

12 Effect Interactions

12.1 Introduction

- 12.1.1 This chapter describes the interaction of individual effects of the Development upon identified receptors/resources, e.g. noise, dust and visual effects. This chapter is part of the cumulative assessment provided within this ES.
- 12.1.2 Details of the assessment approach for inter-project effects of the Development with other (cumulative) schemes is presented within Chapter 2: EIA Methodology and the cumulative assessments are provided in each of the technical chapters of this ES (chapters 6 to 11). To avoid repetition, information on the potential inter-project effects of the Development proposals with other (cumulative) schemes is not presented within this ES chapter.

12.2 Legislation, Planning Policy and Guidance

- 12.2.1 Details of relevant legislation, planning policy and guidance for effect interactions is described in Chapter 2: EIA Methodology.

12.3 Methodology

- 12.3.1 There is no established EIA methodology for assessing and quantifying the interaction of individual effects on sensitive receptors/resources, however the European Commission has produced guidelines for assessing effect interactions *“which are not intended to be formal or prescriptive, but are designed to assist EIA practitioners in developing an approach which is appropriate to a project...”*.
- 12.3.2 These guidelines were reviewed and an approach developed which uses the defined residual effects of the Development to determine the potential for effect interactions and so the potential for combined effects of individual effects. A review of the residual effects presented in this ES was undertaken. An exercise which tabulates the residual effects against receptors or receptor groups was then carried out in order to identify the potential for effect interactions.
- 12.3.3 Only beneficial or adverse residual effects identified in the technical chapters (6 - 11) classified as being minor, moderate and major were considered in relation to the potential for effect interactions. Residual effects considered negligible or neutral were excluded from this assessment as, by virtue of their definition, they are considered to be imperceptible effects to an environmental/socio-economic resource/receptor. The assessment considers both the demolition and construction phase and the completed and occupied Development.

Assumptions and Limitations

- 12.3.4 It was assumed that the CEMP, Travel Plan, Delivery and Servicing Plan, Car Park Management Plan and Outline Construction Traffic Management Plan (CTMP) would be secured by planning condition prior to the commencement of any works commencing for the Development.

12.4 Demolition and Construction

- 12.4.1 The EIA has identified a number of beneficial and adverse residual effects during the demolition and construction phase as being of minor to major significance. Table 12.1 considers the potential for the

topic specific residual effects to interact during the enabling works, demolition and construction phase of the Development. Effects are considered temporary unless otherwise stated.

Table 12.1: Construction Residual Effects

Topic	Potential Effect	Residual Effect	Affected Receptor
Socio-Economics	Loss of employment on site	Minor adverse	Existing employees and businesses
	Indirect benefits including supply chain effects and spending by construction workers.	Minor beneficial effect	Economy
Traffic and Transport	Construction Traffic on Traffic	Minor adverse	Local highway network
	Construction Traffic on Travel by Bus	Minor adverse	Public transport
Townscape and Visual Assessment	Demolition of existing buildings	Moderate beneficial	Site character
	Construction activities	Moderate adverse	Site character
	Effect on setting of Watling Estate Conservation Area	Minor Adverse	Conservation area
	Effect on important view from Mill Hill Field	Minor Adverse	Conservation area
	Effect on Visual Amenity	Substantial to Major Adverse	Residents of Bunns Lane and nearby streets
	Effect on Visual Amenity	Substantial to Major Adverse	Residents of Grahame Park Estate
Noise and Vibration	Construction activity noise	Minor to moderate adverse	Local community

12.4.2 Socio-economic effects within Table 12.1 are not considered to be able to interact with any other effects and therefore no effect interaction is possible. This is due to the minor adverse effect for the loss of existing employment on the Site referring to receptors that will not be present on Site during demolition and construction works. The economic benefits through supply chain effects and spending by construction workers would be minor beneficial.

12.4.3 Table 12.1 shows that there is potential for in-combination effects to take place during the demolition and construction stage of the Development, to the following identified receptors / receptor groups:

- neighbouring residential properties, education facilities, and users of these buildings;
- neighbouring and local commercial properties and businesses and users of these buildings;

- local highway, public transport and pedestrian network;
- local amenity areas and public realm.

- 12.4.4 Individual effects that have the potential to interact are largely related to noise and vibration and the slight increase in traffic flows due to construction traffic. When these effects are combined they could potentially create adverse (albeit temporary) combined nuisance effects on the identified receptor groups.
- 12.4.5 This adverse in-combination amenity effect will occur throughout the demolition and construction programme, however, the effect experienced by the identified receptors / receptor groups will vary in magnitude and duration depending on the works being undertaken at a particular stage of the construction programme for the Development. Earthworks and ground engineering activities are considered to have more severe noise and traffic flow effects due to the type of activities (e.g. piling / substructure construction). The most sensitive receptors are considered to be existing neighbouring residential properties and the Bright Stars nursery on Bunns Lane, and vehicle users along the A1 Watford Way. Although the potential for combined amenity effects has been identified, with a predicted construction period of just four years, these impacts are likely to be temporary not just in terms of the stage of works when they occur but in terms of where they occur across the Site as well.
- 12.4.6 The identified in-combination amenity effects are not untypical for a project of this nature. The ES identifies a number of industry standard practices to eliminate, reduce or mitigate adverse construction effects in relation to dust, traffic, noise and vibration. All the mitigation measures presented within this ES will be further reviewed throughout the preparation of the Travel Plan, Delivery and Servicing Plan, Car Park Management Plan, Outline CTMP and site-specific CEMP, to be secured by planning condition, with the appointed Principal Contractor prior to the commencement of any works commencing for the Development.

12.5 Completed Development

- 12.5.1 Table 12.2 presents a review of the potential for effect interactions of the Development once it is complete and occupied. The potential for effect interactions are then further discussed.

Table 12.2: Completed Development Residual Effect

Topic	Potential Effect	Residual Effect	Affected Receptor
Socio-Economics	Provision of employment floorspace	Minor beneficial at local level, negligible at all other scales	Local economy
	Housing delivery	Moderate beneficial at local and borough level, negligible at regional level	Local housing market
	Open space and playspace	Minor beneficial e at the local level, negligible at all other spatial scales	Local population

	Additional spending	Moderate beneficial at local and borough level, negligible at regional level	Local economy
Traffic and Transport	Additional Vehicle Trips on Traffic (Links 1, 2, 3, 4, 5, 7, 9, 11, 12, 14, 14, 15, 17 and 18)	Minor adverse	Local highway network
	Effect of additional Bus Trips to Route 221	Minor adverse	Public transport
	Effect of additional Bus Trips to other bus routes	Minor adverse	Public transport
	Effect of Additional Trips on Rail Travel	Minor adverse	Public transport
	Effect of Pedestrian Trips on travel by Car	Minor adverse	Pedestrians
Townscape and Visual Assessment	Effect on Visual Amenity	Moderate to Substantial Beneficial, but occasionally major adverse	Residents of Bunns Lane and nearby streets
			Residents of Grahame Park Estate
			Users of Mill Hill Park

12.5.2 Table 12.2 shows that there is potential for effect interactions to take place once the Development is complete and occupied, for the following receptors/receptor groups:

- neighbouring residential properties;
- neighbouring and local commercial properties and businesses and users of these buildings;
- local highway and public transport networks; and
- local amenity areas and public realm.

12.5.3 The effects associated with the topics identified in Table 12.2 show that residual effects are specific to a receptor/s that have a fixed location. In order for there to be effect interactions between individual residual effects on a receptor, the residual effects have to affect the receptor/s at the same time. It is deemed that there would be no in-combination effects arising from socio-economic, townscape and visual and traffic and transport residual effects.