17.0 MICROCLIMATE - WIND

17.1 Introduction

The purpose of this chapter is to outline the predicted microclimate wind conditions experienced within and surrounding the proposed Sandford Road development located in Dublin 6.

The proposed method for compliance validation is via the industry best practice standard for pedestrian comfort (Lawson Criteria). The Lawson Criteria sets acceptable levels of wind speed and velocity for various human activities.

Given the specific location of the buildings and recorded metrological data available for the area, and standard interpolation calculation procedures, it is possible to predict the expected wind speeds and their annual occurrence.

This chapter was completed by:

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17.2 Study Methodology

The section outlines the methodology used in the assessment of the pedestrian wind comfort conditions within and surrounding the proposed development.

17.2.1 Pedestrian Comfort Compliance

The Lawson criteria give guidance to quantify the effect of wind velocity on pedestrian comfort and safety. The Lawson recommended guidance indicates that for the comfort and safety assessment of the wind environment, it is not only the velocity of wind that is considered but also the frequency of occurrence of these velocities. The frequency of occurrences is used here as an indicator of the likely duration of certain wind speeds. The Lawson criteria indicates that the threshold mean hourly wind speed for each pedestrian activity should not be exceeded for more than 5% of the time to maintain pedestrian comfort as outlined in Table 17.1.

Pedestrian activity	Threshold mean hourly wind speed not to be exceeded for more than 5% of the time [m/s]
Business Walking	10
Leisurely Walking	8
Standing	6
Sitting	4

Table 17.1: Lawson Criteria for Pedestrian Comfort

There are 2 No. additional classes to quantify the safety conditions for typical or sensitive (e.g. frail or a cyclist) pedestrians which are summarised in Table 17.2.

Pedestrian activity	Threshold mean hourly wind speed not to be exceeded for more than 0.023% of the time [m/s]
Typical Pedestrian	20
Sensitive Pedestrian	15

Table 17.2: Lawson Criteria for Safety Assessment

17.2.2 Assessment Methodology

The methodology adopted for the study combines the use of Computational Fluid Dynamics (CFD) to predict air flow patterns and wind velocities around the proposed development, the use of wind data from the nearest suitable meteorological station and the recommended comfort and safety standards (The Lawson Criteria).

The study considered the following factors:

- The effect of the geometry, height and massing of the proposed development and existing surroundings on local wind speed and direction;
- The wind speed as a function of the local environment such as topography, ground roughness and nearby obstacles (buildings, bridges, etc.);
- The effects of site location (open field, inner city, etc.);
- Orientation of the building's relative to the prevailing wind direction; and
- The pedestrian activity to be expected (long-term sitting, standing or short-term sitting, leisure and business walking).

17.2.2.1 Extent of CFD Study Area

The extent of the built area that is represented in the computational domain is dependent on the influence of the features on the region of interest which includes the site and its nearby surroundings. The analytical CFD model analyses the proposed development. It also includes existing buildings surrounding the development with the extent of the buildings included in the study area illustrated in Figure 17.1. The analytical CFD model is assessed against the full Lawson Criteria to identify the pedestrian comfort and safety conditions within and surrounding the development.

The analytical CFD model has been constructed based on the information provided below:

- 3D Revit model and drawings received from OMP Architects;
- Landscape drawings received from Cameo & Partners;
- Available aerial photographic data via Google Maps;
- Meteorological wind data for Dublin Airport.

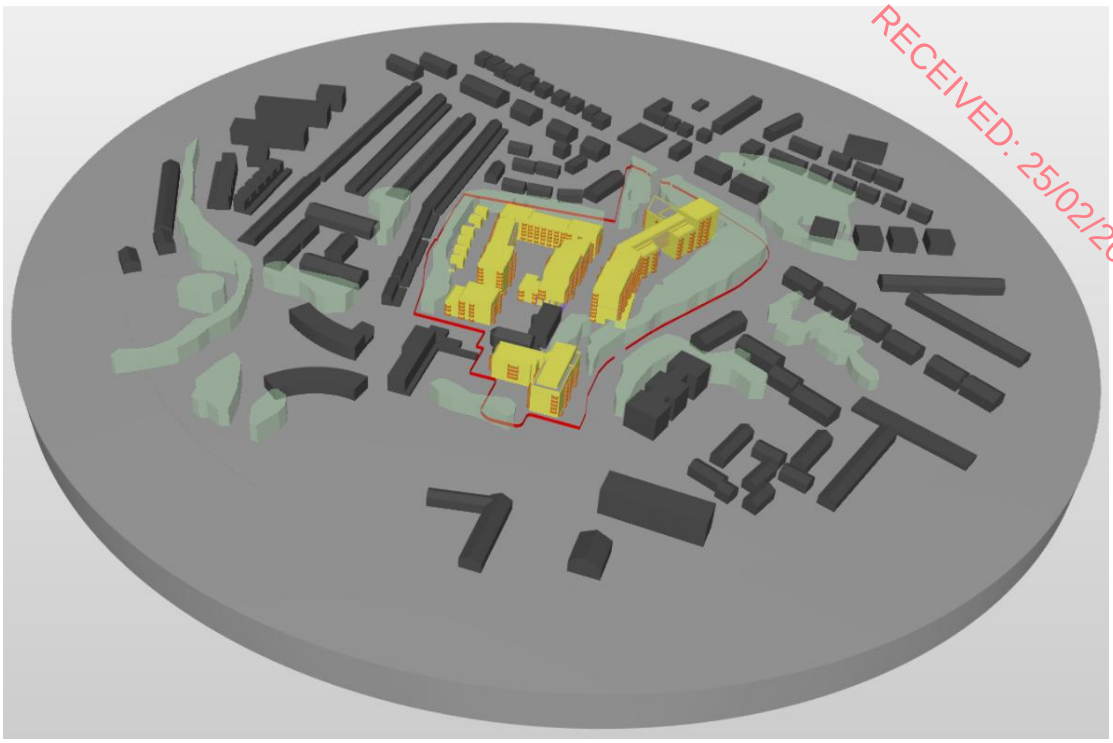

Figure 17.1: Extent of CFD Study Area

17.2.3 Wind Profile

A cylindrical computational domain was created to simulate the effect of the atmospheric boundary layer surrounding the region of interest. The height of the computational domain is 6 times the height of the highest building in the domain.

An atmospheric boundary layer wind profile is applied to the boundaries of the computational model. To incorporate the effect of small height differences and small objects at street level, which are not explicitly included in the model, a roughness has been applied to the ground surface of the detailed CFD model. For the wind profile a roughness length (z0) of 1.6 m has been estimated.

Based on the reference velocity, reference height, and power coefficient, a wind profile can be defined. The wind profile U(z) is defined as follows.

$$U(z) = U_{ref}\left(\frac{z}{z_{ref}}\right)^{\alpha}$$

Where

U(z)	Wind velocity	[m/s]
U_ref	Reference velocity	[m/s]
z	Height above the ground	[m]
z_ref	Roughness length	[m]
α	power coefficient	[m]

17.2.4 Wind Factor

CFD simulations are used to calculate the wind factor. The wind factor is a factor which indicates if the wind speed is locally increased (wind factor > 1.0) or decreased (wind factor < 1.0) due to buildings (or other geometry), relative to the applied reference wind speed at 10m height. The wind factor is independent of the magnitude of the reference wind speed at 10m height, making the obtained wind factor valid for all wind speeds in a specific wind direction range. Hence, one simulation can be applied per wind direction covering all wind speeds in this direction.

To explain the wind factor in more detail, the wind factor results for the 0-degree wind direction (i.e. North) are illustrated in Figure 17.2. The wind factor vectors that are colored green, cyan, dark blue or yellow indicate that the local wind speed has been reduced (wind factor < 1.0), while wind factor arrows which are colored orange or red indicate the local wind speed has increased (wind factor > 1.0). Using the wind factors, the quantity of hours that a wind speed is exceeded can be calculated (per wind direction) which is then used to assess compliance against the Lawson Criteria.

The wind factor results for all 12 No. wind directions are included in Section 17.4.2.4.

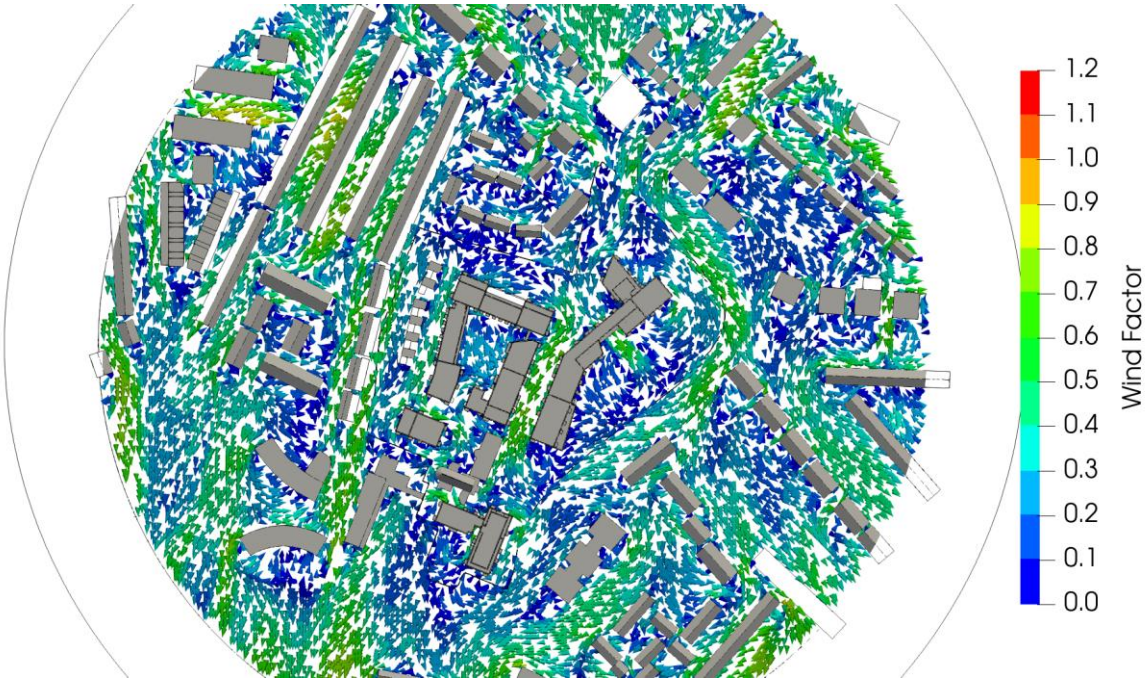

Figure 17.2: Wind Factor – 0 Degree (N) Wind Orientation

17.2.5 CFD Modelling

CFD Simulations are performed using the software package Helyx version 4.3.1, which is based on OpenFOAM. The software package is widely used for several applications and has been validated for applications like wind micro-climate assessments.

A full 3D CFD model of the proposed development and surrounding buildings was created and split into a large number of control volumes or cells. The standard equations for fluid

motion and energy transport are applied to each cell. The equations are then solved using numerical techniques. The CFD settings used for the analysis are summarised in Table 17.3.

CFD Settings	Description
Grid type	Snappy hex mesh (hexahedra and split hexahedra)
Cell size	Dynamic, ranging from 0.01 up to 2 m at the building surfaces and streets, growing to 10 m in the volume
Number of cells	54.8 million elements
Simulation type	Steady state
Convergence	1e-4
Number of Iterations	1000
Fluid	Air fixed properties
Turbulence model	Realizable k-ε model
Wind volume	Profile for velocity and turbulence

Table 17.3: Summary of CFD Model Settings

17.2.6 Assumptions and Limitations

Computational Fluid Dynamic (CFD) is a widely recognised method for modelling airflow problems and as computer power develops, it increasingly improves its applicability. However, there are some limitations with CFD in relation to the modelling of wind environments. The method uses mean hourly wind values and presents a limitation to capture gusts.

The Lawson criteria for pedestrian comfort focuses on the effect of wind and do not factor in other environmental variables such as air temperature, solar radiation and relative humidity. However, overlaying all these factors would be a complex process and Lawson's simplified method presents the best available methodology for anticipating wind effects in the built environment on pedestrian comfort.

The buildings were modelled as blocks, i.e. with smooth surfaces and sharp corners, which is generally sufficient detail to represent buildings in airflow modelling. This assumption is industry accepted as further detail to the model such as the window reveals and façade texture would add an impractical and unnecessary complexity to the model without adding greater quality in the results. Furthermore, the large existing and proposed trees which would have an impact on the assessment have been modelled with a different loss coefficient assigned to the deciduous trees which takes account of the loss of foliage during the winter months. Landscaping features such as pergolas and trellis structures were not modelled within the simulation as they would provide an extra level of complexity to an otherwise large and complex CFD model.

17.3 Existing Receiving Environment

This section examines the wind conditions on the existing receiving environment prior to the construction of the proposed development. Wind climate data over a 30-year period has been analysed to provide a statistical assessment of the expected wind conditions and resultant pedestrian comfort conditions within the existing site.

17.3.1 Site Location

The proposed site is located at Milltown Park, Sandford Road, Dublin 6 and is illustrated in Figure 17.3. It is evident from the image the site is located in a predominantly residential area with varying densities and a mix of retail, educational and commercial buildings. With the predominant wind direction being from the South-West, there are a number of large open sports fields to the South-West of the site which are part of Gonzaga College. However, even though the site is predominantly open, it can be considered quite sheltered due to the density of buildings surrounding the site's boundary walls. The site is located approximately 2.6 km from the coast, however, due the density of development between the site and the coast, coastal winds are not expected to impact on the site.

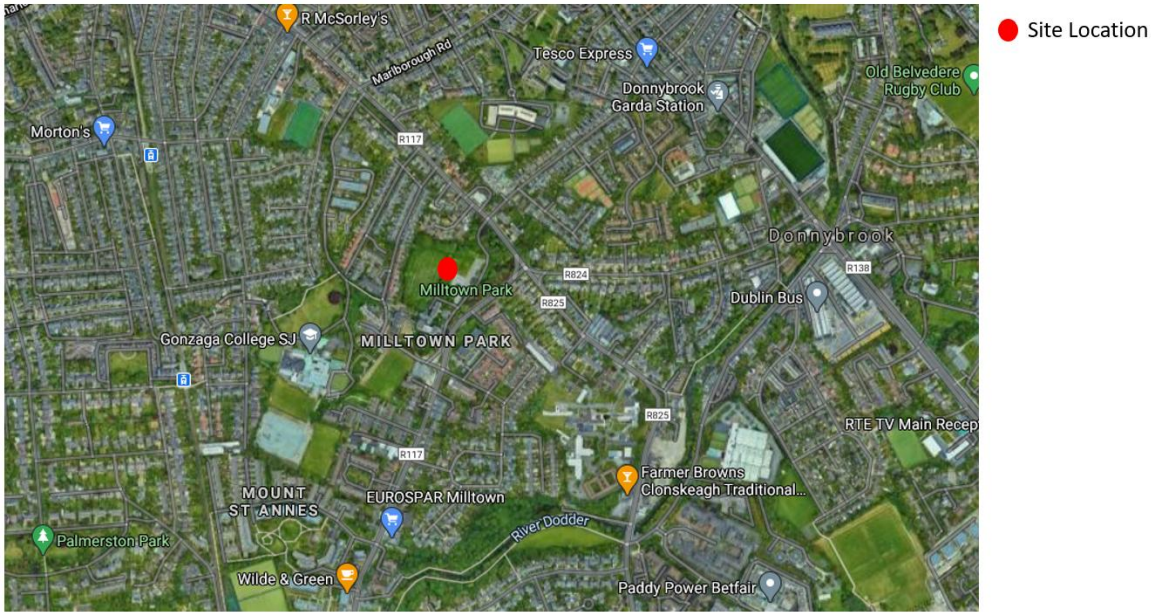

Figure 17.3: Site Location

(Source : Google Maps)

17.3.2 Existing Site

The existing site is illustrated in Figure 17.4 with the approximate site boundary outlined in red. The existing site is predominantly open with a large number of mature trees and hedging surrounding the site. There are a number of existing buildings to the South of the site. Two (2) of these buildings will be retained and refurbished as part of the proposed development, i.e. Tabor House and the Chapel. The site can be considered well sheltered due to the extent of existing trees surrounding the site and the high stone wall that is present along the majority of Milltown Road and Sandford Road.

Figure 17.4: Existing Site

(Source: Google Maps)

Please note that the red-line boundary extends down to Eglinton Road; however, the figure above shows only the main development site.

17.3.3 Wind Climate

The wind climate analysis is based on the wind data obtained from the Dublin Airport weather station (approximately 12 km from the proposed site) which incorporates hourly wind data over a 30-year period (1995 to 2025).

	N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW
Wind Velocity	Dir_0	Dir_30	Dir_60	Dir_90	Dir_120	Dir_150	Dir_180	Dir_210	Dir_240	Dir_270	Dir_300
0 - 1	18	6	2	7	9	10	6	6	7	8	9
1 - 2	31	31	15	41	65	61	38	39	45	49	53
2 - 3	39	55	44	92	116	121	60	95	131	127	96
3 - 4	31	57	68	116	136	138	54	133	220	206	145
4 - 5	26	48	75	93	121	139	45	151	259	247	143
5 - 6	18	40	60	67	90	124	42	153	260	245	117
6 - 7	13	31	43	45	59	91	37	138	234	196	77
7 - 8	8	22	30	31	39	69	30	112	195	155	49
8 - 9	5	13	19	24	25	43	22	84	153	116	28
9 - 10	3	7	12	17	13	30	17	58	113	87	17
10 - 11	1	4	7	10	9	19	10	37	76	57	9
11 - 12	1	2	3	5	5	11	5	22	49	40	6
12 - 13	0	2	1	3	3	5	3	12	29	21	3
13 - 14	0	0	0	1	1	4	1	7	18	10	1
14 - 15	0	0	0	1	1	1	1	4	10	7	1
15 - 16	0	0	0	1	0	1	0	2	5	4	0
16 -17	0	0	0	0	0	0	0	0	2	2	0
17 - 18	0	0	0	0	0	0	0	0	2	1	0
18 - 19	0	0	0	0	0	0	0	0	0	0	0
19 - 20	0	0	0	0	0	0	0	0	0	0	0

Table 17.4: Frequency of Wind Velocity Occurrence per Wind Direction

Figure 17.5 graphically illustrates the data in Table 17.4 above and illustrates the percentage of hours per wind direction over the 30-year period (1995– 2025) for the 12 no. wind directions. It is evident from the figure below the predominant wind directions are SSW, WSW and W.

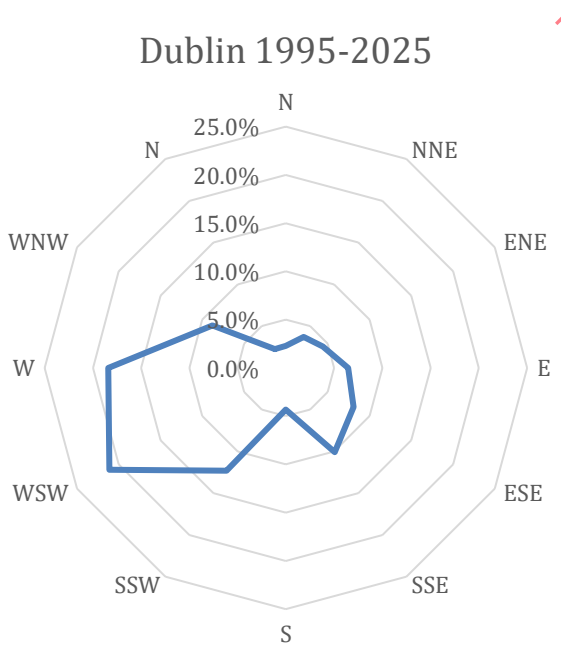

Figure 17.5: Percentage of Hours per Wind Direction (Dublin Airport 1995 – 2025)

The hourly wind data is the basis for the wind climate analysis. The number of hours that wind occurs from a given wind direction and velocity influences the local wind climate. The CFD simulation is used to calculate the wind-factor (local wind velocity relative to reference wind velocity). The wind-factor is a measure to calculate the number of hours that a given threshold wind velocity is exceeded based on statistical wind data.

17.3.4 Summary

Based on the assessment carried out on the existing site and the statistical analysis of 30 years of climate data from the nearby Dublin airport, the existing site can be considered well sheltered from the prevailing wind directions and is considered a comfortable environment for pedestrians with wind speeds not exceeding the business walking class as per the Lawson criteria.

17.4 Potential Impact of the Proposed Development

This section summarises the impact the proposed development will have on the existing receiving environment during both the construction and operational phases.

17.4.1 Construction Phase

The assessment of the wind microclimate during the construction phase has been based on professional judgement by reviewing the existing site conditions and the expected conditions once the development is in place via the CFD modelling. It is expected the wind microclimate will gradually adjust from the existing conditions to the final modelled scenario as construction progress develops.

17.4.2 Operational Phase

The impact during the operational phase has been determined using CFD modelling with the methodology used in the assessment outlined in Section 17.2.

The number of hours for all wind directions are summed to calculate the total number of hours that a given pedestrian activity class exceeds the 5% yearly threshold with the Lawson results presented in the following sections.

17.4.2.1 Ground/Street Level

The pedestrian wind comfort results at ground/street level (1.5m above ground level) are included in this section and are summarised as follows:

- As illustrated in Figure 17.6, most areas at street level are suitable for sitting (areas highlighted in grey). Note, the areas under the trees (hatched in dark brown) will also comply with the "Sitting" class.
- The majority of the remaining areas that do not comply with the "Sitting" class but suitable for "Standing" (areas highlighted in blue).
- The area highlighted in green represent good enough for leisurely walk but not for sitting.
- The pedestrian comfort at ground/street level is excellent throughout the development with the layout of the buildings and the existing and proposed trees having a significant positive effect in terms of mitigating excessive wind speeds.
- Based on the results presented, the proposed development will have an imperceptible impact on the pedestrian wind comfort at street level.

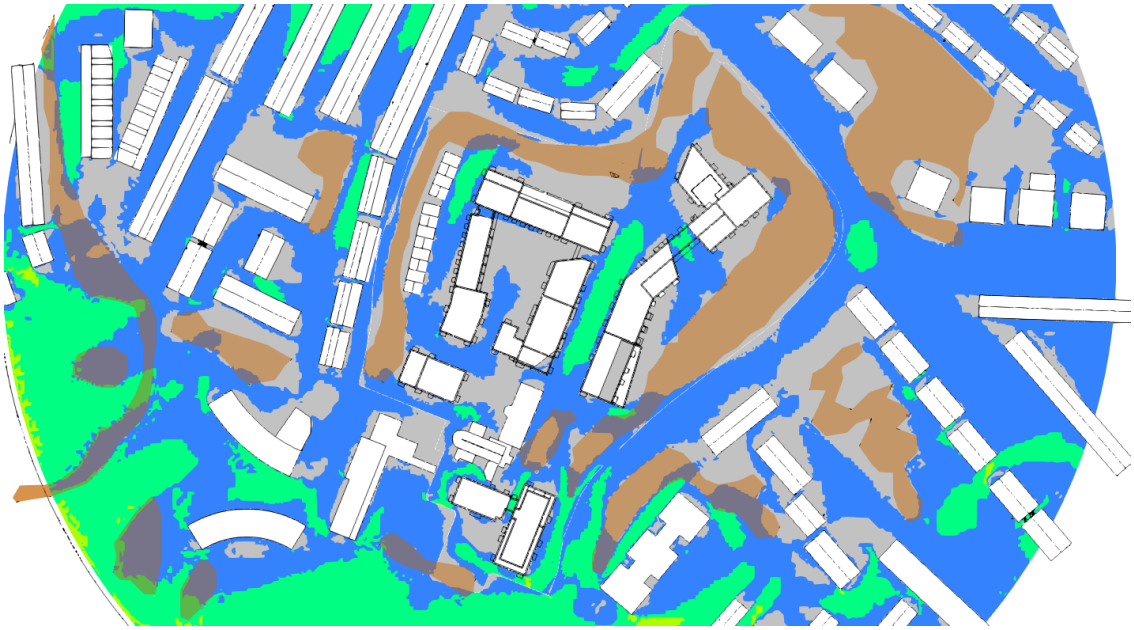

Figure 17.6: Pedestrian Wind Comfort Results – Ground/Street Level
(Areas under Trees Hatched in Dark Brown, Adjacent Buildings Hatched in White)

17.4.2.2 Shared Amenity Spaces

As amenity terraces are not considered common pedestrian areas, they have not been assessed against the typical comfort classes for pedestrian comfort. However, they have been assessed based on the safety criteria with the most stringent condition being considered, i.e. "sensitive". Based on the sensitive class, all amenity spaces are currently considered safe as illustrated in Figure 17.7.

Figure 17.7: Pedestrian Wind Comfort Results – Upper Shared Amenity Spaces

17.4.2.3 Private Balconies & Terraces

Similar to amenity spaces, private balconies are not considered common pedestrian areas. As such, they have not been assessed against the typical comfort classes for pedestrian comfort. However, they have been assessed based on the safety criteria with the most stringent condition being considered, i.e. "sensitive". Based on the sensitive class, all terraces and private balconies are currently considered safe as illustrated in Figure 17.8.

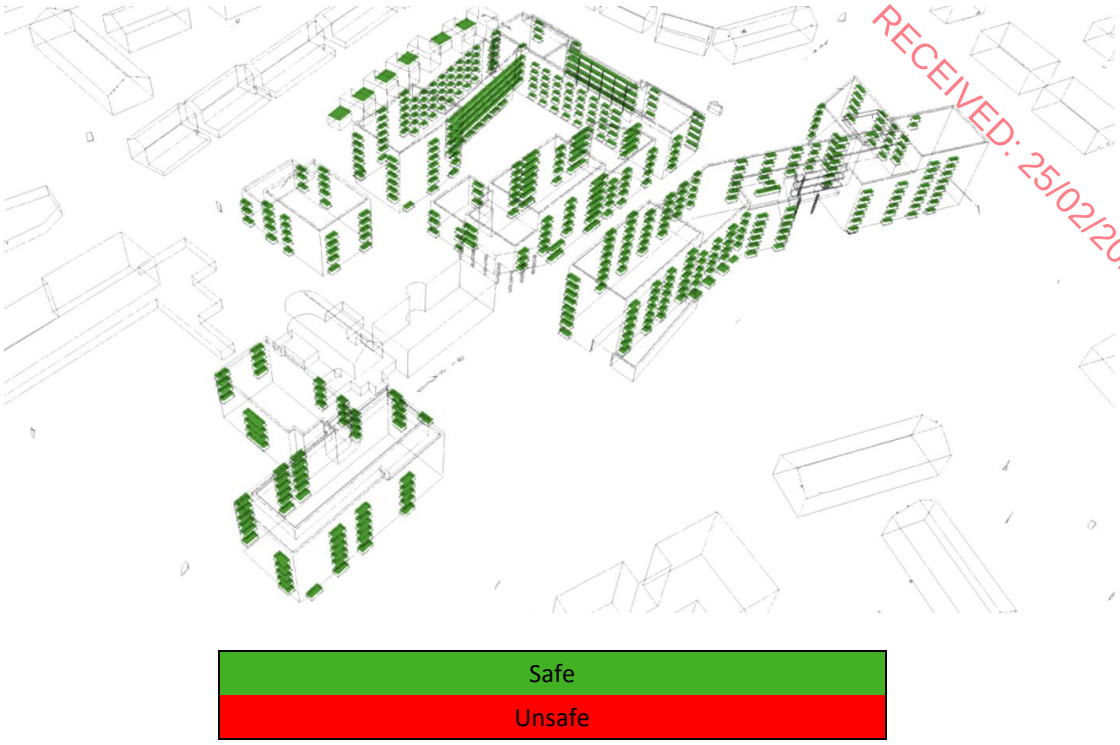

Figure 17.8: Pedestrian Wind Comfort Results – Private Balconies & Terraces

17.4.2.4 CFD Wind Factor Results

The CFD wind factor (WF) velocity vectors and contours for each wind direction, which the Lawson results are based upon, are illustrated in this section. Refer to Section 17.2.4 on how to interpret the images. Note, the contours (bottom image) is a graphical representation of the velocity vectors (top image).

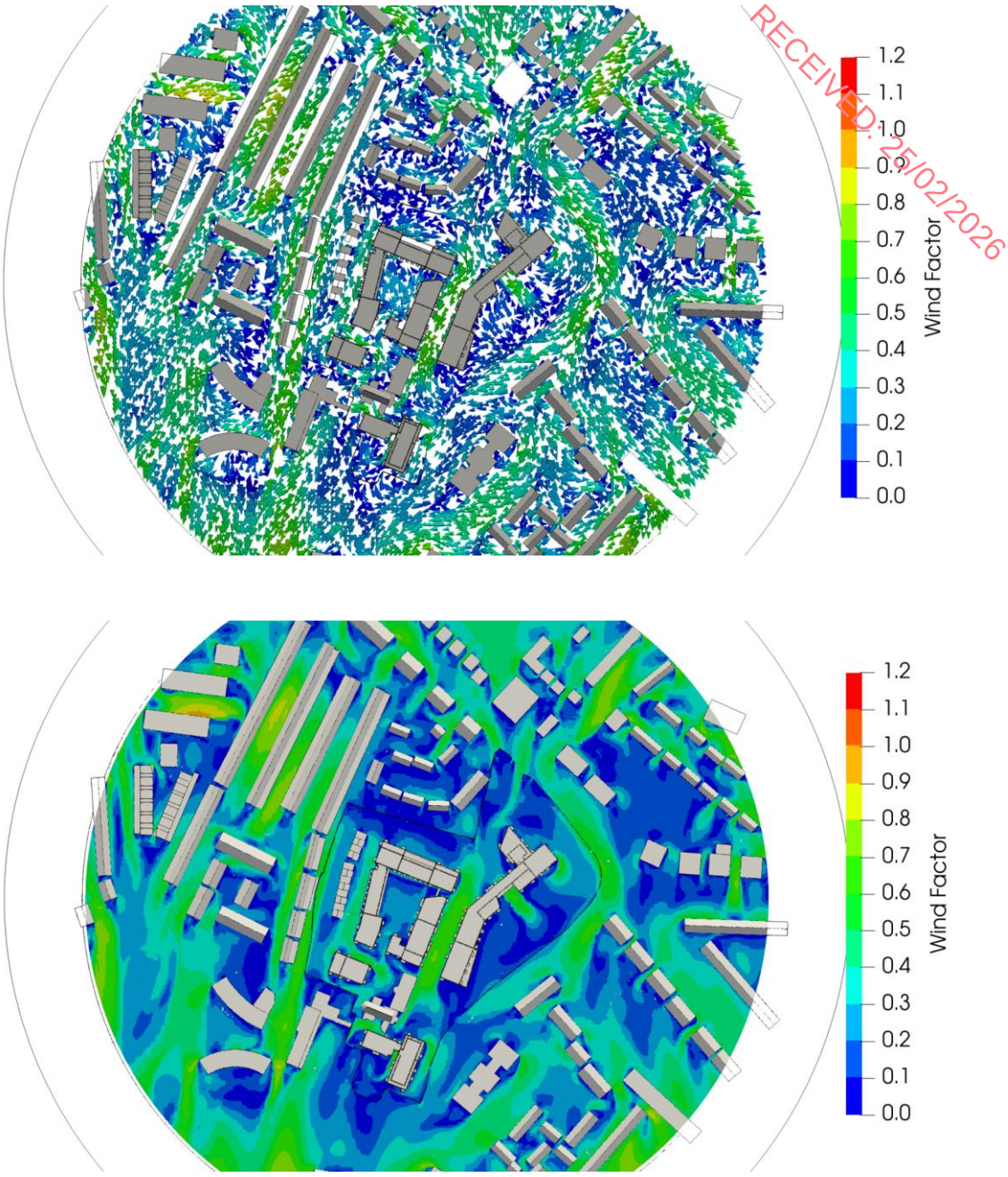

Figure 17.9: Wind Factor – 0 Degree (N) Wind Direction

Note: In the first image (the version displaying vectors), the ground surface is not shown because including it causes distortion in the vector representation. Due to the sloped nature of the site, the ground and houses needed to be clipped at a higher elevation than usual. This results in the buildings appearing slightly differently between the images, although they are in fact identical.

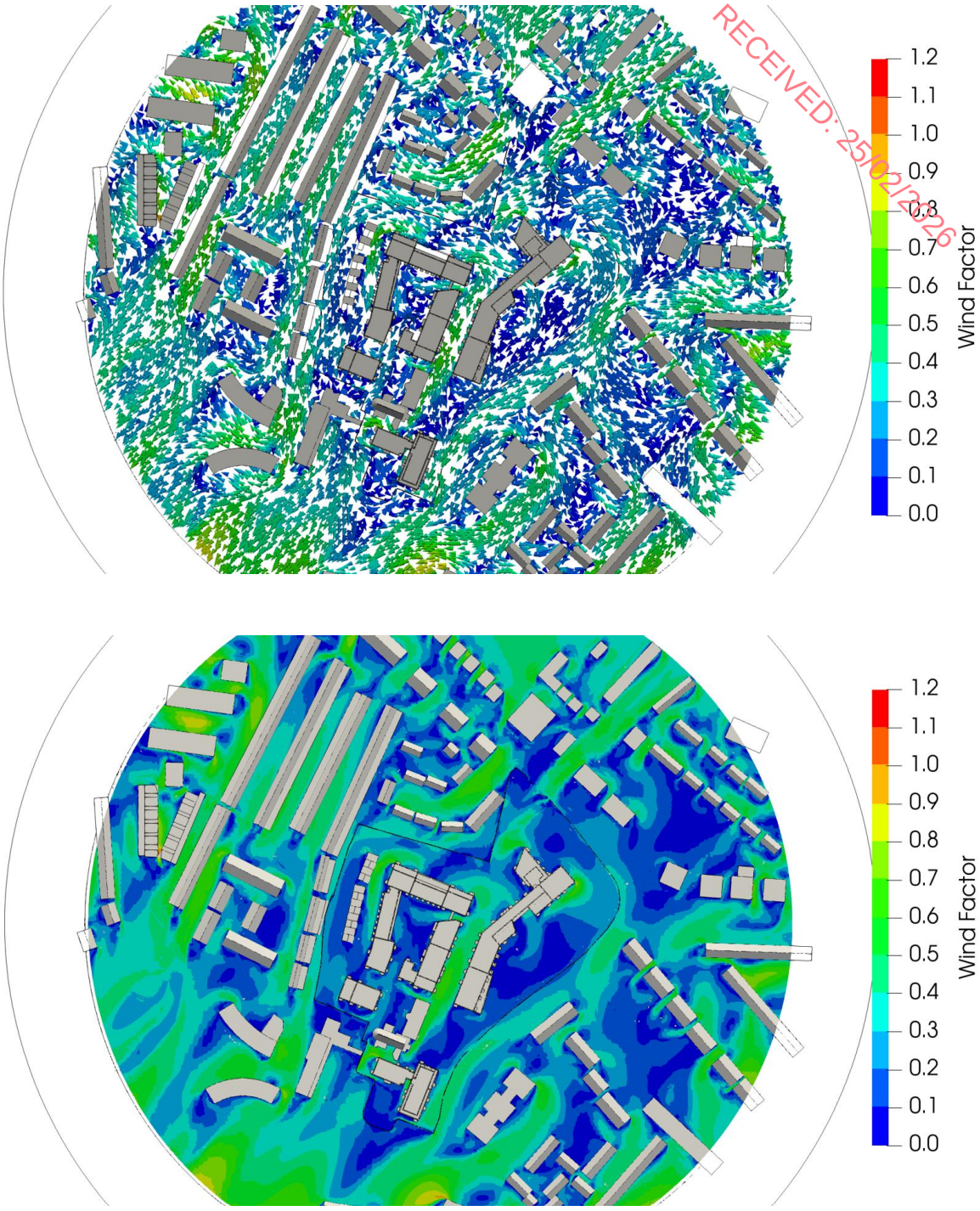

Figure 17.10: Wind Factor – 30 Degree (NNE) Wind Direction

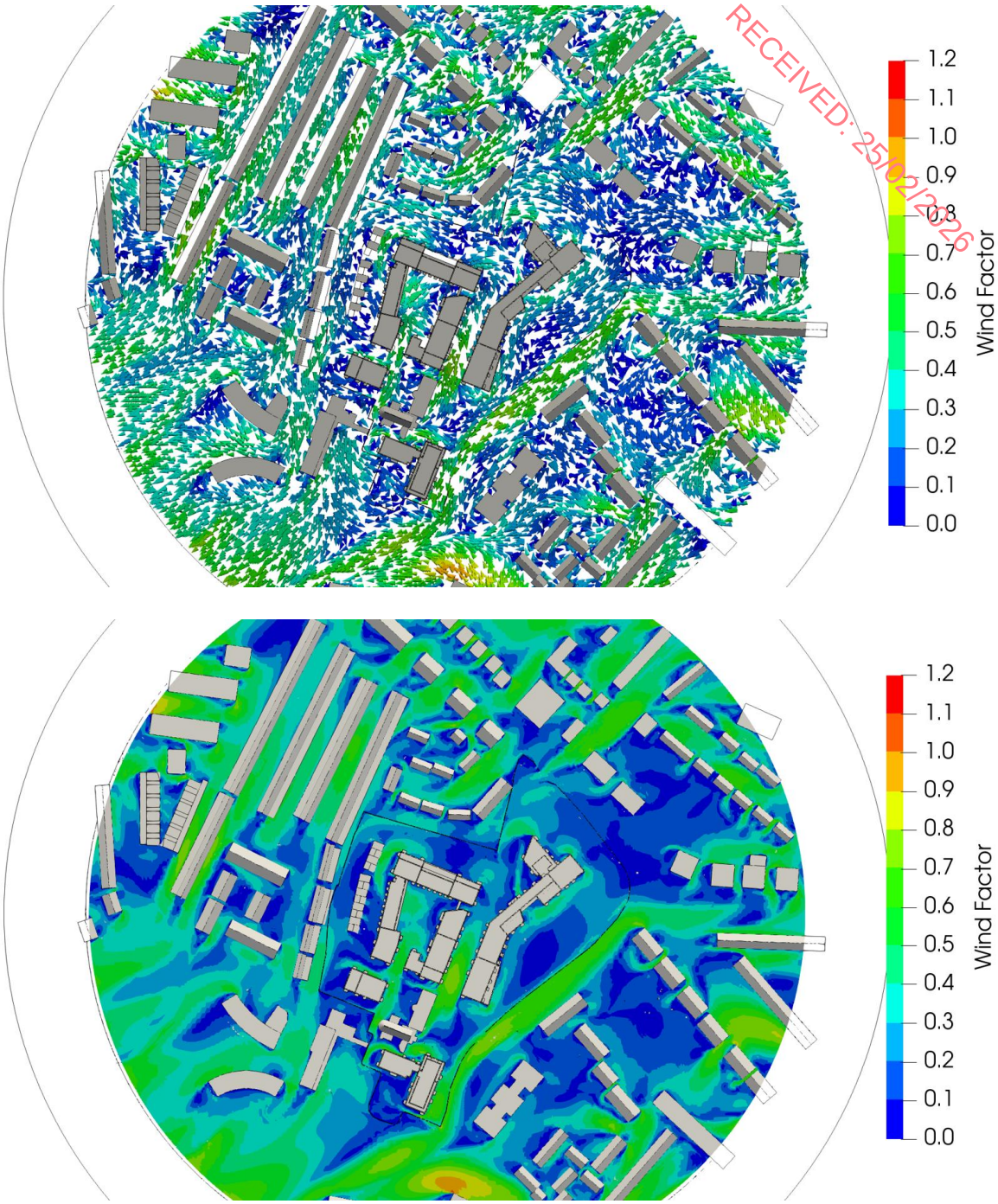

Figure 17.11: Wind Factor – 60 Degree (ENE) Wind Direction

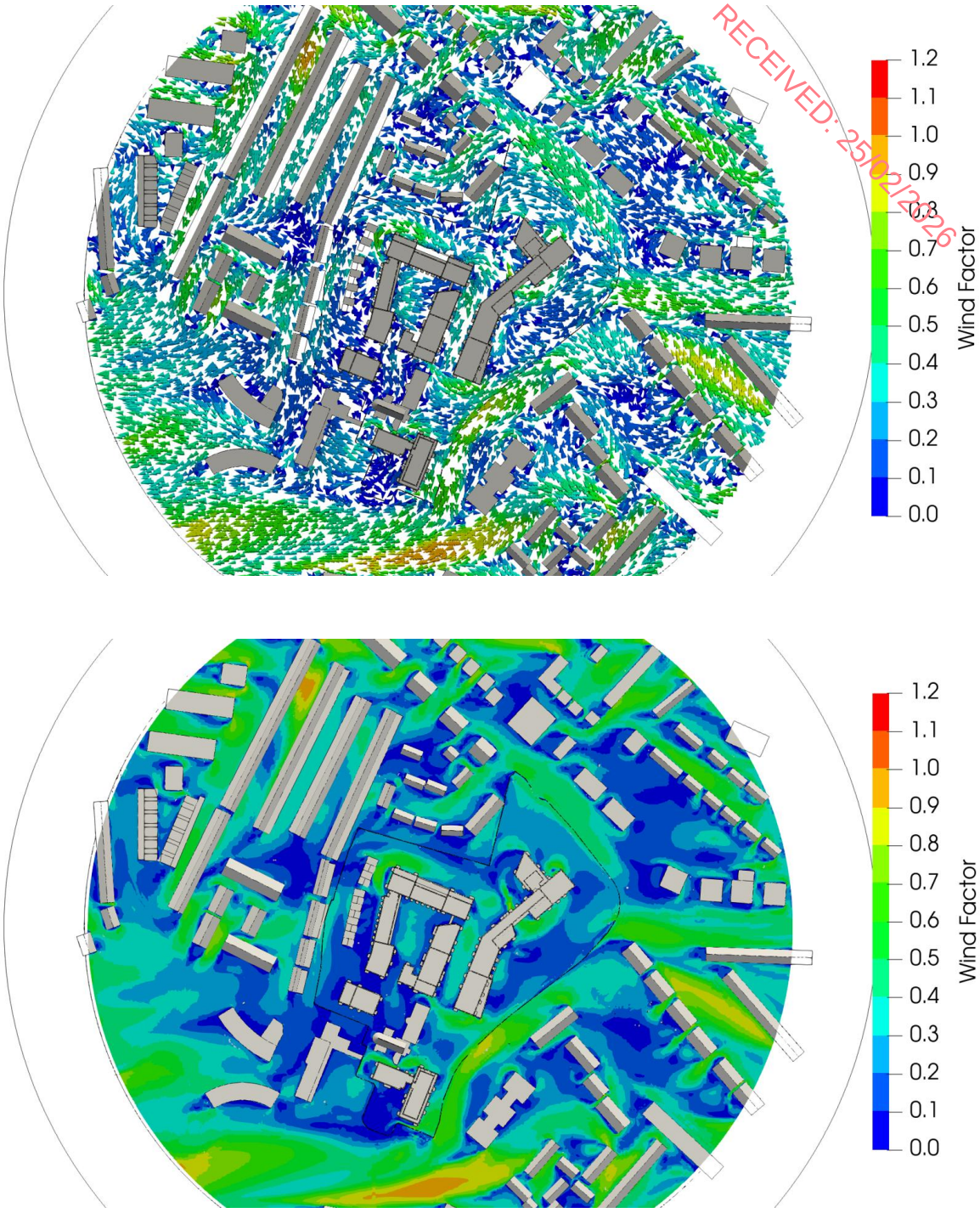

Figure 17.12: Wind Factor – 90 Degree (E) Wind Direction

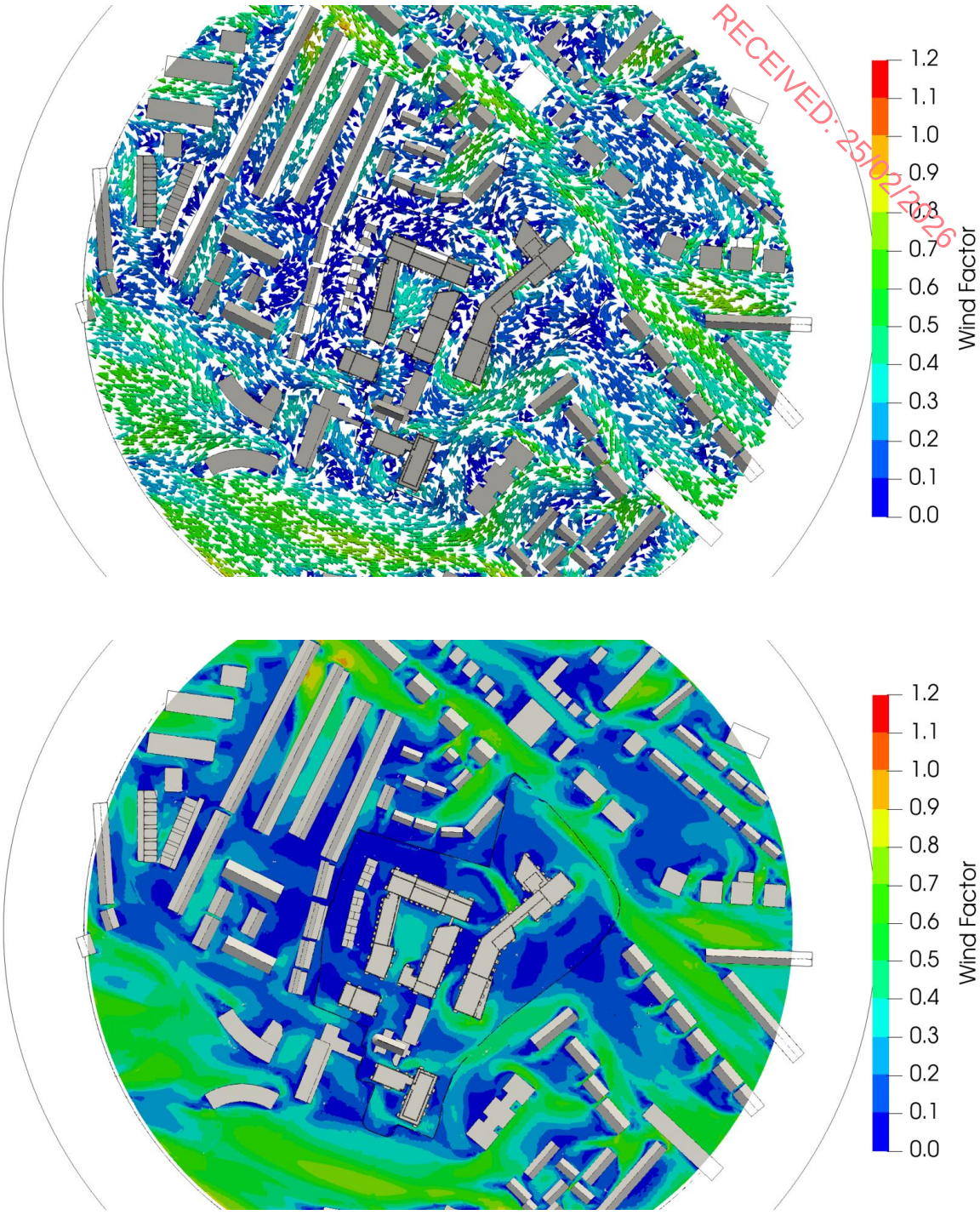

Figure 17.13: Wind Factor – 120 Degree (ESE) Wind Direction

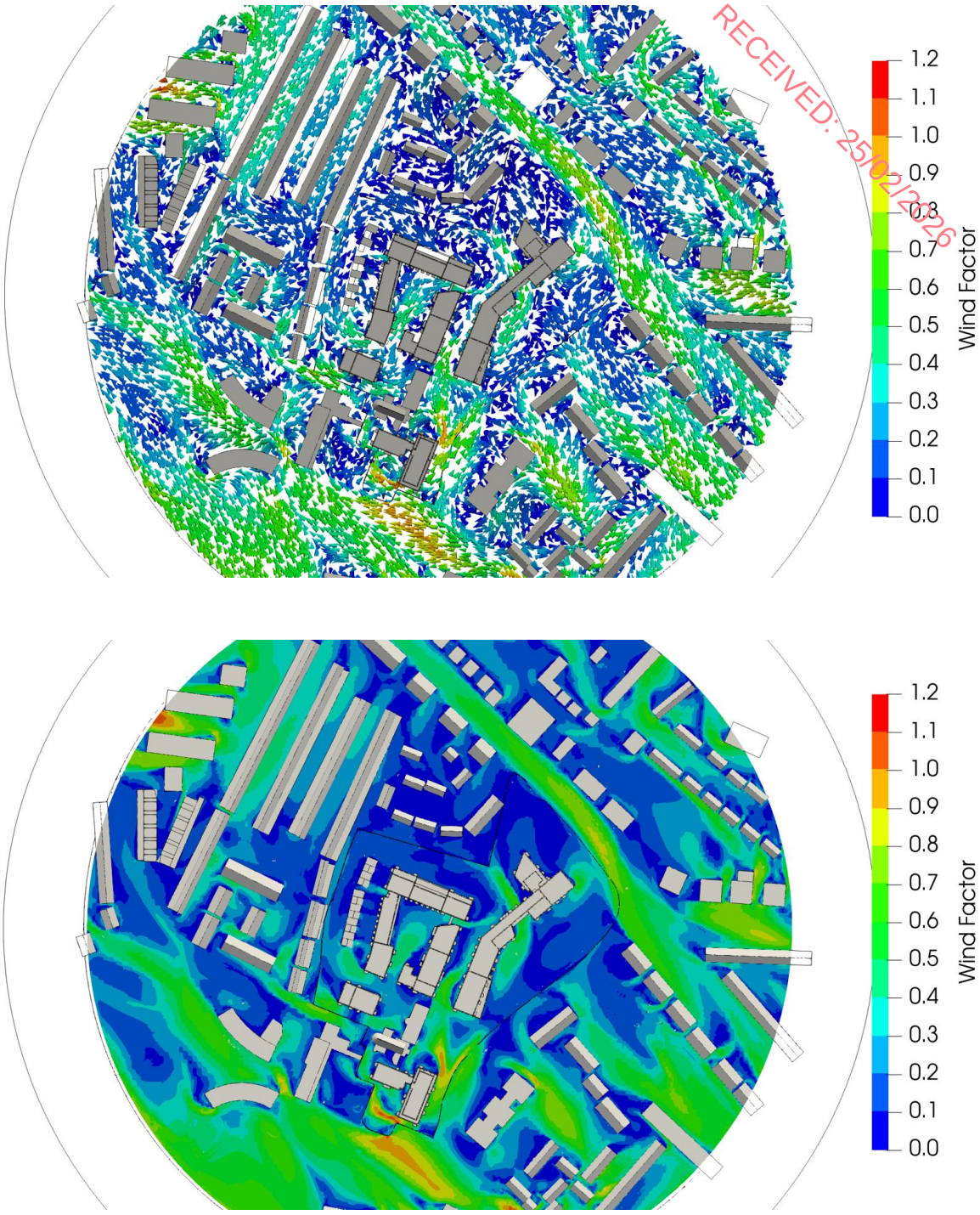

Figure 17.14: Wind Factor – 150 Degree (SSE) Wind Direction

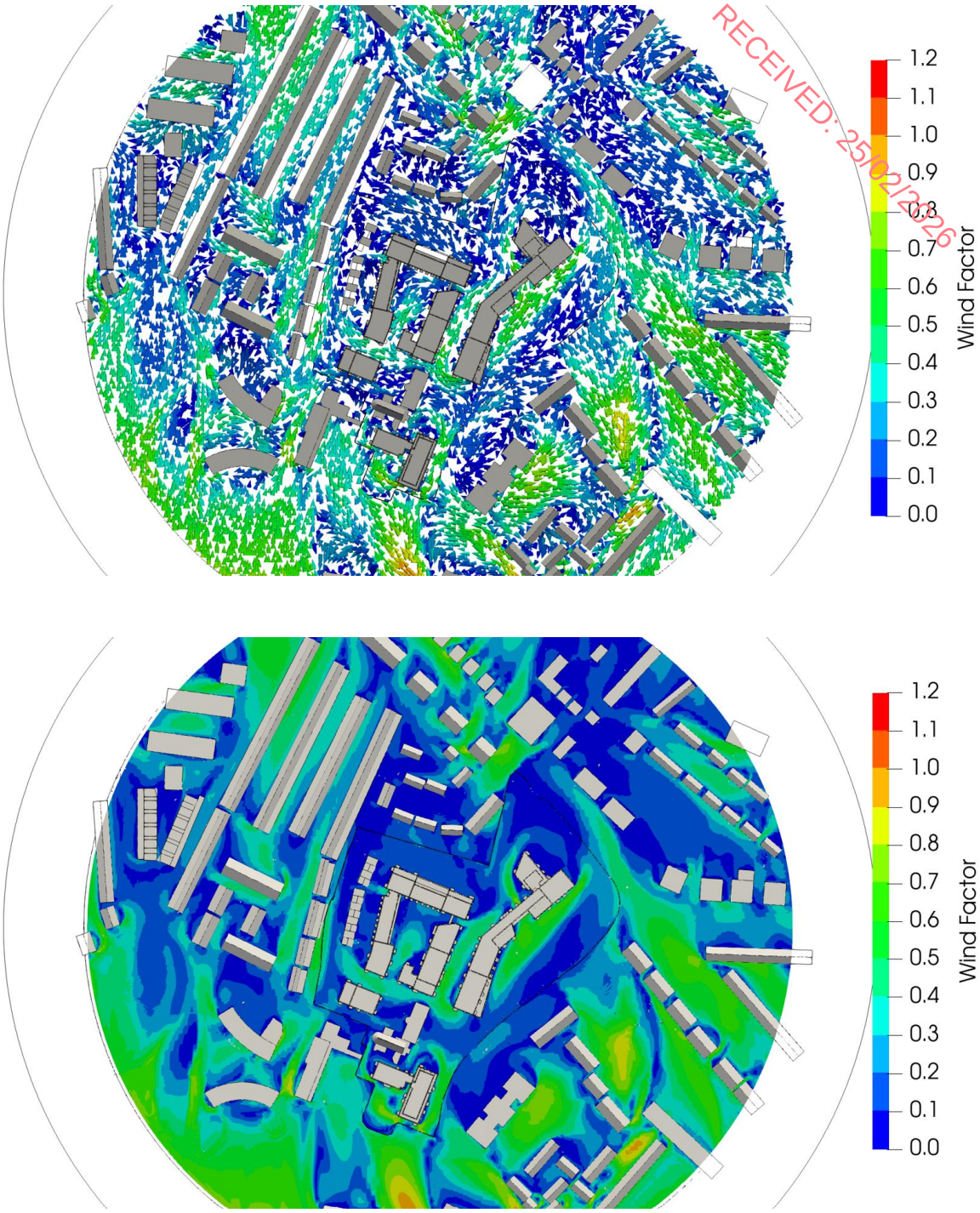

Figure 17.15: Wind Factor – 180 Degree (S) Wind Direction

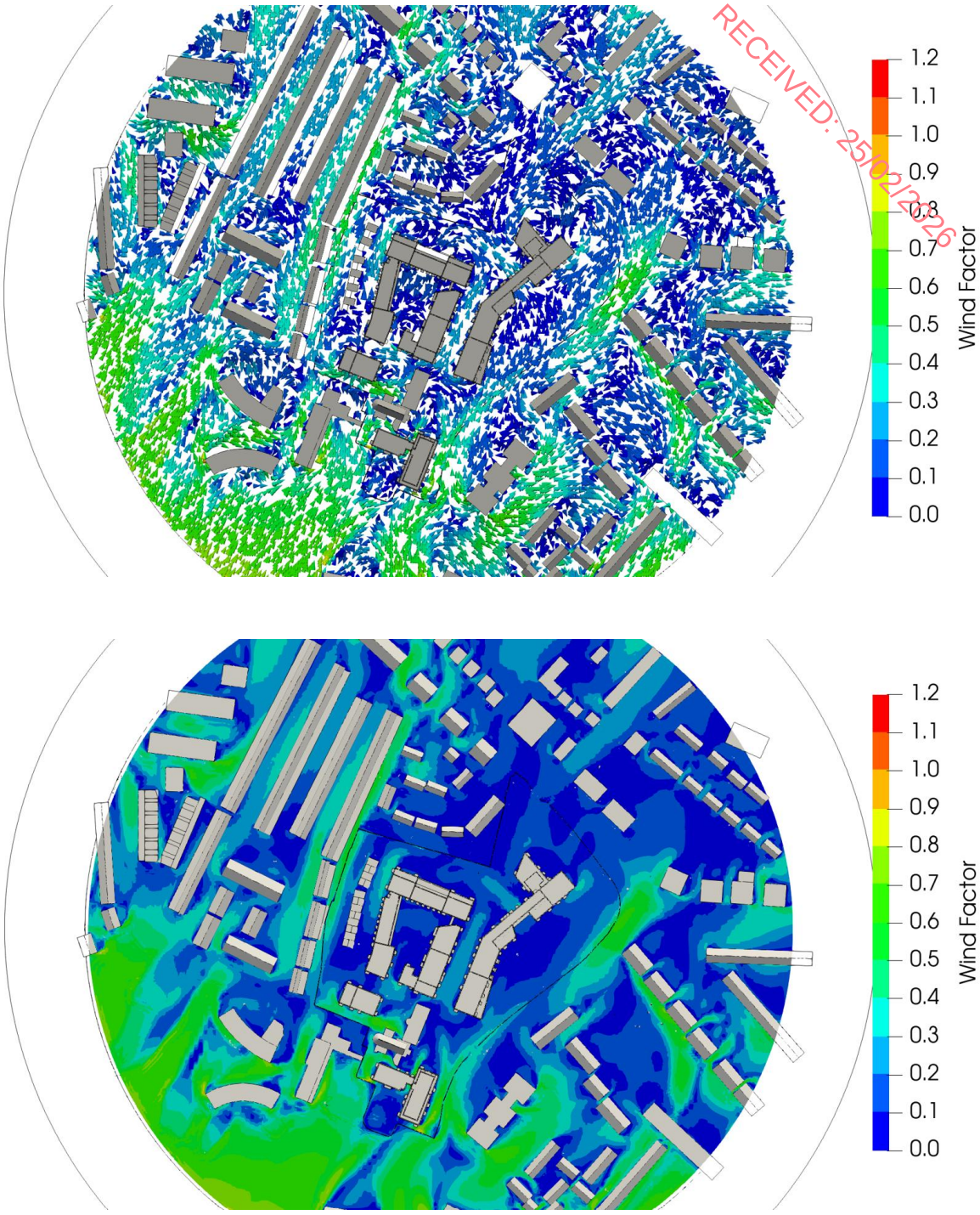

Figure 17.16: Wind Factor – 210 Degree (SSW) Wind Direction

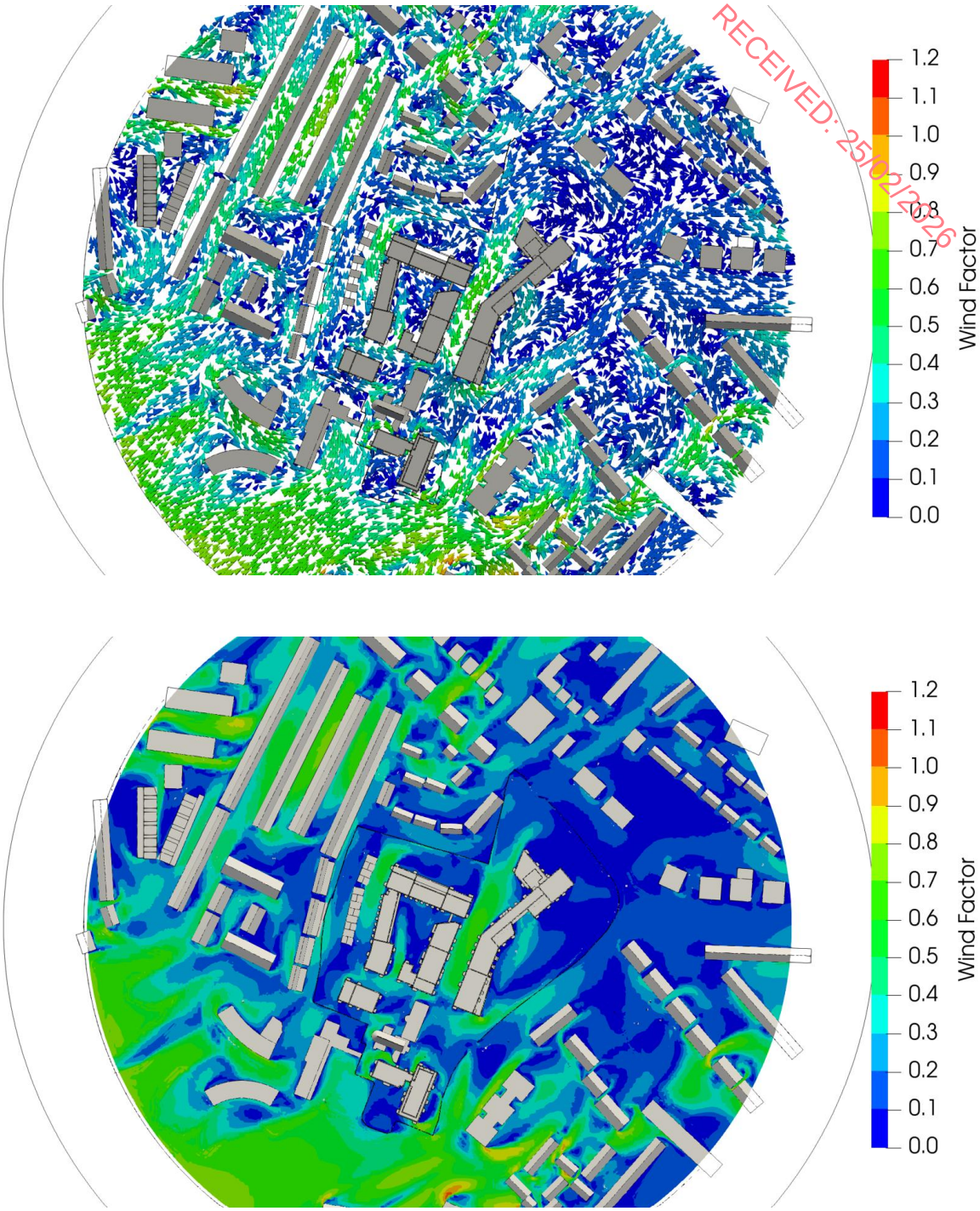

Figure 17.17: Wind Factor – 240 Degree (WSW) Wind Direction

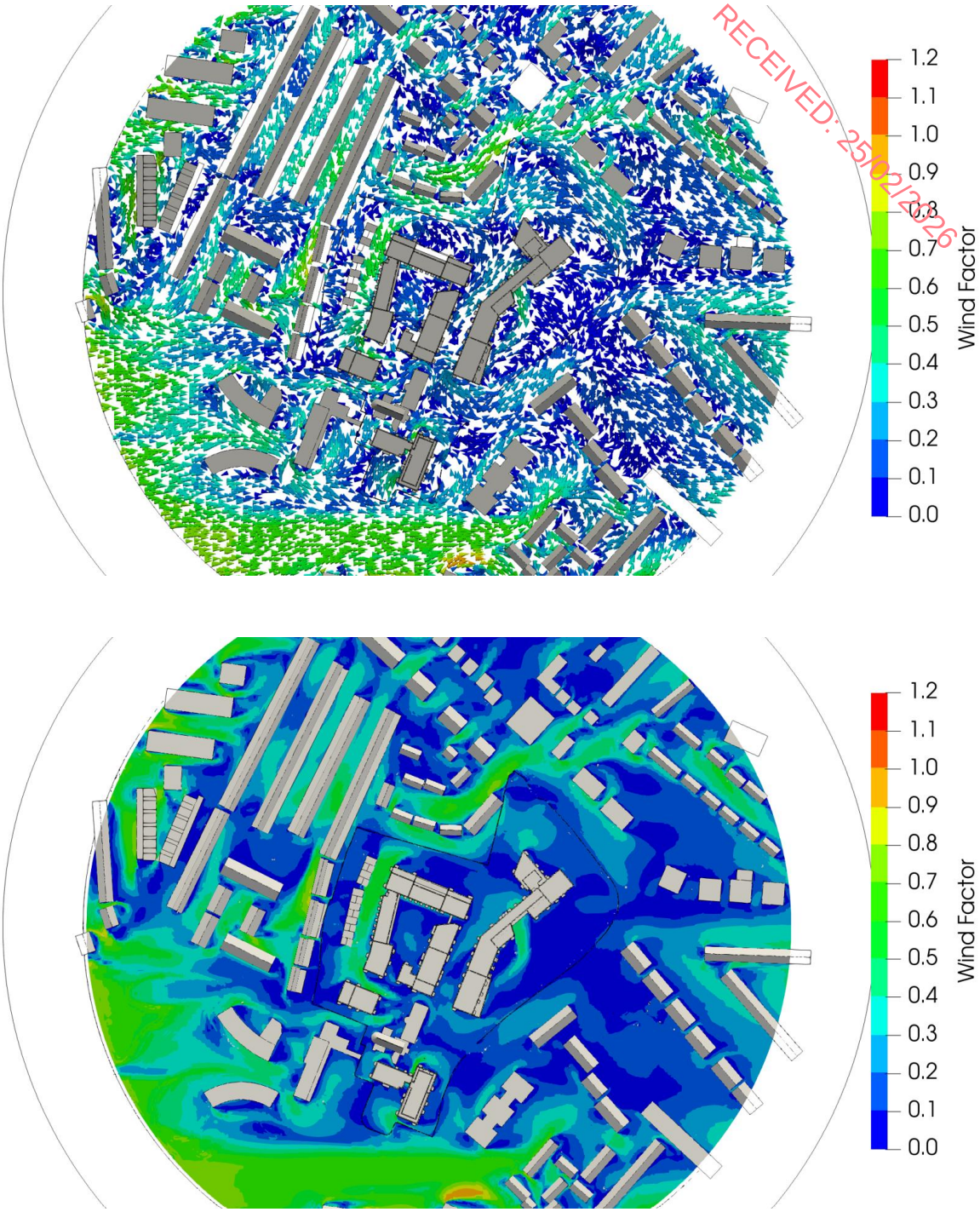

Figure 17.18: Wind Factor – 270 Degree (W) Wind Direction

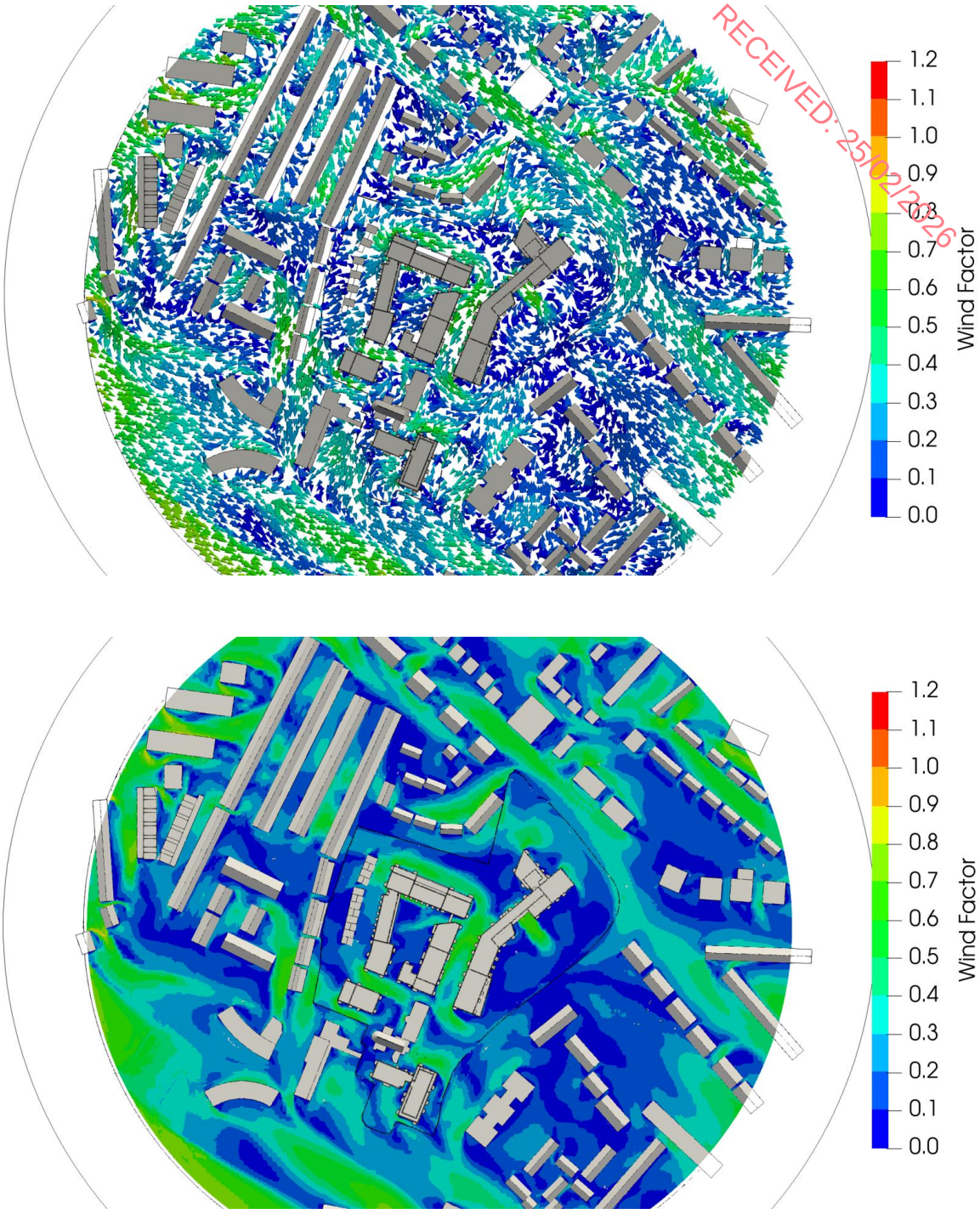

Figure 17.19: Wind Factor – 300 Degree (WNW) Wind Direction

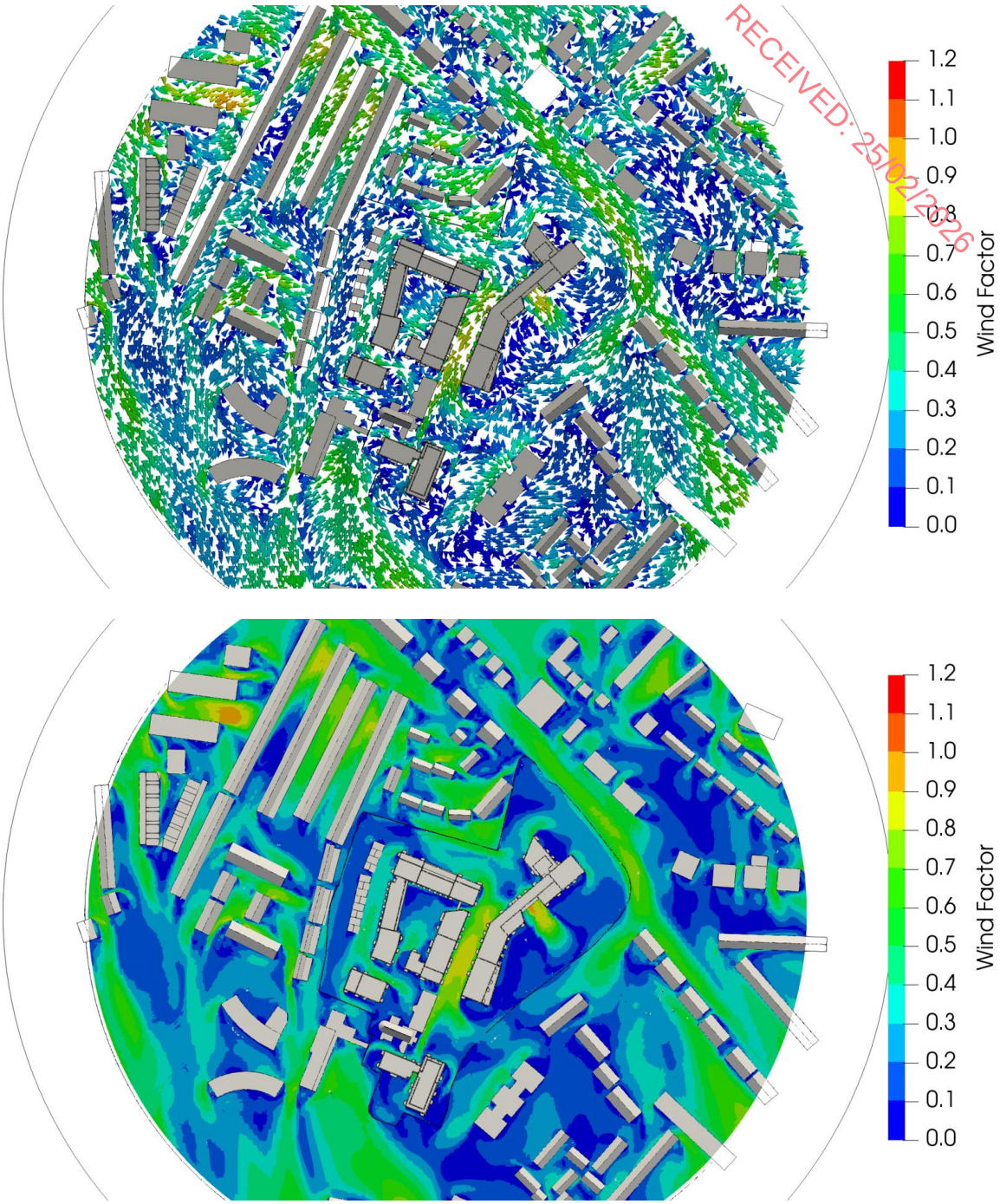

Figure 17.20: Wind Factor – 330 Degree (NNW) Wind Direction

17.4.3 Potential Cumulative Impacts

The CFD assessment has accounted for the cumulative impact associated with the existing site and the proposed development. The analysis has shown that even with the proposed development in place, the wind speeds will still be comfortable for pedestrians with no areas of concern highlighted.

A list of granted developments surrounding the proposed project has been provided by Thornton O'Connor Town Planning. The below table outlines only those applications located in closest proximity to the proposed site. Due to the substantial distance from the proposed project and the extent of those granted applications, a neutral cumulative impact will be perceived.

Planning Reference	Address	Summary of Development	Decision	Status
DCC Reg. Ref. 3937/23 (amended under DCC Reg. Ref. WEB2142/24)	RDS, Dublin 4	The demolition of the existing Anglesea Stand and Anglesea Terrace structure and the provision of to a new grandstand (6,775 person capacity), a 2 level (storey) hospitality and services building (Pocket Building), a club shop and substation (overall 8,892 sq.m). Amendment: minor alterations to the internal arrangement; alterations to the external elevations to include an increase in the overall height to c.24.04m (c.2.74m increase); increase in total capacity of the stand to 6,844 (69 no. additional spectators).	**Final Grant**: DCC Granted Permission on 14th September 2023 (Amendment: DCC Granted Permission on 16th December 2024)	Under Construction
DCC Reg. Ref. 3307/24	RDS, Dublin 4	The relocation of players' changing rooms and facilities from the existing Anglesea stand to the south stand, also known as the Grandstand. The proposal will comprise partial removal and replacement of the stand scaffold to allow for the insertion and construction of a single-storey structure (gross floor area 439 sq m).	**Final Grant**: DCC Granted Permission on 30th May 2024	Commencement Notice issued, no compliance submissions made.
DCC Reg. Ref. 3386/22	The Eglinton, (formerly Jefferson House), No. 2 Eglinton Road, Donnybrook, Dublin 4	The development will consist of the demolition of the existing 5-storey office/residential building on site (the total area for demolition is 2,910 sq.m.) and the construction of a new residential scheme on 11 floors at a height of 42.1m above ground level over an existing and extended basement. The residential development will comprise 20 no. 3-bed units all with winter gardens, communal roof garden and winter garden, terraces at fifth and seventh floors, residential amenity space at	**Final Grant:** DCC Granted Permission on 17th August 2022	Not Commenced.

		ground floor including meeting room, concierge and gym.		
DCC Reg. Ref. WEB5434/25	Former Donnybrook Laundry at The Crescent, Donnybrook, Dublin 4	The provision of 38 No. residential units comprising the refurbishment of the existing laundry building to provide 4 no. units (2 no. duplex units and 2 no. houses) and the construction of 3 no. new blocks ranging in height from 3-6 storeys to provide 34 no. units comprising (31 no. apartments & 3 no. houses).	**Status:** Pending Decision	N/A - Live Application
DCC Reg. Ref. WEB5106/25	Junction of Donnybrook Road and Brookvale Road, Donnybrook, Dublin 4, D04K3T8	The demolition of existing buildings and structures on site and the construction of a 143 No. aparthotel development with a restaurant/ take-away unit and a café/retail unit provided within a 7 No. storey building.	**Status:** Live Application (submitted to DCC on 25th November 2025)	N/A - Live Application
DCC Reg. Ref. 2843/21 **ABP Reg. Ref. ABP-311692-21**	The Royal Hospital Donnybrook, Morehampton Road, Donnybrook, Dublin 4, D04 HX40	Construction of Donnybrook Primary Care Centre comprising 4 No. storeys over basement level accommodating HSE medical diagnostics, consulting and treatment rooms plus ancillary offices	**Final Grant:** ACP Granted Permission on 22nd December 2021	Not Commenced
DCC Reg. Ref. 2477/21	No. 47 Ranelagh Road, Ranelagh, Dublin 6	The demolition of a single storey rear return and provision of 2 No. residential units; and the provision of a new part 2 to part 4 No. storey structure to the rear of the site accommodating 10 No. residential units.	**Final Grant:** DCC Granted Permission on 19th January 2022	Not Commenced
DCC Reg. Ref. 4115/21 (ACP Ref. ABP-313048-22) **(Amended under DCC Reg. Ref. WEB2775/24)**	11C and 9/14 Milltown Road, Milltown, Dublin 6	The proposed development will consist of the following: Demolition of the existing buildings on site, with a total combined gross floor area (GFA) of 1,739 sq.m; Construction of a Build-to-Rent (BTR) residential development, comprising 97 No. BTR apartments with a mix of 48 No. 1 bed units and 49 No. 2 bed units in 3 No. blocks of part 3, part 4, part 5 and part 6 storeys in height, over basement level, including resident support and amenity facilities. The total GFA, including the basement level, of the proposed development is 9,216 sq m. (Amendment Application: alter the permitted development from a Build to Rent apartment scheme to	**Final Grant**: ACP Granted Permission on 26th July 2023 (Amendment: Granted by DCC on 28th July 2025)	Not Commenced

		a standard apartment scheme with no change in units proposed)		
DCC Reg. Ref. 3116/22	The Jesuit House of Studies, Milltown Road, Dublin 6	Planning permission for the development will consist of the construction of a two-storey archive storage and office building with c.765 sq m of combined floorspace provided including the following: (i) a reception area, an oratory, an archive storage room, research reading room, offices, storage rooms, staff canteen, toilets, shower, passenger lift, audio room and ancillary space; (ii) rooflights, photovoltaic panels and lift over-run at roof level; (iii) 9 No. parallel car parking bays along the existing roadway with the existing fence relocated to the site boundary and 15 No. new cycle parking spaces; (iv) residual car parking, hard and soft landscaping, heat pump and all associated site development works.	**Final Grant**: DCC Granted Permission on 30th June 2022	Not Commenced
DCC Reg. Ref. 4578/22 (ACP Ref. PL29S.322089)	'Dunelm', Rydalmount, Milltown Road, Dublin 6	The demolition of the existing building and structures on site and the construction of a 63 No. unit Build-to-Rent scheme within 2 No. blocks ranging between 4 No. storeys and 8 No. storeys in height.	**Status**: ACP Granted Permission on 18th January 2024. Decision quashed by Order of the High Court and is remitted to ACP under new case number ACP Ref. PL29S.322089. Still awaiting decision at the time of writing.	N/A - Live Application
DCC Reg. Ref. WEBLRD6063/25-S3 (ACP Ref. LH29S.323142)	Former Paper Mills site and adjoining properties Clonskeagh Road, Dublin 6	The construction of a purpose-built student accommodation (439 No. bedspaces) and residential development (16 No. apartments) in 5 no. blocks ranging from part 1 to part 7 no. storeys in height above a lower ground level, and extension and renovation of 14 no. existing residential dwellings at Clonskeagh Road.	**Status**: ACP Granted Permission 12th November 2025	Not Commenced
DCC Reg. Ref. WEB2190/24	Gonzaga College, Sandford Road, Dublin 6, D06 KF95	The development will consist of: the internal reconfiguration and full renovation of an existing 2 storey science block (c. 830 sq m) and the construction of a new 3 storey extension with a rooftop observatory (c. 1,431 sq m) located to the north-east of the college. The extension will connect to the existing 2 storey science building to the south via a double-height atrium and to the existing Sandford	**Final Grant**: DCC Granted Permission on 21st January 2025	Not Commenced

		Grove House (educational use) to the west via a new glazed walkway at second floor level.		
DCC Reg. Ref. 4283/24	Rear of 50 Sandford Road, Ranelagh, Dublin 6	Permission is being sought for development a protected structure, comprising construction of a 72 sqm one bed two storey mews with access onto Marlborough Lane, Dublin 4, and all associated services and site works	**Final Grant**: DCC Granted Permission on 16th December 2024	Not Commenced
DCC Reg. Ref. 3011/24 (ACP Ref. ABP-320695-24)	No. 79, Sandford Road, Dublin 6, D06 CK83	Demolition of 169 sq.m of existing commercial buildings and construction of 6 two-storey (plus attic) townhouses.	**Final Grant**: ACP Granted Permission on 23rd July 2025.	Compliance submissions made
DCC Reg. Ref. LRD6003/22-S3 (ACP Ref. ABP-315488-23) **(Live Amendment Application No. 1: DCC Reg. Ref. WEBLRD6081/25-S3)** **(Live Amendment Application No. 2: DCC Reg. Ref. WEBLRD6092/25-S3)**	A site which previously formed part of the overall RTÉ Campus at Montrose, Donnybrook, Dublin 4	Demolition of the existing structures and construction of a 608 No. apartment scheme and creche, all within 9 No. blocks ranging in height between 2 No. storeys and 10 No. storeys. (Amendment Application No. 1: The amendments proposed will reduce the total number of permitted residential units by 98, resulting in an overall total of 510 no apartment units now proposed. The revised residential mix will comprise 8 no. Studios; 125 no. 1-beds, 326 no. 2-beds and 51 no. 3-bed apartments. It is also proposed to omit Condition Nos. 7 & 8 to remove the Build-to-Rent aspect of the development) (Amendment Application No. 2: the change of use from the permitted restaurant/café and retail use to a wellness facility and café/retail use and the provision of a new single storey swimming pool building)	**Final Grant**: DCC Granted Permission on 12th July 2023	Not commenced
DCC Reg. Ref. WEB2320/25 (ACP Ref. ACP-323451-25)	No. 14 Morehampton Lane, Donnybrook, Dublin 4, Do4Y6W0	The demolition of the existing single-storey garage and the construction of a new three-storey mews dwelling.	**Notification of Decision**: DCC decided to Grant Permission on 1st August 2025 **Status**: Pending Decision from ACP	Live Application
DCC Reg. Ref. 4437/23	No. 4 Chelmsford Close, Ranelagh, Dublin 6, Do6XW20	The development will consist of the construction of a new 2 No. storey 2-bedroom house with study to the side of existing dwelling.	**Final Grant**: DCC Granted Permission on 11th December 2023	Commencement Notice issued & Compliance submissions made.
DCC Reg. Ref. 3129/21 (ACP Ref. ABP-314166-22)	Errigal House, Eglinton Court,	The development will consist of alterations to an apartment block known as Errigal House which will increase the quantum of residential	**Final Grant**: ACP Granted Permission on 8th December 2023	Not commenced.

	Eglinton Road, Dublin 4	units from 20 No. apartments to a total of 28 No. apartments and will result in the provision of a five-storey apartment building.		
DCC Reg. Ref. 4093/23 (ACP Ref. ABP-318615-23)	No. 66 Eglinton Road, Donnybrook, Dublin 4, D04P2X9	Demolition of existing garage and the construction of a single storey dwelling to the rear of the existing dwelling.	**Final Grant**: DCC Granted Permission on 10th July 2024	Not commenced.
DCC Reg. Ref. 3854/21 (ACP Ref. ABP-313312-22)	Woods Way to the rear of No. 20 Mount Eden Road, Donnybrook, Dublin 4	Demolition of the existing workshop/shed and boundary wall to Woods Way and the construction of a 2 No. storey 2-bedroom terraced mews dwelling.	**Final Grant**: ACP Granted Permission on 14th September 2023	Not commenced.

Table 17.5: Granted Planning Applications in Closest Proximity to the Proposed Project

(Source: Thornton O'Connor Town Planning)

17.4.4 'Do Nothing' Impact

If the proposed development does not go ahead, based on the assessment carried out on the existing site and the statistical analysis of 30 years of climate data from the Dublin airport, the existing site will remain well sheltered from the prevailing wind directions and will continue to be considered a comfortable environment for pedestrians.

17.5 Mitigation Measures

17.5.1 Construction Phase

The assessment of the wind microclimate during the construction phase has been based on professional judgement by reviewing the existing site conditions and the expected conditions once the development is in place via the CFD modelling.

It is expected the wind microclimate will gradually adjust from the existing conditions to the final modelled scenario as construction progress develops. However, the mitigation measures outlined in the following sections will need to be implemented before completion to ensure comfortable conditions once the proposed development becomes operational.

17.5.2 Operational Phase

The following specific mitigation measures have been incorporated into the proposed design to prevent excessive wind speeds during the operational phase of the development.

17.5.2.1 Apartment Block Arrangement

The arrangement of the apartment blocks has been carefully chosen to help mitigate increased wind speeds throughout the site. The central areas within the development are well protected from the predominant South-West wind direction via the buildings located to the south-west. Furthermore, an internal courtyard space has been incorporated within Block B and C which provides a sheltered area for pedestrians to utilise throughout the year.

Figure 17.21: Wind Mitigation Measure – Apartment Block Arrangement

17.5.2.2 Inset Balconies

The Block A1 building, which is most exposed to the wind due to its height, predominantly incorporates inset balconies. Figure 17.22 illustrates a sample of these balconies which are highlighted in red. Inset balconies offer increased wind protection for people utilising the balcony spaces as they provide a natural shelter from the elements.

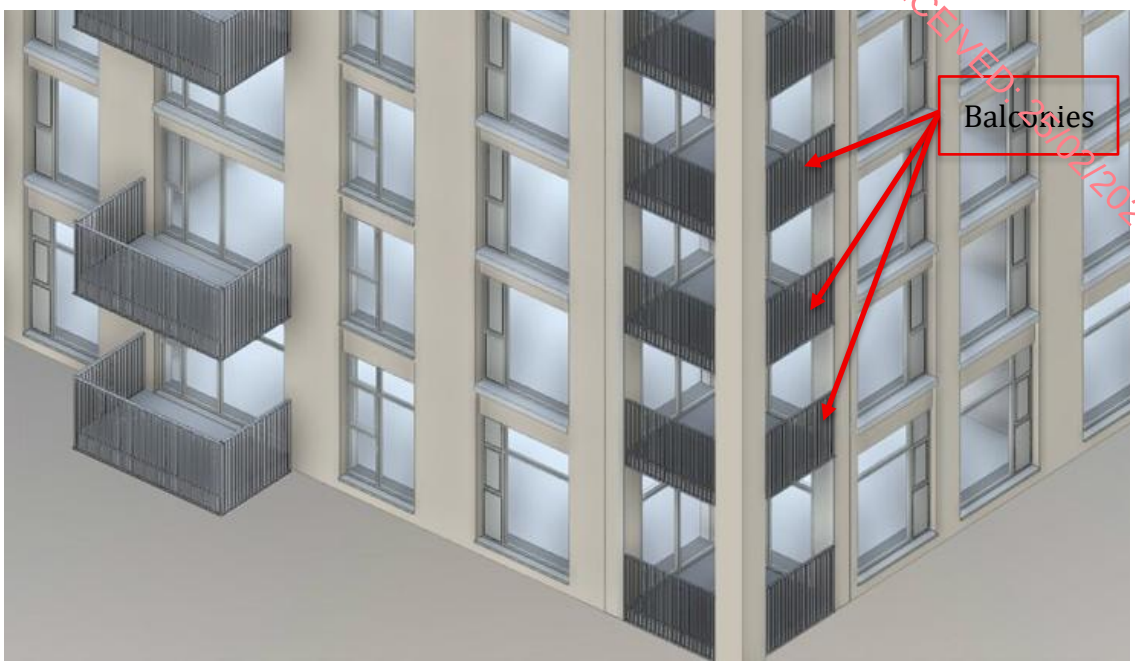

Figure 17.22: Wind Mitigation Measure – Block A1 Inset Balconies

17.5.2.5 Landscaping

The landscaping has been strategically designed to mitigate increased wind speeds and to provide shelter for pedestrians at ground level, within the central courtyard spaces and on the rooftop amenity area. The landscaping design incorporates trees, hedges and raised planters and sheltered seating pockets which all act as wind mitigation measures.

The proposed landscaping design for all levels is illustrated in Figure 17.23 with subsequent images illustrating the landscape design for each rooftop amenity area. Trees are to be planted close to primary entrance ways and along the streetscape, mitigating excessive wind speeds and providing shelter for pedestrians at street level. The use of trees and low-level shrubs all assist in the localised reduction of wind speed.

Figure 17.23: Wind Mitigation Measure – Landscaping Design (Ground Level)

(Source: Cameo & Partners)

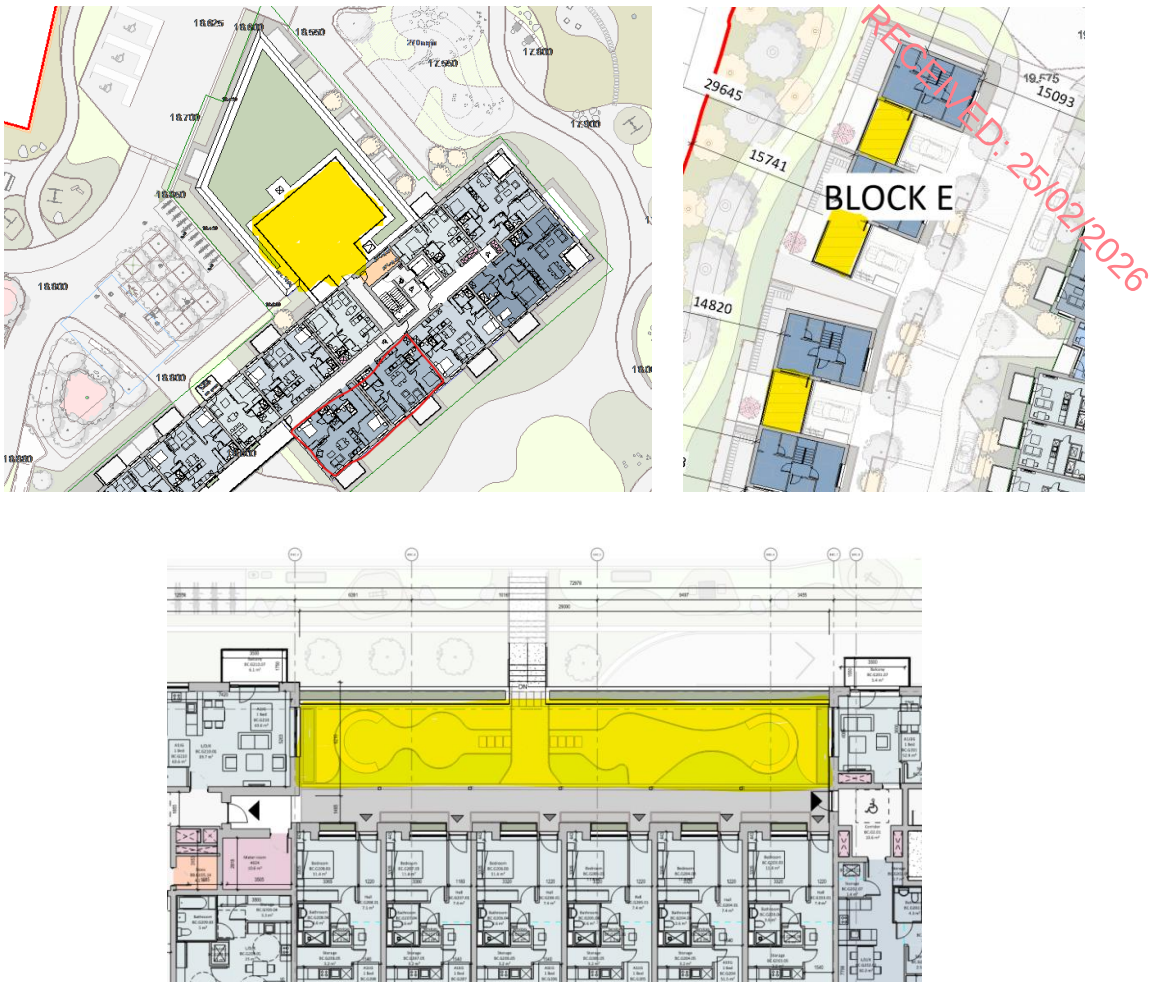

Figure 17.29: Wind Mitigation Measure – Landscaping Design (Block A1/E/C Amenity Areas)

(Source: O'Mahony Pike Architects)

17.6 Residual Impacts

The trees and planting associated with the landscape design will continue to grow and develop after the proposed mitigation measures have been implemented, thus providing increased protection from the wind resulting in increased pedestrian comfort conditions in these areas which will be a positive impact.

17.7 Monitoring

17.7.1 Construction Phase

During the construction phase the wind conditions will gradually change from the conditions experienced in the existing environment to the conditions experienced during the operational phase. As wind comfort conditions are comfortable in both phases and no issues have been identified, no monitoring is required.

17.7.2 Operational Phase

The proposed development has been designed to have acceptable pedestrian wind comfort conditions during the operational phase, therefore no monitoring is required.

17.8 Reinstatement

17.8.1 Construction Phase

No reinstatement works are required during the construction phase.

17.8.2 Operational Phase

No reinstatement works are required during the operational phase.

17.9 Interactions

The interactions between the proposed development and its environs and human health have been evaluated within the assessment. The modelling has included the proposed design, the proposed landscaping strategy and the existing landscape which will remain, in conjunction with the existing buildings surrounding the development. The combination of all interactions has resulted in a comfortable environment for pedestrians within the proposed development.

17.10 Difficulties Encountered

There were no difficulties encountered during the course of the assessment.

17.11 References

- Lawson, T.V., 2001, 'Building Aerodynamics', Imperial College Press, London