.0%	2.3 %	Y
Z3-565-B1	1.0%	2.8 %	Y
Z3-565-KL	2.0%	4.4 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z3-565-B2	1.0%	4.9 %	Y
Z3-564-KL	2.0%	4.1 %	Y
Z3-564-B1	1.0%	4.5 %	Y
Z3-563-B1	1.0%	4.3 %	Y
Z3-563-KL	2.0%	2.8 %	Y
Z3-562-B1	1.0%	4.0 %	Y
Z3-562-B2	1.0%	4.7 %	Y
Z3-562-KL	2.0%	2.5 %	Y
Z3-561-B1	1.0%	1.3 %	Y
Z3-561-B2	1.0%	1.4 %	Y
Z3-653-B1	1.0%	1.4 %	Y
Z3-653-B1	1.0%	1.4 %	Y
Z3-652-B1	1.0%	4.7 %	Y
Z3-652-KL	2.0%	2.6 %	Y
Z3-651-B2	1.0%	4.3 %	Y
Z3-651-KL	2.0%	2.7 %	Y
Z3-651-B1	1.0%	4.3 %	Y
Z3-650-B1	1.0%	4.5 %	Y
Z3-650-KL	2.0%	3.9 %	Y
Z3-649-B1	1.0%	4.8 %	Y
Z3-649-KL	2.0%	4.3 %	Y
Z3-649-B2	1.0%	2.2 %	Y
Z3-658-B1	1.0%	2.7 %	Y
Z3-658-KL	2.0%	1.3 %	N
Z3-658-B2	1.0%	3.4 %	Y
Z3-657-B1	1.0%	3.3 %	Y
Z3-657-KL	2.0%	4.4 %	Y
Z3-657-B2	1.0%	4.0 %	Y
Z3-656-B1	1.0%	4.3 %	Y
Z3-656-KL	2.0%	4.5 %	Y
Z3-656-B2	1.0%	2.9 %	Y
Z3-655-KL	2.0%	2.0 %	Y
Z3-655-B1	1.0%	1.5 %	Y
Z3-654-B1	1.0%	3.9 %	Y
Z3-654-KL	2.0%	2.0 %	Y
Z3-654-B2	1.0%	2.8 %	Y
Z3-653-KL	2.0%	2.2 %	Y
Z3-561-KL	2.0%	2.2 %	Y
Z3-560-B1	1.0%	2.7 %	Y
Z3-560-KL	2.0%	2.0 %	Y
Z3-569-B3	1.0%	1.4 %	Y
Z3-560-B2	1.0%	4.0 %	Y
Z3-741-B1	1.0%	4.8 %	Y
Z3-741-KL	2.0%	5.0 %	Y
Z3-742-KL	2.0%	2.1 %	Y
Z3-742-B1	1.0%	2.9 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z3-743-KL	2.0%	2.1 %	Y
Z3-743-B1	1.0%	2.6 %	Y
Z3-734-KL	2.0%	2.1 %	Y
Z3-734-B1	1.0%	1.5 %	Y
Z3-735-KL	2.0%	2.9 %	Y
Z3-735-B1	1.0%	1.7 %	Y
Z3-736-B1	1.0%	1.7 %	Y
Z3-736-KL	2.0%	2.9 %	Y
Z3-736-B1	1.0%	5.3 %	Y
Z3-737-B1	1.0%	3.3 %	Y
Z3-737-B2	1.0%	4.0 %	Y
Z3-737-B3	1.0%	5.1 %	Y
Z3-737-KL	2.0%	7.5 %	Y
Z3-738-B1	1.0%	6.0 %	Y
Z3-738-B2	1.0%	3.2 %	Y
Z3-738-KL	2.0%	6.6 %	Y
Z3-739-KL	2.0%	4.4 %	Y
Z3-739-B1	1.0%	4.8 %	Y
Z3-739-B2	1.0%	4.6 %	Y
Z3-740-B1	1.0%	3.4 %	Y
Z3-740-B2	1.0%	4.1 %	Y
Z3-740-KL	2.0%	4.1 %	Y
Z3-579-KL	2.0%	1.5 %	N
Z3-579-B1	1.0%	2.8 %	Y
Z3-578-B1	1.0%	3.1 %	Y
Z3-578-KL	2.0%	4.9 %	Y
Z3-578-B2	1.0%	4.3 %	Y
Z3-577-B1	1.0%	4.2 %	Y
Z3-577-B2	1.0%	3.3 %	Y
Z3-577-KL	2.0%	4.7 %	Y
Z3-576-B1	1.0%	1.8 %	Y
Z3-576-KL	2.0%	1.6 %	N
Z3-576-B2	1.0%	2.7 %	Y
Z3-576-B3	1.0%	2.5 %	Y
Z3-575-B1	1.0%	3.0 %	Y
Z3-575-KL	2.0%	4.5 %	Y
Z3-575-B2	1.0%	4.9 %	Y
Z3-574-KL	2.0%	4.1 %	Y
Z3-574-B1	1.0%	4.5 %	Y
Z3-573-B1	1.0%	4.3 %	Y
Z3-573-KL	2.0%	2.8 %	Y
Z3-572-B1	1.0%	4.0 %	Y
Z3-572-B2	1.0%	4.7 %	Y
Z3-572-KL	2.0%	2.5 %	Y
Z3-571-B1	1.0%	1.3 %	Y
Z3-571-B2	1.0%	1.4 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z3-663-B1	1.0%	1.3 %	Y
Z3-663-B1	1.0%	1.4 %	Y
Z3-662-B1	1.0%	4.7 %	Y
Z3-662-KL	2.0%	2.6 %	Y
Z3-661-B2	1.0%	4.3 %	Y
Z3-661-KL	2.0%	2.7 %	Y
Z3-661-B1	1.0%	4.3 %	Y
Z3-660-B1	1.0%	4.5 %	Y
Z3-660-KL	2.0%	3.9 %	Y
Z3-659-B1	1.0%	4.8 %	Y
Z3-659-KL	2.0%	4.4 %	Y
Z3-659-B2	1.0%	2.5 %	Y
Z3-668-B1	1.0%	3.0 %	Y
Z3-668-KL	2.0%	1.4 %	N
Z3-668-B2	1.0%	3.7 %	Y
Z3-667-B1	1.0%	3.6 %	Y
Z3-667-KL	2.0%	4.8 %	Y
Z3-667-B2	1.0%	4.1 %	Y
Z3-666-B1	1.0%	4.4 %	Y
Z3-666-KL	2.0%	4.7 %	Y
Z3-666-B2	1.0%	3.1 %	Y
Z3-665-KL	2.0%	2.0 %	Y
Z3-665-B1	1.0%	1.5 %	Y
Z3-664-B1	1.0%	4.2 %	Y
Z3-664-KL	2.0%	2.0 %	Y
Z3-664-B2	1.0%	2.9 %	Y
Z3-663-KL	2.0%	2.4 %	Y
Z3-571-KL	2.0%	2.4 %	Y
Z3-570-B1	1.0%	2.7 %	Y
Z3-570-KL	2.0%	2.0 %	Y
Z3-579-B3	1.0%	1.5 %	Y
Z3-570-B2	1.0%	4.3 %	Y
Z3-751-B1	1.0%	5.0 %	Y
Z3-751-KL	2.0%	7.4 %	Y
Z3-752-KL	2.0%	3.1 %	Y
Z3-752-B1	1.0%	3.5 %	Y
Z3-753-KL	2.0%	2.9 %	Y
Z3-753-B1	1.0%	3.3 %	Y
Z3-744-KL	2.0%	2.7 %	Y
Z3-744-B1	1.0%	2.4 %	Y
Z3-745-KL	2.0%	4.7 %	Y
Z3-745-B1	1.0%	2.1 %	Y
Z3-746-B1	1.0%	2.2 %	Y
Z3-746-KL	2.0%	5.1 %	Y
Z3-746-B1	1.0%	4.7 %	Y
Z3-747-B1	1.0%	3.4 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z3-747-B2	1.0%	4.2 %	Y
Z3-747-B3	1.0%	7.5 %	Y
Z3-748-B1	1.0%	6.5 %	Y
Z3-748-B2	1.0%	3.5 %	Y
Z3-748-KL	2.0%	7.0 %	Y
Z3-749-KL	2.0%	4.9 %	Y
Z3-749-B1	1.0%	5.4 %	Y
Z3-749-B2	1.0%	4.6 %	Y
Z3-750-B1	1.0%	3.4 %	Y
Z3-747-KL	2.0%	7.7 %	Y
Z3-750-B2	1.0%	4.9 %	Y
Z3-750-KL	2.0%	7.5 %	Y
Z3-589-KL	2.0%	1.6 %	N
Z3-589-B1	1.0%	3.0 %	Y
Z3-588-B1	1.0%	3.4 %	Y
Z3-588-KL	2.0%	5.2 %	Y
Z3-588-B2	1.0%	4.5 %	Y
Z3-587-B1	1.0%	4.5 %	Y
Z3-587-B2	1.0%	3.7 %	Y
Z3-587-KL	2.0%	5.0 %	Y
Z3-586-B1	1.0%	2.1 %	Y
Z3-586-KL	2.0%	1.7 %	N
Z3-586-B2	1.0%	3.1 %	Y
Z3-586-B3	1.0%	2.8 %	Y
Z3-585-B1	1.0%	3.3 %	Y
Z3-585-KL	2.0%	4.6 %	Y
Z3-585-B2	1.0%	4.9 %	Y
Z3-584-KL	2.0%	4.2 %	Y
Z3-584-B1	1.0%	4.5 %	Y
Z3-583-B1	1.0%	4.2 %	Y
Z3-583-KL	2.0%	2.7 %	Y
Z3-582-B1	1.0%	4.0 %	Y
Z3-582-B2	1.0%	4.7 %	Y
Z3-582-KL	2.0%	2.5 %	Y
Z3-581-B1	1.0%	1.3 %	Y
Z3-581-B2	1.0%	1.4 %	Y
Z3-673-B1	1.0%	1.4 %	Y
Z3-673-B1	1.0%	1.4 %	Y
Z3-672-B1	1.0%	4.7 %	Y
Z3-672-KL	2.0%	2.6 %	Y
Z3-672-B2	1.0%	4.3 %	Y
Z3-671-KL	2.0%	2.7 %	Y
Z3-671-B1	1.0%	4.3 %	Y
Z3-670-B1	1.0%	4.5 %	Y
Z3-670-KL	2.0%	4.0 %	Y
Z3-669-B1	1.0%	4.8 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z3-669-KL	2.0%	4.6 %	Y
Z3-669-B2	1.0%	2.7 %	Y
Z3-678-B1	1.0%	3.3 %	Y
Z3-678-KL	2.0%	1.6 %	N
Z3-678-B2	1.0%	4.0 %	Y
Z3-677-B1	1.0%	3.9 %	Y
Z3-677-KL	2.0%	5.0 %	Y
Z3-677-B2	1.0%	4.2 %	Y
Z3-676-B1	1.0%	4.5 %	Y
Z3-676-KL	2.0%	5.0 %	Y
Z3-676-B2	1.0%	3.4 %	Y
Z3-675-KL	2.0%	2.0 %	Y
Z3-675-B1	1.0%	1.6 %	Y
Z3-674-B1	1.0%	4.6 %	Y
Z3-674-KL	2.0%	2.0 %	Y
Z3-674-B2	1.0%	3.0 %	Y
Z3-673-KL	2.0%	2.4 %	Y
Z3-581-KL	2.0%	2.4 %	Y
Z3-580-B1	1.0%	2.8 %	Y
Z3-580-KL	2.0%	2.0 %	Y
Z3-589-B3	1.0%	1.6 %	Y
Z3-580-B2	1.0%	4.7 %	Y
Z3-599-KL	2.0%	1.7 %	N
Z3-599-B1	1.0%	3.2 %	Y
Z3-598-B1	1.0%	3.7 %	Y
Z3-598-KL	2.0%	5.4 %	Y
Z3-598-B2	1.0%	4.5 %	Y
Z3-597-B1	1.0%	4.5 %	Y
Z3-597-B2	1.0%	4.1 %	Y
Z3-597-KL	2.0%	5.2 %	Y
Z3-596-B1	1.0%	2.4 %	Y
Z3-596-KL	2.0%	1.8 %	N
Z3-596-B2	1.0%	3.4 %	Y
Z3-596-B3	1.0%	3.1 %	Y
Z3-595-B1	1.0%	3.6 %	Y
Z3-595-KL	2.0%	4.7 %	Y
Z3-595-B2	1.0%	4.9 %	Y
Z3-594-KL	2.0%	4.2 %	Y
Z3-594-B1	1.0%	4.5 %	Y
Z3-593-B1	1.0%	4.2 %	Y
Z3-593-KL	2.0%	2.8 %	Y
Z3-592-B1	1.0%	4.0 %	Y
Z3-592-B2	1.0%	4.7 %	Y
Z3-592-KL	2.0%	2.5 %	Y
Z3-591-B1	1.0%	1.3 %	Y
Z3-591-B2	1.0%	1.3 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z3-683-B1	1.0%	1.3 %	Y
Z3-683-B1	1.0%	1.4 %	Y
Z3-682-B1	1.0%	4.7 %	Y
Z3-682-KL	2.0%	2.6 %	Y
Z3-682-B2	1.0%	4.4 %	Y
Z3-681-KL	2.0%	2.7 %	Y
Z3-681-B1	1.0%	4.3 %	Y
Z3-680-B1	1.0%	4.6 %	Y
Z3-680-KL	2.0%	4.1 %	Y
Z3-679-B1	1.0%	4.9 %	Y
Z3-679-KL	2.0%	4.9 %	Y
Z3-679-B2	1.0%	3.1 %	Y
Z3-688-B1	1.0%	3.7 %	Y
Z3-688-KL	2.0%	1.8 %	N
Z3-688-B2	1.0%	4.3 %	Y
Z3-687-B1	1.0%	4.2 %	Y
Z3-687-KL	2.0%	5.2 %	Y
Z3-687-B2	1.0%	4.2 %	Y
Z3-686-B1	1.0%	4.5 %	Y
Z3-686-KL	2.0%	5.1 %	Y
Z3-686-B2	1.0%	3.8 %	Y
Z3-685-KL	2.0%	2.0 %	Y
Z3-685-B1	1.0%	1.6 %	Y
Z3-684-B1	1.0%	5.3 %	Y
Z3-684-KL	2.0%	2.0 %	Y
Z3-684-B2	1.0%	3.0 %	Y
Z3-683-KL	2.0%	2.5 %	Y
Z3-591-KL	2.0%	2.5 %	Y
Z3-590-B1	1.0%	2.9 %	Y
Z3-590-KL	2.0%	2.0 %	Y
Z3-599-B3	1.0%	1.6 %	Y
Z3-590-B2	1.0%	5.4 %	Y
Z3-609-KL	2.0%	2.0 %	Y
Z3-609-B1	1.0%	3.5 %	Y
Z3-608-B1	1.0%	4.0 %	Y
Z3-608-KL	2.0%	7.7 %	Y
Z3-608-B2	1.0%	4.5 %	Y
Z3-607-B1	1.0%	4.5 %	Y
Z3-607-B2	1.0%	4.4 %	Y
Z3-607-KL	2.0%	7.2 %	Y
Z3-606-B1	1.0%	4.6 %	Y
Z3-606-KL	2.0%	2.0 %	Y
Z3-606-B2	1.0%	3.8 %	Y
Z3-606-B3	1.0%	3.5 %	Y
Z3-605-B1	1.0%	3.9 %	Y
Z3-605-KL	2.0%	5.0 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z3-605-B2	1.0%	5.1 %	Y
Z3-604-KL	2.0%	4.4 %	Y
Z3-604-B1	1.0%	4.5 %	Y
Z3-603-B1	1.0%	4.3 %	Y
Z3-603-KL	2.0%	2.8 %	Y
Z3-602-B1	1.0%	4.1 %	Y
Z3-602-B2	1.0%	7.3 %	Y
Z3-602-KL	2.0%	2.5 %	Y
Z3-601-B1	1.0%	3.8 %	Y
Z3-601-B2	1.0%	4.2 %	Y
Z3-693-B1	1.0%	4.2 %	Y
Z3-693-B1	1.0%	3.9 %	Y
Z3-692-B1	1.0%	7.1 %	Y
Z3-692-KL	2.0%	2.6 %	Y
Z3-692-B2	1.0%	4.4 %	Y
Z3-691-KL	2.0%	2.7 %	Y
Z3-691-B1	1.0%	4.4 %	Y
Z3-690-B1	1.0%	4.6 %	Y
Z3-690-KL	2.0%	4.1 %	Y
Z3-689-B1	1.0%	5.0 %	Y
Z3-689-KL	2.0%	5.2 %	Y
Z3-689-B2	1.0%	3.5 %	Y
Z3-698-B1	1.0%	4.3 %	Y
Z3-698-KL	2.0%	2.0 %	Y
Z3-698-B2	1.0%	4.7 %	Y
Z3-697-B1	1.0%	4.5 %	Y
Z3-697-KL	2.0%	6.8 %	Y
Z3-697-B2	1.0%	4.2 %	Y
Z3-696-B1	1.0%	4.5 %	Y
Z3-696-KL	2.0%	7.1 %	Y
Z3-696-B2	1.0%	4.3 %	Y
Z3-695-KL	2.0%	3.3 %	Y
Z3-695-B1	1.0%	3.1 %	Y
Z3-694-B1	1.0%	6.2 %	Y
Z3-694-KL	2.0%	2.0 %	Y
Z3-694-B2	1.0%	3.2 %	Y
Z3-693-KL	2.0%	4.6 %	Y
Z3-601-KL	2.0%	4.6 %	Y
Z3-600-B1	1.0%	3.0 %	Y
Z3-600-KL	2.0%	2.0 %	Y
Z3-609-B3	1.0%	3.0 %	Y
Z3-600-B2	1.0%	6.3 %	Y
Z3-614-B1	1.0%	4.3 %	Y
Z3-614-KL	2.0%	6.9 %	Y
Z3-614-B2	1.0%	5.4 %	Y
Z3-613-KL	2.0%	5.9 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z3-613-B1	1.0%	4.7 %	Y
Z3-612-B1	1.0%	4.6 %	Y
Z3-612-KL	2.0%	4.0 %	Y
Z3-611-B1	1.0%	4.4 %	Y
Z3-611-B2	1.0%	7.9 %	Y
Z3-611-KL	2.0%	3.7 %	Y
Z3-703-KL	2.0%	3.8 %	Y
Z3-703-B2	1.0%	4.7 %	Y
Z3-702-KL	2.0%	4.0 %	Y
Z3-702-B1	1.0%	4.6 %	Y
Z3-701-B1	1.0%	4.8 %	Y
Z3-701-KL	2.0%	5.7 %	Y
Z3-700-B1	1.0%	5.4 %	Y
Z3-700-KL	2.0%	7.2 %	Y
Z3-700-B2	1.0%	4.0 %	Y
Z3-703-B1	1.0%	7.8 %	Y
Z3-704-B1	1.0%	4.8 %	Y
Z3-704-KL	2.0%	4.3 %	Y
Z3-704-B3	1.0%	3.8 %	Y
Z3-704-B2	1.0%	6.1 %	Y
Z3-699-B1	1.0%	5.7 %	Y
Z3-699-KL	2.0%	4.2 %	Y
Z3-615-B1	1.0%	4.8 %	Y
Z3-615-KL	2.0%	4.3 %	Y
Z3-610-B2	1.0%	3.1 %	Y
Z3-610-KL	2.0%	4.2 %	Y
Z3-610-B1	1.0%	3.6 %	Y

Zone 4 Daylight Results:

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z4-758-B1	1.0%	7.6 %	Y
Z4-758-B2	1.0%	3.5 %	Y
Z4-758-KL	2.0%	2.0 %	Y
Z4-757-B1	1.0%	2.4 %	Y
Z4-757-KL	2.0%	5.6 %	Y
Z4-756-B1	1.0%	8.0 %	Y
Z4-756-B2	1.0%	4.9 %	Y
Z4-756-KL	2.0%	3.5 %	Y
Z4-755-B1	1.0%	5.6 %	Y
Z4-755-KL	2.0%	3.5 %	Y
Z4-754-B1	1.0%	5.6 %	Y
Z4-754-KL	2.0%	5.2 %	Y
Z4-759-B1	1.0%	3.9 %	Y
Z4-759-B2	1.0%	2.2 %	Y
Z4-759-KL	2.0%	1.7 %	N
Z4-760-B1	1.0%	2.0 %	Y
Z4-760-KL	2.0%	2.3 %	Y
Z4-767-B1	1.0%	4.9 %	Y
Z4-767-B2	1.0%	3.1 %	Y
Z4-766-B1	1.0%	2.0 %	Y
Z4-765-B1	1.0%	6.4 %	Y
Z4-765-B2	1.0%	3.8 %	Y
Z4-765-KL	2.0%	2.5 %	Y
Z4-764-B1	1.0%	4.5 %	Y
Z4-764-KL	2.0%	2.5 %	Y
Z4-763-B1	1.0%	4.5 %	Y
Z4-763-KL	2.0%	3.9 %	Y
Z4-768-B2	1.0%	3.4 %	Y
Z4-768-B2	1.0%	1.8 %	Y
Z4-770-B2	1.0%	2.3 %	Y
Z4-770-KL	2.0%	2.8 %	Y
Z4-770-B1	1.0%	2.1 %	Y
Z4-771-B2	1.0%	1.9 %	Y
Z4-771-B1	1.0%	4.2 %	Y
Z4-771-KL	2.0%	4.6 %	Y
Z4-772-B1	1.0%	4.0 %	Y
Z4-772-KL	2.0%	2.5 %	Y
Z4-761-KL	2.0%	2.2 %	Y
Z4-761-B1	1.0%	3.8 %	Y
Z4-762-B1	1.0%	4.9 %	Y
Z4-842-KL	2.0%	2.9 %	Y
Z4-842-B1	1.0%	4.0 %	Y
Z4-843-B2	1.0%	4.6 %	Y
Z4-843-KL	2.0%	4.7 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z4-843-B1	1.0%	1.7 %	Y
Z4-844-B2	1.0%	1.7 %	Y
Z4-844-KL	2.0%	2.5 %	Y
Z4-844-B1	1.0%	1.8 %	Y
Z4-845-KL	2.0%	1.0 %	N
Z4-845-B2	1.0%	1.0 %	Y
Z4-845-B1	1.0%	2.2 %	Y
Z4-767-KL	2.0%	2.0 %	Y
Z4-766-KL	2.0%	5.2 %	Y
Z4-768-KL	2.0%	1.6 %	N
Z4-762-KL	2.0%	7.8 %	Y
Z4-769-KL	2.0%	1.6 %	N
Z4-769-B1	1.0%	1.5 %	Y
Z4-779-B1	1.0%	4.8 %	Y
Z4-779-B2	1.0%	3.4 %	Y
Z4-778-B1	1.0%	2.1 %	Y
Z4-777-B1	1.0%	6.5 %	Y
Z4-777-B2	1.0%	3.8 %	Y
Z4-777-KL	2.0%	2.5 %	Y
Z4-776-B1	1.0%	4.5 %	Y
Z4-776-KL	2.0%	2.5 %	Y
Z4-775-B1	1.0%	4.5 %	Y
Z4-775-KL	2.0%	3.9 %	Y
Z4-780-B1	1.0%	3.8 %	Y
Z4-780-B2	1.0%	2.0 %	Y
Z4-782-B2	1.0%	2.4 %	Y
Z4-782-KL	2.0%	3.3 %	Y
Z4-782-B1	1.0%	2.5 %	Y
Z4-783-B2	1.0%	2.3 %	Y
Z4-783-B1	1.0%	4.2 %	Y
Z4-783-KL	2.0%	4.8 %	Y
Z4-784-B1	1.0%	4.0 %	Y
Z4-773-KL	2.0%	2.2 %	Y
Z4-773-B1	1.0%	3.8 %	Y
Z4-774-B1	1.0%	5.0 %	Y
Z4-846-KL	2.0%	3.0 %	Y
Z4-846-B1	1.0%	4.0 %	Y
Z4-847-B2	1.0%	4.6 %	Y
Z4-847-KL	2.0%	4.8 %	Y
Z4-847-B1	1.0%	1.9 %	Y
Z4-848-B2	1.0%	2.0 %	Y
Z4-848-KL	2.0%	2.8 %	Y
Z4-848-B1	1.0%	2.0 %	Y
Z4-849-KL	2.0%	1.7 %	N
Z4-849-B2	1.0%	1.2 %	Y
Z4-849-B1	1.0%	2.3 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z4-779-KL	2.0%	2.1 %	Y
Z4-778-KL	2.0%	5.2 %	Y
Z4-780-KL	2.0%	2.0 %	Y
Z4-774-KL	2.0%	7.8 %	Y
Z4-781-KL	2.0%	1.7 %	N
Z4-781-B1	1.0%	1.6 %	Y
Z4-855-KL	2.0%	8.4 %	Y
Z4-855-B1	1.0%	1.2 %	Y
Z4-852-B2	1.0%	8.5 %	Y
Z4-852-B3	1.0%	4.6 %	Y
Z4-851-B1	1.0%	4.3 %	Y
Z4-851-B2	1.0%	7.1 %	Y
Z4-851-B3	1.0%	4.9 %	Y
Z4-851-KL	2.0%	2.0 %	Y
Z4-850-B1	1.0%	3.1 %	Y
Z4-850-B2	1.0%	2.4 %	Y
Z4-850-KL	2.0%	1.8 %	N
Z4-852-KL	2.0%	4.8 %	Y
Z4-854-KL	2.0%	4.8 %	Y
Z4-853-B1	1.0%	3.9 %	Y
Z4-854-B1	1.0%	4.0 %	Y
Z4-852-B1	1.0%	5.5 %	Y
Z4-853-KL	2.0%	5.2 %	Y
Z4-784-KL	2.0%	2.7 %	Y
Z4-791-B1	1.0%	4.0 %	Y
Z4-791-B2	1.0%	3.7 %	Y
Z4-790-B1	1.0%	2.7 %	Y
Z4-789-B1	1.0%	6.5 %	Y
Z4-789-B2	1.0%	3.9 %	Y
Z4-789-KL	2.0%	2.5 %	Y
Z4-788-B1	1.0%	4.5 %	Y
Z4-788-KL	2.0%	2.5 %	Y
Z4-787-B1	1.0%	4.5 %	Y
Z4-787-KL	2.0%	3.9 %	Y
Z4-792-B1	1.0%	4.1 %	Y
Z4-792-B2	1.0%	2.3 %	Y
Z4-794-B2	1.0%	2.6 %	Y
Z4-794-KL	2.0%	3.8 %	Y
Z4-794-B1	1.0%	3.1 %	Y
Z4-795-B2	1.0%	2.8 %	Y
Z4-795-B1	1.0%	4.2 %	Y
Z4-795-KL	2.0%	5.1 %	Y
Z4-785-B1	1.0%	4.0 %	Y
Z4-786-KL	2.0%	3.1 %	Y
Z4-786-B1	1.0%	3.9 %	Y
Z4-786-B1	1.0%	3.5 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z4-856-KL	2.0%	2.9 %	Y
Z4-856-B1	1.0%	4.0 %	Y
Z4-857-B2	1.0%	4.6 %	Y
Z4-857-KL	2.0%	5.1 %	Y
Z4-857-B1	1.0%	2.2 %	Y
Z4-858-B2	1.0%	2.4 %	Y
Z4-858-KL	2.0%	3.3 %	Y
Z4-858-B1	1.0%	2.2 %	Y
Z4-859-KL	2.0%	1.3 %	N
Z4-859-B2	1.0%	1.3 %	Y
Z4-859-B1	1.0%	2.6 %	Y
Z4-791-KL	2.0%	3.6 %	Y
Z4-790-KL	2.0%	5.2 %	Y
Z4-792-KL	2.0%	2.0 %	Y
Z4-786-KL	2.0%	7.7 %	Y
Z4-793-KL	2.0%	2.0 %	Y
Z4-793-B1	1.0%	2.0 %	Y
Z4-865-KL	2.0%	9.7 %	Y
Z4-865-B1	1.0%	4.5 %	Y
Z4-862-B2	1.0%	1.3 %	Y
Z4-862-B3	1.0%	4.6 %	Y
Z4-861-B1	1.0%	4.4 %	Y
Z4-861-B2	1.0%	6.8 %	Y
Z4-861-B3	1.0%	1.7 %	Y
Z4-861-KL	2.0%	3.1 %	Y
Z4-860-B1	1.0%	3.4 %	Y
Z4-860-B2	1.0%	2.7 %	Y
Z4-860-KL	2.0%	1.5 %	N
Z4-862-KL	2.0%	4.9 %	Y
Z4-864-KL	2.0%	4.4 %	Y
Z4-863-B1	1.0%	4.0 %	Y
Z4-864-B1	1.0%	4.1 %	Y
Z4-862--B1	1.0%	5.5 %	Y
Z4-863-KL	2.0%	4.9 %	Y
Z4-785-KL	2.0%	2.7 %	Y
Z4-802-B1	1.0%	6.2 %	Y
Z4-802-B2	1.0%	3.9 %	Y
Z4-801-B1	1.0%	3.0 %	Y
Z4-800-B1	1.0%	6.6 %	Y
Z4-800-B2	1.0%	3.8 %	Y
Z4-800-KL	2.0%	2.5 %	Y
Z4-799-B1	1.0%	4.5 %	Y
Z4-799-KL	2.0%	2.5 %	Y
Z4-798-B1	1.0%	4.4 %	Y
Z4-798-KL	2.0%	3.9 %	Y
Z4-803-B1	1.0%	4.3 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z4-803-B2	1.0%	2.7 %	Y
Z4-805-B2	1.0%	2.8 %	Y
Z4-805-KL	2.0%	4.4 %	Y
Z4-805-B1	1.0%	3.8 %	Y
Z4-806-B2	1.0%	3.5 %	Y
Z4-806-B1	1.0%	4.2 %	Y
Z4-806-KL	2.0%	5.4 %	Y
Z4-807-B1	1.0%	4.0 %	Y
Z4-866-B1	1.0%	4.0 %	Y
Z4-867-B2	1.0%	4.7 %	Y
Z4-867-KL	2.0%	5.3 %	Y
Z4-867-B1	1.0%	2.8 %	Y
Z4-868-B2	1.0%	2.9 %	Y
Z4-868-KL	2.0%	4.2 %	Y
Z4-868-B1	1.0%	2.7 %	Y
Z4-869-KL	2.0%	2.0 %	Y
Z4-869-B2	1.0%	1.5 %	Y
Z4-869-B1	1.0%	2.0 %	Y
Z4-802-KL	2.0%	3.0 %	Y
Z4-801-KL	2.0%	5.4 %	Y
Z4-803-KL	2.0%	2.3 %	Y
Z4-804-KL	2.0%	2.0 %	Y
Z4-804-B1	1.0%	1.8 %	Y
Z4-872-B2	1.0%	2.0 %	Y
Z4-872-B3	1.0%	4.6 %	Y
Z4-871-B1	1.0%	4.5 %	Y
Z4-871-B2	1.0%	7.4 %	Y
Z4-871-B3	1.0%	2.0 %	Y
Z4-871-KL	2.0%	3.4 %	Y
Z4-870-B1	1.0%	3.7 %	Y
Z4-870-B2	1.0%	3.1 %	Y
Z4-870-KL	2.0%	2.0 %	Y
Z4-872-KL	2.0%	5.1 %	Y
Z4-874-KL	2.0%	2.0 %	Y
Z4-873-B1	1.0%	4.0 %	Y
Z4-874-B1	1.0%	4.2 %	Y
Z4-872-B1	1.0%	5.5 %	Y
Z4-873-KL	2.0%	4.5 %	Y
Z4-807-KL	2.0%	2.8 %	Y
Z4-797--KL	2.0%	5.4 %	Y
Z4-797-B2	1.0%	4.0 %	Y
Z4-797-B3	1.0%	3.7 %	Y
Z4-797-B1	1.0%	2.9 %	Y
Z4-866-KL	2.0%	2.3 %	Y
Z4-866-B2	1.0%	6.6 %	Y
Z4-813-B1	1.0%	7.0 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z4-813-B2	1.0%	4.1 %	Y
Z4-812-B1	1.0%	3.4 %	Y
Z4-811-B1	1.0%	6.7 %	Y
Z4-811-B2	1.0%	3.8 %	Y
Z4-811-KL	2.0%	2.5 %	Y
Z4-810-B1	1.0%	4.5 %	Y
Z4-810-KL	2.0%	2.5 %	Y
Z4-809-B1	1.0%	4.4 %	Y
Z4-809-KL	2.0%	4.0 %	Y
Z4-814-B1	1.0%	4.5 %	Y
Z4-814-B2	1.0%	3.1 %	Y
Z4-816-B2	1.0%	3.1 %	Y
Z4-816-KL	2.0%	4.9 %	Y
Z4-816-B1	1.0%	4.3 %	Y
Z4-817-B2	1.0%	4.0 %	Y
Z4-817-B1	1.0%	4.4 %	Y
Z4-817-KL	2.0%	5.6 %	Y
Z4-818-B1	1.0%	4.0 %	Y
Z4-875-B2	1.0%	4.8 %	Y
Z4-875-KL	2.0%	7.8 %	Y
Z4-875-B1	1.0%	3.4 %	Y
Z4-876-B2	1.0%	3.6 %	Y
Z4-876-KL	2.0%	7.0 %	Y
Z4-876-B1	1.0%	3.7 %	Y
Z4-877-KL	2.0%	3.8 %	Y
Z4-877-B2	1.0%	2.1 %	Y
Z4-877-B1	1.0%	3.8 %	Y
Z4-813-KL	2.0%	3.5 %	Y
Z4-812-KL	2.0%	5.5 %	Y
Z4-814-KL	2.0%	2.5 %	Y
Z4-815-KL	2.0%	2.1 %	Y
Z4-815-B1	1.0%	2.0 %	Y
Z4-880-B2	1.0%	9.5 %	Y
Z4-880-B3	1.0%	4.7 %	Y
Z4-879-B1	1.0%	4.6 %	Y
Z4-879-B2	1.0%	10.8 %	Y
Z4-879-B3	1.0%	4.0 %	Y
Z4-879-KL	2.0%	3.7 %	Y
Z4-878-B1	1.0%	4.1 %	Y
Z4-878-B2	1.0%	3.6 %	Y
Z4-878-KL	2.0%	3.3 %	Y
Z4-880-KL	2.0%	5.4 %	Y
Z4-880-B1	1.0%	5.4 %	Y
Z4-818-KL	2.0%	2.8 %	Y
Z4-808-KL	2.0%	5.4 %	Y
Z4-808-B2	1.0%	4.0 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z4-808-B3	1.0%	3.7 %	Y
Z4-808-B1	1.0%	2.9 %	Y
Z4-824-B1	1.0%	7.7 %	Y
Z4-824-B2	1.0%	4.2 %	Y
Z4-823-B1	1.0%	4.0 %	Y
Z4-822-B1	1.0%	6.8 %	Y
Z4-822-B2	1.0%	3.8 %	Y
Z4-822-KL	2.0%	2.5 %	Y
Z4-821-B1	1.0%	4.5 %	Y
Z4-821-KL	2.0%	2.5 %	Y
Z4-820-B1	1.0%	4.4 %	Y
Z4-820-KL	2.0%	4.4 %	Y
Z4-825-B1	1.0%	4.6 %	Y
Z4-825-B2	1.0%	3.7 %	Y
Z4-827-B2	1.0%	3.4 %	Y
Z4-827-KL	2.0%	6.8 %	Y
Z4-827-B1	1.0%	4.5 %	Y
Z4-828-B2	1.0%	4.1 %	Y
Z4-828-B1	1.0%	4.4 %	Y
Z4-828-KL	2.0%	7.7 %	Y
Z4-829-B1	1.0%	4.1 %	Y
Z4-824-KL	2.0%	4.0 %	Y
Z4-823-KL	2.0%	5.8 %	Y
Z4-825-KL	2.0%	2.7 %	Y
Z4-826-KL	2.0%	3.3 %	Y
Z4-826-B1	1.0%	3.5 %	Y
Z4-829-KL	2.0%	4.1 %	Y
Z4-819-KL	2.0%	6.5 %	Y
Z4-819-B2	1.0%	4.0 %	Y
Z4-819-B3	1.0%	3.7 %	Y
Z4-819-B1	1.0%	4.3 %	Y
Z4-834-B1	1.0%	8.3 %	Y
Z4-834-B2	1.0%	4.3 %	Y
Z4-833-B1	1.0%	4.6 %	Y
Z4-832-B1	1.0%	4.2 %	Y
Z4-832-B2	1.0%	3.9 %	Y
Z4-832-KL	2.0%	2.5 %	Y
Z4-831-B1	1.0%	4.5 %	Y
Z4-831-KL	2.0%	2.5 %	Y
Z4-830--B1	1.0%	4.5 %	Y
Z4-830-KL	2.0%	4.5 %	Y
Z4-835-B1	1.0%	4.7 %	Y
Z4-834-KL	2.0%	4.5 %	Y
Z4-833-KL	2.0%	6.1 %	Y
Z4-835-KL	2.0%	2.5 %	Y
Z4-835-B2	1.0%	4.3 %	Y

Zone Reference	Target ADF	Achieved ADF	Target Met (Yes/No)
Z4-835-B3	1.0%	3.4 %	Y
Z4-840-B1	1.0%	11.1 %	Y
Z4-840-B2	1.0%	4.4 %	Y
Z4-839-B1	1.0%	5.2 %	Y
Z4-838-B1	1.0%	7.9 %	Y
Z4-838-B2	1.0%	4.4 %	Y
Z4-838-KL	2.0%	3.8 %	Y
Z4-837-B1	1.0%	4.6 %	Y
Z4-837-KL	2.0%	3.7 %	Y
Z4-836-B1	1.0%	4.7 %	Y
Z4-836-KL	2.0%	5.6 %	Y
Z4-841B1	1.0%	5.0 %	Y
Z4-840-KL	2.0%	4.8 %	Y
Z4-839-KL	2.0%	7.7 %	Y
Z4-841-KL	2.0%	4.0 %	Y
Z4-841-B2	1.0%	4.8 %	Y
Z4-841-B3	1.0%	3.4 %	Y

Appendix C – Mark-up of spaces that don't meet ADF Targets

Zone 1 Mark-up

Level 00

Level 01

BDP.

Level 02

Level 03

BDP.

Level 04

Level 05

BDP.

Level 06

Level 07

Level 08 to Level 14

All of the spaces on these floors meet the average daylight factor targets.

Zone 2 Mark-up

Level 00

Level 01

BDP.

Level 02

Level 03

Level 04

Level 05

BDP.

Level 06

Level 07

Level 08 to Level 10

All of the spaces on these floors meet the average daylight factor targets.

Zone 3 Mark-up

Level 00

Level 01

BDP.

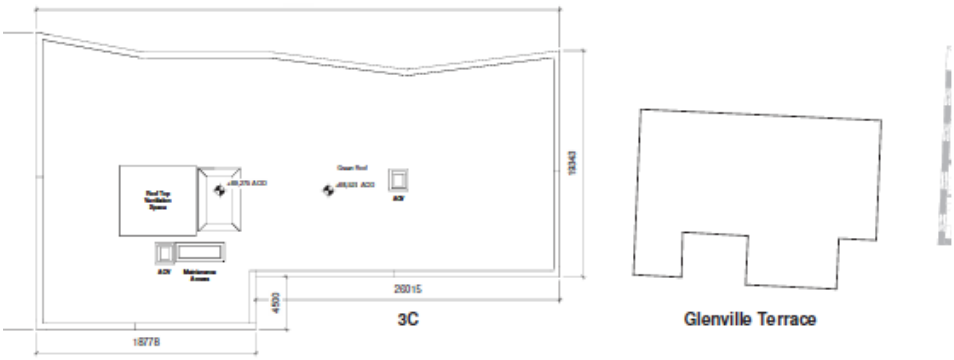
Level 02

Level 03

BDP.

Level 04

Level 05



BDP.

Level 06

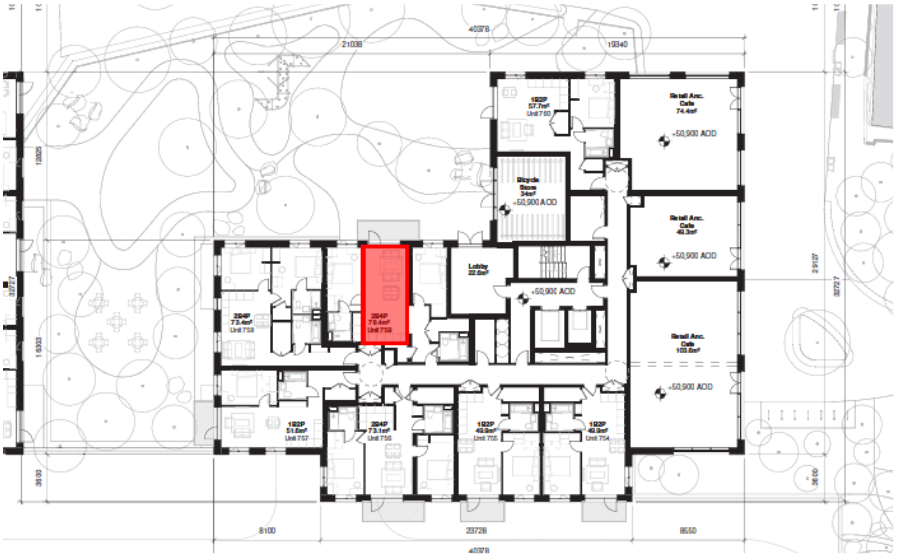
Level 07 to Level 09

All of the spaces on these floors meet the average daylight factor targets.

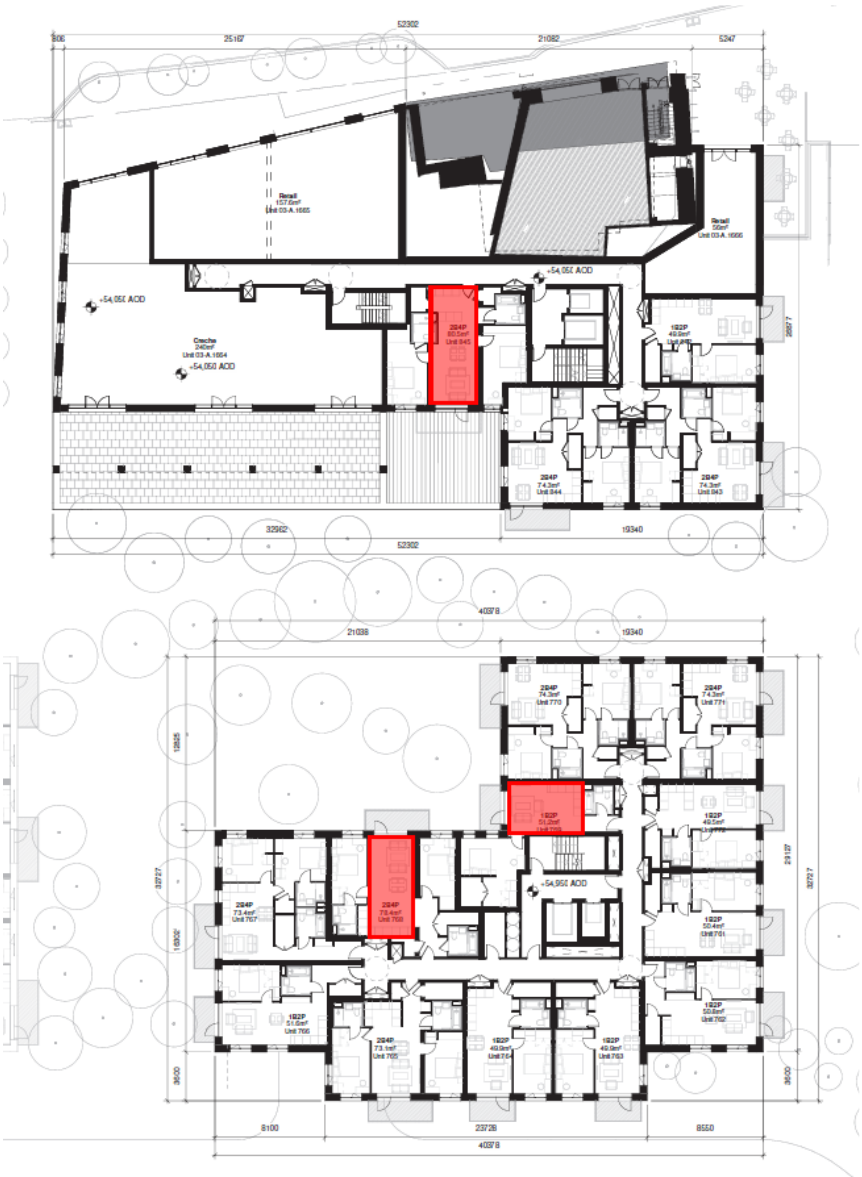
BDP.

Zone 4 Mark-up

Level 00



Level 01



Level 02

Level 03

Level 04 to Level 08

All of the spaces on these floors meet the average daylight factor targets.

Appendix D – Daylight Factor Contour Images

Level 00


Daylight Factor (%)
10.00
9.50
9.00
8.50
8.00
7.50
7.00
6.50
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
MAIN STREET
MAIN STREET
OUTLINE OF GROUND
1A
1B
1C
2A
2B
2C
3A
3B
3C
4A
4B
DUNDRUM BYPASS

Level 01


Daylight Factor (%)
10.00
9.50
9.00
8.50
8.00
7.50
7.00
6.50
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
MAIN STREET
PEMBROKE COTTAGES
1A
1B
1C
2A
2B
2C
3A
3B
3C
4A
4B
See Design Statement for Glenville Terrace Design Intent
DUNDRUM BYPASS
BALLINTEER ROAD

Level 02


Daylight Factor (%)
10.00
9.50
9.00
8.50
8.00
7.50
7.00
6.50
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
MAIN STREET
MAIN STREET
PEMBROKE COTTAGES
1A
1B
1C
2A
2B
2C
3A
3B
3C
4A
4B
DUNDRUM BYPASS
BALLINTEER ROAD

Level 03


Daylight Factor (%)
10.00
9.50
9.00
8.50
8.00
7.50
7.00
6.50
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
MAIN STREET
MAIN STREET
DUNDRUM BYPASS
BALLINTEER ROAD
1A
1B
1C
2A
2B
2C
3A
3B
3C
4A
4B

Level 04


Daylight Factor (%)
10.00
9.50
9.00
8.50
8.00
7.50
7.00
6.50
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
MAIN STREET
MAIN STREET
PEMBROKE COTTAGES
BALLINTEER ROAD
DUNDRUM BYPASS
1A
1B
1C
2A
2B
2C
3A
3B
3C
4A
4B

Level 05


Daylight Factor (%)
10.00
9.50
9.00
8.50
8.00
7.50
7.00
6.50
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
MAIN STREET
PEMBROKE COTTAGES
1A
1B
1C
2A
2B
2C
3A
3B
3C
4A
4B
DUNDRUM BYPASS
BALLINTEER ROAD

Level 06


Daylight Factor (%)
10.00
9.50
9.00
8.50
8.00
7.50
7.00
6.50
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
MAIN STREET
MAIN STREET
PEMBROKE COTTAGES
1A
1B
1C
2A
2B
2C
3A
3B
3C
4A
4B
DUNDRUM BYPASS
BALLINTEER ROAD

Level 07


Daylight Factor (%)
10.00
9.50
9.00
8.50
8.00
7.50
7.00
6.50
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
MAIN STREET
PEMBROKE COTTAGES
MAIN STREET
1A
1B
1C
2A
2B
2C
3A
3B
3C
4A
4B
DUNDRUM BYPASS
BALLINTEER ROAD

Level 08


Daylight Factor (%)
10.00
9.50
9.00
8.50
8.00
7.50
7.00
6.50
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
MAIN STREET
MAIN STREET
PEMBROKE COTTAGES
1A
1B
1C
2A
2B
2C
3A
3B
3C
4A
4B
DUNDRUM BYPASS
BALLINTEER ROAD

Level 09


Daylight Factor (%)
10.00
9.50
9.00
8.50
8.00
7.50
7.00
6.50
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
MAIN STREET
MAIN STREET
PEMBROKE COTTAGES
1A
1B
1C
2A
2B
2C
3A
3B
3C
4A
4B
DUNDRUM BYPASS
BALLINTEER ROAD

Level 10


Daylight Factor (%)
10.00
9.50
9.00
8.50
8.00
7.50
7.00
6.50
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
MAIN STREET
PEMBROKE COTTAGES
1A
1B
1C
2A
2B
2C
3A
3B
3C
4A
4B
DUNDRUM BYPASS
BALLINTEER ROAD

Level 11


Daylight Factor (%)
10.00
9.50
9.00
8.50
8.00
7.50
7.00
6.50
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
MAIN STREET
MAIN STREET
PEMBROKE COTTAGES
BALLINTEER ROAD
DUNDRUM BYPASS
1A
1B
1C
2A
2B
2C
3A
3B
3C
4A
4B

Level 12


Daylight Factor (%)
10.00
9.50
9.00
8.50
8.00
7.50
7.00
6.50
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
MAIN STREET
MAIN STREET
PEMBROKE COTTAGES
1A
1B
1C
2A
2B
2C
3A
3B
3C
4A
4B
DUNDRUM BYPASS
BALLINTOGHER ROAD

Level 13


Daylight Factor (%)
10.00
9.50
9.00
8.50
8.00
7.50
7.00
6.50
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
MAIN STREET
MAIN STREET
PEMBROKE COTTAGES
1A
1B
1C
2A
2B
2C
3A
3B
3C
4A
4B
DUNDRUM BYPASS
BALLINTEER ROAD

Level 14


Daylight Factor (%)
10.00
9.50
9.00
8.50
8.00
7.50
7.00
6.50
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
MAIN STREET
MAIN STREET
PEMBROKE COTTAGES
1A
1B
1C
2A
2B
2C
3A
3B
3C
4A
4B
DUNDRUM BYPASS
BALLINTEER ROAD