

11 SUMMARY AND RESIDUAL EFFECTS

Introduction

- 11.1 This chapter summarises the mitigation measures and residual effects identified in each of the technical assessments included in the ES, which has been prepared to accompany an outline planning application for the Proposed Development of the land north of Horsham.
- 11.2 Planning consent is being sought for the following description of the Proposed Development:
- “Outline planning application (all matters reserved) to provide an Employment Park comprising flexible commercial, industrial, and logistics uses (Use Classes E(g), B2, B8), healthcare (Class E(e) including pharmacy) and commercial leisure.”*
- 11.3 This chapter also provides an assessment of the potential in-combination effects that may arise from the Proposed Development, as well as a summary of the cumulative effects assessment as presented within each of the technical chapters (**Chapter 6 – 10**).
- 11.4 The Proposed Development has been subject to an iterative design process to include mitigation and enhancement. Measures have been incorporated into the Proposed Development to avoid, reduce or offset significant environmental effects, these include, but are not limited to, the following:
- Each proposed option for the Proposed Development has been influenced by the existing tree stock, has been designed to create an appropriate and sympathetic layout as it relates to trees, and allows for the retention of existing high-quality trees.
 - The majority of the existing hedgerow layout will be retained to reflect the historic landscape of the Site.
 - The Strategic Landscape Buffer comprising the two fields south of the railway line has been retained from the OPP consented development which would increase the tree cover within the Site and strengthens a key characteristic of the local landscape.
 - The enclosed nature of much of the landscape and retention of key landscape features limits direct views of the Site to viewpoints on or around the boundary.
 - A phase-specific travel plan will be submitted to comply with the Framework Travel Plan of the outline application for the consented development. The travel plan will aim to promote sustainable alternatives via measures aimed at reducing reliance on cars.
 - Pedestrian and cycle facilities are proposed, including segregated cycleways, in accordance with the site-wide cycle strategy. Enhancements to walking routes and pedestrian access have been proposed throughout the Site and connect to existing PRoW;
 - The surface water drainage strategy utilises SuDS measures to discharge surface water run-off at the pre-development greenfield rates, utilising green corridors and drainage ditches through the Site.
 - Built development will be avoided within Flood Zone 2 and 3, at medium to high risk of fluvial flooding taking a sequential approach;
 - Building heights will be limited to up to 16m above existing ground level (-6m / +2m) to ensure that the Proposed Development is sensitively integrated into the local landscape.
- 11.5 Significant effects arising from the Proposed Development, as identified in each technical chapter (**6-10**), along with any proposed mitigation measures, have been summarised in **Table 11.1**.

Table 11.1: Significance Table

Phase	Effect/ Receptor	Mitigation	Residual Significance (Significant Effects in Bold)
SOCIOECONOMICS (CHAPTER 6)			
Completed Development	Jobs	Not required	Moderate beneficial
	Employment		Minor beneficial
	Economic output		Major beneficial
ECOLOGY (CHAPTER 7)			
Construction	Increase in air pollution affecting off-site protected sites (SSSI & LNR)	Not required	Negligible
	Increase in air pollution affecting off-site receptors (ancient woodlands)	Not required	Negligible
Completed Development	Increase in air pollution affecting off-site protected sites (SSSI & LNR)	Not required	Negligible
	Increase in air pollution affecting off-site receptors (ancient woodlands)	Not required	Negligible
AIR QUALITY (CHAPTER 8)			
Construction	Impact of suspended particulate matter on human-health and deposited dust (nuisance) on human-health	IAQM-recommended measures, including a Dust Management Plan, and site management, monitoring, and maintenance measures, such as switching off vehicle engines when stationary.	Negligible to Minor
Completed Development	Impact of concentrations of NO ₂ , PM ₁₀ and PM _{2.5} on existing receptors.	Not required	Negligible
NOISE AND VIBRATION (CHAPTER 9)			
Completed Development	Impact of operational noise on existing and proposed dwellings.	Not required	Negligible
CLIMATE CHANGE (CHAPTER 10)			
Construction	Embodied carbon emissions from construction works	Adoption of responsible construction practices and incorporate circular economy principals within the detailed design (to be developed during RMA) to reduce embodied carbon emissions. This includes, but is not limited to, responsible sourcing of materials and specification of low carbon materials where feasible. Procure energy efficient construction plant reflecting the latest technology advances.	Minor / Negligible

Phase	Effect/ Receptor	Mitigation	Residual Significance (Significant Effects in Bold)
		Monitor energy, water and waste data during the construction stage to encourage transparency and accountability. All waste generated during construction to be diverted from landfill (where technically feasible).	
	Transport emissions associated with the construction period	Specification of materials that can be procured and sourced locally. Coordinate movement of products to reduce number of trips to site. Employ local workforce, where possible. Produce and implement site waste management plan that follows circular economy principles to reduce need for movement of waste from the site where possible. which can help reduce the embodied impact of construction.	Negligible
Completed Development	Operational emissions from buildings in use	At RIBA Stages 3 & 4, seek materials with a high albedo in the façade design, these would reflect a higher level of incident radiation away from the building rather than absorbing to reduce surface temperatures, avoiding exacerbating the overheating risk. Install smart meters and/or sub-meters to monitor operational consumption more accurately. Additional detailed modelling will be further explored at detailed design stages to investigate operational energy usage. Suitable space for waste storage and management facilities will be factored into the design to enable adequate waste segregation for optimal collection and subsequent treatment.	Minor / Negligible
	Operational traffic	Increased uptake in use of EV vehicles for private travel. Increased uptake in use of public transport modes to travel to and from the site	Negligible

Interactive Effects

- 11.6 Regulation 4 (2) of the EIA Regulations state that an ES must include a description of the direct and indirect significant effects of the Proposed Development and the interaction between these factors. There is no published methodology for determining the significance of interactive or synergistic effects. Combining effects from one environmental discipline with another has to be qualitative and is necessarily based on judgement. Therefore, a matrix system has been used to indicate where such effects would likely occur for the construction and operational phases, highlighting where effects occur to a common receptor. This has been informed by the residual effects of the Proposed Development (as identified above in **Table 11.1**) and professional judgement. The findings of this exercise are set out in **Table 11.2** and the paragraphs below.

Table 11.2 Interactive Effects

Discipline	Socioeconomics	Ecology	Air Quality	Noise and Vibration	Climate Change
Socioeconomics					
Ecology			*		
Air Quality					*
Noise and Vibration					
Climate Change					

* Indicates where an effect may occur

Ecology and Air Quality

- 11.7 The assessment of air quality effects on the completed development has taken into account Annual Average Daily Traffic Data (AADT). The AADT data for Option 2 is higher than originally assessed for the business park use proposed under the consented development. The air quality data has been used within the ecological assessment which considers the Buchan Hill Ponds Site of Special Scientific Interest (SSSI), Warnham Local Nature Reserve (LNR) and ancient woodland as sensitive receptors. The assessment considers the impacts of nitrogen oxides (NO_x), ammonia (NH₃) and nutrient nitrogen (N) created by the increased daily traffic movements caused by the Proposed Development. The assessment concludes Negligible effects to national and local statutory designated sites and ancient woodlands in construction and once the Proposed Development is operational.
- 11.8 The potential for interactive effects has therefore been assessed within the ES.

Air Quality and Climate Change

- 11.9 A potential increase in AADT as a result of the Proposed Development could result in an increased negative impact on air quality, which could be detrimental to climate change. **Chapter 10 – Climate Change** has considered the likely significant effects of all options in respect of Greenhouse Gas emissions on the basis of traffic flow data provided by the transport consultants. The chapter concludes negligible effects from construction traffic emissions, and operational traffic. The Proposed

Development aligns with the site-wide cycling strategy, and appropriate provision for public transport has been made, with proposals for access by pedestrians and cyclists to be delivered by the application for the primary road (DC/25/1543). Therefore, no interactive effects are anticipated as a result of the Proposed Development.

Cumulative Effects Summary

- 11.10 Each of the technical chapters have considered the likely significant cumulative effects of the Proposed Development with the cumulative schemes set out in **Chapter 2**, unless stated otherwise in technical chapters.

Construction

- 11.11 No significant cumulative effects have been reported within **Chapters 6-10** for the construction phase, subject to mitigation being applied.

Operation

- 11.12 Socioeconomics – The three committed development schemes identified within **Table 6.16** of ES **Chapter 6** will create jobs and in turn support employment for Horsham residents and create Gross Value Added (GVA). As such, it is considered that the committed developments will contribute to the beneficial effects on jobs, employment, and economic output created by the Proposed Development. The cumulative effect on Horsham District on jobs is expected to be **major beneficial (significant)**, on employment **moderate beneficial (significant)**, and on economic output **major beneficial (significant)**.

Summary

- 11.13 The residual effects for the consented development, reported in the 2016 ES and 2017 ES Addendum remain valid for the topics scoped out of the assessment, subsequent to the recommended mitigation being implemented.
- 11.14 This ES has assessed the net change between the consented development and the Proposed Development. No significant residual effects have been reported for the construction phase. Once the Proposed Development is completed, the following significant residual effects have been identified in combination with the Completed Development:
- Effects on jobs within Horsham District are reported to be Moderate beneficial;
 - Effects on economic output in the Horsham District are reported to be Moderate beneficial;
- 11.15 No residual cumulative effects have been identified for the construction phase. The following residual cumulative effects have been identified for the operational phase:
- Effects on jobs within Horsham District are reported to be **Major beneficial**;
 - Effects on employment in Horsham District are reported to be **Moderate beneficial**;
 - Effects on economic output in the Horsham District are reported to be **Major beneficial**;