

## 3 EIA Methodology

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### 3.1 Introduction

3.1.1 This chapter sets out the scope and methodology adopted in the EIA process. It explains how the scope of the EIA was defined, the baseline assumptions, methods used to assess the environmental effects and the general criteria used to evaluate their significance. The methodology applied to each of the technical impact assessments is set out in each technical chapter.

3.1.2 This chapter is accompanied by the following appendices:

- Appendix 3.1: Location of Specified Information in the ES;
- Appendix 3.2: EIA Scoping Report (June 2021);
- Appendix 3.3: EIA Scoping Opinion (August 2021);
- Appendix 3.4: Cumulative Schemes.

### 3.2 Regulatory Requirements and Good Practice

3.2.1 This ES was prepared to comply with the Town and Country Planning (Environmental Impact Assessment) Regulations 2017<sup>1</sup> (as amended)<sup>2,3</sup> (the 'EIA Regulations'). The information required for inclusion in an ES is defined by Regulation 18(3)/(4)/(5) and Schedule 4 of the EIA Regulations. Appendix 3.1 sets out these information requirements together with their location within the ES.

3.2.2 Good practice guidance documents were also considered when undertaking this EIA including:

- Planning Practice Guidance ('PPG') – Environmental Impact Assessment<sup>4</sup>;
- Guidelines for Environmental Impact Assessment: Institute of Environmental Management and Assessment ('IEMA')<sup>5</sup>;
- Special Report: The State of Environmental Impact Assessment Practice in the UK (IEMA)<sup>6</sup>;
- EIA – Shaping and Delivering Quality Development (IEMA)<sup>7</sup>;
- Delivering Proportionate EIA (IEMA)<sup>8</sup>; and
- Topic specific guidance referred to in each technical chapter of this ES where appropriate.

3.2.3 Each technical assessment followed respective national and local planning policy and guidance as appropriate to their discipline.

### 3.3 Design and EIA Interface

3.3.1 The EIA was undertaken in parallel with the design process. In particular, transport biodiversity and landscape and visual specialists worked closely with the project design team through an iterative process to reduce, or eliminate where possible, adverse

environmental effects through the scheme design. Further information on how environmental issues have influenced the design is provided in ES Chapter 4: Alternatives. Opportunities for enhancement, such as incorporating biodiversity features into the design and landscape considerations, were also identified through the EIA process.

### 3.4 Scope of the EIA

- 3.4.1 The EIA Regulations require the ES to consider only the *'likely significant environmental effects'* of a development. UK Government's online PPG highlights the expectation that the ES should remain *'proportionate'* and focus on the *'main'* or *'significant'* environmental effects only.
- 3.4.2 The purpose of the EIA scoping process is to identify the likely significant environmental consequences of the EIA development and the level of detail of the information to be provided in the ES. An applicant who intends to submit an EIA application may ask the local planning authority to state their opinion as to the scope and level of detail of the information to be provided in the ES, in accordance with Regulation 15 of the EIA Regulations.
- 3.4.3 A request for a scoping opinion was submitted by the Applicant to CDC on 29<sup>th</sup> June 2021. An EIA Scoping Report dated June 2021, (the 'Scoping Report') (Appendix 3.2) accompanied the request. The Scoping Report identified the topics that would be assessed during the EIA process and the proposed approach to the assessment, ensuring a robust but proportionate approach was sought in-line with the EIA Regulations and PPG. The Scoping Report also provided justification for 'scoping out' certain topics from the EIA, because the Development would have either no influence on these environmental aspects or it is unlikely to result in significant effects.
- 3.4.4 A scoping opinion (the 'Scoping Opinion') was issued by CDC on 3<sup>rd</sup> August 2021 which also reflected comments from statutory consultees (see Appendix 3.3). This states that CDC were broadly in agreement with the scope and methodology proposed in the Scoping Report, however they requested that climate change be scoped into the ES.
- 3.4.5 The topics included in the ES are listed in Table 3.1; these are as set out in the Scoping Report.

**Table 3.1: Environmental Statement Technical Chapters**

Topics	
Socio-Economics (Chapter 7)	Biodiversity (Chapter 10)
Transport (Chapter 8)	Climate Change and Greenhouse Gases (Chapter 11)
Noise and Vibration (Chapter 9)	Landscape and Visual Impact (ES Volume II)

- 3.4.6 In their Scoping Opinion, CDC agreed that water resources and flood risk, air quality, land contamination, lighting, agriculture and soils, archaeology and built heritage, utilities, wind, daylight, sunlight and overshadowing, lighting (as a standalone chapter), waste and recycling and human health could be scoped out of the ES.

- 3.4.7 As required by Regulation 18(4)(a) of the EIA Regulations, this ES is based on the Scoping Opinion.
- 3.4.8 Topic specific cumulative inter-project effects and, where relevant, in-combination effects (intra-project effects) are assessed in each topical chapter. Combined effects on receptor groups from multiple topics (intra-project effects) are considered within Chapter 12: Effect Interactions.

## 3.5 Consultation

- 3.5.1 During the statutory consultation period related to the Scoping Opinion request, CDC liaised with a range of consultees who provided comment on the proposed scope and approach of the EIA that was provided in the Scoping Report. A summary of the key issues raised during consultation which is relevant to the EIA process and how these are addressed in the EIA is provided in the 'Assessment Methodology - Consultation' section of each technical chapter.

## 3.6 Defining the Baseline

### Study Area

- 3.6.1 The study area, also known as the spatial Zone of Influence (Zol), for each topic is based on the geographical scope of the potential impacts relevant to the topic or the information required to assess the likely significant effects, as well as topic specific guidance and consultation with stakeholders. This is defined in each technical ES chapter as appropriate as the Zol varies from topic to topic and between construction and operational phases in some cases.

### Baseline Conditions and Future Baseline

#### Existing Baseline

- 3.6.2 The baseline environmental conditions need to be established to enable an accurate assessment of the potential changes that may occur and to assess the resultant environmental effects of the Development. Understanding baseline conditions also assists in the identification of the most appropriate mitigation to be employed to minimise significant effects.
- 3.6.3 Baseline information was gathered to define the existing environmental characteristics and receptors for each environmental topic. The baseline assessment year for the EIA will be the Site and its surrounds in its current condition, as recorded in recent surveys, datasets and Site inspections, i.e. 2020/21. If appropriate, data will be reused from previous EIA work undertaken as part of the 2017 Residential ES and the Axis J9 ES. The detail of approach is clearly stated in each chapter and the rationale for use and validity is provided.

#### Covid-19 Pandemic

- 3.6.4 The EIA was undertaken during the Covid-19 pandemic. The impact of the Covid-19 pandemic on available baseline is set out in each technical chapter.

#### Future Baseline

- 3.6.5 The EIA Regulations requires the ES to include a description of the future baseline, i.e. the baseline conditions without implementation of the Development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge. Future baseline conditions are considered as appropriate within each technical chapter. Consideration is also given to the committed development schemes (as set out in Appendix 3.4) within each technical chapter and how the future baseline would change as they are brought forward.

### **Sensitive Receptors**

- 3.6.6 Sensitive receptors are defined as the physical or biological resource or user groups that would be affected by the Development. As part of the EIA process, the environmental effects of a given development or scheme are typically assessed in relation to sensitive receptors, including human beings (e.g. future site users), built resources (e.g. buildings) and natural resources (e.g. controlled waters). The criteria used for identifying potentially sensitive receptors include:

- Proximity to the Site;
- Number of individual receptors;
- Value - the characteristics/rarity and importance of the receptor in terms of ecological, social, cultural, and/or economic value, including legislative/designated status;
- Presence or absence of impact pathways;
- Extent and duration of potential exposure to environmental impacts;
- Vulnerability and ability to respond to change - the degree to which a receptor is susceptible to injury, damage, or harm from an activity; and,
- Recoverability - the ability of a receptor to be able to return to a state close to that which existed before an activity or event caused damage.

- 3.6.7 Further details on sensitive receptors are provided in the baseline assessment section of the technical chapters of the ES (i.e. Chapters 7-11 and ES Volume II), which also includes a summary of the receptors and their sensitivity. The chapters consider both existing and future sensitive receptors, on-site and off-site.

## **3.7 Basis of the Assessment**

- 3.7.1 The assessment of the Development is based on the associated detailed planning drawings (a selection of which is provided in Appendix 5.1) and the Design and Access Statement prepared by Cornish Architects. A description of the Development is provided for information in ES Chapter 5: Description of the Development and general commentary on the construction programme and method for the Development is provided in ES Chapter 6: Construction.

## **3.8 Assessment of Effects**

### **Construction**

- 3.8.1 Subject to planning permission being granted, construction of the Development is expected to commence in Quarter ('Q') 1 2022, with construction expected to be completed in Q2 2023 (although a different start date would not alter the ES findings related to the

assessment of likely significant effects or mitigation). This would represent an indicative build out period of approximately 18 months. The Development would be fully operational in 2024.

- 3.8.2 Each technical assessment in the ES assumes a notional 'likely-worst case' scenario with respect to the envisaged construction methods, location (proximity to sensitive receptors) and timing as outlined in ES Chapter 6: Construction. These assumptions may vary between the topic specific assessments, therefore each individual assessment accounts for a 'hypothetical' construction site that is representative of the 'worst-case' scenario for any given set of receptors, relevant to that particular technical assessment. Both permanent and temporary construction effects are identified.
- 3.8.3 The key activities during the construction phase which informed the technical assessments of the ES are described within each chapter as relevant. General commentary on the construction programme and method is provided in ES Chapter 6: Construction.
- 3.8.4 The Applicant has committed to undertaking construction works in line with a Construction Environmental Management Plan (CEMP) and Construction Traffic Management Plan (CTMP) as a means of avoiding, reducing or mitigating potential adverse effects of construction on the environment and local community. The CEMP and CTMP will be subject to approval by CDC and secured through an appropriate planning condition.
- 3.8.5 In line with Institute of Environmental Management and Assessment ('IEMA') best practice<sup>9</sup>, the CEMP can be defined as 'tertiary' mitigation which is defined as that which *"will be required regardless of any EIA assessment, as it is imposed, for example, as a result of legislative requirements and/or standard sectoral practices. For example, considerate contractor practices that manage activities which have potential nuisance effects"*. The CTMP would also be considered as tertiary mitigation.
- 3.8.6 As such, the CEMP and CTMP is considered to be standard practice in the management of the construction works of the Development. The CEMP and CTMP will be taken into account and form the basis of the assessment of likely significant effects. As such, any effects that might have arisen without this mitigation will not be identified as 'likely effects', as there should be no potential for them to arise. This should result in a simpler and more proportionate ES.

### Completed Development

- 3.8.7 The assessment of potential effects of the completed and occupied Development incorporates analysis of the permanent effects that could arise as a result of the operational use of the Development. This assumes that the Development is fully occupied.
- 3.8.8 The Development is assumed to be fully complete and operational in 2024, and this year is taken as the principal year of assessment. This year may be subject to change however this would not materially alter the ES findings related to the assessment of likely significant effects or mitigation.
- 3.8.9 Chapter 8 (Transport) and 9 (Noise) have assumed a completed development year of 2025 to align to OCC's traffic model.

### Cumulative Effects

3.8.10 The EIA Regulations require that, in assessing the effects of a particular development proposal, consideration should also be given to any cumulative effects. Potential cumulative effects are categorised into two types:

- **Intra-project effects (effect interactions):** The combined effects of individual effects resultant from the Development upon a set of defined sensitive receptors, for example, noise, dust and visual effects; and
- **Inter-project effects (cumulative effects):** The combined effects arising from another development site(s), which individually might be insignificant, but when considered together, could create a significant cumulative effect.

3.8.11 Details on the methodology and approach of the cumulative effects assessment for intra-project effects and inter-project effects of the Development are provided below.

#### [Intra-Project Effects Assessment Methodology](#)

3.8.12 Intra-project effects from multiple topics are assessed within ES Chapter 12: Effect Interactions. The effect interactions assessment focussed on receptors groups that have the potential to be affected by multiple effects from more than one specialist topic in the EIA, as a result of the Development.

3.8.13 There is no consistent guidance or standardised approach to the assessment of effect interactions, however it is recognised that the Development has the potential to give rise to a variety of impacts upon a number of different receptors, some of which may combine to become significant effects. As a result, a receptor group based approach was adopted.

3.8.14 Based on the findings of the assessments presented in ES Chapter 7 to 11 and ES Volume II, an exercise was undertaken qualitatively using professional judgement and experience to determine the potential for effect interactions and combined effects. This was undertaken in relation to the construction works and once the Development is completed and operational. Some topics have taken a receptor-based approach and considered effect interactions on receptors as part of the assessment. For example, the biodiversity assessment (Chapter 10: Biodiversity) considers air quality, noise and other impacts as part of its assessment of effects on ecological receptors. As such, the assessment of effect interactions in the ES Chapter 11: Effect Interactions will not consider these environmental topics to avoid repetition.

3.8.15 The methodology used for the assessment of effect interactions as well as the results of the assessment are set out in ES Chapter 12: Effect Interactions.

#### [Inter-Project Effects Assessment Methodology](#)

3.8.16 The cumulative effects assessment is important to ensure that the combined effects of the Development, together with those of other existing or approved schemes (known as 'cumulative schemes') relevant to the Site, are understood appropriately for decision making. The cumulative effects of the Development and cumulative schemes in the local area will be considered on a topic-by-topic basis with the cumulative assessment methodologies and the cumulative effects reported in a subsection of each topic ES Chapter. Where necessary, mitigation measures will be proposed.

- 3.8.17 There is currently no guidance on how to define an appropriate study area for considering cumulative effects. Therefore, a set of screening criteria has been developed to identify which developments in the vicinity of the Site should be subject to assessment. This screening criteria was informed by the government's PPG 'When should cumulative effects be assessed?' and the PINS Advice Note 17<sup>10</sup>. Schemes to be considered have been identified based on the following criteria:
- Expected to be built-out at the same time as the Development and with a defined planning and construction programme;
  - Spatially linked to the Development (within 3km of the Development);
  - Considered an EIA development and for which an ES was submitted with the planning application;
  - Those which have received planning consent from the planning authority (granted or resolution to grant); and/or,
  - Introduce sensitive receptors within close proximity to the Site boundary (but are not EIA development).
- 3.8.18 The development schemes which meet the above criteria, and which were included within the cumulative assessment are identified in Figure 3.1 at the end of this ES Chapter. Appendix 3.4 provides further detail on each cumulative scheme and its status. The list of cumulative schemes was kept under review during the preparation of the ES, but no further relevant developments were identified to those identified in Figure 3.1 and Appendix 3.4 at the time of writing.
- 3.8.19 As noted in ES Chapter 1: Introduction, the Axis J9 development (ID. No. 11, Figure 3.1) is being delivered by the Applicant. To ensure that the potential for cumulative effects of the Development and the Axis J9 development are comprehensively considered, Phases 1 and 2 of the Axis J9 development is included as a cumulative scheme within this ES.

## 3.9 Identifying and Determining the Significance of Environmental Effects

### Identifying Impacts and Effects

- 3.9.1 The Development has the potential to create a range of 'impacts' and 'effects' with regard to the physical, biological and human environment. The definitions of impact and effect used in this assessment are drawn from the Design Manual for Roads and Bridges (the DMRB), Volume 11<sup>11</sup> as follows:
- **Impact** - a change that is caused by an action. For example, road traffic from the Development would result in increased levels of noise (impact). Impacts can be classified as direct, indirect, secondary, cumulative and inter-related. They can be either positive (beneficial) or negative (adverse); and
  - **Effect** - is used to express the consequence of an impact. For example, increased levels of road traffic noise (impact) has the potential to disturb local noise sensitive receptors (effect).
- 3.9.2 For consistency, the findings of the various studies undertaken as part of the EIA adopt the following terminology to express the nature of the effect:

- **Adverse:** Detrimental or negative effect to an environmental resource or receptor;
- **Negligible:** No significant effect to an environmental resource or receptor; and
- **Beneficial:** Advantageous or positive effect to an environmental resource or receptor.

3.9.3 Following their identification, beneficial or adverse impacts are classified on the basis of their nature and duration as follows:

- **Temporary:** Effects that persist for a limited period only (due, for example, to particular activities taking place for a short period of time);
- **Permanent:** Effects that result from an irreversible change to the baseline environment (e.g. land-take) or which will persist for the foreseeable future (e.g. noise from regular or continuous operations or activities);
- **Direct:** Effects that arise from the effect of the project itself (e.g. removal of vegetation);
- **Indirect:** Effects that arise which are not a direct result of the project but are closely linked (e.g. changes to surface water quality due to change in land use and urbanisation);
- **Secondary:** Effects that arise as a consequence of an initial effect of the scheme (e.g. induced employment elsewhere);
- **Cumulative:** Effects that can arise from a combination of different effects at a specific location or the interaction of different effects over different periods of time.

3.9.4 In the context of the Development, short (up to 24 months duration) to medium (up to 48 months duration) term effects are generally determined to be those associated with construction activities, and the long-term effects are those associated with the completed and occupied Development.

3.9.5 Local effects are those effects affecting receptors within and in close proximity to the Site, whilst effects on receptors in the wider study area are considered to be at a district level. Sub-regional effects are those affecting adjacent districts, whilst effects on other counties are considered to be at a regional level.

## Defining Magnitude of Impact and Sensitivity of Receptor

### Magnitude of Impact

3.9.6 For impacts assessed in this ES, a magnitude of impact was assigned, taking into account the spatial extent, duration, frequency and reversibility of the impact, where relevant. Scales of magnitudes of impact were defined in each chapter of this ES where this is possible, otherwise professional judgement was applied to the following scale:

- No change;
- Negligible;
- Low;
- Medium; and
- High.

### Sensitivity of Receptor



3.9.7 The identification of sensitive receptors was informed by baseline studies carried out as part of the EIA. The sensitivity of a receptor is based on the relative importance of the receptor taking into account the criteria outlined in paragraph 3.6.6 above. A summary of sensitive receptors is provided within each baseline assessment sections of the ES topic chapters. Sensitivity was defined within each topic according to the following scale:

- Negligible;
- Low;
- Medium; and
- High.

#### **Evaluation of Significance of Effect**

3.9.8 The assessment of environmental effects was undertaken in accordance with relevant industry standards and legislation where such material is available. In cases where it is not possible to quantify effects, qualitative assessments were carried out and based on the available knowledge of the Site and potential effect, alongside professional judgement. Where uncertainty exists, this was detailed in the 'Assumptions and Limitations' section under 'Assessment Methodology' in the respective technical chapters.

3.9.9 Each technical chapter provides the specific criteria, including sources and justifications, for quantifying the level of effect significance. Where possible, this was based upon quantitative and accepted criteria, together with the use of value judgements and expert interpretations to establish to what extent an effect is significant.

3.9.10 There is no statutory definition of what constitutes a significant effect and guidance is of a generic nature. However, it is widely recognised that 'significance' reflects the relationship between the magnitude of an impact and the sensitivity (or value) of the affected resource or receptor. Statutory designations and any potential breaches of environmental law take precedence in determining significance because the protection afforded to a particular receptor or resource is already established as a matter of law, rather than requiring a project or site-specific evaluation.

3.9.11 Specific criteria for the assessment of each potential effect were developed giving due regard to the following:

- Extent and magnitude of the effect;
- Effect duration (whether short, medium or long term);
- Nature of effect (whether direct or indirect, reversible or irreversible);
- Performance against environmental quality standards;
- Whether the effect occurs in isolation or cumulatively;
- Sensitivity of the receptor; and
- Compatibility with environmental policies.

3.9.12 Where adverse or beneficial effects were identified, these were generally assessed against the scale set out in 3.2.

Table 3.2: Description of the Level of Significance of Environmental Effects

Level of Significance	Description
Major	Large effects (by extent, duration or magnitude) and/or a highly pronounced change in environmental conditions. Effects, both adverse and beneficial, which are likely to be important considerations at a regional level because they contribute to achieving regional or council wide objectives, or, could result in exceedance of statutory objectives and/or breaches of legislation.
Moderate	Intermediate effects (by extent, duration or magnitude) and/or pronounced change in environmental conditions. Effect that is likely to be an important consideration at a local level.
Minor	Noticeable but small effect or change in environmental conditions. These effects may be raised as local issues but are unlikely to be of importance in the decision-making process. Typically, 'Minor' effects are considered 'Not Significant' in EIA terms unless otherwise stated within the technical chapter.
Negligible	No discernible change or neutral effect on environmental conditions. An effect that is likely to have a negligible influence, irrespective of other effects.

3.9.13 The matrix presented in Table 3.3 was generally applied throughout this ES to determine the scale or magnitude of effects. Where different assessment criteria were used, this is clearly stated within the relevant chapter.

Table 3.3: Significance of Effects Matrix

Sensitivity / Value of Receptor	Magnitude of Impact			
	High	Medium	Low	Negligible
High	Major	Major / Moderate	Moderate / Minor	Negligible
Medium	Major / Moderate	Moderate	Moderate / Minor	Negligible
Low	Moderate / Minor	Moderate / Minor	Minor	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

3.9.14 Where the approach to the evaluation of the significance of the effects within a topic ES Chapter differs from that outlined above, for example, because of specific guidance, this is clearly described in the relevant topic chapter of this ES.

### 3.10 Mitigation, Monitoring and Residual Effects

3.10.1 The development of mitigation measures is an integral part of EIA. Mitigation measures are set out in each of the technical assessment chapters where significant effects are identified, with the aim of avoiding, reducing, or offsetting for potential adverse effects and maximising potential beneficial effects. In each technical chapter, the specialists undertaking the EIA identified appropriate mitigation measures based on their assessment of potential significant impacts.

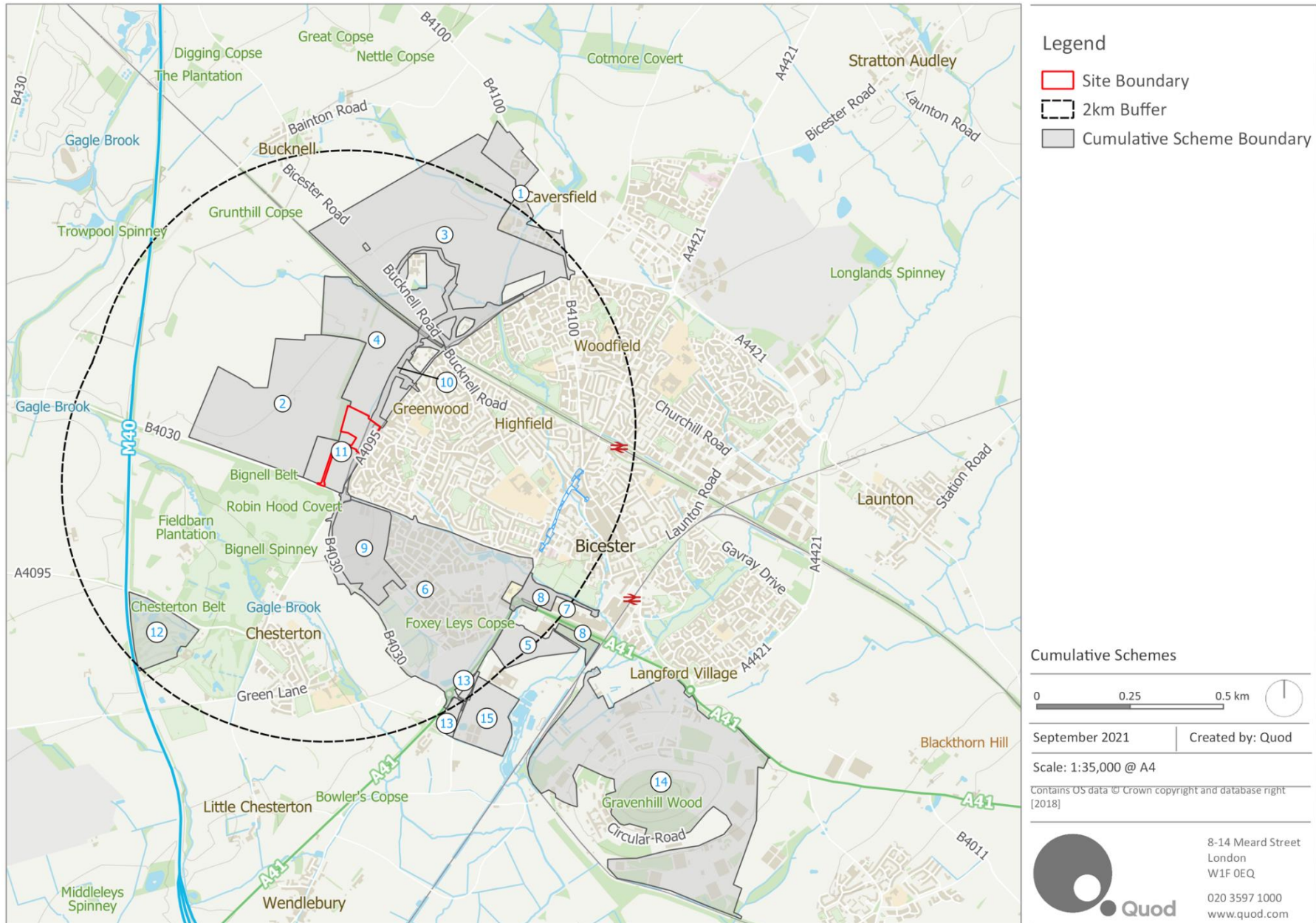
3.10.2 The following mitigation measures are considered where relevant:

- Inherent mitigation measures - are those which are 'designed in' or embedded to the scheme and certain to be delivered, i.e. what is proposed by the application forms and drawings.
- Standard mitigation – e.g. construction mitigation with a high degree of certainty over delivery, i.e. measures to be included in the CEMP and CTMP.
- Actionable mitigation measures - those that require a controlling mechanism or legal undertaking to be implemented, but are under the control of the Applicant, CDC or statutory bodies, e.g. planning conditions, Section 106 and Section 278 agreements.

3.10.3 The EIA Regulations introduce the need to consider whether monitoring of mitigation measures is appropriate. Whilst not all mitigation measures will require monitoring, some measures may be such that they will need to be checked to ensure they are achieving their intended purpose or appropriate remedial actions can be undertaken, if required. Any monitoring requirements are set out in the relevant chapters of this ES.

3.10.4 Residual effects are those that remain following the consideration of mitigation within the assessment. When applying the matrix set out in Table 3.3, these are defined as either 'significant' (i.e. major or moderate residual effect) or 'not significant' (i.e. minor residual effect or negligible). 'Not significant' effects would not be considered material to the planning decision and 'significant' effects would be considered material to the planning decision process.

Figure 3.1: Cumulative Schemes



# References

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- <sup>1</sup> HMSO, (2017). The Town and Country Planning (Environmental Impact Assessment) Regulations 2017. The Stationary Office.
- <sup>2</sup> HMSO, (2018). The Town and Country Planning and Infrastructure Planning (Environmental Impact Assessment) (Amendment) Regulations 2018. The Stationary Office. October 2018.
- <sup>3</sup> HMSO, 2020. The Town and Country Planning (Local Planning, Development Management Procedure, Listed Buildings etc.) (England) (Coronavirus) (Amendment) Regulations 2020. The Stationary Office. December 2020.
- <sup>4</sup> Department for Communities and Local Government (DCLG), (2017). Planning Practice Guidance - Environmental Impact Assessment. ID 4, updated: 28 July 2017. Available online at: <http://planningguidance.planningportal.gov.uk/blog/guidance/environmental-impact-assessment/>
- <sup>5</sup> Institute of Environmental Impact and Assessment (IEMA), (2004). Guidelines for Environmental Impact Assessment. IEMA.
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- <sup>8</sup> IEMA, (2017). Delivering Proportionate EIA: A Collaborative Strategy for Enhancing UK Environmental Impact Assessment Practice. July 2017.
- <sup>9</sup> IEMA, 2016. Environmental Impact Assessment Guide to: Delivering Quality Development, July 2016. IEMA.
- <sup>10</sup> Planning Inspectorate. (2019). Advice Note 17: Cumulative Effects Assessment Relevant to Nationally Significant Infrastructure Projects. August 2019.
- <sup>11</sup> Highways Agency et al. (2008), Design Manual for Roads and Bridges.