



## UNIVERSAL DESTINATIONS & EXPERIENCES UK PROJECT

Former Kempston Hardwick Brickworks  
and adjoining land, Bedford

### Environmental Statement Volume 1

### Chapter 18 - Cumulative Effects

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## 18. CUMULATIVE EFFECTS

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### 18.1. INTRODUCTION

- 18.1.1. Cumulative effects, or inter-project cumulative effects, can occur as the interaction and combination of environmental effects of the Proposed Development and other Committed Developments affecting the same sensitive receptor, identified within this Environmental Statement (ES). An example could include existing residential properties within the study area experiencing changes in local air quality due to a cumulative increase in road traffic from the Proposed Development and other Committed Developments.
- 18.1.2. Intra-Project Effects are considered within the relevant topics chapters as set out in **Chapter 3: Approach to the Environmental Impact Assessment (Volume 1)**.
- 18.1.3. This chapter draws together the findings from the individual topic chapters in the ES, defines inter-relationships between the Proposed Development and Committed Developments in the surrounding area and establishes whether there are any cumulative effects on sensitive receptors identified in this ES.
- 18.1.4. Sensitive receptors relevant to this Environmental Statement (ES) have been set out in **Chapters 5 to 17 (Volume 1)** which have been used to inform the range of sensitive receptors referred to in the Cumulative Effects Assessment section below. These have varying degrees of sensitivity to change as a result of the Proposed Development. The professional judgement of the Environmental Impact Assessment (EIA) team as well as topic specific criteria, legislation and guidelines have been used to determine the degree of sensitivity.
- 18.1.5. This chapter is intended to be read in conjunction with the following supportive figure (and appendix):
  - **Figure 18.1: Committed Developments (Volume 2); and**
  - **Appendix 18.1: Long List of Committed Developments (Volume 3).**

### 18.2. LEGISLATIVE FRAMEWORK, POLICY AND GUIDANCE

- 18.2.1. Legislative framework, policy and guidance relating to the cumulative effects assessment is included in **Appendix 3.1: Legislation, Policy and Guidance for All ES Technical Topics (Volume 3)**.

### 18.3. ASSESSMENT OF CUMULATIVE EFFECTS

#### APPROACH AND METHODOLOGY

- 18.3.1. The cumulative assessment follows a similar approach to the four stages set out in Planning Inspectorate (PINS) Advice Note Seventeen: Cumulative Effects Assessment (**Ref. 18.1**). In the absence of a single, agreed industry standard, the PINS Advice Note is considered the most appropriate approach to follow for a Proposed Development of this size. These comprise:
  - **Stage 1:** Establish the Project's Zone of Influence (Zoi) and identify long list of 'other development' (Committed Developments). Zois have been established for each topic/discipline based on best practice guidance where applicable. These are consistent with those determined in each of the topic chapters (**Chapters 5 to 17 of this ES (Volume 1)**);

- **Stage 2:** Develop a shortlist of ‘other development’ (Committed Developments) for the Cumulative Assessment by applying inclusion/exclusion criteria to the Stage 1 list;
- **Stage 3:** Information gathering; and,
- **Stage 4:** Cumulative Assessment – the assessment is undertaken assuming that the short list of Committed Developments will implement appropriate mitigation as required by legislation, policy or through best practice measures.

18.3.2. The approach to identifying potential Committed Developments both in terms of size/scale of development and distance from the Site boundary was agreed during engagement with Bedford BC and Central Bedfordshire Council (CBC) during April 2024. The following criteria were agreed upon:

- The search area would extend 10km from the Site boundary based on professional judgement as a cautious worst case scenario, whilst ensuring the search area was of sufficient distance to capture potential effects associated with the range of environmental topics<sup>1</sup>; and
- Nationally Significant Infrastructure Projects and developments authorised under the Town and Country Planning Act 1990 (TCPA) within this search area which fall into the following categories:
  - Developments which have submitted a request for an EIA Scoping Opinion;
  - Developments with a proposed area of >1ha and or a max. height of > 15m;
  - Developments under construction although not yet completed;
  - Developments which have been permitted within the last five years but are yet to be constructed/implemented;
  - Submitted application(s) for a development that are awaiting determination; or
  - Submitted applications(s) for a development that have been refused and are subject to appeal procedures.

18.3.3. Committed developments were considered regardless of whether or not they were EIA development.

18.3.4. The Committed Development List and shortlist of developments identified for cumulative assessment were initially provided to and agreed with Bedford BC on 29 April 2024. In April 2025 an updated version was shared and Bedford BC confirmed they agreed with the shortlist and with the cut-off date of week commencing 27 January 2025 such that no projects entered into the planning portal system beyond this date need to be included in the cumulative effects assessment. Points of agreement with Bedford BC regarding the cumulative effects assessment are set out in the Summary of Agreed Position between UDX and Bedford BC in Appendix 4 of the **Planning Statement (6.1.0)**.

18.3.5. As explained in **Chapter 5: Traffic and Transport (Volume 1)**, the traffic and transport assessments are cumulative assessments as these include growth from specific Committed Developments. The growth generated by committed schemes and the derivation of the Theme Park Opening Year and Future Year are described in detail in **Appendix 5.1: Transport Assessment (Volume 3)**, and its associated appendices, including the Forecasting Note (VM220573.TN005) at **Annex 12: Paramics Reports (Volume 3)**.

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<sup>1</sup> 10km was established as the broadest relevant ZOI as set by the Landscape and Visual assessment, apart from Socio-economics and Traffic and Transport whose study areas stretch beyond the 10km.

- 18.3.6. Committed Developments identified to inform the Transport Assessment (**Appendix 5.1: Transport Assessment (Volume 3)**) that fall within the Zol of other topics are listed within **Appendix 18.1: Long List of Committed Developments (Volume 3)**.
- 18.3.7. A long list of 78 Committed Developments identified is set out in **Appendix 18.1: Long List of Committed Developments (Volume 3)** and **Figure 18.1: Committed Developments (Volume 2)**.
- 18.3.8. It was further identified that in June 2025 that SC Collection Limited submitted a Permitted Development prior approval application to Bedford BC in accordance with the Town and Country Planning (General Permitted Development) (England) Order 2015 (as amended) ('the GPDO'), Schedule 2, Part 17, Class C, to carry out remedial works for the purpose of ensuring the safety of the surface of the land at Kempston Hardwick.
- 18.3.9. The site of the remedial works partially overlaps with the Site, predominantly within the Lake Zone and a small area within the East Gateway Zone. Based on Annex 2 - General Approach and Outline Construction Method Statement submitted with the Permitted Development prior approval application, the area of instability is centred on National Grid Reference 503719E, 245488N, measuring approximately 80m long.
- 18.3.10. The remedial works entail the excavation of existing failed slope material and replacement with new and/or secondary aggregate material, and may include piling, or other structural elements as means to stabilise the slope. Some vegetation clearance, on and around the slope, will be required to gain access to the slope slip and carry out the stabilisation works. A possible source of secondary aggregate materials used to stabilise the slope is the existing area of concrete hard standing and stockpiled demolition arisings within the former brickworks site. The remedial works will require a temporary internal haul road and may require mobile crushing plant.
- 18.3.11. A Kempston Hardwick Slope Remediation - Environmental Note was submitted with the Permitted Development prior approval application. The Note *"determined that there is sufficient evidence to demonstrate that the Proposed Development would not result in any likely significant environmental effects. Furthermore, the mitigation measures that have been included within this document have been incorporated into a set of Employers Requirements. This Employers Requirements set out the Contractors design responsibilities, including the need to ensure that that the environmental mitigation has been fully incorporated into the design and that the necessary controls are in place prior to the construction of the Proposed Development."*
- 18.3.12. As a result, the Permitted Development is unlikely to lead to significant cumulative effects with the Proposed Development, either during construction or operation. The Permitted Development does not impede the delivery of the Proposed Development. The Permitted Development has therefore been scoped out of the cumulative effects assessment presented in this chapter.

## UTILITY PROVISION REQUIRED TO SUPPORT PROPOSED DEVELOPMENT

- 18.3.13. As indicated in **Chapter 2: Description of the Proposed Development (Volume 1)** an assessment of the cumulative environmental effects of any utility or rail infrastructure supporting the Proposed Development, but which is proposed to be constructed outside of the Site boundary, does not form part of the primary environmental assessment. The assessment of the potential impacts from these works is instead undertaken as part of the cumulative assessment in this chapter.

- 18.3.14. At this stage these works are insufficiently choate to be considered with the Proposed Development as part of the same project. However, at a high level there has been some optioneering which, although it is at the early stages, allows the combined cumulative effects to be assessed at a commensurably high level.
- 18.3.15. This section therefore only considers those utility services or rail-related works that fall outside of the Site. **Chapter 3: Approach to EIA (Volume 1)** sets out the approach to the consideration of utilities, road and track works proposed within the Site boundary.
- 18.3.16. This section provides a summary description of the working methods for the key utility services or rail-related works which have informed the assumptions and approach to such an assessment, as well as WSP's conclusions on the potential significant effects. It should be noted that these are standard construction methods, which are used by utility providers and Network Rail on a regular basis to undertake works of this nature.
- 18.3.17. The majority of utility alignments are expected to be laid in the boundaries of existing or new highways, possibly highway verges within normal road construction layers and soils below.
- 18.3.18. It is anticipated that some of these off-Site works will require highways or Public Right of Ways to be temporarily closed. This will be managed by the relevant Undertaker<sup>2</sup> using their standard management procedures. Measures to be used to mitigate traffic impacts during construction and utility or rail-related works may include temporary lane closures, junction signal retiming, temporary traffic signals, one way shuttle working, reduced lane widths and overnight/weekend (instead of day-time/weekday) road closures. Traffic diversions will be provided where temporary road closures are required but these will be kept to a localised traffic and potentially pedestrian diversion which will be of short duration. It is also anticipated that routes may require some vegetation removal, but this is likely to be a localised and minor impact.
- 18.3.19. Whilst these works will not be subject to the requirements of the Outline Construction Environmental Management Plan (OCEMP) (**Appendix 2.3: Outline Construction Environmental Management Plan (Volume 3)**) for the Proposed Development, it is assumed that the relevant Undertakers will comply with their own standard construction management procedures when carrying out the works under their own Permitted Development rights or, where such works require planning permission, the relevant Undertaker will comply with any planning conditions relating to construction management. It is anticipated that construction management procedures will be effective to prevent any unacceptable cumulative effects during construction. Once operational, utilities are also unlikely to have significant cumulative effects.

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<sup>2</sup> The persons (corporate or otherwise) who are permitted to carry out the Proposed Development (including their contractors and other persons appointed by them in connection with the carrying out of the Proposed Development).



## CUMULATIVE EFFECTS ASSESSMENT

18.3.20. The long list of the Committed Developments has been reviewed by the EIA team. Of the 78 Committed Developments presented in the long list, a total of 28 Committed Developments have been taken forward and screened into the short list as part of the cumulative assessment process<sup>3</sup> (as headed '*Scoped In to Cumulative Effects Assessment*' in **Appendix 18.1: Long List of Committed Developments (Volume 3)**). Bedford BC confirmed agreement of the short list of Committed Developments in April 2024.

18.3.21. Commentary on the potential for cumulative effects for each of the environmental topics is set out below.

### Traffic and Transport

18.3.22. The main Traffic and Transport assessment (described in **Chapter 5: Traffic and Transport (Volume 1)**) can be defined as a cumulative assessment as it includes growth from specific Committed Developments.

18.3.23. The Transport Assessment (**Appendix 5.1: Transport Assessment (Volume 3)**) and associated documents have assessed the committed developments as agreed with National Highways in early 2024 to inform the traffic modelling exercise undertaken. As with any Transport Assessment (**Appendix 5.1: Transport Assessment (Volume 3)**) which includes strategic assessment, it is an assessment undertaken at a point in time to predict the likely effects of the Proposed Development and identify any necessary mitigation. An updated review of committed developments was undertaken in February 2025 by UDX. This identified a small number of sites (Nos. 53, 57, 59, 62, 67, 70, 71 and 78) presented in **Appendix 18.1: Long List of Committed Developments (Volume 3)** where planning applications have been submitted but have not yet been approved (as of 17 February 2025) and do not have agreed transport mitigation packages. As a result, these sites were not included as committed developments within the Transport Assessment (**Appendix 5.1: Transport Assessment (Volume 3)**).

18.3.24. One additional site was identified which has now been approved (No 5 in Cranfield) and was not included within the previous assessments. A further two sites subject to submitted but not approved applications, and one subject to an approved application, were identified that were not included within the original modelling exercise either, however, these were reserved matters applications and so the traffic associated with them had already been included as the outline approval had been included in the previous work.

18.3.25. A qualitative review of the effect of all of the additional sites on the study network was undertaken which identified that it would result in a very small/negligible volume of traffic on the A421 and as a result it would not have a material effect on the conclusions of the Transport Assessment (**Appendix 5.1: Transport Assessment (Volume 3)**).

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<sup>3</sup> Committed Development Reference 51 is understood to be a proposed Network Rail overbridge to replace the Kempston Hardwick level crossing on Manor Road. It is believed that the overbridge is considered Permitted Development but information about the proposal is limited. As a cautious worst-case, it has been scoped into the Cumulative Effects Assessment.

## Ecology and Nature Conservation

- 18.3.26. A review of the Committed Developments in the vicinity of the Site was undertaken to establish the likelihood of the Proposed Development and Committed Developments leading to significant cumulative effects.
- 18.3.27. Potential significant effects relate to:
- Air Quality;
  - Habitat loss and degradation; and
  - Increased disturbance of protected or otherwise notable species.
- 18.3.28. The information available on the extent, type, location, sources of effects or linkages between the Proposed Development and the Committed Developments, and their predicted ecological effects (where this data is available) has been subject to a high level review. This exercise sought to determine the likelihood of cumulative effects on important ecological features arising from the combined effects of the Proposed Development and the Committed Developments. The results of this review have been provided in **Appendix 6.6: Inter-Project Cumulative Assessment – Ecology (Volume 3)**.
- 18.3.29. Following this review, the potential for significant cumulative air quality effects during the Operational Phase has been identified. Dispersion (air quality) modelling has been completed to assess the cumulative emissions from the Proposed Development and other Committed Developments, and the contribution of these to air quality impacts at designated sites. The full methodology for the dispersion modelling is set out in **Chapter 8: Air Quality (Volume 1)**. Potentially significant cumulative effects could occur due to increased emissions from vehicles, associated with the Proposed Development and other development-driven increases in traffic (Nos. 1, 5, 22, 25, 26, 30, 45, 46, 47, 48, 53, 57, 59, 62, 67, 70 and 78). These in turn drive increases in nitrogen deposition rates over designated sites that exceed numerical significance threshold criteria. As these criteria have been exceeded, examination of potential ecological effects that might occur due to these air quality impacts is required.
- 18.3.30. Potential air quality effects could occur to Maulden Wood and Pennyfather's Hill Site of Special Scientific Interest (SSSI), which is located approximately 5.5km southeast of the Site as shown in **Figure 8.5: Traffic Emissions and Ecological Receptors – Maulden Wood Ancient Woodland & Maulden Wood and Pennyfather's Hills Sites of Special Scientific Interest (Volume 2)**. Cumulative air quality effects on the SSSI are predicted at up to a local level, with a minor significance classification, and therefore are **Not Significant**. This is due to impacts being low in magnitude relative to baseline air quality conditions and because only a limited portion of the SSSI would experience an exceedance of the significance screening thresholds.

18.3.31. Potential air quality effects could also occur to a number of locally designated sites (Kempston Hardwick Pits County Wildlife Site (CWS), Stewartby Lake CWS, Quest Pit CWS, Elstow Pit CWS, Kempston Hardwick Pit CWS and Kempston West End CWS). The locations of these sites are shown on **Figure 8.6: Traffic Emissions and Ecological Receptors – County Wildlife Sites (Volume 2)**. Cumulative air quality effects on the CWSs are predicted at up to a local level, with a minor significance classification, and therefore are **Not Significant**. This is due to impacts being low in magnitude relative to baseline air quality conditions, because only a limited portion of the CWSs would experience an exceedance of the significance screening thresholds and due to impacts declining over the lifetime of the Proposed Development.

18.3.32. No other significant cumulative effects have been identified. The full analysis of potential cumulative effects is provided in **Appendix 6.6: Inter-Project Cumulative Assessment (Volume 3)**.

### **Landscape and Visual**

18.3.33. Cumulative effects have been considered for the short list of Committed Developments that could result in significant inter-project effects due their presence within the landscape and visual zone of influence. The Committed Developments which have informed the LVIA cumulative assessment are all located within 3km from the Site boundary. These are all considered developments that would be perceived within shared views from sensitive receptors, or which would potentially result in a material change to the landscape context.

18.3.34. The majority of Committed Developments shown on **Figure 18.1: Committed Developments (Volume 2)** were scoped out of the cumulative assessment for landscape and visual effects due to one or more of the following:

- The relatively minor nature of the Committed Developments, attributable to the small scale, limited geographical extent or limited duration during construction of the Committed Developments, or combination of these factors;
- The appreciable distance between the Committed Developments and the Proposed Development; and
- The appreciable amount, scale and/or density of built form and vegetation between the Committed Developments and the Proposed Development.

18.3.35. Eight Committed Developments were assessed cumulatively. The full assessment can be found in **Chapter 7: Landscape and Visual Impact Assessment (Volume 1)**.

18.3.36. It was recognised that with regards to landscape effects, two Committed Developments considered in the assessment would deliver changes within the Local Character Area (LCA) in which they are located, which may be experienced cumulatively with the Proposed Development. During the Construction Phase, additional construction activities and built form would be visible and audible within the respective LCA. However, these changes are assessed not to materially increase the magnitude of landscape change during the Construction Phase. It is anticipated that the eight Committed Developments (Nos. 22/26/71, 22, 23, 25, 49, 62, 70 and 78) would be completed by the Proposed Development's first year of Operation (2031), therefore it is assessed there would be no increase in the magnitude of change during this Phase. Accordingly, it is assessed that no likely significant cumulative landscape effects would occur as a result of these Committed Developments.

18.3.37. With respect to visual effects, it is anticipated that visual receptors in the vicinity may experience the changes brought about by Committed Developments in combination with the Proposed Development. However, these changes are assessed not to materially increase the magnitude of visual change during the Construction Phase or the Operational Phase of the Proposed Development. Committed Developments will not result in any additional visual effects and it is therefore considered that no additional mitigation is required. Accordingly, no likely significant cumulative visual effects would occur as a result of these Committed Developments.

### **Air Quality**

18.3.38. As set out in **Chapter 8: Air Quality (Volume 1)**, the Air Quality assessment includes traffic data associated with a range of committed developments. The assessment concluded that there are not considered to be any significant cumulative effects for air quality as a result of the Proposed Development and other Committed Developments in the immediate area.

### **Noise and Vibration**

18.3.39. As set out in **Chapter 9: Noise and Vibration (Volume 1)**, nearby committed developments are accounted for within the road traffic data upon which the operational road traffic noise assessment is based. The assessment concluded that there are likely to be no significant cumulative effects for operational road traffic noise as a result of the Proposed Development in conjunction with nearby Committed Developments.

### **Cultural Heritage and Archaeology**

18.3.40. There is the potential for cumulative effects on the Grade I Listed Church of All Saints, in Houghton Conquest from the Proposed Development and the following cumulative developments – Nos. 21, 22, 25, 26 and 78 as shown on **Figure 18.1: Committed Developments (Volume 2)**.

18.3.41. The Proposed Development and Committed Developments would add further new built form which would be visible in long views out from the Church of All Saints towards the north and northwest. Potential impacts would include further sources of artificial lighting. However, the distance of the asset from the Committed Developments, as well as the scale of the Committed Developments in relation to the Proposed Development, means that long term residual effects are still expected to be of **Moderate Adverse (Significant)** and do not increase as a result of the potential cumulative effect.

18.3.42. There is the potential for cumulative effects on the Grade II\* listed Cardington (Number 1 in **Appendix 10.1: Historic Environment Desk-Based Assessment (Volume 3)** shed at RAF Cardington and the Grade II\* listed Cardington (Number 1 in **Appendix 10.1: Historic Environment Desk-Based Assessment (Volume 3)**) shed at RAF Cardington (based on Committed Development Nos. 47 and 48). The Committed Developments (Nos. 47 and 48) and Proposed Development would add further new built form into the assets' immediate setting, and impact on long views out from the assets towards the southwest in addition to being visible in long views out from the asset towards the north and northwest. Potential impacts would include further sources of artificial lighting. The scale of the Committed Developments, and their location in relation to the Cardington sheds, means that long term residual effects are expected to be **Moderate Adverse (Significant)**. The Proposed Development has only **Minor Adverse** effects on the setting of the Cardington sheds. The cumulative assessment concludes that there would not be additional effects over and above the **Moderate Adverse** effect resulting from the Committed Developments.

## Ground Conditions and Soils

- 18.3.43. It is considered that off-Site soil and groundwater contamination will be identified under planning conditions for committed off-Site development and will be appropriately remediated in line with primary legislation and best practice. Accordingly, no likely significant cumulative effects would occur for ground conditions and soil as a result of these Committed Developments.
- 18.3.44. Furthermore, there are not considered to be any significant cumulative effects from the Proposed Development due to implementation of additional mitigation measures such as the OCEMP (**Appendix 2.3: Outline Construction Environmental Management Plan (Volume 3)**), remediation (if required) and the appropriate use of soils using a Materials Management Plan.

## Water Resources

- 18.3.45. Cumulative effects on water resources during the Construction Phase are associated with the generation of sediments and the release into the sewer drainage network; releases of oils and fuels; leakage of wet concrete; cement and disturbance of contaminated land; suspended sediments; disturbance to groundwater and foul drainage. Measures exist to manage and control these effects and reduce the magnitude and significance of effects to a minimum as outlined within **Chapter 12: Water Resources (Volume 1)**. It is expected that these measures would also be adopted for Committed Developments as a matter of standard practice and in compliance with legislation and the Environment Agency Pollution Prevention Guidance (**Ref. 18.3**). Therefore, in line with these control measures, the magnitude of impact is very low and the cumulative effect on local water resource is considered to range from **Negligible to Minor Adverse** and therefore **Not Significant**.
- 18.3.46. During Operation, flood risk and pollution of water resources would be managed based on measures to manage and control these effects, such as Sustainable Drainage Systems. It is expected that these measures would also be adopted at other Committed Developments as a matter of standard practice. Accordingly, no likely significant cumulative water resources or flood risk effects would occur as a result of these Committed Developments.
- 18.3.47. Discussions are ongoing with utility providers in respect of a range of initial potential options for the connections and servicing locations. Anglian Water have confirmed that they can meet the requirements of domestic potable water supply for the ERC. Anglian Water has identified that potable water could be supplied from two possible locations at Manton Lane or Ampthill Reservoir. These locations are yet to be confirmed by Anglian Water and subject to further investigation and design development by the undertaker. The water supply solutions along with all other Utility supplies, falls outside of the Study Area. The installation of water supply to the Site and any upgrades to existing infrastructure deemed necessary by Anglian Water can be delivered under their statutory powers and permitted development rights, which is subject to the necessary ecological and where necessary WFD Assessment. It is possible that services may come from different locations at different points in time. No formal agreements have been entered into with any other utility providers and further design studies will be required to formalise connection points and routes. It is expected that agreements for design and construction of the various utilities infrastructure will take nearly a year following the date of this ES. As a result, a cumulative assessment of the water supply has not been undertaken.



## Socio-Economics

- 18.3.48. The approach to assessment of Socio-Economic effects is inherently cumulative for most effects. The majority of the committed developments are commercial or residential developments within the CSA or SRCA. As described in the approach to future baseline, where relevant to the effects, the future baseline sets out expected trends in resident population, working age population, housing stock and employment from Local Plans. As the committed developments are all planned or within the pipeline, they are inherently factored into the forecasts which underpin those plans. A further cumulative assessment of effects would therefore be double counting.
- 18.3.49. The exception to this relates to the construction workforce required to build the committed developments. Due to the lack of detailed construction workforce forecasts within Local Plans, and the number of large infrastructure projects within the area, it is considered proportionate to carry out a more detailed assessment of potential construction workforce required for committed developments and the extent to which this overlaps with the construction period of the Proposed Development. This potential effect was also raised during engagement, and so the approach taken here is more detailed in this area to make sure stakeholder concerns are considered appropriately. This cumulative effect is summarised in **Table 18-1**.

**Table 18-1 – Employment Generation and Cumulative Assessment**

Effect	Potential Effects/Additional Mitigation/Residual Effects and Monitoring	
Potential temporary effects associated with employment generation (including indirect and induced effects)	<b>Potential Effects – Proposed Development</b>	The construction of the Proposed Development will directly support an estimated 9,850 construction job years, which in turn would support an estimated further 10,680 job years indirectly through supply chain activity and construction worker expenditure. The peak on-Site workforce is estimated to be 5,380 and is expected to occur in 2029. Of the peak on-Site workforce estimated, 4,525 workers would be sourced from the UK and 855 from outside the UK. The construction workforce is highly mobile and even at its peak the domestic workforce requirement only equates to 3% of the construction workforce across the LCA.
	<b>Cumulative assessment</b>	An assessment of the construction workforce required for committed developments within the Proposed Development's Zone of Influence has been undertaken, with a specific focus on the Committed Developments where their construction timelines overlap with the peak construction of the Proposed Development. It is estimated that between 3,985 to 4,495 construction jobs would be required to deliver works associated with these committed developments.  The Proposed Development's peak domestic construction workforce combined with the workforce requirements of these cumulative schemes would require between 6% of the LCA's construction workforce.
	<b>Cumulative Effects and Monitoring</b>	The sensitivity of residents is medium across the LCA, and the magnitude of change is medium. Therefore, there is likely to be a direct, temporary, short-term <b>moderate beneficial</b> residual effect in 2029 ( <b>significant</b> ) after the cumulative assessment. The effect remains significant at the National Area.

## Greenhouse Gases

- 18.3.50. The identified receptor for inter-project cumulative effects is the global climate.
- 18.3.51. The cumulative effects of the Committed Developments and the Proposed Development relate to greater transport use in addition to the effects of embodied carbon and building use related emissions during the Operational Phase.
- 18.3.52. Institute of Environmental Management and Assessment (IEMA) guidance (**Ref. 18.2**) identifies that Greenhouse Gas (GHG) emissions are not geographically limited, so impacts from emissions are not restricted to a specific location or physical boundary (as may be the case for other environmental impacts) but impact the atmosphere at a global level. Avoided or emitted GHG emissions make a cumulative contribution to the global atmosphere and impact on climate change (beneficial or adverse). Therefore, in accordance with the IEMA guidance, consideration of cumulative GHG emissions is inherent in the assessment and the cumulative impact of GHG emissions for the Proposed Development have been assessed against the contextual scale of relevant UK carbon budgets. Accordingly, no likely significant cumulative effects would occur for greenhouse gases as a result of these Committed Developments.

## Climate Resilience

- 18.3.53. The Climate Change Resilience assessment looks at the potential impacts of environmental change on the Proposed Development, rather than impacts of the Proposed Development on the environment: the receptor for the resilience assessment is the Proposed Development. As such, no assessment of intra-project combined effects is undertaken, as there are no receptors in common with other assessments.

## Major Accidents and Disasters

- 18.3.54. The Major Accidents and Disasters (MA&D) assessment has, by its very nature, implicitly considered interactions with external factors such as other developments which may impact on the study area. The assessment approach for MA&D, which considers the vulnerability of the Proposed Development to MA&D events, does not assess potential cumulative effects on sensitive receptors as a MA&D event, is a rare, isolated event, which does not have on-going impacts. Accordingly, no likely significant cumulative MA&D effects would occur as a result of these Committed Developments.

## Population and Human Health

- 18.3.55. As set out in **Chapter 17: Population and Human Health (Volume 1)**, the Population and Human Health assessment is reliant upon the other technical assessments for Air Quality, Noise and Socio-Economics. Therefore to the extent those are cumulative, the health assessment is also cumulative as presented in that chapter and not repeated here.

## 18.4. EAST WEST RAIL STATION

- 18.4.1. Given the uncertainty about the timing for the operation of East West Rail (EWR) to Bedford, and the uncertainty around the timing and location for a potential new station in the area of the Proposed Development, this project includes safeguarded land for the delivery of a new EWR station. The Construction Phase assessment includes allowances for the delivery of a new station in approximately this location, including specific allowance for traffic movements associated with the construction of the station. Therefore, a cumulative assessment of delivery of the EWR station is integrated with the main Construction Phase assessments in the ES.
- 18.4.2. Similarly, the parameters for the Proposed Development allow for the operation of a new station on the safeguarded land. Even if a station is not to be built in this location the assessment assumes that there will be trains associated with the works consented under *The Network Rail (East West Rail) (Bicester to Bedford Improvements) Order 2020* ('Transport and Works Act Order 2020') running on the Marston Vale Railway Line, enabling connectivity via alternative local station(s). The assessment assumes built development up to a maximum of 75m in height on the safeguarded land, in keeping with the scale of development proposed in that area. As such, each of the technical assessments within the ES has been able to consider the relevant cautious worst case to enable a robust assessment to be undertaken.
- 18.4.3. As there is still uncertainty on the precise location of the new station, East West Rail Company (EWR Co) may elect to deliver a new station at an alternative location along the Marston Vale Railway Line. If so, the new station would be consented through the wider EWR DCO Application, which is anticipated for submission in Q4 2026 – Q1 2027 and is currently only in the very early pre-application stages having finished a non-statutory consultation round in January 2025. The EWR DCO non-statutory consultation documents present two potential new station locations in the Marston Vale area, in the vicinity of the Proposed Development. Neither of the potential station location options presented in the EWR DCO non-statutory consultation documentation is compatible with the delivery of the Proposed Development and, as such, they cannot come forward with the Proposed Development. Therefore, a new station in an alternative location has not been addressed by the cumulative effects assessment. The safeguarding of land within the Site for a new EWR station is intended to address any adverse effects that could arise as a result of the non-provision of station as set out in the consultation documents.
- 18.4.4. Separate to the potential for a new station along the Marston Vale Railway line section of track, EWR Connection Stage 2 work is ongoing to bring forward services between Oxford and Bedford by the end of the decade. As per the information available via the EWR website, for the section of rail that is in the vicinity of the Proposed Development, EWR Co has confirmed that it "could ensure the suitability of the [Marston Vale Railway] line through targeted repairs and enhancements" rather than a lift and relay of track over the full length of the line, and that the line will not be electrified. There is no detail in the public domain about the exact nature or location of these works, therefore they are not addressed by the cumulative effects assessment. However, such track works undertaken by [Network Rail/EWR Co] would be subject to a code of construction practice to manage potential environmental impacts on the receiving environment, including the future theme park and its visitors.



18.4.5. The Transport and Works Act Order 2020 also allows for the development of a road bridge to replace the Manor Road level crossing of the Marston Vale Railway Line before the end of the decade. The current proposals are incompatible with the delivery of the Proposed Development and, as such, they cannot come forward with the Proposed Development. These proposals have therefore not been addressed by the cumulative effects assessment. However, an assessment of delivery of a bridge at this location is integrated with Construction and Operational Phases of the Proposed Development. As set out in **Chapter 3: Approach to EIA (Volume 1)** all technical topic assessments assume that Manor Road Option A, which accommodates Network Rail's plan to replace the level road crossing with a road bridge, is the road configuration built and operational from 2030 and is the cautious worst case. The implications of closing the level crossing without the delivery of a road bridge in its place, and the potential impact on the assignment of traffic locally, have been tested and presented in **Annex 6 of Appendix 5.1: Transport Assessment (Volume 3)**. The conclusions of the test are that there is no substantial, and in most cases even noticeable, difference in the character of movement or performance of the road network as a result of closing the level crossing connection to vehicular traffic. There are also unlikely to be significant effects in relation to other environmental disciplines.

## 18.5. LIMITATIONS AND ASSUMPTIONS

18.5.1. The following assumptions have been made in the assessment reported in this chapter:

- The assessment of cumulative effects resulting from the Proposed Development has focused on the residual effects from the Construction Phase and the Operational Phase following the implementation of mitigation measures;
- It is assumed that mitigation measures identified in **Chapters 5 to 17 of this ES (Volume 1)** and within **Volume 3** will be incorporated or adopted to mitigate any residual effects or enhance beneficial effects from the Proposed Development;
- It is anticipated that the Committed Developments will implement appropriate mitigation measures during their respective demolition, construction and operational phases in addition to compliance with Code of Construction Practice requirements, which will contribute to preventing and minimising adverse effects during demolition, construction and operational phases;
- The Cumulative Assessment has been completed based on information relating to the Committed Developments which is currently available within the public domain (as outlined in this chapter);
- This assessment is based on 3<sup>rd</sup> party information and assumes this is all correct and up to date; and
- UDX is aware that there are proposals for settlement growth in the local area associated with delivery of projects and initiatives such as the Oxford-Cambridge Arc. This includes options for a new market town at the former Tempsford Airfield. As these plans and proposals are at a very early stage and are not included within an adopted or draft Local Plan and have therefore not been examined in terms of their robustness, whether they would be acceptable in planning terms, or what transport and other infrastructure would be required for their delivery, they have not been factored into the cumulative effects assessment.

## 18.6. REFERENCES

- **Reference 18.1:** The Planning Inspectorate (August 2019). Advice Note Seventeen: Cumulative Effects Assessment. Available online at: <https://www.gov.uk/government/publications/nationally-significant-infrastructure-projects-advice-note-seventeen-cumulative-effects-assessment-relevant-to-nationally-significant-infrastructure> [Accessed: 20 May 2024].
- **Reference 18.2:** IEMA (February 2020). Assessing Greenhouse Gas Emissions and Evaluating their Significance. Available online at: <https://www.iema.net/resources/blog/2022/02/28/launch-of-the-updated-eia-guidance-on-assessing-ghg-emissions>. [Accessed: 20 May 2024].
- **Reference 18.3:** Environment Agency, 2017. Flood Risk Assessment: Climate Change Allowances. [pdf] Available at: <https://assets.publishing.service.gov.uk/media/5a758f5aed915d6faf2b3eed/pmho1107bnkg-e-e.pdf> [Accessed 1 April 2025].



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