Quod

Environmental Statement

Non-Technical Summary

Axis J9, Phase 3

SEPTEMBER 2021

Q210470

Contents

1. Introduction

Background

1.1 This Non-Technical Summary (NTS) presents a summary of the findings of an Environmental Statement (ES) that was prepared on behalf of Albion Land (the 'Applicant'). It accompanies a full planning application for the redevelopment of land to the West of Howes Lane, North West Bicester (referred to as 'Axis J9 Phase 3') (the 'Site') submitted to Cherwell District Council (CDC). Figure 1.1 overleaf shows the location of the Site.

1.2 The proposed development would provide up to 17,785 square metres (sqm) of fully flexible[1] employment development (industrial processes, general industrial or storage/distribution) vehicular access, servicing, and parking, and landscaping works (this description would be referred to as the 'Development' within this NTS). The Development also includes delivery of part of a link road (the 'A4095 Strategic Link Road'). This link road would be referred to in this NTS as the 'SLR'.

What is an EIA and ES?

1.3 Environmental Impact Assessment (EIA) is a process required by UK legislation[1,2,3] for certain development projects which are likely have significant impacts on the environment. The purpose of EIA is to ensure that decision makers and the public understand environmental effects of a development before deciding whether to grant planning permission. The findings of the EIA process are reported in an ES which is submitted with the planning application.

1.4 The Development was subject to an EIA and the findings are reported in an ES. The EIA process was carried out by a team of competent experts who also prepared the ES. The ES was prepared in line with UK legal requirements (the EIA Regulations[1] (as amended)[2,3]) and good practice. The ES contains three volumes:

- Volume I: Main Body;
- Volume II: Landscape and Visual Assessment; and
- Volume III: Appendices.

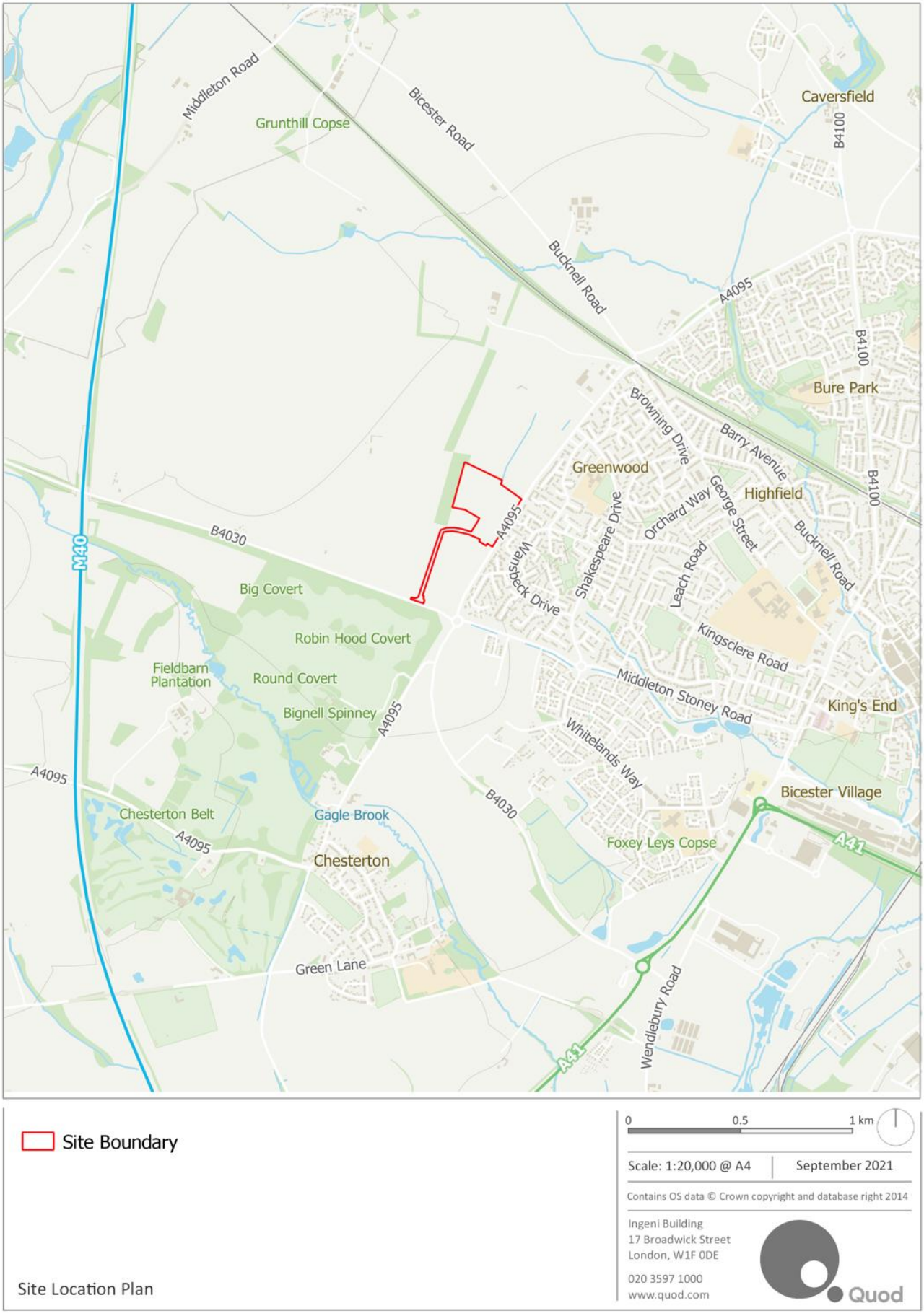
1.5 The purpose of the ES is to inform decision making by identifying the likely significant effects that the Development may have on the environment. The ES sets out measures to prevent, reduce or offset any significant adverse effects identified, together with any monitoring that may be necessary. This document provides a non-technical summary of the ES.

Commenting on the Planning Application

1.6 The above documents and all other planning application documentation are available to view online at https://planningregister.cherwell.gov.uk/. Copies of the ES can also be purchased from Quod. Please email reception@quod.com quoting Reference No. Q210470 for further details or contact 020 3597 1000.

[1] 'Fully flexible' means the Development could be up to 100% of any of those uses (i.e. industrial processes, general industrial or storage/distribution).

Figure 1.1: Site Location Plan



2. Site and Setting

Where is the Site?

2.1 The Site is located in CDC, northern Oxfordshire. The Site is situated approximately 1.8km west of Bicester, on the edge of the town. The Site covers an area of approximately 7 hectares. The planning application boundary is shown in Figure 2.1.

Figure 2.1: Site Boundary Plan

What does the Site include?

2.2 The Site consists of agricultural fields, although they are not in use. The Site is currently relatively level and open.

2.3 The Site is bound as follows:

- To the north by an area of tree planting, beyond which is agricultural land;
- To the east by Howes Lane (the A4095), extending down to the south east. Howes Lane is bounded by Greenwood residential estate which forms the urban edge of Bicester;
- To the south and south west by Phases 1 and 2 of the Axis J9 development, as described under 'what is the planning context of the Site?'. Beyond the Axis J9 development is Middleton Stoney Road (the B4030); and
- To the west by an area of tree planting and agricultural land which extends to the M40 approximately 1.5km to the west of the Site.

2.4 The closest sensitive receptors to the Site are the residential units which back on to Howes Lane (See Figure 2.1).

2.5 Currently, only agricultural vehicles can access the Site off Howes Lane, via the Axis J9 development. Middleton Stoney Road (B4030) provides access to the centre of Bicester and the M40. The M40 motorway is located approximately 1.5km to the west of the Site.

2.6 There is currently no access to the Site for pedestrians or cyclists. There is limited infrastructure for pedestrians and cyclists on the adjacent Howes Lane. However, a new cycle lane along Middleton Stoney Road would be delivered as part of the Axis J9 development (Phase 1).

What is the planning context for the Site?

2.7 The Site has two existing planning permissions. Both of the permissions are for residential use only and both are still valid (i.e. could be implemented). The Applicant obtained consented for both permissions.

Application 1

2.8 Application 1 was granted outline planning permission in August 2017 for up to 150 residential units on the Site as show in Figure 2.1[2]. An ES was submitted with this application.

Application 2

2.9 Application 2 was granted outline planning permission in December 2017 on appeal, after CDC refused planning permission (the 'Axis J9 development')[3]. The Axis J9 development permission allows for up to 150 new homes and up to 53,000 sqm of employment floorspace. Employment floorspace was approved for the area within the blue line boundary shown in Figure 2.1, whilst the 150 residential units was approved within the Site area (i.e., redline boundary shown in Figure 2.1). An ES was also submitted with this application.

2.10 Phase 1 of the Axis J9 development consists of 21,584 sqm of floorspace for flexible uses (industrial processes, general industrial or storage/distribution) within six buildings.

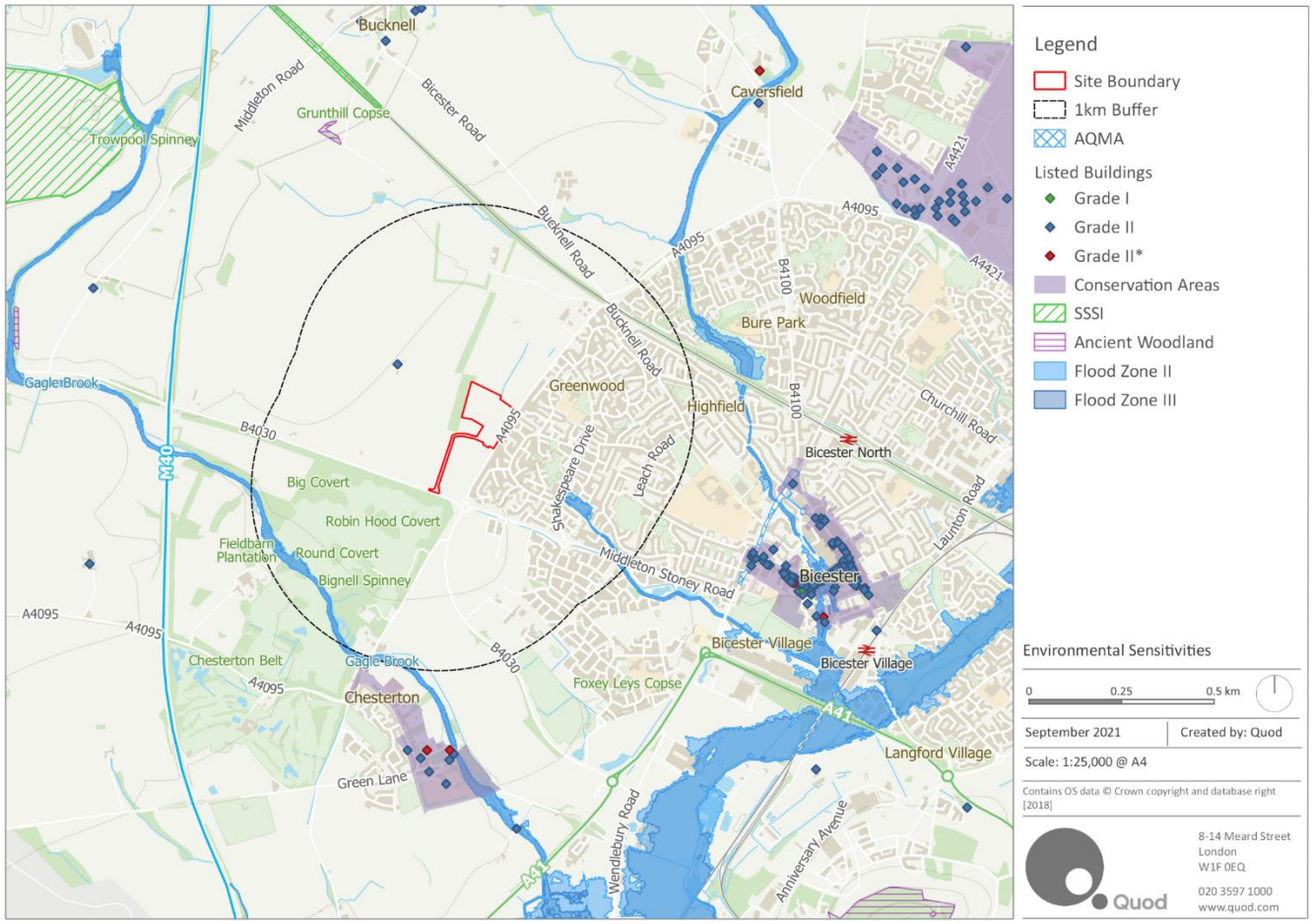
[2] Planning reference: 17/00455/HYBRID
[3] Planning reference: APP/C3105/W/16/3163551

Construction of Phase 1 is now complete. Phase 2 the Axis J9 development consists of 23,226 sqm employment floorspace across two units and parking for cars and heavy goods vehicles (HGVs). Construction of Phase 2 is due to be completed in early 2022.

What are the environmental sensitivities?

2.11 Figure 2.2 identifies the key environmental sensitivities within and close to the Site.

Figure 2.2: Environmental Sensitivities



2.12 The Site is not located in a sensitive area[4] and it is not designated for nature conservation, heritage or landscape views.

2.13 The Site is not located within or in proximity to a Conservation Area and there are no listed or locally listed buildings on the Site. The closest listed structures are the Grade II listed buildings on Himley Farm, located approximately 0.5km west of the Site. No other heritage assets are located within 1km of the Site. Chesterton Conservation Area is located approximately 1.55km south of the Site boundary.

[4] A sensitive area is a Site of Special Scientific Interest, National Park, Area of Outstanding Natural Beauty, World Heritage Site, Scheduled Monument or European Site.

2.14 The Site is not in an Area of Archaeological Potential. The project archaeologist has already consulted with the CDC Archaeologist and the Site has been evaluated. After the Site was evaluated (using trial trenching[5]). Some archaeological features were found, however given the small amount found and their value, the project archaeologist concluded that the Development would not have a 'significant' effect on archaeology.

2.15 Ardley Cutting and Quarry Site of Special Scientific Interest (SSSI)[6] is located approximately 1.8km north west of the Site. This SSSI is designated for its limestone grassland, scrub, ancient woodland, and wetland habitats. Bure Park Local Nature Reserve is located approximately 1km north east of the Site boundary.

2.16 The Site is not located in or near an Air Quality management Area (AQMA). The nearest AQMA is in Bicester centre, approximately 1.5km east of the Site. This AQMA was declared for high levels of nitrogen dioxide (NO_2).

2.17 The Site is located within Flood Zone 1, which means the Site is at a low risk of river flooding.

[5] Trial trenching means using an excavator to dig up a sample of a site (usually between 2-5%), to estimate if the site has archaeological potential.
[6] A SSSI is an area of particular interest to science because of its fauna and flora, or because of its important geological features.

3. EIA Methodology

3.1 Under the EIA Regulations, the Development falls within the type and scale of development that requires an EIA. Accordingly, an EIA was undertaken to meet the requirements of the relevant planning policy and legislation and cover the effects of the Development on the environment.

3.2 The EIA considers impacts during the construction and operation of the Development. The construction phase assessment addresses both the temporary activities involved in demolition of existing buildings and structure (where necessary) and building the Development. Where relevant, these temporary and permanent effects are described separately below. The operational assessment considers the situation when the Development is completed and being used.

How was the content of the EIA scoped?

3.3 A request for a scoping opinion was submitted by the Applicant to CDC on 29th June 2021. An EIA Scoping Report (the 'Scoping Report') accompanied the request and identified the proposed topics and approach to the assessments during the EIA process. 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 On the 3rd August 2021, CDC issued their Scoping Opinion which broadly agreed with the proposed scope of the EIA as set out by the Scoping Report, but also requested that Climate Change be included within the ES. As such, the Scoping Opinion confirmed that the following topics should be included in the EIA:

- Socio Economics;
- Transport;
- Noise;
- Biodiversity;
- Climate Change and Greenhouse Gases; and
- Landscape and Visual Impacts .

3.5 Water Resources and Flood Risk, Air Quality, Built Heritage, Archaeology, Agriculture and Soils, Land Contamination, Utilities, Wind Microclimate, Daylight, Sunlight and Overshadowing, Lighting, Waste, Human Health, and Accidents and Disasters were scoped out of the ES. The reasoning for why these topics would not result in significant environmental effects was provided within the Scoping Report. CDC agreed that these technical topics would not result in significant effects and could be scoped out of further assessment.

How were significant effects identified?

3.6 For each of the topics scoped in above, the ES provides a description of the current environmental conditions (the 'baseline'), as well as a description of how the environment may

change in the future without the Development (the 'future baseline'). Each assessment identifies receptors which could be sensitive to impacts of the Development such as local residents, designated sites, habitats and species, communities, road users and the local economy.

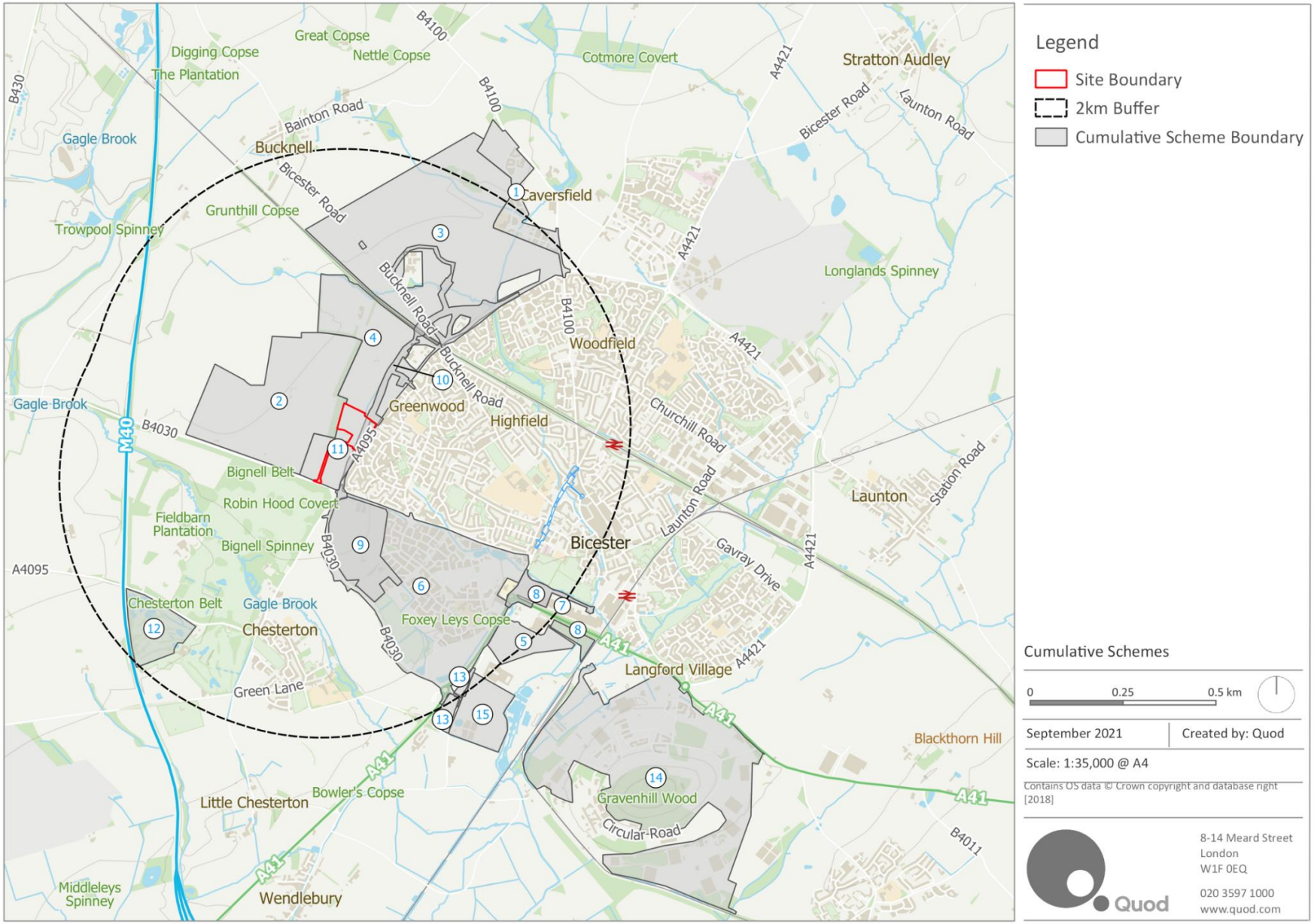
3.7 The ES predicts the environmental effects of construction activities and once the Development is complete and operational. Construction is expected to start in 2022, and be complete in 2023. The Development is expected to be fully operational by 2024 (see Section 6 for more details) – these years were taken as the assessment scenarios for the EIA.

3.8 Environmental effects were identified and assessed using a variety of methods, including computer modelling and calculations. Effects were then assessed as being significant or not significant. Each assessment attaches a level of 'significance' to the effects that were identified, i.e. either major, moderate, minor or negligible. The significance of effects was determined using best practice and published standards and typically reflect the relationship between the scale of change taking place compared to the baseline (magnitude of the impact) and the sensitivity or value of the resource or receptor being affected. The nature of effects is expressed as being either adverse (negative), negligible or beneficial (positive). Effects are based on likely worst-case assumptions.

3.9 The EIA was undertaken in parallel with the design process and, where possible, measures to minimise environmental effects were built into the Development and planning application. However, where significant adverse effects are identified, additional measures ('mitigation measures') are proposed by the Applicant to reduce the significance of the effect. 'Residual effects' are those that remain after mitigation measures have been implemented.

3.10 The assessments also consider 'cumulative' effects which are those that can arise from individual effects of the Development interacting, such as traffic and air quality on the same receptor (intra-project effects). In addition, the ES considers cumulative effects which are those that could result from the Development in combination with other development schemes in the vicinity of the Site (inter-project effects), see Figure 3.1. Appendix 3.4 of the ES provides details on Schemes 1 to 15 shown on Figure 3.1 overleaf.

Figure 3.1: Cumulative Schemes



4. Alternatives

Introduction

4.1 This section provides a summary of the reasonable alternatives to the Development that were considered by the Applicant. These include an environmental appraisal of alternative designs (e.g. site layout, massing and other aspects) and the scenario if the Site isn't developed and left in its current state.

4.2 The reasonable alternatives that were considered by the Applicant include:

- Alternative sites / Site boundaries;
- The 'No Development' alternative;
- Existing planning permissions; and
- Alternative designs (e.g. layout, heights, massing and other aspects).

What alternative sites have been considered?

4.3 No alternative sites have been considered by the Applicant due to the Applicant's ownership of the Site. Alternative sites have therefore not been considered further in this ES.

What if no development were to come forward on the Site?

4.4 If no development comes forward on the Site, it would remain in its current state as agricultural land. The Site is located in an area allocated for development under the local plan. If the Site is not developed, it would become an isolated agricultural plot surrounded by development and its use as an agricultural plot would be minimal.

4.5 If the Site is not developed, temporary adverse environmental effects relating to construction would not take place. This includes construction traffic, noise and landscape and visual effects. Temporary beneficial effects such as construction jobs and local spending would also not take place.

4.6 If the Site is not developed, the permanent beneficial effects would not be realised, which includes the creation of between 255-715 full time jobs in the local area, and the increase in local spending as a result of these jobs. In addition, if the Development is not built, the Biodiversity Enhancement Strategy fo rhte Site would not be fulfilled.

4.7 Not developing the Site is not considered to be a realistic scenario given the Site's allocation for redevelopment as part of the Eco-Town. In addition, it can reasonably be expected that the Site could be re-developed in the short-term, even in the absence of the current Development proposals, given that the Site benefits from two existing planning permissions for residential development

How does this design compare to the two existing planning permissions for the Site?

4.8 The residual[7] environmental effects reported in the ES for the Development are broadly similar to the residual effects reported in the ES for the two existing planning permissions. Climate Change was not included within either of the ESs prepared for the two existing planning permissions, and therefore effects cannot be compared.

What alternative designs have been considered?

4.9 Although environmental testing has taken place for transport, biodiversity and landscape and visual effects. The project has undergone only minor design changes since June 2020, and the no alternative designs have been considered other than the design and development described in Section 5 below. The amount of floorspace for the Development has also remained unchanged from the initial design in June 2020.

[7] Residual effects are the environmental effects once mitigation has been taken into account.

5. Description of the Development

What would the Development deliver?

5.1 The Applicant is applying for full planning permission for:

"17,785 sqm Gross External Area (GEA) of fully flexible employment development (Use Class E(g)(iii) and/or B2 and/or B8) within 11 employment units (Units 1-11)."

5.2 The use of the Development would be for either industrial processes, general industrial or storage/distribution. These use classes are known as E(g)(iii) and/or B2 and/or B8. Some units would have a small amount of supporting office space. Table 5.1 provides a summary of the key components of the Development.

Table 5.1: Key Components of the Development

Land Use Type	Proposed Area (Gross External Area)
Employment Floorspace (Use Class E(g)(iii) and/or B2 and/or B8)	17,785sqm
Parking	**Number**
Parking (including HGV parking)	206
Cycle Parking	88

5.3 Figure 5.1 shows the proposed layout of the Development.

Building Heights

5.4 The Development would consist of 11 units (Numbers 1-11). The units would be arranged as shown in Figure 5.1. The Development is divided by the SLR. Units 1-5 are located to the west of the SLR and Units 6-11 are located to the east.

5.5 Units 1-3 would have a maximum roof ridge[8] height of 13.6m. Units 4-5 would have a maximum ridge height of 15.15m. Units 6-11 would have a maximum ridge height of 10.9m.

What landscaping and green infrastructure is proposed?

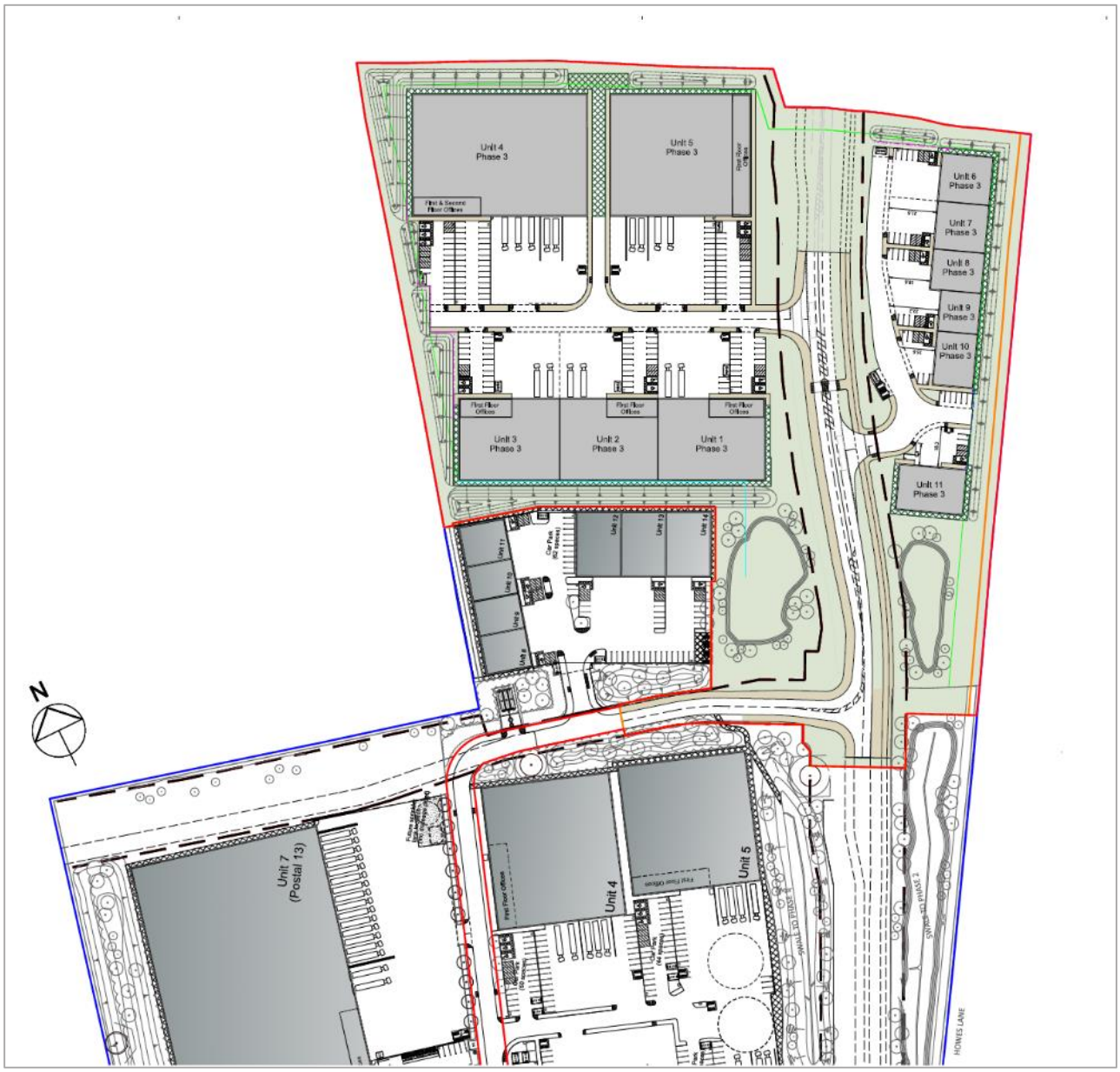
5.6 None of the trees on the Site are protected. An Arboricultural Impact Assessment (including Tree Protection Plan and Method Statement) has been prepared and is submitted with the planning application.

5.7 Hedgerows and trees along the Site boundaries would be kept as part of the Development. A 10m buffer is included in the planning drawings which shows where existing hedgerows would be kept. Landscaped mounds would be located around the edge of the Site, which would help to screen the Development.

5.8 The Development would achieve 40% green space across the Site, in line with Policy Bicester 1. The Development would also deliver a 1% biodiversity net gain (BNG) in line with national and local policy.

[8] The ridge height is the maximum vertical distance between the finished floor level and the finished roof height.

Figure 5.1: Site Layout within redline (Drawing Reference No. 20019-TP-002 REV F)



What access and parking provision is made?

5.9 The Site is well located, close to Junction 9 of the M40 and also beside the future SLR. At first, all 11 Units would be accessed via Middleton Stoney Road through the Axis J9 development onto the section of the SLR that would be delivered by the Development.

5.10 Once the north and south sections of the SLR are delivered (by others), the temporary access arrangements to the Site via the Axis J9 development would be closed and landscaped to form part of the Site's strategic green infrastructure. From this point forward, permanent access to the Development would be via the SLR.

5.11 The SLR benefits from planning permission (Ref: 14/01968/F). Once completed, SLR would connect to other key transport infrastructure intended to support the delivery of the rest of the Eco-Town.

5.12 The Development would provide 206 parking spaces (including parking for heavy goods vehicles). 5% of these parking spaces would be compliant with the Disability Discrimination Act (DDA). The Development would also provide 88 cycle parking spaces.

How would flood risk and drainage be managed on the Site?

5.13 The Development is designed to operate safely and without significantly increasing flood risk elsewhere. The surface water drainage strategy would include environmentally beneficial 'sustainable' drainage systems (SuDS) to manage surface water runoff. This would include two swales, which would collect and clean rainwater, and paving which allows water to pass through into the ground. New tree planting and landscaping on Site would also help soak up surface water.

How sustainable would the Development be?

5.14 The Development would be designed to achieve a BREEAM[9] target rating of 'Very Good', although it would be capable of achieving an 'Excellent' rating. The Development would include installation of photovoltaic panels, air source heat pumps, LED lighting, water efficient fixtures and Electric Vehicle (EV) charging points.

5.15 A Sustainability Statement is submitted with this planning application in-line with planning policy requirements.

How is waste to be managed?

5.16 Waste and recycling storage for the Development has been designed with consideration of local policy and guidance. The architects have ensured that adequate waste provision is made for future users of the Development. Waste and recycling areas would be located near the entrance of service yards providing convenient user and collection vehicle access.

How has the scheme design considered risks of climate change?

5.17 A number of measures are incorporated into the Development to reduce risks associated with climate change and help the Development adapt to climate change. This includes soft landscaping and a surface water drainage strategy which has been informed by future climate change considerations. Although the retained and new plants, namely hedgerow and grasslands, are vulnerable to significant climate change such as major drought, they are relatively tough. This would also prevent the emergence of non-native species and the impact of pests and diseases.

[9] BREEAM is a recognised sustainability assessment method for assessing new development. It assesses the environmental, social and economic sustainability performance of a development against set criteria across the built environment lifecycle, from construction to completion and operation.

6. Construction

How long would construction of the Development take?

6.1 Overall construction of the Site is expected to start in the first quarter (Q1) (i.e. January- March) of 2022 and be complete by Q2 2023 (i.e. April-June). The construction programme is therefore estimated to be no more than approximately 18 months or 1.5 years.

6.2 The permitted hours of work would be agreed with CDC. It is expected that the core working hours for the Development would 8am-6pm on weekdays; 8am-1pm on Saturday; and no working on Sundays or Bank Holidays. The Applicant would need to ask permission from CDC for works that need to be undertaken outside of these hours.

What works would be carried out during the construction phase?

6.3 Construction works would involve the erection of 11 building units as described in Section 5 of this NTS. Construction works would include general civil engineering groundwork activities including excavation, grading and preparation of surfaces as well as the placement/compaction of fill. During engineering groundwork activities for the Site, the removal of topsoil and vegetation would be undertaken.

6.4 Following completion of the groundworks the units would be constructed and would include the installation of foundations and drainage works, following which the buildings would be erected from the foundations and ground bearing slab. Once each building structure is sufficiently progressed the wall and roof cladding would be installed, floor slab, interior fit out and installation of mechanical, electrical and plumbing systems would then commence

6.5 For the roads, carparking and yards, the road surface (known as the ‘pavement’) would be laid over an earthwork foundation over the area allocated for the SLR, internal road network, carparking or yard areas. The installation of kerbing and paved areas concerning footways, road restraint systems (e.g. vehicle and pedestrian safety barriers), road markings (e.g. white lining) and road signs would also be undertaken during construction of the pavement and formation layer.

6.6 The final aspect of the construction would be the areas of landscaping and open space which would be prepared to establish the green spaces within the Site. This would include soil preparation, mound construction, tree and vegetation planting, seeding and the sustainable drainage systems

6.7 Neighbouring properties such as those on Howes Lane would be informed before construction works start. Site boards outlining information on the scheme and forthcoming works would be put up at the entrance to the Site. Site contact numbers would be displayed as appropriate, along with the complaint procedure.

How would material be managed and reused?

6.8 Some earthworks materials may need to be disposed of off-site. However, most of the material would be reused to create mounds around the edge of the Site. This material would only be reused on the Site if it passes contamination tests.

What environmental management and mitigation measures would be in place?

6.9 A Construction Environmental Management Plan (CEMP) would be implemented during enabling and construction activities, subject to the approval of CDC. The CEMP would set out the strategy, standards, control measures and monitoring procedures that would be implemented to manage and mitigate any adverse environmental effects of the construction process in accordance with industry standards, good practice and guidance. The principal contractor would be registered with the 'Considerate Constructors Scheme' (CCS)[4] ensuring contractors carry out their operations in a safe and considerate manner with due regard to passing pedestrians, road users and surrounding properties.

What measures would be in place to manage construction traffic?

6.10 A Construction Travel Management Plan (CTMP) would be prepared and submitted to CDC alongside the planning application, before construction begins on-Site. The CTMP would include a plan for construction access routes would take into account legislation, police, fire authority and Health and Safety Executive guidance, local authority transport schemes and neighbourhood lorry restrictions.

6.11 The CTMP would include steps to minimise traffic disruption and include a strategy for routing lorries. No construction traffic would turn right onto Middleton Stoney Road, or left onto Howes Lane when leaving the Site. All construction traffic would be routed via the M40 and B4030 Vendee Drive.

6.12 HGV movements would be restricted as far as reasonably possible to avoid peak traffic flow periods. All construction traffic entering and leaving the Site would be closely controlled and during delivery times, traffic marshals would be positioned at the site entrance/exit. This strategy would minimise disruption to local residents. No permanent road closures are anticipated for the main construction activities.

7. Socio Economics

Introduction

7.1 The Socio-Economic ES chapter provides an assessment of the potential socio-economic effects of the Development arising from the construction phase, and once the Development is complete and occupied. Socio-economic effects assessed include: generation of construction-related employment; the employment accommodated in the completed Development; and local spending effects related to the new employees that would work on the Site.

7.2 The Site is within the administrative boundaries of CDC and Oxfordshire District Council (ODC) , and adjacent to the north-west of the town of Bicester. It is within the designated North West Bicester Eco-Town, which once complete would form an extension to the existing town.

What are the potential effects during construction?

7.3 An average of 110 construction jobs would be created to construct the Development over the construction period of approximately 18 months. In practice the number of workers would vary across the period.

7.4 The effect of the Development with respect to construction employment would be temporary, indirect and negligible at the regional scale (in the context of the relatively low magnitude of the impact in comparison with the scale and mobility of the broader regional constriction workforce). The effect would not be significant.

What are the potential effects of the completed Development?

7.5 The 17,785 sqm GEA flexible employment space would be expected to accommodate employment across a range of sectors and uses, depending on employment demand. Based on standard job density guidelines the worst case with respect to employment generated on the Site would be 255 FTE jobs (based on all space being taken up by relatively low-employment density uses). In practice the number of jobs on Site could be much higher. The employment generated on site would be a long-term, direct moderate beneficial effect at the local scale (significant), minor beneficial at the district scale and negligible at all other spatial scales.

7.6 The new employees working on the Site would be expected to generate additional spending in the local economy of approximately £705,000 per year based on 255 FTE jobs. This would be a long-term, indirect, minor beneficial effect at the local level (not significant) and negligible at all other spatial scales.

What would be the cumulative effects with other developments?

7.7 Overall, the cumulative socio-economic effects of the Development with other cumulative developments are assessed to be Negligible to Major Beneficial. The cumulative developments would deliver additional construction and long-term jobs, and have positive impacts on the local economy through generation of additional jobs and spending. Together the Development and the cumulative developments would have a beneficial cumulative effect in terms of socio-economics.

8. Transport

Introduction

8.1 The A4095 Howes Lane is a single carriageway road and currently forms the north western boundary of Bicester town. Howes Lane forms the eastern Site boundary and is approximately 6.0 metres wide. It is subject to a speed limit of 50 mph. There are no footways or street lighting provided on Howes Lane at the proposed Site frontage. To the south, Howes Lane links with a four-arm roundabout junction with the B4030 Middleton Stoney Road and Vendee Drive at the south eastern corner of the Site boundary. The M40 is located 1.5km to the west.

8.2 Baseline traffic data for the local network has been obtained from Oxfordshire County Council's transport model. This model has been used to forecast the likely levels of traffic on the roads in the future year of 2022, 2025 and 2031 and the contribution to traffic that the Development would make. This traffic model assumes that other planned development in the area, including the North West Bicester Eco-Town is delivered. An industry standard database has then been used to predict the number of vehicle trips from the Development.

8.3 The proposals cover temporary and permanent access arrangements. A temporary access arrangement from Middleton Stoney Road via AXID J9 Development during the construction and delivery of the SLR (by others). In the permanent solution, i.e. when the SLR is completed, the temporary access formed from the Axis J9 development would be stopped up.

What are the potential effects during construction?

8.4 A CTMP would be required by planning condition to mitigate potential construction traffic impacts. Weight restrictions on roads to the north means that all construction traffic is assumed to leave to the south. Experience of similar developments suggest that during the main construction phases, on an average daily basis, there would be a total of 20 two-way HGV movements.

8.5 This represents an increase of only 1.2% to 2.3% increase in HGVs which is not considered to give rise to significant effects to other drivers or pedestrians/cyclists. As such the volume of anticipated traffic movements related to the Site would be modest and residual effects are considered to be negligible.

What are the potential effects of the completed Development?

8.6 The Development comprises two parcels, each of which would be accessed separately from the SLR. The accesses would both be right turn lanes designed fully in accordance with relevant technical standards. Similarly the section of SLR being constructed as part of the Development would meet all relevant design standards. Agreement has been reached with OCC and the highways authority on the design of both the section of the SLR and the accesses. The design has also been subject to independent road safety audit.

8.7 There may be a period before the completion of the full SLR (anticipated by OCC to be during 2024) when the Development is operational. As such appraisal of the highway performance in terms of capacity and safety has been undertaken both before the SLR is open and after. This

appraisal has concluded that there would be no need for mitigation to allow the Development to proceed.

8.8 The Developer has agreed with OCC to secure a protected alignment for OCC to deliver a pedestrian/cycle link between the SLR and Howes Lane at a future date once Howes Lane has been closed to vehicular traffic.

8.9 Traffic modelling shows that in both future year of 2022 (pre-SLR delivery) and 2025 (post-SLR delivery), that no road links experience an increase of traffic movements in excess of the 30%. As such the impact on road users would be negligible.

8.10 Further modelling shows that the Development accesses, B4030/Howes Lane roundabout, and the Middleton Stoney Road / Empire Road junction would all operate satisfactorily in all modelled scenarios with modest queuing and minimal delay during the peak hour periods pre SLR and post SLR. The difference between without and with development traffic is negligible. As such, no significant effects are likely on road users.

8.11 The Development would give rise to a minor beneficial effect on pedestrians and cycles due to the facilities and opportunities for wider connections to existing and future housing.

8.12 No significant effects identified in relation to accidents and safety, public transport and hazardous loads.

What would be the cumulative effects with other developments?

8.13 There are no cumulative effects as a result of the construction phase of the Development proposals in combination with cumulative schemes.

8.14 The cumulative assessment for the completed Development assessed a future year of 2025 with the development schemes in the vicinity of the Site. The assessment found that the maximum increase in traffic on any single road with the cumulative schemes in place would be 3.7% on the SLR in 2025. On this basis, there would be no significant cumulative effects as a result and the residual effect would be negligible.

9. Noise

Introduction

9.1 To determine existing noise levels around the Site, a baseline monitoring survey was undertaken at six locations from Wednesday 21st July 2021 to Monday 26th July 2021. Attended short term measurements were undertaken at four locations during the day, evening and night-time periods with two additional locations being measured unattended over a 120-hour period. Full details of the noise baseline monitoring survey, reference to monitoring locations and meteorological conditions are provided in the Noise Technical Report within Appendix 9.1.

9.2 To calculate the effects of noise related to the Development, a 3-dimensional noise model was built using computer modelling software. This model utilised existing measured noise data to determine the effects of construction noise and operational noise on both existing and proposed sensitive receptors.

What are the potential effects during construction?

9.3 Exact details regarding construction noise sources can only be estimated at present and, therefore, it is difficult to predict accurately the potential magnitude of potential noise and vibration effects on local receptors. As such, the potential impact of construction noise has been assessed using the Fixed Limits Method detailed within BS 5228-1:2009+A1:2014.

9.4 Given the nature of such works there is the likelihood that during certain periods of the construction phase, noise would be audible at the nearby sensitive receptors. Any impacts would be temporary in nature and adverse. The level of noise would be dependent on the location of the construction activities on the Site on a daily basis and the equipment being used, with noise levels being attenuated as the distance between the source and receptor increases. The worst-case assessment identifies a temporary moderate adverse effect to existing receptors over the construction period.

9.5 However, best practice construction methods would be implemented as part of a CEMP to control noise, such as limiting working hours, equipment selection, location and maintenance. With these best practice measures in place, the impact of noise and vibration during the construction of the Development would be adequately controlled to within accepted criteria.

What are the potential effects of the completed Development?

9.6 An assessment of proposed fixed plant and equipment has been undertaken in accordance with BS 4142:2014+A1:2019 ‘Methods for rating and assessing industrial and commercial sound’ to establish the maximum external noise levels from the proposed development. The assessment will result in a noise rating level which is at least 10 dB below the existing background noise level during the daytime and night-time period at the closest sensitive receptor locations, and therefore noise from fixed plant would not be audible at the closest receptors. Accordingly, the proposed plant is expected to have a low impact at the closest sensitive receptors.

9.7 Operational noise has been assessed at existing and proposed noise sensitive receptors with both windows open and windows closed, in accordance with the guidance presented within BS8233:2014 ‘Guidance on sound insulation and noise reduction for buildings’.

9.8 Based on the road traffic assessment provided, an assessment has been undertaken which compares different scenarios to determine the change in noise levels results from the vehicle movements generated from the proposed development. The difference between the ‘Do Minimum’ (without development) and ‘Do Something’ (with development) for the year 2025 has been compared.

9.9 The results of the road traffic noise assessment indicate that at the representative assessed receptors there would be a change in noise level of up to 0.1 dB at receptors which is an indication of a low impact. This change in noise level would not be audible at the closest receptors.

What would be the cumulative effects with other developments?

9.10 It unlikely that there would be any overlap during the construction phase of the Development with construction work occurring in other consented developments. Should this occur, it is expected that mitigation within each separate consent would ensure significant cumulative effects do not arise.

9.11 Cumulative operational noise (from the Axis J9 development) have been assessed at existing and proposed noise sensitive receptors with both windows open and windows closed. The cumulative effects on existing sensitive receptors from operations have been assessed of negligible significance.

9.12 The ‘do minimum’ (without Development) and ‘do something (with Development) traffic data sets used for the assessment of road traffic within paragraph 9.8 are inclusive of cumulative developments growth factors to account for background traffic growth. An additional cumulative road traffic noise assessment is therefore not required and the residual effects would remain as reported within paragraph 9.8.

10. Biodiversity

Introduction

10.1 The ecological interest of the Site has been investigated through a background data search, a suite of habitat and protected species surveys and examining other work carried out on adjacent sites. The evaluation of ecological resources and impact assessment has been undertaken with reference to guidance on ecological impact assessments published by the Chartered Institute of Ecology and Environmental Management.

10.2 The data search confirmed that the Site is not covered by any statutory or non-statutory site wildlife designations. The closest designated sites are located within 2km of the Site: Ardley Cutting and Quarry Site of Special Scientific Interest located approximately 1.8km north west of the Site and Bure Park Local Nature Reserve located approximately 1km north east of the Site. There is one non-statutory site approximately 2.5km away of county importance: Bicester Wetland Reserve Local Wildlife Site.

10.3 Habitats present within the Site itself includes arable farmland, hedgerows with trees, field margins and ditches. The habitats surrounding the Site include residential development and arable farmland bounded by hedgerows to the north and west. These habitats are between negligible and local importance. Species present include foraging bats, farmland birds, great crested newts (known to be present in ponds within 500m of the Site), hedgehog, invertebrates and reptiles of between local and district ecological importance. The design of the Development has been developed to minimise ecological effects and habitats retained where possible. A Biodiversity Strategy for the Site has been produced which sets out the ecological mitigation measures that would be delivered by the Development.

What are the potential effects during construction?

10.4 The Development would not give rise to any significant effects on designated sites during construction.

10.5 Construction of the Development would result in the loss of arable habitat and the partial loss of field margins. Trees and hedgerows would be retained and protected during construction. Effects to species during construction include loss of habitats for farmland birds, and the marginal loss of habitats for other species.

10.6 A CEMP and Landscape and Ecology Management Plan (LEMP) would be provided, secured via planning condition, that would include measures for habitat protection and enhancement necessary during the construction and completed development phases, respectively.

10.7 The Development would deliver 40% of the total Site area as green space that would allow some habitats to be retained and enhanced. The green space also includes habitat creation to off-set the loss of field margins, act as a protective "buffer zone" to boundary and off-site habitats (such as ponds), and provides replacement and increased habitat for certain species.

10.8 Provided the recommended mitigation measures are incorporated, residual effects on habitats would be negligible at a Site level. Residual effects on species are between negligible and minor beneficial at a local level.

What are the potential effects of the completed Development?

10.9 The Development would not give rise to any significant effects on designated sites during the completed Development phase.

10.10 Impacts from the completed Development include lighting effects on bats and disturbance to their habitats from the increase in the number of people and vehicles using the Site. To mitigate the potential adverse effects resulting from the lighting of the retained and newly created habitat as well as the artificial roost sites to be provided as part of the construction phase mitigation measures, a sensitive lighting scheme has been developed in conjunction with the appointed lighting engineers to ensure areas of value to bats are not excessively lit.

10.11 Provided the recommended mitigation measures are incorporated, residual effects on bats would be negligible.

What would be the cumulative effects with other developments?

10.12 No significant effects on biodiversity during the construction and operational phases have been identified by the cumulative schemes, with each development implementing their own appropriate mitigation strategies to avoid any potential effects. Therefore, no mitigation is required, and no residual cumulative effects are anticipated.

10.13 It is only for farmland birds that the Strategic Environmental Report (SER) for North West Bicester Ecotown acknowledges that the overall adverse effect of the wider eco-town development on farmland birds cannot be mitigated on-site, with a significant adverse impact likely to be at a county level. As such, the SER proposes a fund to secure off-site compensation and increase the 'carrying capacity' of local habitats for farmland birds through the appropriate habitat management. As part of the mitigation for the loss of approximately 7ha of arable habitat at the Site, which forms part of the overall foraging resource for farmland birds, the Development would make the relevant financial contributions at the appropriate stage. No significant adverse residual effects are anticipated with this approach in the SER.

11. Climate Change and Greenhouse Gases

Introduction

11.1 Climate change describes a change in the average conditions – such as temperature and rainfall – in a region over a long period of time. Greenhouse gases (such as carbon dioxide) are gases in the Earth's atmosphere that trap heat. Greenhouse gases are shortened to 'GHG' in this section.

11.2 The assessment undertaken within the EIA calculates the carbon dioxide that will be generated because of the Development, and the significance of this in the context of local and national climate change policy. An assessment of how resilient the Development is to future climate change has also been undertaken.

11.3 The Site does not currently generate any GHG emissions as there are no activities on the Site which result in emissions. The Site is currently an agricultural field, although it is not in use.

What are the potential effects during construction and completed Development?

11.4 The GHG emissions from the construction phase have been presented as annual figures to allow them to be compared to operational emissions in the assessment year (2025). GHG emissions in the assessment year (2025) are likely to be at their highest since emissions from all sources are predicted to decrease over time. This is due to the predicted decarbonisation[10] of the economy consistent with the UK meeting its net zero target.

11.5 The GHG assessment has established a net increase in emissions of around 9,935 tonnes per year in the assessment year (2025). Emissions from transport are the single largest contributor at 96%. This figure takes into account a comprehensive set of mitigation measures described below.

Table 11.1: Proposed Mitigation Measures

Development Phase	Measures to avoid and reduce GHGs
Construction	Good and best practice approach adopted to minimise materials with high embodied carbon. Best practice measures to minimise GHGs from construction activities and adoption of best practice performance standards and guidelines for construction e.g. BREEAM "Very Good" rating. Implementation of a CEMP which would include measures to minimise construction journeys.
Operation – Transport	Implementation of a Framework Employment Travel Plan with best practice measures to promote use of sustainable transport modes. Installation of on-site electric vehicle charging for cars

[10] Decarbonisation is the term used for the process of removing or reducing carbon dioxide output of a country's economy.

Operation – Energy	Energy efficiency design measures and on adoption of renewable technologies including photovoltaics and Air Source Heat Pumps, resulting in less than zero energy emissions from energy consumption by the Development.

11.1.1 The mitigation measures described above would be implemented to minimise the GHG emissions during construction and throughout the lifetime of the Development, however, a net increase in GHG emissions would remain.

11.1.2 Industry guidance makes clear that any increase in GHG emissions should be considered significant. However, the residual emissions[11] are a small component in the context of the local GHG emissions. They will equal 0.07% of CDC's emissions. The mitigation measures that are recommended follow best practice and is in accordance with relevant local and national policy on climate change. The energy strategy for the Development results in less than zero energy emissions from energy consumption by the Development.

11.1.3 It is therefore judged that although the residual effects are described as significant, these have been minimised through an appropriate degree of mitigation consistent with best practice and industry guidance. The cumulative effects of the Development are considered to be the same as for the Development.

11.1.4 To address future vulnerability to climate change, best practice measures have been adopted by the design to ensure the Development is resilient to changes in future climate (e.g. more frequent heatwaves). The resilience measures include a drainage design to account for climate change, soft landscaping, cladding suited to site exposure and plant drought resistant plants.

[11] Residual emissions are the emissions once mitigation measures have been put in place.

12. Landscape and Visual Impacts

Introduction

11.6 The Site is located on the north western edge of Bicester and is not subject to any statutory or non-statutory designations. The existing landscape of the Site consists of very gently sloping grassland bounded by native hedgerows to the north and east. A block of maturing woodland runs to the west of the Site. The Axis J9 development lies to the south and south west. Howes Lane runs along the eastern boundary; its eastern edge is formed of rear fences of back gardens in suburban north west Bicester.

11.7 The Site is within an area allocated for mixed use development by the Cherwell Local Plan. Policy Bicester 1 sets out principles and guidelines for development in the area, several of which cover relationship with setting, structural planting around sites in the allocation, limiting the effect of development on the visual context, and the preservation and enhancement of Green Infrastructure and habitat.

11.8 The mitigation of potential landscape and visual effects has been considered during the development of proposals for the Site. The strategy follows the principles of avoidance and reduction. These principles are applied in the limited height of built form and its position relative to the boundary of the Site, the retention of boundary vegetation, and the creation of additional areas of tree, woodland and hedgerow planting. Species rich grassland, swale areas and strong internal Green Infrastructure would increase the ecological value of the land.

11.9 The landscape effects assessment includes both the physical effects of the Development on the existing landscape character and the potential change in character, and the quality of the affected landscape. Visual effects assessment is concerned with how the surroundings of individuals or groups of people may be specifically affected by change in the landscape. This means assessing changes in specific views and in the general visual amenity experienced by particular people in particular places.

What are the potential effects during construction?

11.10 Construction activity on the Site would cause landscape and visual effects and is likely to affect the same receptors as the operational phase of the Development. Piling or construction materials, the lighting of the works, the movement and activity of construction equipment and supplies and other Site related activities have the potential to cause effects on landscape character and visual amenity.

11.11 These effects can be reduced and mitigated through the screening of the Site with temporary hoarding, managed working hours, controlled access points, consideration of where materials are stockpiled, temporary buildings and cabins and storage of plant, but would likely be major adverse in terms of both landscape character and visual amenity but temporary in nature.

What are the potential effects of the completed Development?

11.12 The most substantial landscape effects would be experienced by the Site itself, and the landscape character area within which it sits. The Site would experience major/moderate

effects due to the degree of change, and the medium sensitivity of local landscape character. This magnitude of change would be experienced with most types of development on a Site of this nature and has been accepted in principle by virtue of CDC's allocation of the Site. Effects elsewhere within this character area would be moderate adverse as the magnitude of change would be lower.

11.13 Effects on the western edge of suburban Bicester would be minor/moderate adverse, and those on the Axis J9 development to the south moderate adverse. Effects on other areas would be negligible. Effects on land use and settlement would be minor adverse. With mitigation, the level of these effects would reduce in some cases. With the implementation of mitigation measures (including landscaping and vegetation planting) the residual effect of the Development would be minor moderate beneficial due to the increase in green infrastructure on Site.

11.14 Due to existing development and significant vegetation within the context of the Site, the visual effects of the Development are generally negligible. The highest level of effects would be experienced from Viewpoint 8 at the western edge of Bicester. This viewpoint is experienced by residential receptors, which combined with the medium value of the existing view results in a high medium sensitivity. With mitigation, this level of effect is reduced to moderate adverse. Further into the edge of Bicester, a similar view has moderate/major effects demonstrating the reduction in level of effect as viewpoints move away from the Site boundary. One view from a public footpath to the north would experience moderate adverse effects. All other viewpoints would experience negligible effects.

What would be the cumulative effects with other developments?

11.15 The assessment of cumulative effects focuses specifically on the additive landscape and visual effects of the Development with identified committed development, as opposed to the combined effects of all the past, present and future proposals together with the Development. Committed development in the area has the potential to cause additional effects to landscape and/or visual receptors. Timescales for these developments to come forward vary, and some of the applications identified have been included in the baseline, as they have been largely built.

11.16 Where the level of effect to landscape receptors is currently negligible, additional effects from other approved sites would not cause additional effects. On all other receptors, cumulative sites would increase the level of effect. The cumulative sites are likely to have a moderate beneficial effect, however, on retained vegetation. Proposals retain existing features such as hedgerows and areas of woodland, and through the development principles and requirements set out in the North West Bicester Masterplan SPD would result in the strengthening of these networks.

11.17 Regarding cumulative visual effects, there would be no additional effects due to the addition of cumulative sites to the views, as these would either not be seen in conjunction with each other due to the screening effect of built form.

11.18 Overall it is considered that the proposals can be integrated without substantial harm to the character of the landscape and visual context, and the levels of effect would be experienced with most types of development on a site of this nature and has been accepted in principle by

virtue of CDC's allocation of the Site. It has been demonstrated that the visual and landscape effects can be reduced through effective mitigation, which assimilates the Development proposals within the surrounding landscape.

12. Effect Interactions

12.1 This section summarises the likely significant effect interactions of the Development. The assessment of effect interactions assesses the potential for interaction between individual effects (i.e. noise, air quality, transport etc.) of the Development upon the same receptors (i.e. local residents, properties, road users etc.).

What are the potential interactive 'intra-project' effects?

12.2 A temporary effect interaction was identified for the construction phase whereby locals in the area will experience an adverse effect from construction noise and an adverse effect from landscape and visual amenity.

12.3 Overall, the completed Development is likely to incur an effect interaction which is neutral on local residential receptors. This is due to the local population, including residents, economic receptors, pedestrians, cyclists and all users of the local road network in the surrounding area, experiencing a predominantly beneficial effect interaction associated the creation of new employment and spending by employees, along with beneficial effects for pedestrian delay and amenity. However, these groups would also potentially experience moderate/major negative effects on the from adverse views when in close view of the completed Development, although they will experience this gradually throughout the construction phase and therefore the effect would not be new.

12.4 It is therefore considered that the overall significance of effect interactions of the Development during the operational phase is neutral and not significant.

13. Mitigation and Monitoring

13.1 The section summarises the key mitigation and monitoring measures that would be implemented to minimise potential adverse effects during construction and operational phases of the Development.

Construction

13.2 Mitigation measures during the construction period would include:

- Construction Environmental Management Plan (CEMP), including the erection of construction hoarding, site lighting control, emissions management plans;
- Routing agreement and adherence to a Construction Traffic Management Plan;
- All retained trees and hedgerows would be protected in accordance with BS 5837:2012;
- Sensitive timing of works for GCN, habitat manipulation, fingertip searches, destructive search of habitat to be removed and ecological supervision of works potentially affecting GCN;
- Badgers: Pre-construction badger survey, sensitive timing of works, careful storage of topsoil and materials, and a method statement to avoid any disturbance to setts (if required following the pre-construction survey);
- Breeding Birds: Removal of vegetation outside of the nesting bird season (March to August inclusive), or the supervision of vegetation removal by a suitably qualified ecologist should works take place within this period; and
- Western European Hedgehog: Supervised removal of suitable habitat to ensure no individual hedgehogs are affected during site clearance.

Completed Development

13.3 Mitigation measures would include:

- Framework Travel Plan;
- Implementation of an Employment, Skills and Training Plan;
- Two 2.5m High Acoustic Barriers; Retention of the existing hedgerows and field margins (where possible) at the Site boundaries in line with the biodiversity strategy for the Bicester Ecotown;
- Native woodland and shrub planting at the Site boundaries;
- Provision of wildflower grassland within the swales and area adjacent to the SLR in the eastern section of the Site;
- The planting of 205 native trees.;
- Implementation of a sensitive lighting scheme to minimise light spill onto the adjacent retained vegetation (see Lighting Drawing, Appendix 5.1); and
- Landscape and Ecological Management Plan.

References

[1] HMSO, 2017. The Town and Country Planning (Environmental Impact Assessment) Regulations 2017. The Stationary Office. May 2017

[2] HMSO, 2018. The Town and Country Planning (Environmental Impact Assessment) (Amendment) Regulations 2018. The Stationary Office. October 2018.

[3] HMSO, 2020. The Town and Country Planning (Development Management Procedure, Listed Buildings and Environmental Impact Assessment) (England)(Coronavirus) (Amendment) Regulations 2020. The Stationary Office. May 2020.

[4] Considerate Constructors Scheme. Available at: https://www.ccscheme.org.uk/