Updated Chapter 17 Cumulative Effects

17.0 Cumulative Effects (Updated Effect Interactions Tables)

17.1 Assessment of Intra-Project Cumulative Effects

17.1.1 As there is no established EIA methodology for assessing and quantifying the combined effects of individual effects on sensitive receptors, the following approach therefore uses the defined residual effects outlined with the Technical Chapters of the ES to determine the potential for interactions between effects, and consequently the potential for significant intra-project cumulative effects.

17.1.2 This section provides an assessment of potential effect interactions between the relevant environmental topics on identified sensitive receptors during construction and operation of the Proposed Development. The results of the assessment presented in this section are following implementation of the recommended mitigation measures, as described with Chapters 6 – 16 and Volume 2.

17.1.3 The effect interactions presented in **Tables 17.10** and **17.11** below are based on professional judgements made by technical specialists who have completed the technical assessments, taking into account the baseline conditions at the Site and in the surrounding area together with the findings from the various technical studies. To ensure a proportionate approach, both negligible and neutral effects have been disregarded.

17.1.4 In terms of effect interactions, the following sensitive receptors have been identified due to their sensitivity as assessed in this ES:

- Existing commercial uses on-site and in the area;
- Future on-site commercial occupants;
- Existing residential uses in the surrounding area;
- Future on-site residential uses;
- Existing below and above ground heritage assets;
- Social Infrastructure;
- Existing transport infrastructure.

Effect Interactions During Demolition and Construction

17.1.5 **Table 17.10** comprises a summary matrix for the construction works, showing the potential effect interactions following implementation of the recommended mitigation measures, based on the assessments presented within Chapter 6 – 16 and Volume 2

Table 17.10: Matrix of Residual Effect Interactions – Demolition and Construction Phase

Receptor	Residual Effect	Scale and Nature of Residual Effects	Potential for Intra-Project Cumulative Effects / Effect Interactions
Residential Dwellings Receptor 1 (West Hampstead Student Accommodation)	**Noise and Vibration** Noise from construction works Vibration from construction works	 Major Negative (Significant) Minor / Moderate Negative (Not Significant / Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Major Negative (Significant) to Minor Negative (Not significant)** effect is anticipated.
Residential Dwellings Receptor 2 (Clockwork Factory Apartments)	**Noise and Vibration** Noise from construction works Vibration from construction works	 Major Negative (Significant) Moderate Negative (Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Major Negative (Significant) to Moderate (Significant) Negative** effect is anticipated.

Residential Dwelling Receptor 3 (West End Land residential properties)	**Noise and Vibration** Noise from construction works Vibration from construction works	 Moderate Negative (Significant) Minor / Moderate Negative (Not Significant / Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Moderate Negative (Significant) to Minor Negative (Not significant)** effect is anticipated.
Residential Dwelling Receptor 4 (Blackburn Road residential properties)	**Noise and Vibration** Noise from construction works Vibration from construction works	 Moderate Negative (Significant) Minor / Moderate Negative (Not Significant / Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Moderate Negative (Significant) to Minor Negative (Not significant)** effect is anticipated.
Residential Dwelling Receptor 5 (Broadhurst Gardens (west) residential properties)	**Noise and Vibration** Noise from construction works Vibration from construction works	 Minor Negative (Not Significant) Minor / Moderate Negative (Not Significant / Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Moderate Negative (Significant)**

			to Minor Negative (Not significant) effect is anticipated.
Residential Dwelling Receptor 6 (Broadhurst Gardens residential properties)	**Noise and Vibration** Noise from construction works Vibration from construction works	 Moderate Negative (Significant) Minor Negative (Not Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Moderate Negative (Significant) to Minor Negative (Not significant)** effect is anticipated.
Residential Dwelling Receptor 7 (Broadhurst Gardens (east) residential properties)	**Noise and Vibration** Noise from construction works Vibration from construction works	 Minor Negative (Not Significant) Minor Negative (Not Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Minor Negative (Not significant)** effect is anticipated.

Residential Dwelling Receptor 8 (Canfield Place residential properties)	**Noise and Vibration** Noise from construction works Vibration from construction works	 Minor Negative (Not Significant) Minor / Moderate Negative (Not Significant / Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Moderate Negative (Significant) to Minor Negative (Not significant)** effect is anticipated.
Residential Dwelling Receptor 9 (Canfield gardens residential properties)	**Noise and Vibration** Noise from construction works Vibration from construction works	 Minor Negative (Not Significant) Negligible / Minor Negative (Not Significant / Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Negligible to Minor Negative (Not significant)** effect is anticipated.

Residential Dwelling Receptor 10 (Finchley Road (south) residential properties)	**Noise and Vibration** Noise from construction works Vibration from construction works	 Minor Negative (Not Significant) Minor / Moderate Negative (Not Significant / Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Moderate Negative (Significant) to Minor Negative (Not significant)** effect is anticipated.
Residential Dwelling Receptor 11 (Finchley Road (east) residential properties)	**Noise and Vibration** Noise from construction works Vibration from construction works	 Minor Negative (Not Significant) Minor / Moderate Negative (Not Significant / Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Moderate Negative (Significant) to Minor Negative (Not significant)** effect is anticipated.
Residential Dwelling Receptor 12 (Holiday Inn hotel)	**Noise and Vibration** Noise from construction works Vibration from construction works	 Minor Negative (Not Significant) Minor / Moderate Negative (Not Significant / Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Moderate Negative (Significant)**

			to Minor Negative (Not significant) effect is anticipated.
Residential Dwelling Receptor 13 (Finchley Road (north-east) residential properties)	**Noise and Vibration** Noise from construction works Vibration from construction works	 Minor Negative (Not Significant) Minor / Moderate Negative (Not Significant / Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Moderate Negative (Significant) to Minor Negative (Not significant)** effect is anticipated.
Residential Dwelling Receptor 14 (Finchley Road (north-west) residential properties)	**Noise and Vibration** Noise from construction works Vibration from construction works	 Minor Negative (Not Significant) Minor / Moderate Negative (Not Significant / Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Moderate Negative (Significant) to Minor Negative (Not significant)** effect is anticipated.

Residential Dwelling Receptor 15 (Rosemont Road (east) residential properties)	**Noise and Vibration** Noise from construction works Vibration from construction works	 Minor Negative (Not Significant) Minor Negative (Not Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Minor Negative (Not significant)** effect is anticipated.
Residential Dwelling Receptor 16 (Rosemont Road (west) residential properties)	**Noise and Vibration** Noise from construction works	Minor Negative (Not Significant)	**No**
Residential Dwelling Receptor 17 (Lithos Road residential properties)	**Noise and Vibration** Noise from construction works	Minor Negative (Not Significant)	**No**
Residential Dwelling Receptor 18 (Dresden Close residential properties)	**Noise and Vibration** Noise from construction works Vibration from construction works	 Minor Negative (Not Significant) Minor Negative (Not Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Minor Negative (Not significant)** effect is anticipated.
Residential Dwelling	**Noise and Vibration**		**Yes**.

Receptor 19 (Lymington Road residential properties)	Noise from construction works Vibration from construction works	Minor Negative (Not Significant) Minor Negative (Not Significant)	These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Minor Negative (Not significant)** effect is anticipated.
Residential Dwelling Receptor 24 (Occupants of the Proposed Development)	**Noise and Vibration** Noise from construction works Vibration from construction works	Moderate Negative (Significant) Minor / Moderate Negative (Not Significant / Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Moderate Negative (Significant) to Minor Negative (Not significant)** effect is anticipated.
Commercial Premises Receptor 20 (Optimax Laser Eye Clinic)	**Noise and Vibration** Noise from construction works	Minor Negative (Not Significant)	**No.**
Commercial Premises Receptor 21 (BCOM Osteopathic Clinic)	**Noise and Vibration** Noise from construction works Vibration from construction works	Minor Negative (Not Significant) Minor Negative (Not Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Minor**

			Negative (Not significant) effect is anticipated.
Commercial Premises Receptor 22 (North Bridge House Pre-Prep School)	**Noise and Vibration** Noise from construction works Vibration from construction works	 Minor Negative (Not Significant) Minor Negative (Not Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Minor Negative (Not significant)** effect is anticipated.
Commercial Premises Receptor 23 (South Hampstead Junior School)	**Noise and Vibration** Noise from construction works Vibration from construction works	 Minor Negative (Not Significant) Minor Negative (Not Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Minor Negative (Not significant)** effect is anticipated.
Archaeology	**Archaeology** Loss of fragmented archaeological remains of early/mid-20th century development. Loss of the bases of agricultural features such as field boundaries	Minor Negative (Not Significant)	**No.** No Effects to interact with.

On-site Habitats	**Ecology** Scattered trees, introduced shrub and scattered scrub	Minor Positive (Not Significant)	**No.** No Effects to interact with.
Global Climate	**Climate Change** Impacts from lifecycle stages A1 – A5	Minor Negative (Not Significant)	**No.** No Effects to interact with.
Existing Employment	**Socio-economics** Loss of existing employment on-Site	Minor Negative (Not Significant)	**No.** No Effects to interact with.

Table 17.11: Matrix of Residual Effect Interactions – Operational Phase

Receptor	Residual Effect	Scale and Nature of Residual Effects	Potential for Intra-Project Cumulative Effects / Effect Interactions
Residential Dwellings Receptor 6 (Broadhurst Gardens residential properties) 170-182 Broadhurst Gardens	**Noise and Vibration** Noise from Building Services **Daylight and Sunlight** Potential loss of daylight and / or sunlight	 Minor Negative (Not Significant) Moderate to Major Negative (Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Major Negative (Significant) to Minor Negative (Not significant)** effect is anticipated.
Residential Dwellings Receptor 6 (Broadhurst Gardens residential properties) 164 Broadhurst Gardens	**Noise and Vibration** Noise from Building Services **Daylight and Sunlight** Potential loss of daylight and / or sunlight	 Minor Negative (Not Significant) Minor Negative (Not Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Minor Negative (Not significant)** effect is anticipated.
Residential Dwellings	**Noise and Vibration** Noise from Building Services	 Minor Negative (Not Significant)	**Yes**.

Receptor 6 (Broadhurst Gardens residential properties) 166 Broadhurst Gardens	**Daylight and Sunlight** Potential loss of daylight and / or sunlight	Minor Negative (Not Significant)	These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Minor Negative (Not significant)** effect is anticipated.
Residential Dwellings Receptor 6 (Broadhurst Gardens residential properties) 168 Broadhurst Gardens	**Noise and Vibration** Noise from Building Services **Daylight and Sunlight** Potential loss of daylight and / or sunlight	 Minor Negative (Not Significant) Minor Negative (Not Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Minor Negative (Not significant)** effect is anticipated.
Residential Dwellings Receptor 8 (Canfield Place residential properties) 17 Canfield Place	**Noise and Vibration** Noise from Building Services **Daylight and Sunlight** Potential loss of daylight and / or sunlight	Minor Negative (Not Significant) Moderate to Major Negative (Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Major Negative (Significant) to Minor Negative (Not significant)** effect is anticipated.

Residential Dwellings Receptor 8 (Canfield Place residential properties) 23-27 Canfield Place	**Noise and Vibration** Noise from Building Services **Daylight and Sunlight** Potential loss of daylight and / or sunlight	Minor Negative (Not Significant) Moderate to Major Negative (Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Major Negative (Significant) to Minor Negative (Not significant)** effect is anticipated.
Residential Dwellings Receptor 16 (Rosemont Road (west) residential properties) 54 A-D Rosemont Road,	**Noise and Vibration** Noise from Building Services **Daylight and Sunlight** Potential loss of daylight and / or sunlight	Minor Negative (Not Significant) Moderate to Major Negative (Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Major Negative (Significant) to Minor Negative (Not significant)** effect is anticipated.
Residential Dwellings Receptor 16 (Rosemont Road (west) residential properties)	**Noise and Vibration** Noise from Building Services **Daylight and Sunlight**	Minor Negative (Not Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects'

32-48 Rosemont Road (Even Numbers Only)	Potential loss of daylight and / or sunlight	Moderate to Major Negative (Significant)	significance and nature, a **Major Negative (Significant) to Minor Negative (Not significant)** effect is anticipated.
Residential Dwellings Receptor 16 (Rosemont Road (west) residential properties) 30 Rosemont Road,	**Noise and Vibration** Noise from Building Services **Daylight and Sunlight** Potential loss of daylight and / or sunlight	Minor Negative (Not Significant) Moderate to Major Negative (Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Major Negative (Significant) to Minor Negative (Not significant)** effect is anticipated.
Residential Dwellings Receptor 16 (Rosemont Road (west) residential properties) 26 Rosemont Road,	**Noise and Vibration** Noise from Building Services **Daylight and Sunlight** Potential loss of daylight and / or sunlight	Minor Negative (Not Significant) Moderate to Major Negative (Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Major Negative (Significant) to Minor Negative (Not significant)** effect is anticipated.

Residential Dwellings Receptor 16 (Rosemont Road (west) residential properties) 24 A-C Rosemont Road,	**Noise and Vibration** Noise from Building Services **Daylight and Sunlight** Potential loss of daylight and / or sunlight	Minor Negative (Not Significant) Moderate to Major Negative (Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Major Negative (Significant) to Minor Negative (Not significant)** effect is anticipated.
Residential Dwellings Receptor 16 (Rosemont Road (west) residential properties) 22 A-C Rosemont Road,	**Noise and Vibration** Noise from Building Services **Daylight and Sunlight** Potential loss of daylight and / or sunlight	Minor Negative (Not Significant) Moderate to Major Negative (Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Major Negative (Significant) to Minor Negative (Not significant)** effect is anticipated.
Residential Dwellings Receptor 16 (Rosemont Road (west) residential properties)	**Noise and Vibration** Noise from Building Services **Daylight and Sunlight**	Minor Negative (Not Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Major Negative (Significant) to Minor**

20 A-C Rosemont Road	Potential loss of daylight and / or sunlight	Moderate to Major Negative (Significant)	**Negative (Not significant)** effect is anticipated.
Residential Dwellings Receptor 16 (Rosemont Road (west) residential properties) 16 Rosemont Road	**Noise and Vibration** Noise from Building Services **Daylight and Sunlight** Potential loss of daylight and / or sunlight	Minor Negative (Not Significant) Moderate to Major Negative (Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Major Negative (Significant) to Minor Negative (Not significant)** effect is anticipated.
Residential Dwellings Receptor 16 (Rosemont Road (west) residential properties) 8 Rosemont Road	**Noise and Vibration** Noise from Building Services **Daylight and Sunlight** Potential loss of daylight and / or sunlight	Minor Negative (Not Significant) Minor Negative (Not Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Minor Negative (Not significant)** effect is anticipated.
Residential Dwellings Receptor 16 (Rosemont Road (west) residential properties)	**Noise and Vibration** Noise from Building Services	Minor Negative (Not Significant)	**Yes**. These effects are considered to have the potential to interact to

2 Rosemont Road	**Daylight and Sunlight** Potential loss of daylight and / or sunlight	Minor Negative (Not Significant)	produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Minor Negative (Not significant)** effect is anticipated.
Residential Dwellings Receptor 17 (Lithos Road residential properties) 73 Lithos Road – 67 Lithos Road (Odd and Even Numbers)	**Noise and Vibration** Noise from Building Services **Daylight and Sunlight** Potential loss of daylight and / or sunlight	Minor Negative (Not Significant) Moderate to Major Negative (Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Major Negative (Significant) to Minor Negative (Not significant)** effect is anticipated.
Residential Dwellings Receptor 17 (Lithos Road residential properties) 66 Lithos Road - 54 Lithos Road (Odd and Even Numbers)	**Noise and Vibration** Noise from Building Services **Daylight and Sunlight** Potential loss of daylight and / or sunlight	Minor Negative (Not Significant) Moderate to Major Negative (Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Major Negative (Significant) to Minor Negative (Not significant)** effect is anticipated.
Residential Dwellings	**Noise and Vibration**		**No.**

Receptor 24 (Occupants of the Proposed Development)	Noise from Building Services Internal Noise within the Proposed Development External Noise across the Proposed Development	Minor Negative (Not Significant) Minor Negative (Not Significant) Minor Negative (Not Significant)	No Effects to interact with
Residential Dwellings	**Daylight and Sunlight** Potential loss of daylight and / or sunlight,	Moderate to Major Negative (Significant)	**No.** No Effects to interact with
3 Blackburn Road	**Daylight and Sunlight** Potential loss of daylight and / or sunlight,	Moderate to Major Negative (Significant)	**No.** No Effects to interact with
5 Blackburn Road	**Daylight and Sunlight** Potential loss of daylight and / or sunlight,	Moderate to Major Negative (Significant)	**No.** No Effects to interact with
7 Blackburn Road	**Daylight and Sunlight** Potential loss of daylight and / or sunlight,	Moderate to Major Negative (Significant)	**No.** No Effects to interact with
9 Blackburn Road	**Daylight and Sunlight** Potential loss of daylight and / or sunlight,	Moderate to Major Negative (Significant)	**No.** No Effects to interact with
Asher House	**Daylight and Sunlight**	Moderate to Major Negative (Significant)	**No.**

	Potential loss of daylight and / or sunlight,		No Effects to interact with
Nido House	**Daylight and Sunlight** Potential loss of daylight and / or sunlight,	Moderate to Major Negative (Significant)	**No.** No Effects to interact with
Holiday Inn (Hotel)	**Daylight and Sunlight** Potential loss of daylight and / or sunlight,	Moderate to Major Negative (Significant)	**No.** No Effects to interact with
142-150 Finchley Road	**Daylight and Sunlight** Potential loss of daylight and / or sunlight,	Moderate to Major Negative (Significant)	**No.** No Effects to interact with
1-108 Broadfield	**Daylight and Sunlight** Potential loss of daylight and / or sunlight	Moderate to Major Negative (Significant)	**No.** No Effects to interact with
140 Finchley Road	**Daylight and Sunlight** Potential loss of daylight and / or sunlight	Minor Negative (Not Significant)	**No.** No Effects to interact with
Train Divers View Point 01: Travelling eastwards from West Hampstead Thameslink Station.	**Daylight and Sunlight** Potential for solar glare occurrence	Minor Negative (Not Significant)	**No.** No Effects to interact with

Train Divers View Point 02: Travelling eastwards from West Hampstead Thameslink Station.	**Daylight and Sunlight** Potential for solar glare occurrence	Minor Negative (Not Significant)	**No.** No Effects to interact with
Train Divers View Point 03: Travelling eastwards from West Hampstead Thameslink Station.	**Daylight and Sunlight** Potential for solar glare occurrence	Minor Negative (Not Significant)	**No.** No Effects to interact with
Road Users View Point 04: Traveling south along Finchley Road.	**Daylight and Sunlight** Potential for solar glare occurrence	Minor Negative (Not Significant)	**No.** No Effects to interact with
Train Drivers View Point 07: Travelling eastwards towards Finchley Road Station	**Daylight and Sunlight** Potential for solar glare occurrence	Minor Negative (Not Significant)	**No.** No Effects to interact with
Train Divers View Point 08: Travelling westwards towards West Hampstead Tube Station	**Daylight and Sunlight** Potential for solar glare occurrence	Minor Negative (Not Significant)	**No.** No Effects to interact with
Train Divers View Point 09: Travelling eastwards towards Finchley Road Tube Station	**Daylight and Sunlight** Potential for solar glare occurrence	Minor Negative (Not Significant)	**No.** No Effects to interact with

Train Divers View Point 13: Travelling westwards towards West Hampstead Tube Station	**Daylight and Sunlight** Potential for solar glare occurrence	Minor Negative (Not Significant)	**No.** No Effects to interact with
Pedestrians & Cyclists	**Transport** Decrease in severance, fear and intimidation. **Transport** Decrease in delay.	Moderate Positive (Significant) Minor Positive (Not Significant)	**No.** All effects are related to Transport.
Surface Water	**Water Resources** No increase in runoff & no reduction in quality of runoff.	Minor Positive (Not Significant)	**No.** No Effects to interact with
Foul Sewerage	**Water Resources** Increased loading on the sewer system.	Minor Negative (Not Significant)	**No.** No Effects to interact with

Public Realm	**Wind Microclimate** Thoroughfares 'Sitting' wind conditions **Socio-economics** Open Space Provision **Socio-economics** Provision of Playspace.	Major Negative (Significant) Moderate Negative (Significant) Minor Positive (Not Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Major Negative (Significant) to Minor Positive (Not Significant)** effect is anticipated.
Housing Stock	**Socio-economics** Increased housing provision.	Moderate Positive (Significant)	**No.** No Effects to interact with.
Healthcare	**Socio-economics** Provision of medical facility on-site.	Moderate Positive (Significant)	**No.** No Effects to interact with.
Local Economy	**Socio-economics** Increase spending in the area.	Moderate Positive (Significant)	**No.** No Effects to interact with
Greenhouse Gases / Global Climate	**Climate Change** Operational Energy. Lifecycle stages B1 – B5. Operational Traffic.	Minor Negative (Not Significant) Minor Negative (Not Significant) Minor Positive. (Not Significant)	**No.** All effects are related to Greenhouse Gases / Global Climate

Townscape Character Areas	**Townscape and Visual** Improvements and enhancements to the quality of TCA1. **Townscape and Visual** Improvement and enhancement to views.	Moderate Beneficial (Significant) Moderate to Major Neutral (Significant)	**Yes**. These effects are considered to have the potential to interact to produce an intra-project cumulative effect. Considering the collective weight of the effects' significance and nature, a **Moderate to Major Neutral to Moderate Beneficial (Significant)** effect.

Wind Response and Figures

Response to the comments in Table 24.1 of the CBRE follow-up review.

17.2 Initial CBRE comment:

In Section 13.9, the sensitive receptors to be considered in the assessment are listed as pedestrian and cyclist throughfares, pedestrian entrances, and pedestrian amenity spaces at ground level. No mention is made of above ground level receptors at off-site locations, bus stops, or pedestrian crossings. If such receptor locations exist then they should be assessed, and if not then text to confirm their absence should be provided.

Initial Applicant answer

In Off-site surrounding areas, where building massing and pedestrian activity could be altered by the Proposed Development, a direct comparison with the baseline conditions is appropriate. In this assessment however, since the wind conditions of the off-site receptors were unaffected by Proposed Development and/or no safety issues were identified, no off-site receptors have been reported as uncomfortable or unsafe.

CBRE follow-up comment:

This is not an accurate explanation of the significant methodology set out in the ES chapter. Significance is not only dependent on whether conditions are uncomfortable or unsafe, it is also dependent on whether the comfort category has changed from the baseline. With the higher resolution images that have now been provided, it is clear that comfort conditions have deteriorated in a number of areas to the north and south of the application site. For example, in some areas, the wind comfort maps show that conditions have deteriorated from frequent sitting to occasional sitting, while others have deteriorated from occasional sitting to standing. In a small area to the north, it appears that conditions have deteriorated from frequent sitting to standing (a two comfort category deterioration).

The definition of a moderate adverse effect in the methodology section of the chapter is "Conditions that were 'suitable' in terms of comfort in the baseline scenario are made windier (by at least one comfort category) as a result of the Proposed Development but remain 'suitable' for the intended pedestrian activity. The results indicate that a number of moderate adverse effects are caused by the scheme in the surrounding area. The applicant should review the results in line with these comments and update the chapter as necessary. As previously requested, the Applicant should also include in the chapter the sensitive uses in the surrounding area as these must be understood so it can be confirmed whether conditions are suitable at these locations so the significance can be correctly assessed.

Applicant answer

The areas that would deteriorate to the north and south of the application site would fall onto areas of heavy vegetation (which were not modelled to assess the worst-case scenario) and rail tracks. Therefore, wind conditions in those areas were not discussed in the assessment as they are inaccessible to pedestrians.

Two small areas to the south of the tennis courts on Lymington Road and at the junction of Broadhurst Gardens and Priory Road would be one category windier than the Baseline representing a Minor Negative effect but would remain below the 'standing' target and as such would be suitable for the intended pedestrian use.

As for wind conditions on relevant receptors surrounding the Proposed Development the conditions are summarised as below in accordance with the methodology specified in the ES chapter.

Baseline Scenario:

Bus Stops:

Wind conditions at bus stops (See Figure 4 for locations) in the baseline scenario range from suitable for frequent sitting to standing use during the windiest season.

Pedestrian Crossings:

Wind conditions at pedestrian crossings in the baseline scenario range from suitable for frequent sitting to standing use during the windiest season.

Proposed Development Scenario:

Bus Stops:

The majority of wind conditions at bus stops would be similar to the Baseline scenario representing a negligible (not significant) effect. The exception to this would be at bus stops located to the north of Finchley Road (relative to the Proposed Development) (See Figure 4 for

locations, which would be one category calmer than the baseline representing a Minor Positive (not significant) effect.

Pedestrian Crossings:

The majority of wind conditions at pedestrian crossings would be similar to the Baseline scenario representing a negligible (not significant) effect. The exception to this would be at pedestrian crossings located to the north of Finchley Road (relative to the Proposed Development), which would be one category calmer than the baseline representing a Minor Positive (not significant) effect.

21.1 Initial CBRE comment

The reporting of cumulative wind effects is not considered to be sufficiently robust and the quality of the images presented in Appendix 13.1 do not allow for a clear comparison. It is requested that clarification is provided as to the conditions measured and how they relate to the target conditions.

Initial Applicant answer

A number of committed developments were identified as being relevant. These were identified through a review of LBC's planning portal and have been agreed with LBC. Committed developments which then fall within the extents of the computational wind model are identified in Table 22.3.1 and Figure 22.3.1. This section outlines the potential conditions of the Cumulative site configuration. The Cumulative conditions have been studied considering the massing of the Proposed Development alongside other committed development schemes proximate to the Site, terrain profile and existing vegetation either within the surroundings or due to be retained within the development. Both Detailed and Outline design have been assessed in the same Cumulative scenario. Cumulative conditions on an annual and seasonal basis were included within Appendix 13.1 of the 2022 ES. No significant changes from the proposed conditions have been identified and there are therefore no cumulative effects.

• Ground/street level

The results of the safety assessment conducted on the Cumulative scenario indicated that the wind conditions within the Site and its immediate surroundings are similar to those of the Proposed scenario. Overall, all the street-level areas in the Site and adjacent areas remain within the safety criteria for all pedestrians throughout the year and therefore, no mitigation is required.

• Elevated Levels

The results of the safety assessment at elevated levels for the Cumulative scenario indicated that the wind conditions at the terraces of the Proposed Development remain unchanged from the Proposed scenario, still indicating multiple safety exceedances at the edges of the highest terraces in each block (see Appendix 13.1 - Winter Wind Conditions: Safety). However, as mentioned in the Proposed configuration, at the moment these areas do not incorporate any mitigation strategy and therefore, further mitigation studies would be required. Any proposed mitigation strategy will need to be tested by an experienced wind professional with the use of CFD or Wind Tunnel studies. Based on professional judgement, it is however expected that the introduction of appropriate mitigation strategies will resolve any safety issues on the terraces. All remaining terraces accessible to occupants, will meet the safety criteria and mitigation would not be required. These terraces will be suitable for pedestrians for wind speeds not exceeding 15 m/s for 0.022% of the year.

CBRE follow-up comment:

Higher resolution images have not been provided and the response does not discuss how the conditions measured relate to the target conditions. Higher resolution images should be provided by the Applicant to provide full transparency to the process that has been undertaken. It was noted in CBRE's previous comments that the significance methodology may have not been applied correctly in regard to offsite receptors. The cumulative effect results should also be reviewed in line with these comments.

Applicant answer

A higher resolution image of the cumulative scenario has been appended as Figure 3.

Proposed Development with Cumulative Developments:

With the introduction of the cumulative developments, wind conditions off-site would generally improve compared to the Baseline scenario ranging from suitable for frequent sitting to standing use during the windiest season. The cumulative developments immediately to the west of the application site would eliminate walking use wind conditions at an inaccessible area to the south of Heritage Lane in the Baseline scenario.

Bus Stops:

Wind conditions at bus stops on Broadhurst Gardens, to the south of Finchley Road and south of West Hampstead Lane (relative to the Proposed Development) (See Figure 4 for locations) would remain similar to the Baseline scenario representing a negligible (not significant) effect.

Wind conditions at bus stops to the north of Finchley Road and south of West Hampstead Lane (relative to the Proposed Development) (See Figure 4 for locations) would be one category calmer than the Baseline scenario representing a Minor Positive (not significant) effect.

Pedestrian Crossings:

Wind conditions at pedestrian crossings to the south of Finchley Road (relative to the Proposed Development) and at the Junction of Canfield Gardens and Broadhurst Gardens (See Figure 4 for locations) would remain similar to the Baseline scenario representing a negligible (not significant) effect.

Wind conditions at pedestrian crossings to the north of Finchley Road (relative to the Proposed Development) and West Hampstead Lane would be one category calmer than the Baseline scenario representing a Minor Positive (not significant) effect.

Figure 1: Wind Conditions of the Baseline Scenario

Figure 2: Wind Conditions of the Proposed Development with Existing Surrounding Buildings

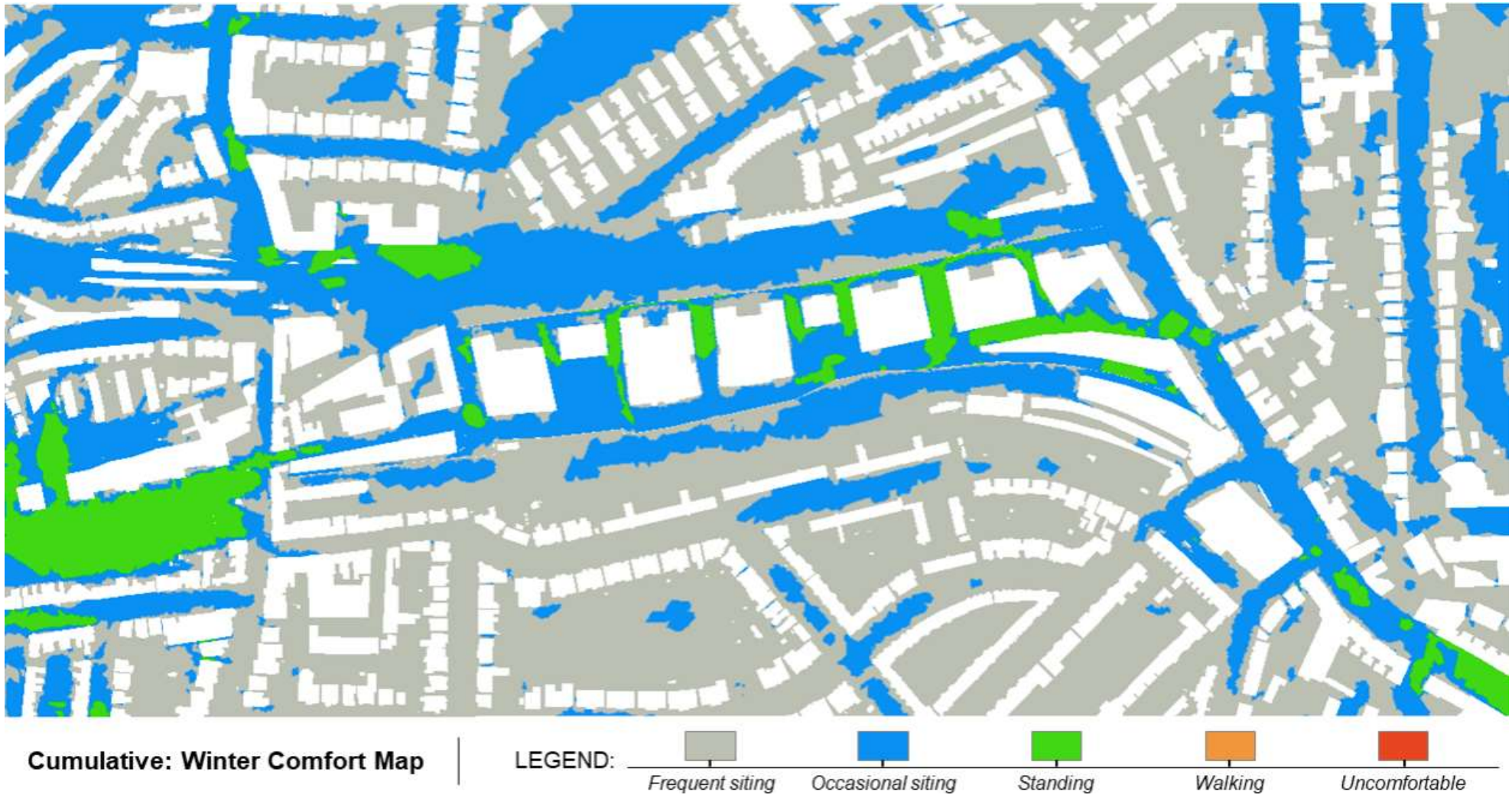


Figure 3: Wind Conditions of the Proposed Development with Cumulative Developments and Existing Surrounds

Figure 4: Off-site bus stops and pedestrian crossings

Baseline: Winter Comfort Map

LEGEND:

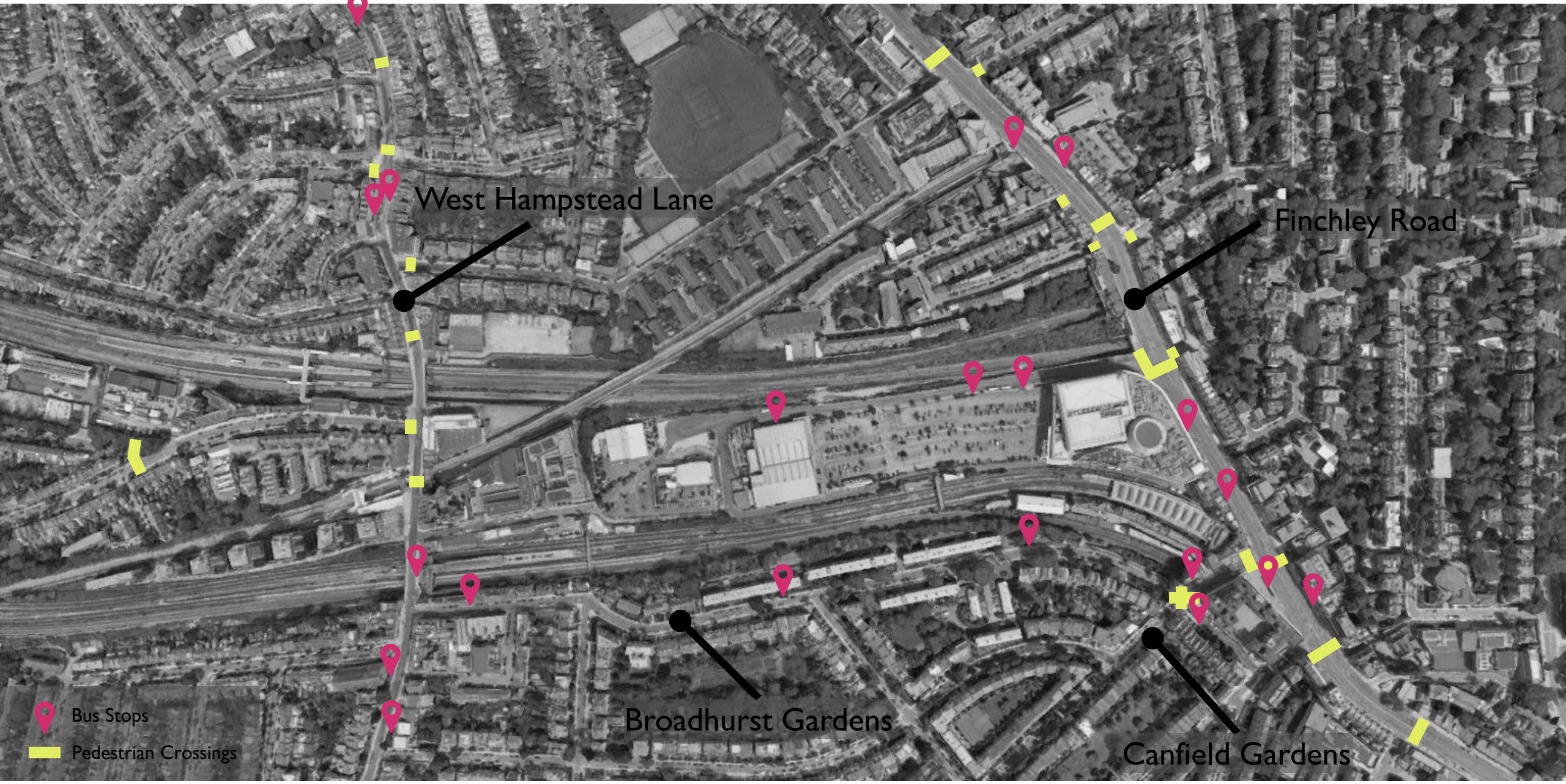
Frequent siting | *Occasional siting* | *Standing* | *Walking* | *Uncomfortable*

Proposed: Winter Comfort Map

LEGEND:

Frequent siting | *Occasional siting* | *Standing* | *Walking* | *Uncomfortable*


Cumulative: Winter Comfort Map
LEGEND:
Frequent siting
Occasional siting
Standing
Walking
Uncomfortable


West Hampstead Lane
Finchley Road
Broadhurst Gardens
Canfield Gardens
Bus Stops
Pedestrian Crossings