8. Air Quality

Introduction

8.1. This chapter, which was prepared by Waterman, presents an assessment of the likely significant Air Quality effects of the Development. CVs for the competent experts responsible for preparing this chapter are provided in **Appendix 1.2**, **ES Volume 2**.

8.2. This chapter provides a description of the methods used in the assessment. This is followed by a description of the relevant baseline conditions of the Application Site and surrounding area, together with an assessment of the likely significant effects of the operational Development. Mitigation measures are identified where appropriate to avoid, reduce or offset any adverse effects identified and / or enhance likely beneficial effects. Taking account of the mitigation measures, the nature and significance of the likely residual effects are described.

8.3. This chapter is supported by **Figure 8.1:** Application Site Plan and Receptor Locations.

8.4. The chapter is accompanied by the following appendices, provided in **ES Volume 2**:

- **Appendix 8.1**: Legislation, Planning Policy and Guidance
- **Appendix 8.2:** Consultation with Ashford Borough Council.
- **Appendix 8.3:** Air Quality Modelling Study.

Legislation, Planning Policy and Guidance

8.5. The following comprises a summary of the key legislation, policy and guidance of relevance to this assessment. Further information is provided in **Appendix 8.1**.

Legislation

8.6. The chapter takes into account the following relevant legislation:

- EU Framework Directive 2008/50/EC, 2008[1];
- Air Quality Standards Regulations, 2010[2];
- The UK Air Quality Strategy, 2007[3];
- The Environment Act 1995[4]; and
- The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023[5].

Planning Policy

- National Planning Policy Framework, December 2024, paragraphs 110, 187, 198 & 199[6]; and
- Ashford Local Plan 2030, policy ENV12[7].

Guidance

- Department for Environment, Food and Rural Affairs, Clean Air Strategy, 2019[8];
- Improving Air Quality in the UK: Tackling Nitrogen Dioxide in our Towns and Cities. UK Air Quality Plan for Tackling Nitrogen Dioxide, 2017[9];

- Environmental Protection UK & Institute of Air Quality Management Guidance; Land-Use Planning & Development Control: Planning for Air Quality, 2017[10];
- Planning Practice Guidance: Air Quality[11];
- Local Air Quality Management Policy Guidance, 2022[12];
- Institute of Air Quality Management: Guidance on the Assessment of Dust from Demolition and Construction, Version 2.2 January 2024[13]; and
- Ashford Air Quality Strategy, 2019-2022[14].

Assessment Methodology and Significance Criteria

Assessment Methodology

Establishing Baseline Conditions

8.7. To establish baseline air quality conditions at and around the Application Site, information has been taken from a review of Ashford Borough Council's (ABC) 2024 Air Quality Annual Status Report[15], published as part of the Local Air Quality Management (LAQM) regime. This includes a review of ABC's monitoring data.

Evolution of the Baseline

8.8. In accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended)[16] (EIA Regulations), the consideration of the likely evolution of baseline in the absence of the Development (i.e. should the application for the continued use and operation not be successful). This is to determine the likely effect if the Cumulative Schemes and any relevant policy designations were to come forward in the absence of the Development.

8.9. This chapter considers a scenario in the absence of the Development (i.e. if planning permission to extend operation is not granted, and the site is restored) being implemented to determine the likely evolved baseline conditions and is based on professional judgement.

Assessment Methodology

8.10. Identification and assessment of the likely significant air quality effects of the Development used the following well-established models and standard procedures, alongside professional judgement:

- Identification of a study area for the assessment;
- Establishing the baseline air quality conditions at and around the Application Site from the review of the ABC's Air Quality Annual Status Reports and monitoring data;
- Review of the local area to identify potentially sensitive receptor locations that could be affected by changes in air quality due to the Development;
- Review and use of relevant traffic flow data from the Applicant's transport consultant (Waterman);
- Assessing likely air quality concentrations from the completed and operational Development using the ADMS- Roads dispersion model[17]. Version 8.1 and 9.1 of the NOx Calculator, are available from the LAQM Support website[18] and have been applied to derive the road-related

NO_2 concentrations from the modelled NOx concentrations. Further information of the air quality modelling study is provided in **Appendix 8.3**;

- Determination of the effects of the operational phase of the Development on air quality, based on the application of the Environmental Protection UK and Institute of Air Quality Management significance criteria to modelled results;
- Identification of mitigation measures, where appropriate; and
- Assessing the likely significance of any residual air quality effects.

8.11. The UK Air Quality Strategy (AQS) identifies the principal pollutants associated with road traffic emissions and local air quality as:

- Nitrogen oxides (NO_x);
- Particulate matter (as PM_{10} (particles with a diameter up to 10µm) and $PM_{2.5}$ (particles with a diameter up to 2.5µm));
- Carbon monoxide (CO);
- 1, 3-butadiene (C_4H_6); and
- Benzene (C_6H_6).

8.12. Emissions of total NO_x from motor vehicle exhausts comprise nitric oxide (NO) and NO_2. NO oxidises in the atmosphere to form NO_2. The most significant pollutants associated with road traffic emissions, in relation to human health, are NO_2 and particulate matter (PM_{10} and $PM_{2.5}$). This assessment therefore focuses on NO_2 and particulate matter (PM_{10} and $PM_{2.5}$).

Operational Vehicle Emissions

8.13. Environmental Protection UK (EPUK) and the Institute of Air Quality Management (IAQM) produced Land-Use Planning & Development Control: Planning For Air Quality (EPUK/IAQM)[19] to ensure that air quality is adequately considered in the land-use planning and development control processes.

8.14. The likely impacts on local air quality from traffic emissions have been assessed using the atmospheric dispersion model ADMS-Roads. The ADMS-Roads dispersion model predicts how emissions from roads combine with local background pollution levels, taking account of meteorological conditions, to affect local air quality.

8.15. For the purposes of modelling, traffic data for the relevant local road network was provided by the Applicant's transport consultant (Waterman).

8.16. The year 2019 has been used to assess the baseline, as this is the latest year of representative air quality monitoring data published by ABC prior to the construction and operation of the Development. The year 2026 was used for the 'without Development' and 'with Development' scenarios – the year the Development would be operational without temporary permission.

8.17. Full details of the dispersion modelling study, including the model verification, background pollutant concentrations, and traffic data used in the assessment, are presented within **Appendix 8.3**.

UK Air Quality Strategy Objectives

8.18. The Government has established a set of air quality standards and objectives to protect human health. The current AQS was published in July 2007[20] and sets out the objectives for Local Planning Authorities (LPA) in undertaking their LAQM duties. The AQS objectives apply at locations where members of the public are likely to be regularly present and are likely to be exposed over the averaging period of the objective. Box 1.1 of Defra's Local Air Quality Management Technical Guidance (LAQM.TG22)[21] explains the locations where these objectives apply.

8.19. The AQS objectives in relation to air pollutants relevant to this assessment are summarised in **Table 8.1.**

Table 8.1: National Air Quality Strategy Objectives

Pollutant	Objective	
	Concentration	Measured As
Nitrogen Dioxide (NO_2)	200µg/m^3	1 hour mean not to be exceeded more than 18 times per year
	40µg/m^3	Annual Mean
Particulate Matter (PM_{10}) (a)	50µg/m^3	24 hour mean not to be exceeded more than 35 times per year
	40µg/m^3	Annual Mean
Particulate Matter ($PM_{2.5}$) (b)	Target of 15% reduction in concentrations at urban background locations	Annual Mean
	25µg/m^3	Annual Mean

Note: (a) Particulate matter with a mean aerodynamic diameter less than 10 microns (or micrometres – µm)
(b) Particulate matter with a mean aerodynamic diameter less than 2.5 microns

World Health Organization Global Air Quality Guidelines

8.20. The latest World Health Organization (WHO) Global Air Quality Guidelines[22] were published in September 2021. The guidelines set out recommendations on air quality guideline (AQG) levels, together with interim targets, shown in **Table 8.2.**

Table 8.2: Summary of WHO AQG Levels (µg/m^3)

Pollutant	Averaging Time (µg/m^3)	Interim Target				AQG Level
		1	2	3	4	
Nitrogen Dioxide (NO_2)	Annual	40	30	20	-	10
	24-hour [a]	120	50	-	-	24
Particulate Matter (PM_{10})	Annual	70	50	30	20	15
	24-hour [a]	150	100	75	50	45
	Annual	35	25	15	10	5

Pollutant	Averaging Time (µg/m³)	Interim Target				AQG Level
		1	2	3	4	
Particulate Matter ($PM_{2.5}$)	24-hour [a]	75	50	37.5	25	15

Notes: [a] 99th percentile (i.e. 3–4 exceedance days per year).

8.21. The WHO recognises that while the achievement of the AQG levels should be the ultimate goal, this might be a difficult task for many countries. Therefore, gradual progress in improving air quality, marked by the achievement of interim targets, should be considered a critical indicator of improving health conditions for populations.

The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023

8.22. The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023[23] sets the following targets:

- annual mean $PM_{2.5}$ concentration in ambient air must be equal to or less than 10 µg/m³ by the end of 31st December 2040; and
- at least a 35% reduction in population exposure when compared with the average population exposure in the baseline period (1st January 2016 to 31st December 2018) by the end of 31st December 2040.

Significance Criteria

Complete and Operational Development

8.23. The EPUK / IAQM guidance provides an approach to assigning the magnitude of changes because of a development as a proportion of a relevant assessment level, followed by examining this change in the context of the new total concentration and its relationship with the assessment criterion to provide a description of the impact at selected receptor locations.

8.24. **Table 8.3** presents the IAQM framework for describing the impacts (the change in concentration of an air pollutant) at individual receptors. The term Air Quality Assessment Level (AQAL) is used to include air quality objectives or limit values, where these exist.

Table 8.3: Impact Descriptors for Individual Receptors

Long term average Concentration at receptor in assessment year	% Change in concentration relative to Air Quality Assessment Level (AQAL)			
	1	2-5	6-10	>10
75% or less of AQAL	Negligible	Negligible	Minor	Moderate
76-94% of AQAL	Negligible	Minor	Moderate	Moderate
95-102% of AQAL	Minor	Moderate	Moderate	Major
103-109% of AQAL	Moderate	Moderate	Major	Major

Long term average Concentration at receptor in assessment year	% Change in concentration relative to Air Quality Assessment Level (AQAL)			
	1	2-5	6-10	>10
110% or more of AQAL	Moderate	Major	Major	Major

Note: AQAL may be an air quality objective, EU limit value, or an Environment Agency 'Environmental Assessment Level (EAL)'
The table is intended to be used by rounding the change in percentage pollutant concentration to whole numbers. Changes of 0% (i.e. less than 0.5%) are described as Insignificant.
The table is only to be used with annual mean concentrations

8.25. The approach set out in the EPUK / IAQM Guidance provides a method for describing the impact magnitude at individual receptors only. The Guidance outlines that this change may have an effect on the receptor depending on the severity if the impact and other factors that may need to be considered. The assessment framework for describing impacts can be used as a starting point to make a judgement on significance of effect. However, whilst there may be 'slight', 'moderate' or 'substantial' impacts described at one or more receptors, the overall effect may not necessarily be judged as being significant in some circumstances.

8.26. Following the approach to assessing significance outlined in the EPUK / IAQM Guidance, the significance of likely residual effects of the complete and operational Development on air quality has been established through professional judgement and the consideration of the following factors:

- the geographical extent (local, district or regional) of effects;
- their duration (temporary or long term);
- their reversibility (reversible or permanent);
- the magnitude of changes in pollution concentrations;
- the exceedance of standards (e.g. AQS objectives); and
- changes in pollutant exposure.

8.27. Significant effects are likely to occur when a sensitive receptor is subject to an impact of a considerable magnitude. The significance of the effect on the receptor or receptors in question is a product of considering the magnitude of the impact having regard to the sensitivity of the receptor.

8.28. The following sections define the methodology for determining both the sensitivity of the receptor and the magnitude of impacts in relation to air quality, followed by a matrix which can then be used to determine the significance of the resultant effects.

Sensitivity of Receptor

8.29. The sensitivity of receptors to the effects of air quality are determined based on the duration of time and locations members of the public and ecological receptors might be exposed to pollutants. **Table 8.4** sets out the scale of sensitivity that is to be applied to the receptors identified in relation to air quality.

Table 8.4: Sensitivity of Receptor – Air Quality

Receptor Sensitivity – examples below	Receptor Type
High	Residential, School, Hospital, Care Home, Special Area of Conservation (SAC)
Medium	Office, Shop, Site of Special Scientific Interest (SSSI)
Low	Local Nature Reserves, Ancient Woodlands

8.30. For the purposes of the air quality assessment, effects of minor and above are deemed to be significant in EIA terms.

8.31. As set out in **Chapter 2: EIA Methodology** (refer to **Table 2.1**) effects are also assigned descriptors to confirm the nature (direct or indirect), temporal scale (short-term, medium-term or long-term), permanence (temporary or permanence), type (beneficial or adverse) and spatial scale (site, neighbourhood, local, regional or national).

Assumptions, Exclusions and Limitations

8.32. The following assumptions and limitations are relevant to the air quality assessment:

- There is no standard or recognised methodology to predict the reduction in pollutant concentrations from all air quality mitigation measures or measures likely to have positive impact on local air quality (such as cycle spaces, electric charging points, sustainable transport options, green infrastructure) as these measures are either based on holistic behavioural changes and/or there is a lack of real-world quantifiable data (in $\mu g/m^3$).
- This air quality assessment relied on TRU emissions from the SDO air quality assessment for consistency.
- The Development would not provide any combustion plant. The Development would therefore not give rise to any significant adverse air quality impacts. If combustion plant is proposed, it would be designed to meet relevant guidance and assessed if required when the technical specifications are known. Combustion plant has therefore not been considered within the air quality assessment.

8.33. General assumptions and limitations which apply to all technical chapters are set out in **Chapter 2: EIA Methodology**.

Consultation

8.34. The ABC Environmental Health Officer (EHO) was consulted to agree the assessment methodology. Relevant correspondence is included in **Appendix 8.2**. This included agreeing the use of ABC monitoring data for the baseline, together with the road links to be used in the ADMS-Roads model.

8.35. Consultation regarding the methodology for the air quality assessment was undertaken via the EIA scoping consultation process. The key points raised in these consultation responses, together with a commentary regarding how they have been addressed, are summarised in **Table 8.5**.

Table 8.5: Issues raised in the EIA Scoping Opinion – Air Quality

Summary of Key Issue	How has this been addressed	Where is this addressed in the ES
Operational traffic and plant emissions should be screened against IAQM guidance and dispersion modelling undertaken where IAQM screening thresholds are exceeded (para 5.4.3)	IAQM guidance was used	Paragraphs 8.14 and 8.24 - 8.27
It is plausible that a 2022 baseline will be affected by emissions associated with operation of the Proposed Development. It would be preferable to use a 2019 baseline to provide a worst-case assessment comparison (para 5.4.5)	2019 baseline was used to provide a worst-case assessment comparison	Paragraph 8.17
ABC Transport have requested that the air quality assessment include Cheesemans Green Lane in the road network to be assessed. Additionally, Kent County Council PRoW & Access Service have requested appropriate consideration of Public Rights of Way users (para 5.4.7)	Although some vehicles heading to the Application Site may mistakenly use Cheesmans Green Lane, this is unlikely to result in a significant increase in vehicle trips along Cheesemans Green Lane. Consequently, vehicle flows on Cheesemans Green Lane are not impacted by the Development and were therefore not considered. Users of the PRoW will not be exposed to NO_2 and particulates for extended periods of time. Furthermore, dispersion modelling of the Development has concluded that the Development's impact on nitrogen dioxide and particulate levels will be negligible and not significant. As a result, the users of the PRoW have not been considered further.	The road links modelled are detail within **Appendix 8.3:** Air Quality Modelling Study

Summary of Construction-related Effects

8.36. As the IBF is already built and operational, construction impacts were scoped out of the ES. However, in response to the EIA Scoping Request, ABC requested a summary of construction effects within each relevant ES chapter.

8.37. The findings of the air quality assessment, set out within the March 2022 SDO may be summarised as:

Per DMRB LA 105, construction traffic impacts require assessment if activities exceed two years; shorter durations are unlikely to cause significant air quality effects.

Construction traffic will peak at 220 HGV movements per day for six months, then decline. With annual HDV traffic below the 200-vehicle threshold, emissions are not expected to have significant air quality effects.

Dust from construction and stockpiling may affect nearby properties, but best-practice controls—such as covering loads and seeding stockpiles—will mitigate impacts (REAC AQ1, Appendix C, included in the CMP).

Overall, no significant air quality effects are expected.

Baseline Conditions

Ashford Borough Council's Review and Assessment Process

8.38. ABC does not have any declared Air Quality Management Areas (AQMAs) and is currently developing a local Air Quality Strategy to prevent and reduce polluting activities.

Ashford Borough Council's Local Monitoring

8.39. The 2020 and 2021 data were not considered representative of normal baseline conditions due to the COVID-19 pandemic and, as a result, have not been further considered.

8.40. In 2023, ABC did not undertake monitoring of NO_2 and PM_{10} and $PM_{2.5}$ at automatic monitors. Instead, ABC measured annual mean NO_2 concentrations at 27 locations using diffusion tubes. **Table 8.6** presents the annual mean NO_2 monitored concentrations for the diffusion tubes within 3.5km of the Application Site.

Table 8.6: NO_2 Concentrations at the ABC diffusion tubes within 3.5km of the Application Site

ID	Location	Classification	Distance to Application Site (km)	Annual Mean NO_2 Concentration ($\mu g/m^3$)		
				2019	2022	2023
AS49	Hythe Road, Willesborough	Roadside	0.9	37.1	23.5	21.3
AS44	Dovecote House, 73 The Street,	Urban Background	1.1	18.9	14.0	11.8
AS15-17 (triplicate)	Bracken Hill, Lees Road,	Other	1.5	27.7	21.4	19.2
AS31	42 Newtown Green, Ashford	Roadside	2.3	19.6	17.5	16.1
AS50	49 Hythe Road, Ashford	Urban Centre	3.1	23.4	21.3	18.6
AS59	Romney Marsh Road (opposite railway station)	Roadside	3.2	25.1	28.2	32.0
AS61	117 Station Road, Ashford	Urban Centre	3.3	31.1	24.8	21.9
AS60	Victoria Road (opposite Curious Brewery)	Roadside	3.4	29.4	32.9	23.5
AS68	East Hill Junction of Wellesley Road	Roadside	3.5	-	-	18.6
AS64	282 Beaver Road, Ashford	Urban Centre	3.5	21.2	19.1	16.2
AS51	Wellesley Road, Ashford	Roadside	3.5	-	36.8	30.1
AS69	Wellesley Road (Ashford Sch Side) opposite Stour Heights	Roadside	3.5	-	-	27.7
AS70	Wellesley Road, Stour Heights	Urban Centre	3.5	-	-	15.8

Source: Data obtained from the ABC 2024 Air Quality Annual Status Report

8.41. **Table 8.6** indicates the annual mean NO_2 objective of $40\mu g/m^3$ was met at all diffusion tubes within 3.5km of the Application Site between 2019 and 2023, where data is available. The annual mean NO_2 concentrations have reduced between 2019 to 2023 at all diffusion tubes within 3.5km of the Application Site, except for the diffusion tube on Romney Marsh Road (AS59) which recorded an increase.

Defra Background Maps

8.42. In addition to the monitoring undertaken by ABC, background concentrations of NOx, NO_2, PM_{10} and $PM_{2.5}$ are available from the Defra Air Quality Archive for 1x1km grid squares. **Table 8.7** presents the Defra background concentrations for 2019 and 2040 for the grid squares the Application Site is located within (603500, 140500 and 604500, 140500).

Table 8.7: Defra Background Maps for Grid Squares Covering the Application Site

Pollutant	AQS Objective	Annual Mean Concentration (µg/m^3)			
		Grid square: 603500, 140500		Grid square: 604500, 140500	
		2019	2040	2019	2040
NO_2	40µg/m^3	12.2	7.5	11.1	5.5
PM_{10}	40µg/m^3	16.0	11.0	16.3	11.4
$PM_{2.5}$	25µg/m^3	9.9	5.3	9.9	5.2

Notes: Data Source: http://uk-air.defra.gov.uk
Version 8.1 of the Defra Background maps has been used to obtain 2019 background data

8.43. The data in **Table 8.7** shows that all pollutants are below the respective AQS objectives in 2019 and 2040.

Sensitive Receptors

8.44. The approach adopted by the UK AQS is to focus on areas at locations at, and close to, ground level where members of the public (in a non-workplace area) are likely to be exposed over the averaging time of the objective in question (i.e. over 1-hour, 24-hour or annual periods). Objective exceedances principally relate to annual mean NO_2 and PM_{10}, and 24-hour mean PM_{10} concentrations, so that associated potentially sensitive locations relate mainly to residential properties and other sensitive locations (such as schools) where the public may be exposed for prolonged periods.

8.45. **Table 8.8** presents worst-case existing sensitive receptors selected due to their proximity to the road network. The locations of selected receptors assessed are presented in **Figure 8.1**.

Table 8.8: Sensitive Receptors

ID	Receptor	Description	Sensitivity
1.	7 Nightingale Close	Residential	High
2.	66 Drake Road	Residential	High
3.	21 Lacton Way	Residential	High
4.	73 Kennington Road	Residential	High
5.	Finberry Farm	Residential	High
6.	24 Wellingtonia Close	Residential	High

Assessment of Likely Significant Operational Effects

8.46. Effects on local air quality associated with the complete and operational Development would likely result from changes to the associated traffic flows. **Table 8.9** and **8.10** present the predicted concentrations at relevant existing receptors nearest to road traffic.

Embedded Mitigation and Design Features (Inherent Mitigation)

8.47. Embedded mitigation measures included within the design of the complete and operational Development include:

- Provision of 60 staff cycle spaces;
- Provision of 2 electric vehicle charging points;
- Pedestrian and cycle access to the Development;
- Ecological enhancements, including woodland planting, scrub, amenity and neutral grassland creation; and
- Ecological/biodiversity net gain.

Nitrogen Dioxide

Table 8.9: Results of the ADMS Modelling at Sensitive Receptors (NO_2)

ID	Receptor Location	NO_2 Annual Mean (µg/m^3)			
		2019 Baseline	2026 Without Development	2026 With Development	2026 Change
1	7 Nightingale Close	17.4	10.8	10.8	0.0
2	66 Drake Road	17.5	10.8	10.8	0.0
3	21 Lacton Way	17.5	10.8	10.9	0.1
4	73 Kennington Road	18.0	11.1	11.1	0.0
5	Finberry Farm	14.0	10.6	10.6	0.0
6	24 Wellingtonia Close	14.6	9.4	9.5	0.1

8.48. The results in **Table 8.9** indicate the annual mean NO_2 concentrations are predicted to meet the annual mean NO_2 AQS objective at all receptors in 2019. The maximum predicted concentration in all scenarios assessed is 18.0µg/m^3 at Receptor 4 (73 Kennington Road) in 2019.

8.49. As discussed in **Appendix 8.3**, the 1-hour mean NO_2 AQS objective is unlikely to be exceeded at a roadside location where the annual mean NO_2 concentration is less than 60µg/m^3. As shown in **Table 8.9**, the predicted annual mean NO_2 concentrations in 2019 were below 60µg/m^3 at all the existing receptors and as such it is likely that the 1-hour mean AQS objective is met at these locations.

8.50. **Table 8.9** shows that both 'without' and 'with' the Development, all existing receptors are predicted to be below the annual mean NO_2 AQS objective in 2026. Therefore, the 1-hour mean AQS objective is also predicted to be met at all existing receptor locations.

8.51. Using the impact descriptors outlined in **Table 8.3**, the Development is predicted to result in a 'negligible' impact on annual mean NO_2 concentrations at all existing receptors. Using professional judgement and based on the predicted annual mean NO_2 concentrations at the sensitive receptors, it is considered the effect of the Development on NO_2 concentrations would be **negligible (not significant)**.

Particulate Matter (PM_{10} and $PM_{2.5}$)

Table 8.10: Results of the ADMS Modelling at Sensitive Receptors (PM_{10} and $PM_{2.5}$)

ID (Table 9.15)	PM_{10} Annual Mean (µg/m³)				PM_{10} - Number of Days >50µg/m³				$PM_{2.5}$ Annual Mean (µg/m³)			
	2019 Baseline	2026 Without Development	2026 With Development	2026 Change	2019 Baseline	2026 Without Development	2026 With Development	2026 Change	2019 Baseline	2026 Without Development	2026 With Development	2026 Change
1	17.6	13.1	13.2	0.1	1	0	0	0	11.5	6.8	6.8	0.0
2	17.6	13.1	13.1	0.0	1	0	0	0	11.5	6.8	6.8	0.0
3	17.7	13.2	13.2	0.0	1	0	0	0	11.5	6.8	6.8	0.0
4	17.8	13.3	13.3	0.0	1	0	0	0	11.6	6.9	6.9	0.0
5	16.3	12.0	12.0	0.0	0	1	1	0	10.1	6.1	6.2	0.1
6	17.2	12.9	12.9	0.0	0	0	0	0	10.6	6.2	6.3	0.1

8.52. As shown in **Table 8.10**, the annual mean concentrations of PM_{10} are predicted to be below the AQS objective of 40µg/m³ in 2019 and in 2026 both 'without' and 'with' the Development at all receptor locations considered. The maximum predicted concentration in all scenarios assessed is 17.8µg/m³ at Receptor 4 (73 Kennington Road) in 2019.

8.53. The '2026 'with Development' scenario would meet the annual mean PM_{10} WHO Guidelines AQG level of 15µg/m³.

8.54. Using the impact descriptors outlined in **Table 8.3**, the Development is predicted to result in a 'negligible' impact on annual mean PM_{10} concentrations at all sensitive receptors.

8.55. The results in **Table 8.10** indicate that in 2019 and in 2026 both 'without' and 'with' the Development, all receptor locations are predicted to be below the 24-hour mean PM_{10} AQS objective value of no more than 35 days exceeding 50µg/m³.

8.56. The results in **Table 8.10** indicate that in 2019 and in 2026 both 'without' and 'with' the Development, all receptor locations are predicted to be below the annual mean $PM_{2.5}$ AQS objective value of 25µg/m³.

8.57. The '2026 'with Development' scenario would meet the annual mean $PM_{2.5}$ WHO Interim Target Level 4 of 10µg/m³.

8.58. From the results in **Table 8.10**, it is predicted that all receptors would have annual mean $PM_{2.5}$ concentrations less than 10 µg/m³ by the end of 31st December 2040. The Development would therefore be compliant with the Environmental Targets (Fine Particulate Matter) (England) Regulations 2023.

8.59. Using the impact descriptors outlined in **Table 8.3**, the Development is predicted to result in a 'negligible' impact on annual mean $PM_{2.5}$ concentrations at all existing receptors.

8.60. Using professional judgement, based on the severity of the impact and the concentrations predicted at the existing sensitive receptors, it is considered the effect of the Development on PM_{10} and $PM_{2.5}$ concentrations would be **negligible (not significant)**.

Mitigation and Enhancement Measures and Likely Residual Operational Effects

8.61. It has been demonstrated the likely effect of the complete and operational Development on NO_2, PM_{10} and $PM_{2.5}$ concentrations at all existing receptors would be negligible. Accordingly, no mitigation would be required, and any likely residual effects would remain **negligible (not significant)**.

Summary of Likely Significant Operational Effects

8.62. **Table 8.11** summarises the likely significant effects, identified mitigation measures and the likely residual effects identified within this chapter.

Table 8.11: Summary of Likely Significant Effects

Issue	Likely Significant Effect	Mitigation Measures	Likely Residual Effect
Nitrogen Dioxide	**Negligible**.	None required.	**Negligible (not significant)**.
Particulate Matter (PM_{10} and $PM_{2.5}$)	**Negligible**.	None required.	**Negligible (not significant)**.

Monitoring

8.63. ABC would continue to monitor local air quality using diffusion tubes within their administrative boundary.

Assessment of Future Effects

Evolution of the Baseline

8.64. Should the Development not be granted full planning consent by 31 December 2025, all infrastructure except drainage and road infrastructure would be removed from within the Application Site, and the Site reinstated (as required under the SDO), leaving only areas of hardstanding in the once operational plots, together with the internal estate roads, drainage infrastructure and sustainable urban drainage (SuDS), landscaping and areas of open space.

8.65. If full planning permission for the Development is not granted, it is anticipated that a scheme, similar to the previous outline permission, could be implemented at the Application Site. The evolution of the air quality baseline at and surrounding the Application Site, if the full planning permission is not granted, is assessed in the '2026 Without Development' scenario of the Operational Vehicle Emissions assessment presented in **Table 8.9** and **Table 8.10**.

Cumulative Effects Assessment

8.66. The effect of the complete and operational Development on air quality is mainly linked to associated changes in traffic flows. The traffic data supplied by the Applicant's transport consultant and considered in this assessment already accounts for the cumulative schemes (see **Chapter 7: Transport and Access**). Therefore, it is considered the likely cumulative effects of traffic emissions upon local air quality from the Development and Cumulative Schemes would be equivalent to those presented earlier in this Chapter, which are **negligible (not significant)**.

References

1 Council Directive 2008/50/EC of 21 May 2008 on ambient air quality and cleaner air for Europe.

2 Defra, (2010) The Air Quality Standards (England) Regulations.

3 Department of the Environment, Food and Rural Affairs (Defra), (2007). 'The Air Quality Strategy for England, Scotland, Wales & Northern Ireland'

4 Office of the Deputy Prime Minister (ODPM), 1995, 'The Environment Act' 1995.

5 The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023

6 Ministry of Housing Communities and Local Government, National Planning Policy Framework. December 2024 (last updated February 2025). Available from: National Planning Policy Framework - GOV.UK

7 Ashford Borough Council. Ashford Local Plan 2030, adopted February 2019

8 Defra (2019) Clean Air Strategy, 2019

9 Defra (2017) Improving Air Quality in the UK: Tackling nitrogen dioxide in our towns and cities. Draft UK Air Quality Plan for Tackling Nitrogen Dioxide (Consultation Document)

10 Environmental Protection UK & Institute of Air Quality Management (2017), 'Land-Use Planning & Development Control: Planning for Air Quality', EPUK & IAQM, London.

11 DCLG (2019), 'Planning Practice Guidance: Air Quality (01 November 2019).

12 Defra (2016), 'Local Air Quality Management (LAQM) Policy guidance 2022(LAQM.PG (22))', DEFRA, London

13 Institute of Air Quality Management, 2024, 'Guidance on the Assessment of dust from demolition and construction. January 2024 (Version 2.2).

14 Ashford Borough Council. Ashford Air Quality Strategy, 2019/20 – 2021/22

15 Ashford Borough Council, 2024 Air Quality Annual Stus Report, June 2024.

16 HMSO (2017). Town and Country Planning (Environmental Impact Assessment) Regulations 2017.

17 Cambridge Environmental Research Consultants Ltd (2020): 'ADMS-Roads', Version 5.0.01

18 AEA (2020): 'NOx to NO2 Calculator', https://laqm.defra.gov.uk/air-quality/air-quality-assessment/nox-to-no2-calculator/ . Version 8.1, August 2020. Version 9.1, August 2024

19 Moorcroft and Barrowcliffe. et al. (2017) Land-use Planning & Development Control: Planning for Air Quality. v1.2. Institute of Air Quality Management, London

20 Department of the Environment, Food and Rural Affairs (Defra) (2007): 'The Air Quality Strategy for England, Scotland, Wales & Northern Ireland'.

21 Local Air Quality Management Technical Guidance (TG22) August 2022

22 World Health Organization.2021. WHO global air quality guidelines. September 2021

23 The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023